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Making Men Modern: On the Causes and Consequences of Individual Change in Six Developing Countries¹

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The Project on the Social and Cultural Aspects of Economic Development at Harvard's Center for International Affairs interviewed 6,000 men from six developing countries to study the impact on the individual of his exposure to and participation in the process of national and economic modernization. To a striking degree, the same syndrome of attitudes, values, and ways of acting—such as openness to new experience, independence from parental authority, and taking an active part in civic affairs—defines the modern man in each of the six countries and in all the occupational groups of cultivator, craftsman, and industrial worker. Education is the most powerful factor in making men modern, but occupational experience in large-scale organizations, and especially in factory work, makes a significant contribution in “schooling” men in modern attitudes and in teaching them to act like modern men. Those who come from very traditional backgrounds and receive little formal schooling can, under the right circumstances, still become modern in adult life. Modern men in developing countries not only have modern attitudes, but they can be shown to behave differently. Despite popular impressions to the contrary, exposure to the influence of migration and modern institutions does not lead to psychic distress.

Since 1962 a group of my colleagues and I at Harvard University have been working to understand the impact on the individual of his participation in the process of modernization. In the pursuit of this goal we devised a com-

¹ This paper was presented at the Dallas meeting of the American Association for the Advancement of Science in the section on “Comparative Sociology and Contemporary Social Issues,” December 29, 1968. My chief collaborators from the early days of the project were Howard Schuman and Edward Ryan, who served, respectively, as field directors for Pakistan and Nigeria, and David H. Smith, who was my assistant in Chile and later was assistant director of the project in Cambridge. The field work and later analysis were greatly facilitated by the work of our local collaborators in all six of the countries. We owe particular debt to Juan César and Carlotta Garcia, Perla Gibaja, and Amar Singh who were field directors for Chile, Argentina, and India, respectively, and to Olatude Oloko who was assistant field director in Nigeria. In its different aspects, stages, and settings, the research has been supported by the Rockefeller Foundation, the Ford Foundation, the National Science Foundation, and the National Institute of Mental Health. The Cultural Affairs Division of the Department of State provided local currencies to support our field work in India, Israel, and Pakistan, and the Office of Scientific Research of the U.S. Air Force supported technical exploration in problems of translation and computer analysis undertaken in Cambridge. All these organizations gave their support through the Center for International Affairs of Harvard University, which is the sponsor and institutional home of our project on the social and cultural aspects of economic development.

plex and comprehensive questionnaire touching on a wide variety of life situations and intended to measure a substantial segment of the range of attitudes, values, and behaviors we conceive as particularly relevant to understanding the individual's participation in the roles typical for a modern industrial society.² This questionnaire we then administered to some 6,000 young men in six developing countries: Argentina, Chile, India, Israel, Nigeria, and East Pakistan. All three of the continents containing the overwhelming majority of developing nations are represented. The sampled countries cover the range from the newest nations which have only recently won their independence to those with a long history of self-governance; from those only now emerging from tribal life to those with ancient high cultures, and from those furthest removed from, to those most intimately linked to, the European cultural and industrial social order. The men interviewed were selected to represent points on a presumed continuum of exposure to modernizing influences, the main groups being the cultivator of the land still rooted in his traditional rural community; the migrant from the countryside just arrived in the city but not yet integrated into urban industrial life; the urban but nonindustrial worker still pursuing a more or less traditional occupation, such as barber or carpenter, but now doing so in the urban environment even though outside the context of a modern large-scale organization; and the experienced industrial worker engaged in production using inanimate power and machinery within the context of a more or less modern productive enterprise. To these we have added sets of secondary school and university students who enjoy the presumed benefits of advanced education. Within and across these sample groups we exercised numerous controls in the selection of subjects and in the analysis of our data, both to understand the influence and to prevent the uncontrolled effects of sociocultural and biosocial factors such as age, sex, education, social origins, ethnic membership, past life experience, and the like.

Our interview included almost 300 entries. Some 160 of these elicited attitudes, values, opinions, and reports on the behavior of others and oneself, touching on almost every major aspect of daily life. The questionnaire included various tests of verbal ability, literacy, political information, intelligence, and psychic adjustment. In some cases it took four hours of interviewing to complete—a demanding experience for both interviewer and interviewee.

We completed our field work near the end of 1964, and since that time have been engaged in processing and then later analyzing the very substantial body of data we collected. At this time our analysis is sufficiently far advanced so that we can discern the main outlines of some of the conclusions we must draw. To present these within the rigorous limits of the time and space currently allotted for scholarly communications requires

² Some sixty-eight of the questions are listed, in abbreviated form, in table 1 of Smith and Inkeles 1966. A complete copy of the questionnaire may be obtained by ordering Document 9133 from the Chief, Auxiliary Publication Project, Photoduplication Service, Library of Congress, Washington, D.C. remitting \$13.50 for microfilm or \$117.50 for photocopies.

imposing a telegraphic style and forgoing the presentation of detailed evidence to support my arguments. Each of my conclusions will address itself to one of the main issues to which our research was directed. Each issue is presented in the form of a question to which I will assay an answer. The four main issues dealt with here should not be understood as being the only ones to which we addressed ourselves; neither should it be assumed that our data provide answers only to these questions.

1. *How far is there an empirically identifiable modern man, and what are his outstanding characteristics?*—Many social scientists have a conception of the modern man, but few have submitted this conception to an empirical test to ascertain whether this type really exists in nature and to determine how often he appears on the scene. Important exceptions may be found in the work of Kahl (1968), Dawson (1967), and Doob (1967). We too have our model of the modern man, a complex one including three components which we refer to as the analytic, the topical, and the behavioral models, all of which, we assumed, might well tap one general underlying common dimension of individual modernity.³

We believe our evidence (presented in some detail in Smith and Inkeles 1966) shows unmistakably that there is a set of personal qualities which reliably cohere as a syndrome and which identify a type of man who may validly be described as fitting a reasonable theoretical conception of the modern man. Central to this syndrome are: (1) openness to new experience, both with people and with new ways of doing things such as attempting to control births; (2) the assertion of increasing independence from the authority of traditional figures like parents and priests and a shift of allegiance to leaders of government, public affairs, trade unions, cooperatives, and the like; (3) belief in the efficacy of science and medicine, and a general abandonment of passivity and fatalism in the face of life's difficulties; and (4) ambition for oneself and one's children to achieve high occupational and educational goals. Men who manifest these characteristics (5) like people to be on time and show an interest in carefully planning their affairs in advance. It is also part of this syndrome to (6) show strong interest and take an active part in civic and community affairs and local politics; and (7) to strive energetically to keep up with the news, and within this effort to prefer news of national and international import over items dealing with sports, religion, or purely local affairs.

This syndrome of modernity coheres empirically to meet the generally accepted standards for scale construction with reliabilities ranging from .754 to .873 in the six countries.⁴ Looking at the range of items which enters into the scale, one can see that it has a compelling face validity. In addition, the empirical outcome accords well with our original theoretical model and, indeed, with those of numerous other students of the problem.

³ This model has been sketched in a preliminary way in Inkeles 1966. A fuller account is presented in Inkeles, forthcoming in Faunce and Garfinkel.

⁴ Reference is to the reliabilities of the long form of the scale (OM-2) containing 159 items. Reliabilities for some of the various short forms were sometimes lower but were generally in the same range. See Smith and Inkeles 1966, p. 367.

Evidently the modern man is not just a construct in the mind of sociological theorists. He exists and he can be identified with fair reliability within any population which can take our test.⁵

To discover that there are indeed men in the world who fit our model of a modern man is comforting, but perhaps not startling. After all, we can probably somewhere find an example of almost any kind of man one might care to delineate. It is important to emphasize, therefore, that men manifesting the syndrome of attitudes, values, and ways of acting we have designated "modern" are not freaks. They are not even rare. On the contrary, there are very substantial numbers of them in all six of the countries we have studied.⁶

Furthermore, we consider it to be of the utmost significance that the qualities which serve empirically to define a modern man do not differ substantially from occupation to occupation, or more critically, from culture to culture. In constructing our standard scales of modernity we utilized a pool of 119 attitude items.⁷ In each country these items were then ranked according to the size of the item-to-scale correlation, and the subset of items having the highest correlations was then selected as defining the modern man for the given country. Using this "coherence" method to construct the national modernity scales, we might have found a totally different set of items defining the syndrome of modernity in each of our six national samples. Indeed, if we used only the twenty items ranking highest in the item-to-scale correlations for each country, we could theoretically have

⁵ On the basis of our experience with the longer versions of the questionnaire, we have been able to devise several short forms which permit rapid identification of the more modern and more traditional men in any population. Details on the construction and content of these short forms are given in Smith and Inkeles 1966. One of these short forms (OM-12) which has proved a highly reliable instrument is currently being used in more than twenty pure- and applied-research programs in over a dozen developing countries.

⁶ Of course, when you use a scale score to designate a "type" of man, the number of men who fit your typology depends entirely on your decision as to a cutting point on both the items and on the scale as a whole. For example, in one form of our modernity scale (IM-6) a representative subset of thirty-three items is scored so that only by affirming the most decidedly modern position at the end of the theoretical continuum of alternative answers does a man get a point toward his modernity score. On this strict test, getting as many as half the answers "right" would qualify 37 percent of our Nigerian sample as "modern." If we set a higher standard, and reserve the term modern for men who get two-thirds or more of the answers "right," then only 6 percent qualify. Raising the standard still higher to require that a man get three-fourths or more of the answers "correct" reduces the pool of modern men to 2 percent of the sample. The comparable proportions qualifying as modern by this standard in our Pakistani sample are much lower, being 14 percent, 2 percent, and 0 percent, respectively. Changing the scoring standard for the individual questions would, obviously, also affect the proportions classified as modern.

⁷ These included *all* questions which in our opinion measured attitudes and could be unambiguously scored as having a "modern" and a "traditional" answer. Queries which did not meet these criteria were excluded from consideration. This meant mainly background questions, information-testing items, behavioral measures, adjustment measures, and the like. For details see Smith and Inkeles 1966.

come out with six totally different syndromes, one for each country, no one overlapping in the least with any other. The actual outcome of the analysis was totally different. The probability that even one item would come out in the top fifty in all six countries is approximately five in a thousand. We actually had ten items which were in the top fifty in all six countries, sixteen more in the top fifty in five countries, thirteen more which were in this set in four of the six countries. The probability that the same thirty-nine items would by chance be in the top fifty in four of the six countries is so infinitesimal as to make our results notable indeed.

This means that what defines man as modern in one country also defines him as modern in another. It argues for the actual psychic unity of mankind in a structural sense and the potential psychic unity of mankind in the factual sense. In speaking of the unity of mankind in terms of psychic structure, I mean that the nature of the human personality, its inner "rules" of organization, is evidently basically similar everywhere. That is, the association of the elements or components of personality do not—and I think in substantial degree *cannot*—vary randomly or even relatively freely. There is evidently a system of inner, or what might be called structural, constraints in the organization of the human personality which increase the probability that those individuals—whatever their culture—who have certain personality traits will also more likely have others which "go with" some particular basic personality system. So far as the future is concerned, moreover, I believe that this structural unity provides the essential basis for greater factual psychic unity of mankind. Such a factual unity, not merely of structure but of *content*, can be attained insofar as the forces which tend to shape men in syndromes such as that defining the modern man become more widely and uniformly diffused throughout the world. This point requires that we consider the second issue to which our research addressed itself.

2. *What are the influences which make a man modern? Can any significant changes be brought about in men who are already past the formative early years and have already reached adulthood as relatively traditional men?*—Education has often been identified as perhaps the most important of the influences moving men away from traditionalism toward modernity in developing countries. Our evidence does not challenge this well-established conclusion. Both in zero-order correlations⁸ and in the more complex multivariate regression analysis, the amount of formal schooling a man has had emerges as the single most powerful variable in determining his score on our measures. On the average, for every additional year a man spent in school he gains somewhere between two and three additional points on a scale of modernity scored from zero to 100.

Our modernity test is not mainly a test of what is usually learned in school, such as geography or arithmetic, but is rather a test of attitudes

⁸ The correlation (Pearsonian) between education and the overall measure of modernization ranges from 0.34 in Pakistan to 0.65 in India. The size of these coefficients is substantially affected by the educational "spread" in each sample. That spread is largest in India, with the cases rather evenly distributed from zero to thirteen years of education.

and values touching on basic aspects of a man's orientation to nature, to time, to fate, to politics, to women, and to God. If attending school brings about such substantial changes in these fundamental personal orientations, the school must be teaching a good deal more than is apparent in its syllabus on reading, writing, arithmetic, and even geography. The school is evidently also an important training ground for inculcating values. It teaches ways of orienting oneself toward others, and of conducting oneself, which could have important bearing on the performance of one's adult roles in the structure of modern society. These effects of the school, I believe, reside not mainly in its formal, explicit, self-conscious pedagogic activity, but rather are inherent in the school as an *organization*. The modernizing effects follow not from the school's curriculum, but rather from its informal, implicit, and often unconscious program for dealing with its young charges.⁹ The properties of the rational organization as a hidden persuader—or, as I prefer to put it, as a silent and unobserved teacher—become most apparent when we consider the role of occupational experience in shaping the modern man.

We selected work in factories as the special focus of our attention in seeking to assess the effects of occupational experience in reshaping individuals according to the model of the modern man. Just as we view the school as communicating lessons beyond reading and arithmetic, so we thought of the factory as training men in more than the minimal lessons of technology and the skills necessary to industrial production. We conceived of the factory as an organization serving as a general school in attitudes, values, and ways of behaving which are more adaptive for life in a modern society. We reasoned that work in a factory should increase a man's sense of efficacy, make him less fearful of innovation, and impress on him the value of education as a general qualification for competence and advancement. Furthermore, we assumed that in subtle ways work in a factory might even deepen a man's mastery of arithmetic and broaden his knowledge of geography without the benefit of the formal lessons usually presented in the classroom. Indeed, the slogan for our project became, "The factory can be a school—a school for modernization."

Although our most sanguine hopes for the educational effects of the factory were not wholly fulfilled, the nature of a man's occupational experience does emerge as one of the strongest of the many types of variables we tested and is a quite respectable competitor to education in explaining a person's modernity. The correlation between time spent in factories and individual modernization scores is generally about 0.20.¹⁰ With the effects

⁹ In much of the current discussion of the effectiveness and ineffectiveness of our schools, this aspect of the school's impact has been generally neglected. For an important exception see Dreeben 1968.

¹⁰ However, in India it was only 0.08. We believe this to be not a condition peculiar to India, but to our industrial sample there. Everywhere else we sampled from fifty to more than 100 factories, including all types and sizes of industry, but in India our sample was limited to eleven factories, mostly large, and two of these were not truly industrial; they processed minerals.

of education controlled, the factory workers generally score eight to ten points higher on the modernization scale than do the cultivators.¹¹ There is little reason to interpret this difference as due to selection effects since separate controls show that new workers are not self- or preselected from the village on grounds of already being "modern" in personality or attitude. Nevertheless, we can apply a really stringent test by making our comparisons exclusively within the industrial labor force, pitting men with few years, of industrial experience against those with many, for example, five or more. When this is done, factory experience continues to show a substantial impact on individual modernization, the gain generally being about one point per year on the overall measure of modernization (OM).

It is notable that even when we restrict ourselves to tests of verbal fluency and to tests of geographical and political information, the more experienced workers show comparable advantages over the less experienced. To choose but one of many available examples, in Chile among men of rural origin and low education (one to five years)—and therefore suffering a double disadvantage in background—the proportion who could correctly locate Moscow as being the Soviet Russian capital rose from a mere 8 percent among the newly recruited industrial workers to 39 percent among those with middle experience and to 52 percent among the men who had eight years or more in the factory. Even among those with the double advantage of higher education (six to seven years) and urban origins, the proportion correctly identifying Moscow decidedly rose along with increasing industrial experience, the percentages being 68, 81, and 92 for the three levels of industrial experience, respectively. Summary evidence from all six countries is presented in table 1. It should be clear from these data that the factory is serving as a school even in those subjects generally considered the exclusive preserve of the classroom.¹²

To cite these modernizing effects of the factory is not to minimize the greater absolute impact of schooling. Using a gross occupational categorization which pits cultivators against industrial workers, we find that the classroom still leads the workshop as a school of modernization in the ratio of 3:2. Using the stricter test which utilizes factory workers only, grouped by length of industrial experience, it turns out that every additional year in

¹¹ Keep in mind that the test has a theoretical range from zero to 100, and an observed range in our samples almost as great. With samples of our size, differences so large are significant at well above the .01 level. This test of significance and many of the other statistics presented in this report require that one meet certain conditions, such as random sampling, which our data do not meet. Nevertheless, we present such statistics in order to provide a rough guide or standard of judgment, in the belief that to do so is preferable to leaving the reader without any criterion by which to evaluate one figure as against another. The reader must be cautioned, however, not to interpret any single statistic too literally. Conclusions should be drawn not from single figures but from the whole array of evidence across the six countries.

¹² It will be noted that the pattern manifested in the other five countries is not shown in Israel. There the new workers are as well informed as the experienced. We attribute this not so much to the qualities of Israeli industry as to the nature of Israeli society. In that small, mobile, and urbanized environment, information tends to be rapidly and more or less evenly diffused throughout the nation and to all classes.

TABLE 1
 PERCENTAGE OF INDUSTRIAL WORKERS AMONG LOW^a EDUCATED GIVING
 CORRECT ANSWERS ON INFORMATION TESTS
 (BY COUNTRY AND MONTHS OF FACTORY EXPERIENCE)

QUESTION	COUNTRY AND AVERAGE MONTHS EXPERIENCE											
	Argentina		Chile		India		Israel		Nigeria		East Pakistan	
	3	90	2	96	2	72	3	84	3	48	1	48
Identify electrical apparatus ^b	37	63*	33	62***	44	76***	80	88	91	91	50	70**
Identify movie camera.....	60	69*	6	8	29	51**	84	88	70	70	9	37***
Cite 3 or more city problems.....	5	18	15	32***	0	1	24	25	30	22	52	52*
Identify international leader ^c	26	67**	47	85***	1	31***	80	81	11	17	2	26**
Identify local leader.....	33	51	27	81***	15	52***	67	92	70	78	52	79*
Identify Moscow.....	36	60*	17	67***	1	16***	86	86	11	17	2	2
Name 3 or more newspapers ^d	12	21	81	92	6	28**	75	61	81	91	20	44**
Approximate <i>N</i> cases.....	40	70	90	130	75	130	25	100	60	25	65	120

* *t*-test score significant at the .05 level.

** Significance at the .01 level.

*** Significance at the .001 level or better.

^a Data for high education groups on these seven questions in each country provide an additional 42 tests of which 33 were in accord with the conclusion that men with more factory experience score higher on information tests, 7 were inconclusive, and 2 contradictory.

^b In Pakistan, India, and Nigeria a picture of a radio was shown; in Argentina, Chile, and Israel, a picture of a tape recorder was used instead.

^c Respondents were asked to identify Lyndon Johnson in Chile, Argentina, and Israel; John F. Kennedy in Pakistan and India; Charles de Gaulle in Nigeria.

^d In Argentina, "name books" was substituted for "name newspapers."

school produces three times as much increment in one's modernization score as does a year in the factory, that is, the ratio goes to 3:1. The school seems clearly to be the more efficient training ground for individual modernization. Nevertheless, we should keep in mind that the school has the pupil full time, and it produces no incidental by-products other than its pupils. By contrast, the main business of the factory is to manufacture goods, and the changes it brings about in men—not insubstantial, as we have seen—are produced at virtually zero marginal cost. These personality changes in men are therefore a kind of windfall profit to a society undergoing the modernization process. Indeed, on this basis we may quite legitimately reverse the thrust of the argument, no longer asking why the school does so much better than the factory, but rather demanding to know why the school, with its full time control over the pupil's formal learning, does not perform a lot *better* than it does relative to the factory.

TABLE 2
 VARIANCE IN SCORES OF INDIVIDUAL MODERNIZATION (OM-3) ACCOUNTED
 FOR BY EARLY AND LATE SOCIALIZATION INFLUENCES
 IN SIX DEVELOPING COUNTRIES
 (%)

Variable	Argentina	Chile	India	Israel	Nigeria	Pakistan
Early Socialization	28.8	26.0	52.4	22.1	23.0	22.2
Late Socialization	31.6	34.4	31.4	22.4	28.2	28.3

Our experience with the factory enables us to answer the secondary question posed for this section. Since men generally enter the factory as more or less matured adults, the effects observed to follow upon work in it clearly are late socialization effects. Our results indicate that substantial changes can be made in a man's personality or character, at least in the sense of attitudes, values, and basic orientations, long after what are usually considered the most important formative years. The experience of factory work is, of course, not the only form which this late socialization takes. It may come in the form of travel or migration, by exposure to the media of mass communication, or through later life in the city for men who grew up in the countryside.¹⁸ We therefore combined our explanatory variables into two main sets, one representing *early* socialization experience—as in formal schooling—and the other reflecting *late* socialization experiences—as in one's adult occupation. We may observe (from table 2) that the late socialization experiences stake out a very respectable place for themselves in the competition to account for the observed variance in individual

¹⁸ The distinctive effectiveness of each of these potentially modernizing experiences, and others, will be assessed in the general report of our project in preparation under the authorship of Alex Inkeles and David H. Smith, to be titled *Becoming Modern*.

modernization scores.¹⁴ In five countries the set of late socialization variables explained as much or more of the variance in modernization scores as did the combined early socialization variables, each set explaining between one-fourth and one-third of the variance.

In India the early socialization variables were decidedly more powerful—accounting for 52 percent as against 31 percent of the variance explained by the late socialization variables. But in absolute terms, the late experiences are still doing very well.¹⁵ All in all, we take this to be impressive evidence for the possibility of bringing about substantial and extensive changes in the postadolescent personality as a result of socialization in adult roles.

3. *Are there any behavioral consequences arising from the attitudinal modernization of the individual? Do modern men act differently from the traditional man?*—Many people who hear of our research into individual modernization respond to it by acknowledging that we may have discovered what modern man *says*, but they are more interested in knowing what he *does*. This view overlooks the fact that taking a stand on a value question is also an action, and one which is often a very significant one for the respondent.¹⁶ Our critics' comment also tends implicitly to underestimate the importance of a climate of expressed opinion as an influence on the action of others. And it probably assumes too arbitrarily that men use speech mainly to mislead rather than to express their true intentions. Nevertheless, the question

¹⁴ In this regression analysis we utilized as the dependent variable a long form of the modernity scale OM-3, not as described in Smith and Inkeles 1966. Using seven principal predictor variables selected on theoretical and empirical grounds, we obtained multiple correlation coefficients of from about .57 to .76 in our six countries. We could thus account for between 32.5 percent and 59.0 percent of variance in the modernity scale scores. We then grouped the predictor variables in two sets. The set of early socialization variables included ethnicity, father's education, and own formal education. Late socialization variables included occupational type, consumer goods possessed (as a measure of standard of living), a measure of mass media exposure, and age. Each set was then used alone to ascertain what portion of the variance it could explain, as indicated in table 2. A discussion of the rationale for selecting these particular variables and grouping them so, as well as details of the linear multiple regression analysis, will be presented in a later publication by David H. Smith and Alex Inkeles.

¹⁵ An alternative approach to estimating the relative contribution of the two sets of variables is to consider the decrement in the total variance explained when either set is withdrawn from the total pool of predictors. When this was done, the late socialization variables again emerged as more powerful everywhere except in India. The following set of figures presents, first, the decrement in the total variance explained resulting from withdrawal of the early socialization variables, and second, the decrement resulting from withdrawal of the late socialization variables from the total predictor pool: Argentina .127/.155; Chile .100/.184; India .276/.066; Israel .101/.104; Nigeria .068/.120; East Pakistan .070/.131. The fact that these decrements are so much smaller than the proportion of variance explained by each set alone indicates that to some extent the sets overlap, and when one set is dropped the other "takes over" for it in explaining some part of the variance.

¹⁶ For example, it is an act of substantial civic courage for a young man in a traditional village to tell our interviewer he would be more inclined to follow the local coop leader than the village elders, or that he considers himself more a Nigerian than an Ife, or whatever is the local tribal basis of solidarity.

is a legitimate one, and we addressed ourselves to it in our research. Although this part of our analysis is least advanced, we can offer some tentative conclusions on the basis of preliminary analysis.

We have the definite impression that the men we delineate as modern not only *talk* differently, they *act* differently. To explore this relationship we constructed a scale of modernization based exclusively on attitudinal questions, rigorously excluding those dealing with action rather than belief or feeling.¹⁷ This measure of attitudinal modernity we then related to the behavioral measures in our survey. In all six countries we found action intimately related to attitude. At any given educational level, the man who was rated as modern on the attitudinal measure was also more likely to have joined voluntary organizations, to receive news from newspapers every day, to have talked to or written to an official about some public issue, and to have discussed politics with his wife. In many cases the proportion who claimed to have taken those actions was twice and even three times greater among those at the top as compared with those at the bottom of the scale of attitudinal modernity. Table 3 presents the relevant evidence. We should note, furthermore, that the items included in table 3 are illustrative of a larger group of about thirty individual questions and a dozen scales selected on theoretical grounds as appropriate tests of the relation between expressed attitudes and reported behavior. The items used for illustration were not arbitrarily selected as the only ones supporting our assumptions.¹⁸

The particular behaviors we cited above are all "self-reported." The question inevitably arises as to whether then we are not merely testing attitudinal consistency—or merely consistency in response—rather than any

¹⁷ In the project identification system this scale is designated OM-1. It includes only seventy-nine items selected from the larger pool by a panel of expert judges on the grounds that (a) they dealt only with attitudes, not information, political orientation, or action, and (b) they clearly were appropriate to test the original theoretical conception of modernity as more or less "officially" defined by the project staff.

¹⁸ This assertion is supported by consideration of the relevant gamma statistics on the relationship of attitudinal modernity (OM scores) and information tests. For this purpose low- and high-education groups were tested separately (except in Pakistan), hence the number of gamma statistics obtained is twice the number of items used. The average gamma statistics shown below are based on three-part tables which included middle as well as low and high OM. Separate results are given for items and for scales, since the scales show the combined effects of groups of items and hence are not truly "independent" additional tests of the hypothesis under scrutiny.

TESTS	COUNTRY					
	Argentina	Chile	India	Israel	Nigeria	Pakistan
Based on items:						
Average gamma	201	232	342	244	205	303
Number of tests	60	62	58	52	46	29
Based on scales:						
Average gamma	305	296	449	313	276	339
Number of tests	24	24	24	28	24	10

TABLE 3
 PERCENTAGE OF HIGH EDUCATED* ENGAGING IN VARIOUS FORMS OF MODERN BEHAVIOR
 (BY COUNTRY AND MODERNITY SCORE)

FORM OF BEHAVIOR	COUNTRY AND MODERNITY SCORE ^b											
	Argentina		Chile		India		Israel		Nigeria		East Pakistan	
	Low	High	Low	High	Low	High	Low	High	Low	High	Low	High
Joined 2 or more organizations.....	26	48	50	61	32	31	2	6	86	97	0	6
Voted often.....	54	54	44	57	60	65	76	86
Talked politics with wife.....	40	57*	29	61***	74	80	46	72**	50	65	65	83*
Contacted official about public issue.....	2	9	4	17**	20	26	17	27	11	21	5	15
Read newspapers daily.....	40	77***	31	53**	32	61**	36	81	63	84***	35	42
High on geographic information scale.....	44	78***	23	60***	20	51***	29	75***	7	48***	9	53*
High on political information scale.....	22	56***	18	37***	22	65***	36	72***	20	48***	7	39**
High on consumer information scale.....	10	21**	7	39***	67	94**	29	53***	84	89	23	52***
High on opposites test.....	50	76	36	63***	59	86***	31	57***	59	71	47	78***
Approximate N cases.....	50	150	60	160	55	115	40	110	60	120	45	125

* t-test based on the extremes of the continuum on each form of behavior significant at the .05 level.
 ** Significance at the .01 level.
 *** Significance at the .001 level or better. All other t-tests of the relation were below the .01 level.

^a In each country the total sample was divided at the median into a "high" and "low" educated group. The average number of years of education for the high group was: Argentina: 7.6; Chile: 6.6; India: 10.2; Israel: 8.6; Nigeria: 8.5; and Pakistan: 4.8.

^b The range of Overall Modernity Scores was split into "low", "middle 25%", "middle 50%", and "high", "top 25%" for each country's entire sample. Modernity scores are highly correlated with education. Since in this table only the high educated are represented, more men fall into the category of those with high as against low modernity scores.

^c Ns are approximate due to the disqualification of part of the sample on certain questions, e.g. those legally under age could not be expected to "vote often."

strict correspondence between modernity of *attitude* and modernity of *behavior*. The answer is partly given by considering the relation of attitudinal modernity to our several tests of information. These questions did not deal with "mere" attitudes, but obliged the respondent to prove objectively whether he really knew something. Quite consistently the men who were more modern on the attitude measures validated their status as modern men by more often correctly identifying a movie camera, naming the office held by Nehru, and locating the city of Moscow. Men with the same education but with unequal modernity scores performed very differently on these tests, with those more modern in attitude scoring high on the tests of information two or more times as often as those classified as traditional in attitude. The details are summarized in the lower part of table 3, which presents summary scale results.

We conducted a further and more exact check on the extent to which self-reported behavior is fact rather than fantasy by comparing what men claimed to do with objective tests of their actual performance. For example, we asked everyone whether or not he could read. Individuals certainly might have been tempted to exaggerate their qualifications. But later in the interview we administered a simple literacy test, asking our respondents to read a few lines from local newspaper stories we had graded for difficulty. In most settings less than 1 percent of the men who had claimed they could read failed the literacy test. They proved objectively to have been accurately and honestly reporting their reading ability. Similarly, men who claimed to use the mass media regularly were—as they should have been—better able to correctly identify individuals and places figuring prominently in world news. In Nigeria, for example, among experienced workers of low education, the proportion who could correctly identify de Gaulle as the president of the French Republic was 57 percent among those who claimed to pay only modest attention to the mass media, 83 percent among those who asserted they listened or read more often, and 93 percent among those who claimed to read a newspaper or listen to the radio almost every day. Many additional examples which test the internal consistency of attitude and behavior are summarized in table 4.¹⁹ Clearly, the men who claim to have the attributes we score as modern give a better account of themselves on objec-

¹⁹ For lack of space, table 4 shows the percentage whose behavior validated their oral "claim" only in the case of those falling at the extremes of the continuum on each "claim," and the *t*-tests are based on these same extremes. To leave no doubt that this outcome was not a fortuitous result of considering only the extremes, we note the gamma statistics for the full cross-tabulations including all steps in both the oral claim and the behavioral test. The five tests of the relation between claim and behavior applied in six countries yield a potential thirty tests, but some were inapplicable in certain instances. The procedure was repeated separately for the "low" and "high" educated, divided at the median in each country. For the low educated, where twenty-seven of the tests were applicable, the association of claim and behavior was in the expected direction in all cases, and the gammas ranged from 0.011 to 0.877, with a mean of 0.351 and a median of 0.334. For the high educated, the hypothesis could be tested in twenty-three full cross-tabulations. All but two of the associations were in the expected direction, the gammas ranging from -0.123 to 0.690, and over this range the mean gamma was 0.309 and the median 0.276.

TABLE 4
 PERCENT^a AMONG LOW EDUCATED^b WHOSE PERFORMANCE ON A TEST OF BEHAVIOR ACCORDS WITH THEIR ORAL CLAIM
 (BY CLAIM AND COUNTRY)

OBJECTIVE BEHAVIOR (%) AND CLAIM	COUNTRY						
	Argentina	Chile	India	Israel	Nigeria	East Pakistan	
Naming 3 newspapers among those who claim to read papers:							
Rarely/Never.....	0	73 ^d (356) ***	13 (582) ***	68 (28)	59 (71) ***	38	
Daily.....		98 (85)	60 (63)	90 (119)	85 (152)	45	
Correctly identifying international leader among those claiming mainly interested in:							
Other news.....	43 (299) **	59 (414)	8 (668)	79 (216)	7 (276)	4 (459)	
World news.....	73 (30)	76 (29)	12 (26)	84 (68)	8 (73)	10 (10)	
Correctly identifying international leader who claim on total information media exposure they are:							
Low.....	14 (51) ***	45 (196) ***	1 (71) ***	73 (45)	4 (78) *	0 (85) **	
High.....	79 (29)	79 (76)	18 (11)	84 (38)	17 (18)	10 (40)	

^a .05 level of significance reached in *t*-tests of the difference in the proportion manifesting a given behavior in the case of those falling at the extremes of the continuum on each "claim."
^b .01 level of significance.
^c .001 level of significance.
^d Percentages are a proportion of the cells' base *N* who manifested a given behavior.

These cell *N*s represent all those of low education who made the indicated behavioral claim, e.g., claimed to read a newspaper daily.
^b The average number of years of education by country was Argentina: 4.5; Chile: 3.7; India: 1.0; Israel: 5.1; Nigeria: 6.2; and Pakistan: .2.
^c Data unavailable for country.
^d Includes "a few times a week" in "rarely or never" category.

TABLE 4—Continued

OBJECTIVE BEHAVIOR (%) AND CLAIM	COUNTRY					
	Argentina	Chile	India	Israel	Nigeria	East Pakistan
Correctly identifying Washington who claim on total information media exposure they are:						
Low.....	14 (51)***	43 (196)	3 (71)	64 (44)*	3 (78)***	2 (85)
High.....	72 (29)	70 (76)	7 (28)	90 (38)	28 (18)	3 (40)
Who can read at least a little among those who claim they:						
Can read.....	0	0	99 (408)	99 (266)	99 (346)	74 (80)

tive tests of performance. We may conclude not only that modern is as modern does, but also that modern *does* as modern *speaks*.

4. *Is the consequence of the individual modernization inevitably personal disorganization and psychic strain; or can men go through this process of rapid sociocultural change without deleterious consequences?*—Few ideas have been more popular among the social philosophers of the nineteenth and twentieth centuries than the belief that industrialization is a kind of plague which disrupts social organization, destroys cultural cohesion, and uniformly produces personal demoralization and even disintegration. Much the same idea has been expressed by many anthropologists who fear—and often have witnessed—the destruction of indigenous cultures under the massive impact of their contact with the colossus represented by the European-based colonial empires. But neither the establishment of European industry in the nineteenth century, nor the culture crisis of small preliterate peoples overwhelmed by the tidal wave of colonial expansion may be adequate models for understanding the personal effects of industrialization and urbanization in developing nations.

To test the impact on personal adjustment resulting from contact with modernizing influences in our six developing countries, we administered the Psychosomatic Symptoms Test as part of our regular questionnaire. This test is widely acknowledged to be the best available instrument for cross-cultural assessment of psychic stress.²⁰ Using groups carefully matched on all other variables, we successively tested the effect of education, migration from the countryside to the city, factory employment, urban residence, and contact with the mass media as these modernizing experiences might affect scores on the Psychosomatic Symptoms Test. No one of these presumably deleterious influences consistently produced statistically significant evidence of psychic stress as judged by the test. Those who moved to the city as against those who continued in the village, those with many years as compared to those with few years of experience in the factory, those with much contact with the mass media as against those with little exposure to radio, newspaper, and movies, show about the same number of psychosomatic symptoms.

In each of six countries, we tested fourteen different matched groups, comparing those who migrated with those who did not; men with more years in the factory with those with fewer, etc. Because some of these matches did not apply in certain countries, we were left with seventy-four more or less independent tests of the proposition that being more exposed to the experiences identified with the process of modernization produces more psychosomatic symptoms. Disregarding the size of the difference and considering only the sign of the correlation between exposure to modernization

²⁰ Variants of the test were used with the Yoruba as reported by Leighton et al. 1963, and the Zulu as reported by Scotch and Geiger 1963–64. Details on the form of the test as we used it and the results of our investigation were presented by Alex Inkeles and David Smith to the Eighth Congress of the International Anthropological Association at Tokyo-Kyoto in September 1968 under the title “The Fate of Personal Adjustment in the Process of Modernization,” and will appear in the *International Journal of Comparative Sociology*, 1970.

and psychosomatic symptoms as (+) or (-), it turns out that in thirty-four instances the results are in accord with the theory that modernization is psychologically upsetting, but in forty other matches the results are opposed to the theory. Very few of the differences in either direction, furthermore, were statistically significant. Indeed, the frequency of such statistically significant correlations was about what you would expect by chance. Of these significant differences, furthermore, only two supported the hypothesis while two contradicted it. This again suggests that only chance is at work here. We must conclude, therefore, that the theory which identifies contact with modernizing institutions and geographical and social mobility as certainly deleterious to psychic adjustment is not supported by the evidence. Indeed, it is cast in serious doubt. Whatever is producing the symptoms—and the test does everywhere yield a wide range of scores—it is something other than differential contact with the sources of modernization which is responsible.

Life does exact its toll. Those who have been long in the city and in industry but who have failed to rise in skill and earnings are somewhat more distressed. But this outcome can hardly be charged to the deleterious effects of contact with the modern world. Perhaps if we had studied the unemployed who came to the city with high hopes but failed to find work, we might have found them to have more psychosomatic symptoms. If we were faced with this finding, however, it would still be questionable whether the observed condition should be attributed to the effects of modernization. The fault would seem to lie equally in the inability of traditional agriculture to provide men with economic sustenance sufficient to hold them on the land.

We conclude, then, that modernizing institutions, per se, do not lead to greater psychic stress. We leave open the question whether the process of societal modernization in general increases social disorganization and then increases psychic tension for those experiencing such disorganization. But we are quite ready to affirm that extensive contact with the institutions introduced by modernization—such as the school, the city, the factory, and the mass media—is not in itself conducive to greater psychic stress.

Men change their societies. But the new social structures they have devised may in turn shape the men who live within the new social order. The idea that social structures influence the personal qualities of those who participate in them is, of course, as old as social science and may be found in the writings of the earliest social philosophers. Its most dramatic expression, relevant to us, was in the work of Marx, who enunciated the principle that men's consciousness is merely a reflection of their relation to the system of ownership of the means of production. The rigidity of Marx's determinism, and the counterdetermination of many people to preserve an image of man's spiritual independence and of the personal autonomy and integrity of the individual, generated profound resistance to these ideas. The idea that ownership or nonownership of the means of production determines consciousness is today not very compelling. To focus on ownership, however, is to concentrate on the impact of macrostructural forces in shaping men's attitudes and values at the expense of studying the significance of microstruc-

tural factors. Yet it may be that these microstructural features, such as are embedded in the locale and the nature of work, are prime sources of influences on men's attitudes and behavior.

In reviewing the results of our research on modernization, one must be struck by the exceptional stability with which variables such as education, factory experience, and urbanism maintain the absolute and relative strength of their impact on individual modernization despite the great variation in the culture of the men undergoing the experience and in the levels of development characterizing the countries in which they live.²¹ This is not to deny the ability of the macrostructural elements of the social order to exert a determining influence on men's life condition and their response to it. But such macrostructural forces can account for only one part of the variance in individual social behavior, a part whose relative weight we have not yet measured with the required precision. When we attain that precision we may find some confirmation of popular theories, but we are also certain to discover some of them to be contradicted by the data—just as we have in our study of microstructural factors. The resolution of the competition between these two theoretical perspectives cannot be attained by rhetoric. It requires systematic measurement and the confrontation of facts however far they are marshalled in the service of ideas. The facts *we* have gathered leave *us* in no doubt that microstructural forces have great power to shape attitudes, values, and behavior in regular ways at standard or constant rates within a wide variety of macrostructural settings.

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²¹ This idea is more fully elaborated in Inkeles 1960.