

TRANSPosed FACTOR ANALYSIS AS A MEANS OF TYPING EDUCATIONAL PHILOSOPHIES ACROSS CULTURES

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SUMMARY

Female teachers indicated degree of agreement with 83 philosophy of education items. The 25 Jordanian Arab and Florida Americans were intercorrelated to disclose similarity of responding. The resulting intercorrelation matrix with communality estimates in the diagonal was factor analyzed. The Varimax rotated factor matrix revealed three type-factors: a major American factor, a major Arab, and a minor Arab factor. A profile of contrasting differences between the two major types is given. Only one of the 50 subjects could not be identified from loadings on the two major type-factors. National stereotypes may be useful and the view of Westerns and non-Westerns as "brothers" seems to have a better basis in humanism than in science.

Prolonged experience with Western and non-Western cultures produces in the observer a recognition that despite similarities in superficial acts and the universality of many human motives, there are some deep philosophical and value differences between the cultures. The American academic community whether at home or abroad tends to assume that non-Western students should be taught and encouraged to adopt Western practices and values. If the student plays the game he becomes a respected member of the academic elite in his training institution as well as at home. However, the non-Western student is forced to adopt practices and values that differ from his own inclinations and often are in conflict with them. His favorableness toward the values of the West, which are less appropriate back home, gradually dissipates in time and the support of his people for the new ideas he professes fades as their novelty wears off.

Not only must we examine what we are trying to transmit to non-Western cultures but also the very process we employ in doing it. Clearly more research is needed in understanding some basic features of the non-Western cultures before we can expect to develop constructive educational and cultural exchange. We must come to understand how the other person learns, what his philosophy of education is. The exchange of students, scholars, and specialists is commendable but must be based upon sounder process-planning if we are to prepare for the era of increased cross-cultural exchanges that will lead to reduction of nationalistic barriers to understanding and cooperation.

To this end, we studied some of the philosophy of education beliefs* of Jordanian and University of Florida female teacher-education students after practice teaching (Naser, 1967). The purpose was to discover the philosophical or attitudinal factors underlying the beliefs of the two samples, e.g. liberalism, progressivism, response to authority, etc. The hope was that factor analysis of the items in the questionnaire would reveal a set of basic dimensions similar in nature for the two samples but subscribed to in differing degrees.

Analysis of the data was disappointing from a statistical point of view because the 83 items in the questionnaire developed for the project had low intercorrelations among themselves no matter whether each sample was looked at separately or combined. With such low intercorrelations, factor analysis was destined to reveal little.

Two explanations for the unexpectedly low intercorrelations are possible. Either the data gathered were unreliable because of a combination of instrument and subject error or because of the unlikely possibility that a subject's philosophical beliefs could not be described by underlying general principles or factors. For the latter we mean that her responses to several presumably similar items are not based upon an underlying personality characteristic—a basic general attitude or a trait. For example, responses on a scale of agreement should be similar for the item, "School lunches should be paid for by the student," and "If kindergartens are provided, they should be financed by parents instead of taxes." The liberal spender of government monies should disagree strongly with both items while the conservative should agree with both, yet the correlation between these items for the combined samples was -.25.

*A copy of the philosophy of education instrument may be obtained from the senior author.

Before setting forth the findings from the present analysis, the rationale behind interpreting the results should be examined. Since Naser found the intercorrelations among items to be generally low and that approach unproductive, the present analysis will ignore inter-relationships among items but intercorrelate the *subjects* themselves. By intercorrelating individuals one would

Table 1
Rotated Factor Loadings for Arab and American Females

	Type Factor I	Type Factor II	Type Factor III		Type Factor I	Type Factor II	
Arab	1	.59	.12	American	1	.27	.72
	2	.66	.18		2	.31	.59
	3	.58	.00		3	.30	.73
	4	.47	.02		4	.29	.61
	5	.62	.26		5	.37	.64
	6	.47	.14		6	.33	.53
	7	.66	.13		7	.33	.55
	8	.58	.28		8	.15	.52
	9	.55	.19		9	.00	.57
	10	.79	.15		10	.11	.64
	11	.56	.22		11	-.02	.70
	12	.52	.20		12	.20	.58
	13	.62	.26		13	.06	.67
	14	.36	.40	.55	14	.09	.48
	15	.42	.20	.77	15	.18	.54
	16	.55	.22	.60	16	.26	.59
	17	.37	.20	.78	17	.25	.33
	18	.40	.19	.76	18	.19	.63
	19	.64	.18		19	.05	.75
	20	.51	.35		20	.12	.76
	21	.66	.25		21	.21	.58
	22	.30	.11	.52	22	.12	.66
	23	.72	.06		23	.23	.72
	24	.66	.14		24	.10	.59
	25	.57	.24		25	.14	.66

expect Arabs to look more like one another than like Americans and vice versa. Tightness of the intercorrelations in each culture cluster would reflect the degree of uniformity of philosophical belief. Loose clustering of individuals, viz. low intercorrelations within a culture, may be related to the felt freedom to differ from the cultural norm or to the habits of responding authority. A degree of looseness in a cluster that permits members of different cultures to correlate with one another almost as highly as with their own members would be evidence of a universal philosophy of education.

Results showed that the 25 Arab and 25 American female teachers did correlate highly within their own culture but correlations of teachers across cultures tended to be much lower, though positive. The intercorrelations with communalities in the diagonal were factor analyzed and the obtained factors were rotated to the varimax criterion. Two factors of the rotated matrix were sufficient to account for nearly half of the variance of the profiles of scores for these 50 women. The matrix is given in Table 1. The first listed factor is clearly Arabic since all but two of the 25 Arabs had loadings of at least .40 and none of the Americans loaded that heavily. The second factor is equally clearly American since all but two of the 25 Americans loaded at least .40 on it, and only one Arab had a loading of .40. If the two factor loadings for each subject were compared and the larger used to signify group membership, 49 out of the 50 teachers would be classified correctly.

Since the samples were restricted in many characteristics, it would be hasty to say that there is a single American pattern of educational philosophy. Perhaps sex differences, as well as age, region, and training characteristics will provide other distinct patterns within the same culture but the tightness of the obtained clusters suggests that a predominant pattern for the culture probably will prevail over these subject differences. Of course, the next step in our research program will be to examine Americans differing in these characteristics.

This brief report cannot deal with the 83 item questionnaire that would have to be referred to item-by-item in examining cultural differences. Such a report should trace the historical antecedents presumed to account for such differences; interested persons are referred to the dissertation for such an extended presentation. However, a simplified description of the composite

profile for type-factor I (Arab) as *contrasted* with that for type-factor II (American) is presented as derived from a comparison of the six highest loaded subjects in *each* group. These Arabs felt more strongly than the Americans that:

No person can be considered really educated without at least two languages.

No person should be promoted to the next grade unless he meets the standards of the grade he is in.

Children must be forced to learn the necessary subjects for their own good.

The teacher must indoctrinate her students with correct moral principles in order to bring about their healthy moral development.

Schools should not just teach the fundamentals and leave social and religious ideas to the home and religious leaders. Democracy in the schools contributes to the moral decay of youth.

Juvenile delinquency has increased because we are too lenient in school discipline.

Traditional moral standards of our culture should not be examined and tested in solving the present problems of students.

Controversial reading material is not O.K. even though carefully selected.

A knowledge of history is worthwhile in itself because it embraces the accumulated wisdom of our ancestors.

Since individual problems usually are social, schools should concentrate on the social roots of these problems.

School problems are usually caused by the faculty.

Teachers should try intelligently to improve a bad classroom situation before they find out who is to blame.

While factor I is the primary type-factor for this Arab sample, type III appears and is important enough to include five Arab teachers with sizeable loadings—all above .55. The type III's are more conservative and traditional than the type I Arabs. The composite profile of these five teachers is compared with the six highest loaded Arabs on factor I.

The type III's felt more strongly that:

An activity to be educationally valuable should train reasoning and memory in general.

The true view of education is to have the child build up a storehouse of knowledge that he can use in the future.

The mind is developed through such courses as Latin and geometry.

Our primary effort should be directed toward selecting and educating our most capable students.

To be a good group leader a person must be able to control the people in the group.

Democracy in schools contributes to the moral decay of youth. In the interest of social stability, the youth of this generation must be brought into conformity with the enduring beliefs and institutions of our national heritage.

Schools should not just teach the fundamentals and leave social religious ideas to the home and religious leaders.

Those of us engaged in quantitative research in personality traits seldom have the opportunity to bring the cultural variable into the equation because we deal with relatively homogeneous samples. From cross-cultural study such as this, the culturally determined source of test item variance appears so great, almost 50% in this case, that we must question many of our usual assumptions. It would appear that national stereotypes *are* of importance and that the ostrich-like attitude of viewing Westerners and non-Westerners as brothers may have a better basis in humanism than in science. A naive view of what non-Westerners are like may prove at the least to be a rationalization for our failure to attempt to value and understand their cultures, and at the worst it may prove to be an unwarranted "justification" for our forcing our own cultural values on them. Whatever our goals, they are best accomplished through understanding—a feature not prominent in our international operations.

References

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