EDUCATION, INNOVATIVE BEHAVIOR AND INDIVIDUAL MODERNITY IN A DEVELOPING SOCIETY: AN ATTEMPT IN MODEL CONSTRUCTION

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ABSTRACT

EDUCATION, INNOVATIVE BEHAVIOR AND INDIVIDUAL MODERNITY IN A DEVELOPING SOCIETY: AN ATTEMPT IN MODEL CONSTRUCTION

By

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The main objective of the present study is to explore the relationship between formal education and individual modernity in developing societies. More specifically, the study is designed to focus on three crucial but interrelated questions: (1) whether formal education contributes significantly to individual modernity, (2) whether the impact is direct or indirect or both; and (3) whether formal education has more or less similar effects on the attitudinal and behavioral dimensions of modernity.

We developed a conceptual model concerning the relationship between education and modernity. The model has five components. The first is the educational achievement of the individual, which has been treated as an independent variable. The second and third components are psychic mobility and physical mobility. The model postulates that education is directly related to them, and this relationship is unidirectional. The two types of mobility

also affect each other. Innovative behavior is the fourth component. The model stipulates both a direct and indirect relationship between education and innovative behavior. Psychic mobility and physical mobility serve as the intervening variables. The last component is individual modernity. Education has both direct and indirect impact on it. The mobility experience and innovative behavior serve as intervening variables. We also assert a direct, reciprocal relationship between individual modernity and innovative behavior.

The hypothesized model, we insisted, is not universally applicable. It is based on certain assumptions which are highly restrictive. The model assumes (1) that the universe to be studied or explained is composed of the adult population who have finished their formal education, (2) that population is engaged in self-employed occupations where there remains a significant scope for the adoption of innovations, and (3) the social system is underdeveloped and the programs of the planned social change are being undertaken in it.

We utilized data from India to test the above model. We studied agricultural population from eight villages in three different states. We had 679 respondents, although we could use data for only 675 in this particular study.

A scale of psychological modernity was constructed by taking into consideration the following six variables; secular-orientation, self-autonomy, achievement motivation, inter-personal trust, deferred gratification and empathy. All these variables have been regarded as components of the modernity syndrome.

The index for innovative behavior was based on the innovations which are useful in agricultural operations. Originally, 12 items were selected and subjected to Guttman scaling. The scale retained ten items. Formal education was measured by the number of years spent at the school.

We used three methodological strategies to test the model. First, we constructed cross tables. Respondents were classified under three broad heads; illiterate, low education and high education. All the other variables were dichotomized as high and low, and their relationship was studied. Second, we tested the conceptual prcximity of the variables on the basis of the strength of their correlations. Finally, we used multi-variate regression, treating (1) modernity as dependent, and the remaining four variables as independent variables, (2) modernity as dependent, and education as an independent variable, (3) innovative behavior as dependent, and the remaining four variables as independent ones, (4) innovative behavior as dependent and education as an independent

variable, and (5) innovative behavior as dependent, and psychic mobility, physical mobiltiy and modernity as independent variables. The same regressions were also calculated for each of the six components of the modernity syndrome, by regarding each of them as a separate indicator of modernity.

The findings came as a total surprise. The data did not show any strong relationship between the different components of the model. With the simple exception of the association between psychic mobiltiy and innovative behavior, all other relationships were found to be very weak to be of any predictive value. Educational attainment had little effect on innovative behavior and negligible effects on the modernity syndrome. Again, contrary to our expectations, mobility did not have close association with modernity. Finally, the association between innovative behavior and modernity syndrome was found to be rather weak. Thus the data did not support our conceptual model.

It is interesting to note here that during our analysis, we did not find any significant relationship between the various components of the modernity syndrome. This raises crucial issues about the validity as well as usefulness of the concept of individual modernity in the research enterprise. The very notion of the modernity becomes suspect.

However, the findings cannot be taken at their face value; a great deal of caution is required in interpreting our results. Several factors might have affected our findings. The extremely poor quality of formal education in village India, which was available in the past, the long interval between the completion of formal education and the time for interview, and finally the relatively small percentage of educated people in our sample, are some of the factors which deserve to be mentioned in this regard. Some allowance needs also to be made of the limitations of the operational definitions. Therefore we do not regard our findings as definitive. And yet they are sufficient to underscore the need for having a second look at the existing conceptualizations about the impact of formal education on individual modernity, the relationship between modern value orientations and innovative behavior and, above all, the very concept of the modernity syndrome.

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CHAPTER I

INTRODUCTION

Even among the intellectual circles which pride themselves on their objectivity, one hears the remark: "Education is the key to the modernization of traditional societies." The remark looks casual, if not banal. And yet a little reflection would reveal that it is not without substance. Education is intimately related to the polity, economy and society; it profoundly affects their functioning. Therefore the educational system of a country is bound to paly a crucial role in its modernization.

The developmental experience of the last two decades goes to support the above assertion. Economists have begun to realize that economic development is not a mere function of capital investment in the underdeveloped part of the world. It also requires continued supply of technical experts and qualified personnel. The developing nations need trained scientists to conduct the surveys of their natural resources, and engineers to develop technology suitable to their indigenous needs. They also need a vast army of managers, accountants, chemists, educationists and administrators. Factories cannot be built on conventional

wisdom. Dams cannot be constructed in the absence of engineers, and bureaucratic structures cannot survive without trained administrators. No nation can totally depend upon the foreign expertise, much less the poor, impoverished nations constituting the third world.

Realization of the importance of education and health has led economists to develop the notion of "investment in man." Economists like Schultz, Becker and Myrdal insist that the expenditure on education and health should not be regarded as a consumption item but as a direct investment. Expansion of education accounts for the rise in national income.

Some education is necessary not only for manning administrative and technical positions but also for the ordinary day to day activity. The commercialization of agriculture and expansion of industry necessitate elementary knowledge of mathematics and some skills in reading and writing. Although, much can be learned by a person without going to the school, the role of formal education cannot be minimized.

Political scientists view the modern educational system as a bare necessity for the integration of the new states. One serious problem encountered by the developing nations is the lack of national loyalties which transcend racial, parochial and linguistic considerations. Many of the nations in Asia and Africa are characterized by what

the political scientist calls "cultural fragmentation"; one notices sharp discontinuities among the different authority systems constituting the political culture. There is no established hierarchy among the different authority systems which automatically commands obedience. Under these circumstances, educational systems assume a critical role in political socialization. Political elites seek to inculcate specific political attitudes and dispositions through the medium of educational instructions.

The general expectations from education with regards to the recruitment to the ranks of political elites are still higher, if not totally justified. The leadership in many developing societies has been provided by a small class of the Western educated people who had been able to exert influence upon the masses by virtue of their education. These leaders are under constant pressure to recruit new political elites from the younger, better educated groups. If we have a broad definition of the political elites so as to include bureaucrats and civil servants, we can easily grasp the contribution of education in this regard.

Thus we find that there has been a tremendous change in our approach toward education. It is no longer simply considered as a culture-preserving and culture-transmitting institution. It is also being looked upon as an initiator of social change. There is no dearth of

studies that link education with political development or economic growth. In fact, the whole field is illuminated by the impressive contributions of a number of social scientists who have done intensive cross-cultural research.

The focus of our study is limited; we do not explore the relationship between education and modernization at the societal level. Our objective is to study the effects of modern education on those values, attitudes and ways of acting which are usually associated with individual modernity. Thus we address ourselves to the seemingly simplistic question whether education is a crucial modernizing agent in the individual lives of the people in developing societies.

Education and Individual Modernity

Let us briefly discuss the various ways in which education can promote individual modernity.

The educational curriculum in a formal school setting is bound to promote new mental orientations and attitudes. Scientific knowledge and training at every level--primary, secondary and university--helps to generate qualities associated with the modern man. Education shatters age-old beliefs, superstitions and myths.

Even the rudimentary familiarity with physical sciences like chemistry, biology or physics may result in significant changes in the perceptions and perspectives of

the people, especially in traditional societies where extreme ignorance prevails. The mere knowledge that diseases are not caused by gods but by germs, is sufficient to make a crucial difference in the psychic environment of a village boy; his faith in the wisdom of elders is shaken if not destroyed.

Sociologists have argued that the real contribution of education lies not in the direct instruction but in school as a social experience; the formal organization of the school profoundly affects the personality of the pupil, and enables him to internalize values and orientations necessary to function in the modern, complex, industrial societies. The school is the first formal organization with which a child comes into contact, and its social structure sharply differs from that of the family. The child is forced to shoulder some responsibilities in the school; he is accountable for his performance. His grades depend upon his own work. He has to compete with his fellow students both in classrooms and extra-curricular activities. Such conditions generate self-autonomy and achievement motivation. The formal structuring of the school, and emphasis on the reciprocity of rights and obligations may also be related to the capacity to empathize; the child learns to empathize about the role of others. The school is also supposed to imprint the need for universalistic standards by treating all students in

a class equally; a teacher is not supposed to show any favoritism in the classroom. In a remarkable study, Dreeban (1968) has suggested that the norms of achievement, universalism and specificity are internalized by children in the formal social structure of the school.

It has been suggested that the contribution of school as a formal organization is likely to be greater in developing nations where the environment of the school contrasts sharply with the outside life. Often the school is the only formal organization in a village community, and hence its impact becomes more critical. Inkeles (1969, p. 213) has observed:

> 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 towards others, and of conducting oneself, which would have important bearing on the performance of one's adult roles in the structure of the modern society. These effects of the school, . . . 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.

We would however like to caution that both the curriculum and the organization of the school in traditional social systems may reflect and articulate the traditional norms and values, and under such conditions the modernizing effects of schooling would be little, if any.

Education also provides us with certain skills which in turn make us more susceptible to modernizing influences. As a result of education, one comes into contact with newspapers, journals and books which diffuse new ideas and innovations. He is also in a better position to communicate with the people of modern aptitudes and orientations. In social systems where programs of planned social change are being carried out, the change agent tries to reach the educated segment first and then only the general populace. By virtue of his education, a villager is able to visit urban areas and is thus further exposed to the urban influences. Thus education facilitates physical and psychological mobility which in turn promote adoption of modern life-styles.

Thus we find that education is closely related to individual modernity. There are a few studies which have examined this relationship and we propose to briefly review them here.

A Review of the Current Research

The studies which have related education to democratic values may be regarded as the forerunners of the present research works. One can cite a number of investigations like Janowitz and Marvic (1954), McClosky (1958), Campbell et al. (1960) and White and Lippett (1960) in this regard. The focus of the investigations was not on

the modernity but democratic values. But even then their indirect influence on the field and research methodology has been profound.

So far as we know, Lerner (1958) was the first to articulate a model of modernization and explain the role of literacy in it. Although the concept of literacy is not identical with that of education, and his focus was more on the society than the individual, he deserves the full credit to put the problem in its proper perspective.

Lerner views the secular evolution of the participant society as involving three distinct phases. The first is urbanization; the growth of modern cities, he argues, is imperative for the evolution of modern industrial societies. Then come literacy and mass media. Literacy provides necessary skills to the people to perform the tasks required in the modern life. Literacy contributes to mass media which in turn accelerates it. And out of the interaction of literacy and mass media develop institutions of participation which underlie the modern society. To quote him (1958, p. 61):

> Only cities require a largely literate population to function properly--for the organization of urban life assumes enough literacy to read labels, sign checks, ride subways. A population of illiterate might learn that they are not to smoke and spit in the subway, or that the express trains run on the local tracks between 5 and 7 p.m. But the trial and error can be a wasteful societal procedure. The primitive social function of literacy, as of all skills, is to train the skilled labor

> force with which the cities develop the industrial complex that produces commodities for cash customers, including newspapers and radios and movies for mass consumers. . . . To spread consumption of urban products beyond the city limits, literacy is an efficient instrument.

Lerner has also argued that literacy is more than mere skill for reading and writing; it also enables one to engage in vicarious thinking. As a result of literacy, a person is able to re-think his role. Thus it is closely related to empathy which Lerner regards as the basic predisposition towards modernization on the individual level.

Rogers' (1969) study of Colombian peasants has been influenced by Lerner. As his data relate to the social and psychological characteristics of peasants and their innovative behavior, Rogers was in a position to examine the relationship between the functional literacy and other indicators of modernity like empathy, achievement motivation, mass media exposure, cosmopoliteness, political knowledge, leadership and innovativeness. He noted a positive relationship, although it does not appear to be strong. He also compared his findings with a similar study in India, and found similarities in the results.

It is important to observe that Rogers found significant variations on the effects of functional literacy on modernization variables in the various villages he studied. As he (1969, pp. 93-92) observes:

> Evidently the patterns of relationships of functional literacy to its correlates, although generally in a similar direction (either positive or negative), are subject to rather wide intercommunity variation. This point is an argument also, of course, for the priority of the extensive replication of the present study in other underdeveloped nations (as was done in India) before its conclusions can be considered definitive. Nevertheless, the present work clearly indicates the importance of literacy as a variable in explaining many facets of modernization. One gains the general impression that literacy is of considerable importance in relation to other modernization variables.

Rogers relied mainly on simple zero-order correlations. In spite of the fact that simple correlational matrix can be misleading, his findings throw significant light on the contribution of literacy to modernity. Rogers has also emphasized that the modernity variables might have feedback effects on functional literacy.

In his monumental study of individual modernity, Inkeles (1969) found education to be the most significant influence which takes men away from traditionalism to modernity. It was more important than factory experience and urban environment as a modernizing force. Inkeles (1969, p. 212) observes:

> Both in zero-order correlations and in the more complex multivariate regression analysis, the amount of the formal schooling a man has had emerges as the single most powerful variable in determining his score on our measure. 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.

Inkeles does not mention his findings in detail. In a footnote he only adds that the correlations between education and the over-all measure of modernity ranges from 0.34 in Pakistan to 0.65 in India. The size of these coefficients has been substantially affected by the spread of education in the sample. However, one point is obvious; there is a great deal of variation in the relationship between individual modernity and educational attainment from country to country. This fact suggests that the relationship between the two variables is mediated by a number of ecological, structural and economic factors in the social system. There is no uniform relationship which is valid for all societies. Nevertheless, Inkeles' findings serve to stress the role of education in promoting individual modernity. His has been the first study which analyzed this relationship not in terms of the different indicators of modernity but on the basis of an over-all scale of individual modernity; this gives his findings a decisive importance and weight in any discussion on the subject.

The data collected by Inkeles and his asscciates for Pakistan were analyzed by Schuman et al. (1967) with a view to study the social psychological effects and non-effects of literacy. One feature of this study is that it also seeks to take into consideration two other variables, i.e. occupations and occupational setting.

Thus it compares the effects of literacy on cultivators and factory workers; the former live in villages while the latter in urban surroundings. The findings unmistakenly show that literacy is not related to all modern orientations. It was found to be positively related to national identity, aspirations for education and innovativeness but it had no perceptible effects on the orientation to physical mobility, awareness of the differences in opionins and the belief that one's productivity would benefit oneself. Again it showed some favorable influence on radio-listening, belief in the efficacy of science and the knowledge of the modern innovations but had no effects on the attitude towards family planning, and worldly renunciation. One interesting finding was that more illiterates than literates thought that the possession of material goods made one happier; this applied both to cultivators and industrial workers. The study also revealed the influence of the working environment on the attitudes and orientations of the people. Schuman et al. (1967, p. 11) explain their findings in the following way:

> Since literacy specifically, and education more generally, open a man's mind to new ideas, they can change those of his attitudes which are little dependent on his concrete social situation. Where the social setting itself is changing, the more literate man will be quicker to perceive the change and will find it easier to redefine his belief in ways that fit his new needs and interests. But important as literacy is as a variable, it does not enter into every instance of systematic psychological variation.

In the above mentioned study, "literacy and education were more or less interchangeable," and in that sense the above findings relate not only to literacy but also to formal education. Thus we can also say that formal education is related to certain correlates of modernity and not related to others.

One hypothesis which has been forcefully suggested by Inkeles (1969) and Schuman et al. (1967), and supported by Waisanen (1971) is that the school plays a critical role in modernization not merely in terms of the contents of the educational curriculum but also as a social experience. However, none of these studies provided any direct evidence for this assertion in terms of their concrete findings. It was left to Armer and Youtz (1971) to test the hypothesis in their study of the impact of Western education on modern attitudes and orientations among Nigerian youth. They compared the students in Western secular schools and Koranic schools on a scale of modernity; the curriculum contents of the former reflected modern knowledge and values while of the latter traditional wisdom and religious beliefs. Their basic argument was that if the structural effects of the school were more important than the curriculum contents, then the modern attitudes and orientations would also result from the formal education in the non-modern schools; on the other hand, if the curriculum were important, there would be differences in the

student-products of these two types of educational institutions. The findings showed marked differences; while the relationship between education and modernity was positive and linear in the case of modern schools, a tendency was found for education to be negatively related to modernity at the secondary levels in Koranic schools.

A further test of the curriculum effects was made by comparing the degree of modernity among students from different types of schools: (1) Secondary Grammar schools, (2) Teachers-Training colleges, and (3) vocational schools including technical and agricultural institutions. The social organization of these schools is identical but there exist great variations in the curriculum-content. The results again illustrate the importance of the curriculum. Armer and Youtz (1971, p. 621) noted significant differences in the relative proportions of the more modern respondents in these schools. "96.7 percent of those with secondary grammar school education score high on modernity, compared with approximately 79.2 percent of those with teachers-training experience and 64.3 percent of those with other types of secondary-level education." They conclude:

> Of course, this evidence is far from definitive because of the possibility of the selective recruitment to the different types of schools. But taken in combination with the previous results, these data offer consistent, preliminary support for the suggestion that the curriculum may be more effective in producing differences

> in psychological modernity than is the formal organization of the school (1971, p. 621).

To be sure, this does not refute Inkeles' thesis. Neither Inkeles nor Waisanen denies the importance of the curriculum. However, this study does show that curriculum-contents may be crucial as far as the impact of education on modernity is concerned.

Other findings of Armer and Youtz go to support Schuman's (1967) conclusion that the effect of education is selective. It had definite effects on independence from the family, empiricism and futurism but its impact on secularism, women's equality and receptivity to change was irregular and negligible.

One of the most comprehensive cross-cultural research on the effects of formal education on the various indicators of modernity has been undertaken by Waisanen and Kumata (1972). This study utilizes data from five nations which rank at various points on the national modernity continuum. The findings are significant, if not spectacular. In practically all the nations, the six indicators of individual modernity (satisfaction, innovativeness, efficacy, magazine reading, authoritarianism and organizational membership) were found to be positively related to education; however, this relationship is not monotonic. It is curvilinear in the sense that a take-off stage can be discerned in the case of each indicator of

modernity for all the countries in the sample. Yet this take-off point is not the same for all indicators of modernity; it shows considerable variation. On the whole, findings lend considerable support to the notion of the curvillinearity of relationship between education and modernity.

Even more crucial is the finding which shows that "as the level of socio-economic development increases, the point of rapid acceleration in the relational curve occurs later in the formal educational experience." In other words, the study shows that education is more effective in generating modernity configurations in less developed nations than in the developed ones. One simple explanation which occurs to us is that in more modernized societies, a child is exposed to a wide variety of modernizing influences. Mass media and community organizations assume significant responsibilities in inculcating modern values and norms; this does not happen in traditional societies. Besides, the structure of the family also differs between traditional and modern societies. Our explanation of course is at best speculative and needs to be tested on the basis of more comprehensive data and more elaborate research designs.

There are a number of studies that have specifically examined the relationship between educational attainment and the various indicators of individual

modernity like innovativeness, achievement motivation and political attitudes. As the number of such studies is very large, it remains out of the pale of practical politics to discuss them here.

We can draw certain tentative conclusions from the above review of the literature. We find that all the studies have reported some relationship between education and individual modernity. It has been noted when the different indicators of modernity were analyzed separately as well as when a total index was constructed. One can even generalize on the basis of these studies and investigations that education contributes to the individual modernity.

However, the relationship is not uniform as regards all the indicators of the modernity. Some variables seem to be more closely related to educational attainment than others. This raises some critical issues. One can ask the question: If education is related to only a few indicators and has no effects on others, is it reasonable to say that the education is related to the modernity syndrome as a whole? Thus if education is related to A, B, C, and D and not with E, F, G, and H, and all these variables are the components of the modernity syndrome, are we justified in saying that education contributes to individual modernity in a significant way? The second issue relates to why education

makes impact on certain orientations and not on others. These issues are indeed difficult to resolve, and we can only hope that rigorous theoretical exploration and empirical research may provide meaningful answers to them.

The effect of education seems to vary from region to region and country to country. There is nothing surprising about this finding, for we can reasonably assume that the impact of education would be dependent upon a number of factors present in the social system. And yet, it advises us to be a little more cautious in our generalizations; these studies stress at least the importance of conducting many more research investigations in different social settings and countries.

One serious limitation of these studies needs to be noted; they were not conducted within a viable theoretical framework. Except for Waisanen (1969), none has bothered to find out if the effects of education are direct or are mediated by some variables. There is every reason to believe that the effects of educational attainment in the case of adult population may be indirect. For example, in a developing society where change agent contact plays an important role in the diffusion of innovations, it is quite likely that the educated segment would be benefited more than the non-educated one for the simple reason that the change agent finds it more convenient to approach it. Under these circumstances, the educated group may adopt

modern innovations which in turn affect its attitudes and orientations. If this is the case, then we have every justification to treat change agent contact as the intervening variable in our scheme. The other example can be given of the physical mobility. Because an educated person is in a better position to visit urban areas, he may internalize some of the attitudes and values associated with the modernity syndrome. What we wish to suggest is that we cannot postulate a simple and direct relationship in all the cases; it is necessary to take into consideration some intervening variables which may affect it.

The Objective of the Study

The proposed study would be an attempt in the direction of exploring the complex relationship between education and individual modernity. The setting of the study is India which is on the threshold of an agricultural revolution and also indigenous industrialization.

The study would be confined to the agricultural sector of the rural India. There are various reasons for our preference. In the first place, about 80 per cent of the Indian population lives in villages, and the majority of them depend upon agriculture as a means of their livelihood. Thus the place of agriculturists in Indian life is pivotal. Most of them are the subsistence farmers and the future of modernization depends upon their responses

to the challenge of development. The Government has also introduced programs of the planned social change in these villages to facilitate the adoption of innovations and diffusion of modern ideas. Second, in urban areas, there are a variety of modernizing influences including the factory experience, modern communication system and organized political activity. But this is not so in the rural areas. And hence, it is more likely, as the findings of Waisanen and Kumata (1972) indirectly indicate, the effect of education on modernity would be greater and more meaningful. Third, while we have some data from Inkeles (1969) about the relationship between education and individual modernity for a cross-section of the population, we did not find any research on the impact of education on the modernization of farmers. Our present data relate to 675 respondents in eight villages of India. These villages were scattered in three important states.

There are certain specific features of our study which distinguish it from the earlier researches in this field, and deserve to be mentioned here.

In the first place, we propose to explore the relationship between education and individual modernity within a theoretical framework. We shall present a conceptual model for the hypothesized relationship, and test it on the basis of the data.

Second, we shall be constructing a scale of modernity, and propose to study the effects of education on the basis of one's performance on this scale. In this respect, our study would have more in common with Inkeles (1969) and Armer and Youtz (1971) than with the rest of the researchers cited earlier. This does not exclude the possibility of analyzing the different components of modernity separately for further elaboration and clarification.

Third, and importantly, we shall make a broad distinction between behavioral and attitudinal modernity. This distinction is significant because we believe that education as a facility would be more related to innovative behavior, while the education as a generator of the modern attitudes and orientations would likely show greater impact on psychological modernity. In other words, we wish to test the hypothesis if education equally affects both the dimensions of individual modernity.

The remainder of this dissertation is organized as follows. The second chapter is devoted to the explanation of the concept of individual modernity and its various social and psychological correlates. The hypothesized model about the relationship between education and modernity along with its rationale will be presented in the third chapter. The fourth chapter deals with the research methodology for this study. Our findings are

presented in the fifth chapter. The sixth chapter examines some theoretical implications of our findings in the area of modernization. Then the last chapter presents a brief summary of the dissertation.

CHAPTER II

THE MEANING OF INDIVIDUAL MODERNITY

The concept of individual modernity continues to bristle with controversies. In spite of the impressive cross-cultural research transcending disciplinary boundaries, no social scientist can claim that the concept is totally free from the ethnocentric biases and that its underlying assumptions are not questionable. However, for our present purposes, we shall avoid any critical reference to it, and shall be content with a brief presentation of the dominant viewpoint.

The Modern Society and Psychological Orientations

The contemporary industrial society can be viewed as a distinctive epoch in human civilization. It displays a number of attributes and structures which are unique to it. One also discerns some "universals" among the different industrial nations irrespective of their political ideologies and social systems.

The distinctive feature of the modern society is the application of science and technology to the productive processes which has generated far reaching changes in its structure and functioning. Technology has

contributed to the emergence of large scale economic organizations. The family no longer remains a unit for economic activity in the industrialized nations of the world. The growth of large scale productive units has necessitated the concentration of the working population in large towns and cities. In fact, the rapid advances in communication and transport systems continue to erode the crucial differences between the rural and urban life styles. The anonymity of the city life leads to the breakdown of the traditional means of social control and their substitution by formal ones.

The state has also emerged as a vast monolithic bureaucratic structure commanding universal loyalty and obedience within its territory. It has assumed the power to influence almost every arena of human life. There is a proliferation of political organizations and institutions. One distinct consequence of this development has been the increased participation and involvement of the citizen in political processes. The nature of this participation may vary from society to society, but its presence cannot be denied. One witnesses increased political mobility and the erosion of ascriptive status and privileges.

The industrial society needs a wide variety of skills and levels of performance. As a result, there is a continual expansion of educational opportunities. The distribution of prestige, of income, and of power become

more egalitarian and just. Mass media cater to the bulk of the population and shape their thinking. The modern society also provides a high standard of living to its population.

Social scientists believe that these "universals" or "commonalities" of the modern society are associated with the values, attitudes and behaviors of the people living in them. Since there is a constant interplay between the personality system and social system, one can reasonably speak of mental orientations and behavioral styles which are common to the inhabitants of the modern society and which distinguish a modern man from a traditional one. The concept of individual modernity has been designed to sensitize the common psychological traits and attributes of the people living in modern, industrial societies.

The Concept of Modernity Syndrome

On the basis of the above discussion, we can define individual modernity as a complex, personality syndrome embracing a wide gamut of attitudes, values and ways of acting which are related to the functioning of a modern, industrial society. There are a number of studies that have contributed to the development and refinement of the notions of modernity and modern man. Lerner (1958), Inkeles (1960, 1966, 1967), Smith and Inkeles (1966),

Dawson (1967), Kahl (1968), Rogers (1969), Doob (1967) and Waisanen (1969) are a few studies that deserve to be mentioned here. Most of them have not only developed ideas conceptually but have also validated them on the basis of empirical research.

There seems to exist a great deal of unanimity among the social scientists about the specific contents of the modernity syndrome. Even though they have used different words to sensitize the same concepts, a number of commonly used variables can be easily specified. In his study of the Middle East Lerner (1958) used empathy as the most crucial variable underlying modernization process. Kahl (1968) has included activism, low integration with relatives, preference for urban life, individualism, low community stratification, mass media participation and low stratification of life chances as the core values of modernism syndrome. Rogers (1969) has employed nine variables to study modernization among the Colombian peasants; these are literacy, mass media exposure, cosmopoliteness, empathy, achievement motivation, fatalism, innovativeness, political knowledge, and aspirations. On the basis of his cross-cultural study, Inkeles (1969, p. 210) regards the following personal qualities as central to the theoretical conception of the modern man:

> (1) Openness to new experience, . . . (2) the assertion of increasing independence from the authority of the traditional figures like parents and priests and a shift of allegiance to the

> leaders of the government, public figures, trade unions, cooperatives, and the like; (3) belief in the efficacy of the science and medicine, and a general abandonment of the passivity and fatalism in the face of life's difficulties; and (4) ambition for oneself and one's children to achieve higher 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. This is also a 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 their efforts to prefer news of national and international importance over items dealing with sports, religion, or purely local affairs.

The above variables are not treated as separate but as interrelated and interdependent variables in the current literature and research. In fact, the very concept of the modernity syndrome rests on the assumption that the variables show an organic relationship as to constitute a syndrome.

Social scientists have made this assumption quite explicit. Inkeles (1967), for example, observes: "It is one of the fundamental assumptions of our research that these qualities indeed cohere, that they are a syndrome and that people who have one trait will also manifest others." He insists that his findings have justified this assumption; the modern man is not a mere theoretical construct but also an empirical reality. Rogers (1969) also implies a close interdependence of what he calls "modernization variables." His notion of modernity is based on his conceptualizations about the subculture of peasantry

and this makes his position unambiquous in this regard. Kahl (1968) is also positive that a person who scores high on some values of modernism will also score high on the others, although there is some scope for variation.

Components of the Modernity Syndrome

Let us discuss rather briefly some of the components of the modernity syndrome here.

The first is innovativeness which has been defined by Rogers (1969, p. 294) as "the degree to which an individual is ready to adopt new ideas, relative to others in his social system." Thus a modern man is innovative, and is willing to change his beliefs, attitudes and ways of acting in response to new challenges and developments. Innovativeness, it has been argued, has contributed to the change in material conditions in the developed nations, and still continues to raise their standard of life and performance. The readiness to change on the part of the modern man is not confined to one area but extends to his entire life; he prefers change in home, work and even leisure.

Empathy has been closely associated with innovativeness. It refers to the actor's capacity to adjust his self-system to the changing environment. An empathic

person is able to project himself in many roles. Thus man's receptivity to new ideas depends upon one's capacity to empathize. Lerner (1958, pp. 49-50) who deserves the credit for popularizing the concept, explains:

> We are interested in empathy as inner mechanism which enables newly mobile persons to operate efficiently in a changing world. Empathy, to simplify the matter, is the capacity to see oneself in the other fellow's situation. This is an indispensable skill for people moving out of traditional settings.

Inkeles (1966) has suggested that empathy contributes to the willingness to form or hold opinions on a variety of issues. The traditional man, he thinks, takes interest in fewer things, mainly those which touch him immediately and directly. But not the modern man. As a result of his capacity to empathize, he shows a great awareness of the diversity of opinions and attitudes around him.

Lerger (1958) in Middle East, Eister (1962) in East Pakistan (now Bangladesh), Frey (1964) in Turkey, Rao (1963) in India, Whiting (1967) in Brazil and Rogers (1969) in Colombia have found empathy related to certain aspects of individual modernity.

The self perceived autonomy has been also regarded as an attribute of the modern man. The modern man does not regard himself as the slave of his environment. He believes that he can manipulate it to suit his purposes and goals. As a result, he evinces faith in the capacity of science

and technology. The less modern man is fatalistic. The literature on peasantry provides enough evidence for the widespread assertion that peasants do not show any awareness of their capacities to change their hostile environment.

Achievement motivation occupies a significant place in the modernity syndrome. It has been defined by McClelland (1966, p. 76) as "the desire to do well, not so much for the sake of social recognition or prestige, but to attain an inner feeling of accomplishment." To McClelland goes the full credit for explaining the rise and fall of empires or nations in terms of achievement motivation. A nation rises when its population possesses high achievement motivation.

The traditional man is supposed to rank low on the scale of achievement; he is short of ambition to rise and succeed. This contributes to his poverty as well as the backwardness of his society.

Achievement motivation is acquired as a result of child rearing practices. However, McClelland and Winter (1969) have recently noted that with proper training, the level of n ach can be raised among the adult population which may result in rapid economic development.

Planning orientation is yet another attribute of the modern man. As Inkeles (1966, p. 143) puts it, "The more modern man is oriented toward and involved in planning

and organizing and believes in it as a way of handling life." He is also punctual, regular and orderly in organizing his affairs. He is oriented towards the future rather than the past.

Inkeles (1966) insists that the time-consciousness has not much to do with living in modern industrial societies. Maya Indians had a better sense of time than their Spanish conquerors. People can live in traditional social systems, and show amazing capacity for purposeful planning.

The modern man displays inter-personal trust. He believes that the persons and institutions around him can be relied on to fulfill their obligations. The life in modern societies is impossible without such an assumption. But the traditional man harbors an obsessive distrust of others; he is suspicious of their real intensions. Foster (1967, p. 91) observes with regard to the Mexican peasants, "So deep is the suspicion and mistrust of others it is difficult for people to believe that no hidden meaning underlies even the most casual acts."

The modern man displays reasonable mass media credibility. He is exposed to mass media and forms his opinion on its basis. In fact, the exposure to mass media is regarded as a crucial factor in changing his traditional attitudes and orientations. The less modern man is often distrustful of an impersonal communication network and relies on the personal word. Communication experts often

categorize social systems as traditional and modern on the basis of the communication systems prevalent there.

We would simply add that the mass media credibility is primarily a function of the media exposure. It need not be regarded as a basic psychological orientation as some social scientists appear to do.

Secular orientation can be regarded as the distinctive trait of the modern man; all observers agree that his world view is relatively secular. He looks to this world and justifies his behavior with reference to it. Unlike the traditional man, his life is not governed by sacred beliefs, superstitions and irrational religious obligations. Crudely speaking, the march of the history has been from the sacred to the secular. No doubt, the modern man has his own superstitions and religious dogmas, but their role in his total life is limited. Often he rationalizes them in secular language. We view secular orientation as a distinct characteristic of the modernity syndrome.

The above list is hardly exhaustive. Yet it explains all the important variables which are generally associated with the modernity syndrome.

Rationale for the Selection of the Modernity Variables

It also needs to be mentioned here that the selection of the specific variables constituting the modernity

syndrome is not arbitrary or casual. It is based on the supposed relationship of these variables with the modernization at the societal level.

In the first place, those values, attitudes and orientations which have contributed to the emergence of modern society, are somehow included in the syndrome. A number of social scientists contend that changes in values are preconditions for development. McClelland (1961) has argued that achievement motivation is the basic personality characteristic which sheds light on the rise and fall of nations. Economic development begins when people become achievement-oriented, as such people show their creative talents in business entrepreneurship. Hagen (1962) believes that modernization takes place as a result of the emergence of innovative personalities; when womenfolk of a social strata which has fallen from its earlier high social status begin to rear their male children with love, understanding and ambitions, they help to nurture a new breed of innovative individuals who put their backward societies on the path of progress and prosperity. There are several other conceptualizations and studies that can be mentioned here. However, the main point to note is that several variables like achievement motivation, innovativeness or efficacy are generally included in the modernity syndrome in pursuance of this line of reasoning.

In the second place, some social-psychological orientations are regarded as a consequence of one's participation in the modern industrial society and are therefore included as components of the individual modernity. The mere functioning in a modern society generates a new set of attitudes, values and orientations which are at variance from those prevailing in non-industrial societies. Science and technology contribute to the secularization of the individual life. Interpersonal relations and social mobiltiy are likely to make one prone to change. Exposure to mass media affects one's capacity to empathize. Thus those values, and psychological orientations which are regarded as the product of social modernization, are included under the general name of "individual modernity."

It may be of interest to note here that Inkeles (1967) developed his list of modern values and attitudes with reference to the demands or requirements of running a factory. His reasoning is as follows: Factory is the most distinctive feature of a modern society. Industrialization is the cherished goal of all nations irrespective of their ideological commitments. Therefore, if one selects variables with reference to the modern factory life, one cannot be accused of any ethnocentricism. He therefore classified those qualities which are likely to be inculcated by participation in a modern factory or which may be required in the staff if it is to function

effectively and efficiently, as the modern ones. All the initial themes included in his questionnaire were supposed to fulfill this criterion.

This brings to an end our discussion of individual modernity. We shall be treating individual modernity as a syndrome and shall be using most of the variables mentioned above in the construction of the scale of modernity.

CHAPTER III

EDUCATION AND MODERNITY: THE HYPOTHESIZED MODEL

The main objective of the present chapter is to explain the hypothesized model concerning the relationship between education and individual modernity, and state its rationale.

The Components of the Model

The model has five components which show direct and indirect relationship between education and modernity.

The first component is the educational attainment of the individual which has been treated as an independent variable.

The second and third components are psychic mobility and physical mobility. The model postulates that education is directly related to them, and this relationship is unidirectional. The two types of mobility also affect each other.

Innovative behavior is the fourth component. The model stipulates both a direct and indirect relationship between education and innovative behavior. Psychic

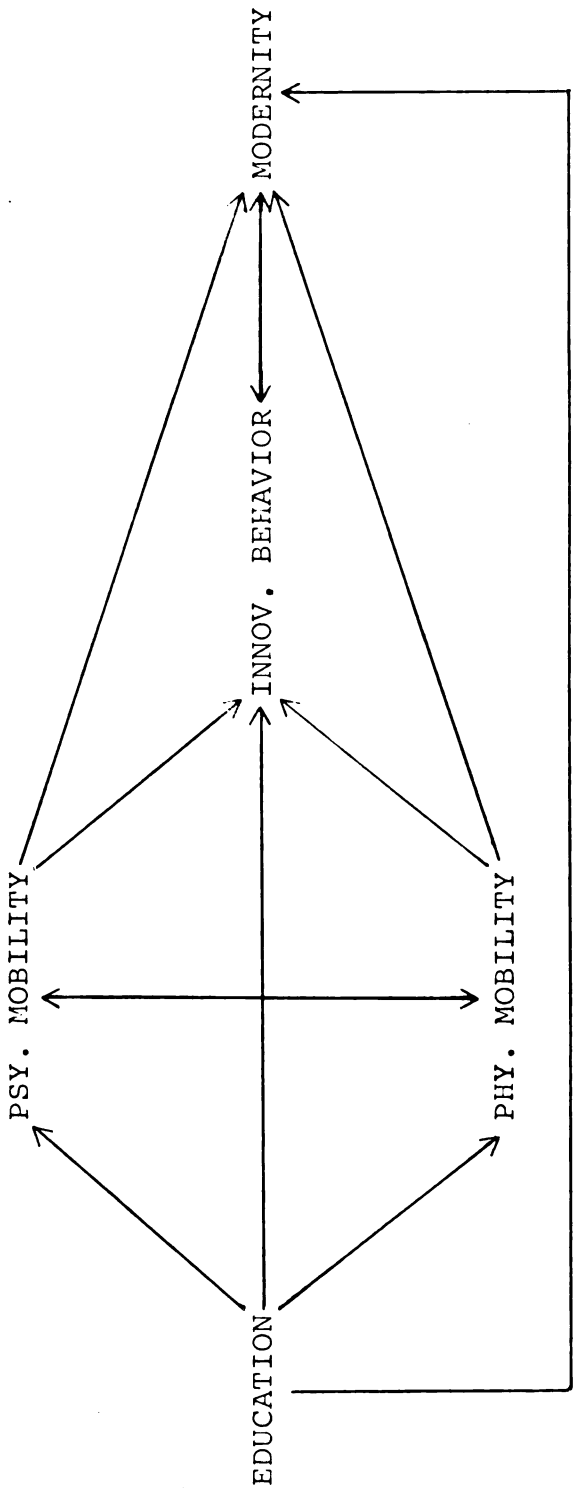

Figure 1.--Education and modernity: The hypothesized model.

mobility and physical mobility serve as the intervening variables.

The last component is individual modernity. Education has both direct and indirect impact on it. The mobility experience and the innovative behavior serve as the intervening variables. We also assert a direct, reciprocal relationship between the individual modernity and innovative behavior.

Scope and Rationale

At the outset, let us mention that the proposed model does not claim universal applicability. In fact, its scope is limited, since it is based upon the following assumptions.

a. The universe to be studied or explained is composed of the adult population who have finished their formal education. Thus the model does not deal with the impact of education on young people who are still in the school or college.

b. The adult population is engaged in self-employed occupations, agricultural or industrial, where there remains significant scope for the adoption of innovations.

c. The social system is basically underdeveloped in the sense that the fruits of science and technology are yet to be shared by the people at large; primitive technology is employed in agriculture and industry.

d. Programs of planned social change are being undertaken in the social system. The mass media and the change agent are engaged in the diffusion of modern ideas and innovations for improving the living and working conditions of the people.

The above assumptions are no doubt restrictive; they cannot be fully met in all social systems. That is precisely the reason that we have made them explicit here. Thus by virtue of these assumptions, the model has no explanatory value in highly industrialized nations. Nor is it applicable in the case of school going populations. Perhaps it would be more appropriate to say that the assumptions of the model can be satisfied only in villages or towns of developing nations whose population is self-employed.

The association between education and mobility--psychic or physical--is widely recognized. Education opens new horizons in one's life; it enables him to read and write and engage in creative thinking. An educated person is able to read newspapers, magazines and books and thus comes to know about the modern ideas and achievements. He also derives more benefit from the change agent. His contact with the modern social system is often abiding. Generally, the very fact of educational attainment implies that the individual has been exposed to urban influences, as most of the educational institutions are to

be found in urban areas in the third world nations. He can therefore effectively function in the city environment. He finds it easier to deal with the official agencies like courts, police, government offices and other formal organizations than his illiterate brother.

The issue can be raised as why mobility does not have feedback effects on education. The answer is simple. The model deals with the adult population who have finished their schooling. Therefore mobility experiences may increase their knowledge and skills but not their formal education. The crucial decisions about their education must have been taken by their parents when they were young and had perhaps little to say. The instances of adult persons going to formal schools are very limited in the countries of Asia and Africa, and therefore can be discarded. The case is different in the modern industrial societies where a great deal of occupational mobility exists, and there are specialized programs for occupational training and education for the adult population.

That innovative behavior is closely related to psychic mobility and physical mobility has been shown by the findings of the diffusion experts (Lerner, 1958; Rogers, 1969; Deutschnann, 1963; Frey, 1966; Keith, 1966; Rogers et al., 1971). Mass media, urban experience and change agent contact make people aware of the new ideas and innovations. The ordinary innovations in agriculture,

industry, sanitation or home are generally communicated by them in a developing society. Therefore the model suggests that education affects one's innovative behavior directly as well as indirectly by exposing him to the mobility experience.

The most controversial issue is whether modernity precedes innovative behavior or follows it as the model indicates. This indeed is a question which cannot be directly answered. In most of the current literature in this field, psychic modernity is regarded as the intervening variable. The paradigm seems to run as follows:

Mobility-------Modernity-------Innovative behavior

We do not deny the validity of the above approach. But we would like to state the reasons why we suggest just an opposite path in the model.

First, we do not think that it is necessary for a person to change his basic value orientations and beliefs for accepting innovations in home or vocation. Not all innovations come into conflict with the traditional attitudes; often they do not even touch them. Even when there is a direct clash, their inconsistencies to the traditional norms or values is conveniently forgotten. Srinivas (1956) has described how Brahmins first covered the hide of the cycle-seat with deer-skin to avoid being defiled. Gradually the deer-skin disappeared. Murphy (1955) has quoted Mukherjee explaining how an upper caste

person taking water from a public tap, after a lower caste person, purified it with clay to satisfy his religious convictions. Singer (1966) has vividly explained how a Brahmin who worked in a factory manufacturing shoes did not see any inconsistency between his ritual status and his job. His ritual scruples were being washed away by the bath he took after his return to his home in the evening. All these instances show that innovations generally emerge victorious for the simple reason that they confer tangible advantages.

It has been well known to any serious student of India that several sects or groups like Jains and Marvaris who show a great deal of religious dogmatism have been pioneers in industry and business. Their religious orientations did not come in the way of their rational economic behavior. Sikhism is perhaps the youngest religion in India, and the religious orthodoxies of Sikhs areevident from their long hair and beards which they keep as a part of their religious convictions. And yet the Sikh peasants have proved to be pioneers in adopting agricultural innovations. The green revolution originated in Punjab.

Second, the mobility experience and the change agent have greater influence on one's adoption of innovations than on his social and religious attitudes. Mass media exposure or the change agent contact can show the

farmer that if he adopts the innovation A, his wheat production would double or if he has his children innoculated, they won't catch smallpox. But they cannot prove to his full satisfaction that one's fate is not determined by God. It is, however, likely that if the farmer's wheat crop is doubled and his children did not catch smallpox as a result of his adoption of innovations, his faith in God may be undermined and he might in future show more self-autonomy. The changes in his traditional orientations and beliefs are likely to be more gradual and slow as compared to his adoption of innovations whose results are tangible and immediate. To accept innovations is not as difficult as to shed away one's deep-rooted prejudices and beliefs.

Third, we do not subscribe to the assumption that the attitudinal change always precedes behavioral change. One's behavior is determined by a variety of variables, and the role of psychological orientations is by no means the decisive one. It is quite conceivable that a person adopts a modern agricultural innovation under official coercion or the pressure of his friends, and the tangible benefits from the adoption brings out changes in his traditional attitudes.

To be sure, the model does not deny the effects of psychological modernity on innovative behavior. On the other hand, it stipulates a reciprocal relationship. It only suggests that the impact of the educational

attainment is likely to be greater on innovative behavior as compared to the individual modernity.

We realize the fact that innovative behavior and psychological modernity may have some feedback effects on the mobility experience. Our reason for ignoring them is methodological rather than conceptual. We have overlooked them so that we can test the model. The primary objective of this study is to explore the relationship between education and modernity, and not between mobility and modernity. Therefore our simplification of the reality is not totally unjustified.

In the end, we would say that the overall rationale of the model becomes quite clear when we realize that education affects individual modernity in two ways; first, it promotes new attitudes and orientations, and second, it provides useful skills and experience to a person which make him more susceptible to modernizing influences. The model seeks to highlight both the roles of education. However, its stress is more on the second role than the first. Only our findings would show whether our reasoning and rationale were justified.

CHAPTER IV

DATA COLLECTION AND RESEARCH METHODOLOGY

The purpose of this chapter is to operationalize the problem; we shall state the sources of our data, operationalize relevant variables and finally explain the methodology.

Sources of Data

For the purposes of the present study, we utilize the part of the data collected for a comprehensive research project on "Diffusion of Innovations in Rural Societies" under Dr. Everett M. Rogers. The data concerning the Indian peasant, his social and economic background, his attitudes, beliefs and general outlook toward life, and his innovative behavior, was collected in eight Indian villages in three important states of India. The three states--Andhra Pradesh, Maharastra and West Bengal--represent political variability as well as different patterns of developmental administration.

Two criteria, i.e., the size of the farm operated and the age of the farmer, were used in selecting the respondents. Only those peasants were interviewed who were farming at least one hectare (two and a half acres) of land at the time of the data gathering. The selection

of the farmer was further restricted to those heads of farm households who were fifty years of age or younger at the time of the study. In each of the eight villages, every farmer who fitted the above criteria, was interviewed. In this study we have utilized this data.

Operationalization of the Variables

Education

This variable was measured by the number of years spent in school and by the formal degrees obtained. The respondents showed a great deal of variation in their educational attainments. About thirty per cent of the respondents were illiterate, and yet there were a few having B.A. and M.A. degrees.

For the purposes of the simple cross tables, we categorized them under three heads: (a) illiterates who have no education whatsoever, (b) those with low education who possess less than eight years of education, and finally (c) those with high education, i.e., those having more than eight years of education. Our categorization was partly dictated out of the nature of our data; only about thirteen per cent of the respondents possessed more than eight years of education.

Psychological Mobility

The index for psychological mobility was constructed on the basis of two variables, i.e., change agent contact and mass media exposure. The details are as follows:

Question	Score
1. Do you listen to the Radio?	
No or do not know	0
Yes	1
Did you read (had read to) newspaper in the past week?	
No or do not know	0
Yes	1
2. How many commercial movies did you see last year?	
None	0
1 to 4	1
5 or more	2
4. How many change agents (agricultural development workers, health workers and family planning workers) do you know?	
None	0
1 to 4	1
5 to 8	2
9 or more	3
5. Did you see an agricultural demonstration?	
No or do not know	0
Yes	1
6. Did you see any film on agricultural development shown by the Block Development agency?	
No or do not know	0
Yes	1

The index was constructed by the summation of the scores for each respondent.

Probably the above way of index construction needs some explanation. In India, radio is a powerful instrument of mass communication; it is through the use of radio that farmers in remote distant villages know the changing world of today. Moreover, there are special programs designed to the needs of the farmers on national radio. So far as the inclusion of an item on newspaper exposure, its importance is quite evident. However, the role of commercial movies is difficult to grasp for an outsider. But they have played--and continue to play--a very significant role in the modernization of the Indian people. They depict to them a reality of the modern changing society and thus help to influence their perceptions, attitudes and style of thinking and behaving.

The importance of the change agent contact becomes quite obvious when we realize that in all of the villages selected, the government had initiated comprehensive programs of integrated development. The change agents were supposedly working not only for the adoption of modern innovations in home and agriculture but also for changing the outlook and approach of the villagers. Several studies have shown the close relationship between the change agent contact and adoption of modern innovations.

Physical Mobility

Physical mobility was measured by the number of visits made to a town or city during the last year. Index was constructed as follows:

Question	Score
How many times did you visit a town or city during the last year?	
0	0
1 to 9	1
10 to 19	2
20 to 29	3
30 to 39	4
40 to 49	5
50 to 59	6
60 to 69	7
70 to 79	8
80 to 89	9
90 and more	10

For the purpose of the simple cross tables, the index for psychological and physical mobility were collated by summing up the scores. Those who scored less than 10 were classified as low and those who scored between 10 and 19 were classified as high on mobility scale.

Innovative Behavior

Ten improved agricultural practices were selected on the basis of Guttman scaling and factor analysis. Then the agricultural innovativeness was measured by asking the following question:

Which of the following innovations do you use?

1. Ammonium sulphate
2. Superphosphate
3. Mixtures
4. Insecticides for plant protection
5. Green Manures
6. Improved cattle breeding
7. Animal inoculation
8. Rat Poison
9. High yielding variety of seeds, and
10. Steel plough

Each innovation was assigned one score and the index was constructed by summing the scores.

Those scoring five or less were classified as low innovators and those scoring six and more as high innovators.

Modernity

Every attempt was made to make the index for modernity as comprehensible as possible under the existing constraints. Index was constructed with special reference to the following variables which are generally associated with modernity in the literature; secular-orientation, self-reliance, achievement motive, empathy, deferred gratification and inter-personal trust. We also tried to give equal weight to each variable in the construction of the index as far as possible.

Secular Orientation.--The respondent was asked to respond to the following questions.

Question	Score
1. Can evil eye cause disease	
Yes and do not know	0
No	1
2. Should Harijan and other children take meals together in schools?	
No and do not know	0
Yes	1
3. Would you approve of your son marrying a lower caste girl?	
Yes	1
No and do not know	0
4. Is an illiterate Brahmin superior to a lower caste B.A.?	
No	1
Yes and do not know	0

Self-Autonomy.--It was operationalized as follows:

Question	Score
How much your future depends upon yourselves?	
None and do not know	0
4 Annas (25 per cent)	1
8 Annas (50 per cent)	2
12 Annas (75 per cent)	3
16 Annas (100 per cent)	4

Achievement Motive.--All the positive responses to the following statements were given one score:

1. Work should come first even without proper rest.
2. One should succeed in his occupation even if he has been neglectful of his family.
3. One should have determination and drive and ambition even if these qualities make one unpopular.

Deferred Gratification.--It was operationalized by asking the following question:

Question	Score
How would you spend the money if your income is doubled?	
Family expenses and social obligations	0
Pay off debts	1
Investment	2
Education	3

The reason for assigning the highest score to investment in education is obvious. To us it appears to be a person of very high deferred gratification to spend one's money for the education of his children rather than on ordinary items of consumption or even for agricultural investment.

Inter-Personal Trust.--The respondent was asked to comment on the following statements:

Statement	Score
1. Most people can be trusted?	
No or do not know	0
Yes	1
2. If you do not watch, people can advantage over you?	
Yes or do not know	0
No	1
3. None cares much about what happens to you	
Yes or do not know	0
No	1

Empathy.--It was the last item in our scale. The scale was constructed as follows:

What would you do to improve the conditions if you became:

a. Block Development Officer
b. Panchayat President, and
c. District Magistrate?

For giving at least one specific proposal for each office, the respondent was given one score. Thus the maximum score for empathy was three.

The index for modernity was constructed by summing up all the scores. For cross-table purposes, the respondents were classified under two categories, i.e., low modernity (those who scored ten or less scores) and high modernity (those who received more than ten scores on the index).

Research Methodology

Research methodology posed a few problems. It is obvious that our problem is such that the best results can be gained only through longitudinal data. The collection of such data proved to be out of the pale of practical politics.

At first, the most obvious choice seemed to us the method of path analysis, as developed by Blalock (1964), Duncan (1966), Land (1969) and others. Recently, the recursive models have become quite popular in social sciences and path analysis promises fruitful results.

However, Heise (1969) has pointed out that for the purposes of path analysis, one must have theory and data meeting the following requirements:

> The theory (1) can postulate only linear relationships between variables; (2) can postulate no reciprocal relations between variables or feedback loops; (3) must clearly separate input variables from dependent variables and must order dependent variables in terms of their causal priorities over one another; (4) must specify all system inputs so that they can be considered explicitly in analyses.
>
> The data (1) must meet the usual criteria for regression analyses; and (2) must be based on measurements that have very high reliability and validity.

Heise (1969, p. 68) warns that if any of the above requirements are not met, the results may be 'nonsensical and misleading.' Our model does not fulfill these requisites, although the data might satisfy the needed requirements. Specifically, we postulated some feed-back effects between innovative behavior and modernity. Besides, we were not in a position to specify all the system variables within the framework of our existing model. After all, education is only one of the modernizing variables. Under these circumstances, we resisted the temptation to use path analysis.

As a result, we were left with no other alternative but to depend upon correlational matrix and regression analysis for testing the model. Besides, we also decided to present a few cross-tables to test the hypothesized relationship between the relevant variables. The details are as follows:

Simple Cross Tables

Simple cross-tables, although not very revealing, are helpful in suggesting broad trends.

The respondents were classified under three broad heads: illiterate, low educational attainment, and high educational attainment. The psychological and physical mobility were collated under one category, and then all the dependent and intervening variables were dichotomized as high and low. Thus three tables were made treating educational attainment as independent variable for mobility, innovative behavior and modernity.

These tables and Chi Squares,we hope, can give us some idea of the relationship between the various variables in our hypothesized model. Thus if we find that while educational attainment has relationship with modernity and, it shows no relationship with mobility, we can reasonably assume that mobility cannot be regarded as an intervening variable. Besides, these tables also provide us some data for making comparisons as regards the effects of educational attainment on the different variables in our model.

Correlational Matrix

Simple zero order correlations have many uses in the statistical enterprise. One of them is that we can test the relative proximity or distance between the two variables in a conceptual scheme on the basis of the strength of their coefficient of correlation. Thus we can

assume that if A and B are theoretically closer in a model than A and C, then the correlation between A and B should be higher than the correlation between A and C. To be sure, this is not an infallible maxim; even then, it is a reasonably sound assumption.

Thus we propose to test the relative position of the different variables in our model on the basis of simple zero order correlations. To give a simple illustration, if we find that the correlation between education and psychological mobility is higher than the correlation between education and innovative behavior, we would assume that psychological mobility should come first and then innovative behavior in our model. In the same way if the coefficient of correlation is higher between education and innovative behavior, than say between education and modernity, we would hypothesize that innovative behavior should come first and then modernity in our conceptual scheme.

Regression Analysis

Finally we calculated multi-variate regression. It does not involve many assumptions, and yet we can obtain useful results. To test our model, we decided to run the following regressions:

a. Treating modernity as dependent, and education, psychological mobility, physical mobility and innovative behavior as independent variables.

b. Treating modernity as dependent, and education as independent variable.

c. Treating innovative behavior as dependent, and education, psychological mobility, physical mobility as independent variables.

d. Treating innovative behavior as dependent and education as independent variable.

e. Treating innovative behavior as dependent variable, and education, psychological mobility, physical mobility, and modernity as independent variable.

Our reasoning behind calculating the above regressions can be stated as follows: If B is an intervening variable between A and C, then the coefficient of regression between A and C will perceptibly drop down as soon as we assign independent weight to the variable B. We can then postulate that the relationship between A and C is primarily due to the variable C. On the contrary, if the control of the variable B does not make any difference, then we have no reason to assume that B is an intervening variable. Thus if we find that the beta weight for education significantly drops when we introduce psychological and physical mobility, we shall assume that the latter two variables can be regarded as intervening variables. In case they are not intervening variables, their introduction should not make any difference as far as the role of education is concerned.

We also propose to deal with the issue whether innovative behavior should take precedence over modernity in our model, on the basis of the comparison of the results

of regressions treating each as dependent variables. The strength of the beta weights would decide their place in our model.

We are aware that even these three methodological techniques used need not give us totally infallible results. But we had no other alternative. These techniques have been used in the past by experts to test similar type of hypothesized relationships, and hence if we erred, we have erred in good company. Moreover, we are using these techniques to test the relationship and not to derive theory out of blind calculations.

CHAPTER V

FINDINGS AND DISCUSSION

We shall present our findings with regard to the impact of educational attainment on individual modernity, and discuss them very briefly. Their implications for future research would be discussed in the next chapter.

Findings

The findings have been presented in ten tables which are self explanatory.

Table 5-1 presents the data in the form of simple cross tables. We find positive, linear relationships between education, mobility, innovativeness and individual modernity.

Table 5-2 presents simple correlations between the five components of the model. On the whole, our model seems to be vindicated by the data provided we accept the basic reasoning we advanced earlier, i.e., the theoretically adjacent variables should show stronger relationship as compared to the conceptually distant variables. Thus, for example, we find that the relationship between education and modernity is weaker as compared to the relationship between education and innovative behavior. Again we note that the

TABLE 5.1--Relationship between educational attainment and mobility, innovative behavior and modernity.

	Low Mobility	High Mobility	Low Innovations	High Innovations	Low Modernity	High Modernity	Total
No Education	94.41% (N=186)	5.58% (N=11)	91.87% (N=181)	8.12% (N=16)	62.94% (N=124)	37.05% (N=73)	197
Low Education	73.20% (N=295)	26.79% (N=108)	80.39% (N=324)	19.60% (N=79)	49.13% (N=198)	50.86% (N=205)	403
High Education	48% (N=36)	52% (N=39)	72% (N=54)	28% (N=21)	24% (N=18)	76% (N=57)	75
TOTALS	517	158	559	116	340	335	675

Chi Square for Mobility = 71.79; Innovative Behavior = 19.19; Modernity = 33.569.

TABLE 5-2.--Zero order correlations between the relevant variables.

	Education	Psy. Mob.	Phy. Mob.	Inn. Beh.	Modernity
Education	1.0	.42	.28	.26	.19
Psy. Mob.		1.0	.54	.47	.22
Phy. Mob.			1.0	.30	.20
Inn. Beh.				1.0	.19
Modernity					1.0

correlation between education and psychological mobility is higher as compared to between education and innovative behavior. However, the findings in Table 5-2 do not seem to be in full accord with those of Table 5-1; the correlation matrix suggests that education has closer association with innovativeness as compared to modernity while Chi Square data indicate just the opposite sequence.

The third set of findings come as a near disaster; they tell us a totally different story. Table 5-3 presents three sets of regressions and partial correlations. The first set shows that the psychological mobility, physical mobility and innovative behavior have no relationship with modernity; even the relationship between education and modernity becomes extremely weak having no predictive value. The second set also suggests that education, physical mobility and modernity do not contribute to innovative behavior in any meaningful way, although a close relationship does exist between psychological mobility and innovative behavior. The last set removes any lingering doubt about any association between innovative behavior and individual modernity. Thus the multiple regression shows that the association between the different variables was spurious, and the hypothesized model has little or no scientific validity.

TABLE 5-3.--Multi-variate repressions and partial correlations.

Variable	Beta Weight	Part. Corr.	Sig.
1. Linear Regression treating Modernity as dependent variable and Education, Psychological Mobility, Physical Mobility and Innovative Behavior as independent variables.			
Education	.1075	.1000	.009
Psy. Mob.	.0769	.0590	.121
Phy. Mob.	.0990	.0858	.024
Inn. Beh.	.0927	.0842	.027
2. Linear Regression Treating Innovative Behavior as dependent and Education, Psychological Mobility, Physical Mobility and Modernity as independent variables.			
Education	.0585	.0601	.114
Psy. Mob.	.4035	.3409	.0005
Phy. Mob.	.0517	.0493	.197
Modernity	.0769	.0842	.027
3. Linear Regression treating Innovative Behavior as dependent, and Education, Psychological Mobility and Physical Mobility as independent variables.			
Education	.0672	.0691	.069
Psy. Mob.	.4123	.3477	.0005
Phy. Mob.	.0597	.0569	.135

Under these circumstances, we thought it to be desirable to treat the different components of our index of modernity individually and then explore the relationship. Table 5-4 presents a zero order correlations between the different components of the model when we substitute a defining concept for the scale of modernity. Tables 5-5, 5-6, 5-7, 5-8, 5-9, and 5-10 present two sets of regressions and partial correlations between the four components of the model and secular orientation, self-autonomy, achievement motivation, deferred gratification, interpersonal trust and empathy. As is evident, this did not clear the picture.

Thus the findings provide no support to the hypothesized model. The model was based on the assumption that close association existed between education and modernity, and it attempted to identify the direct and indirect paths. Since this assumption was not met in the case of our data, the model makes no sense.

Discussion of the Findings

How can we explain the results? We have no precise answer. Besides, all explanations at this stage are bound to be speculative; we cannot provide empirical support from the data in their favor. However, we think that there

TABLE 5-4.--Correlations: education, psychological mobility, physical mobility, innovative behavior and the individual modernity variables.

		1	2	3	4
(1)	Education	-	-	-	-
(2)	Psychological Mobility	.42	-	-	-
(3)	Physical Mobility	.28	.54	-	-
(4)	Innovative Behavior	.26	.47	.30	-
(5a)	Secular Orientation	.21	.26	.15	.26
(5b)	Self-Autonomy	.10	.09	.01	.12
(5c)	Achievement Motivation	-.06	.02	.11	.01
(5d)	Deferred Gratification	.06	.00	.06	-.03
(5e)	Interpersonal Trust	.00	.02	.04	.03
(5f)	Empathy	.20	.20	.20	.07

TABLE 5-5.--Regressions and partial correlations.

Variable	Beta Weights	Part. Corr.	Sig.
1. Secular orientation as dependent, and Education, Psychological Mobility, Physical Mobility and Innovative Behavior as independent variables.			
Education	.1086	.1027	.007
Psy. Mob.	.1333	.1034	.007
Phy. Mob.	-.0087	-.0077	.131
Inn. Beh.	.1744	.1593	.0005
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility, and Secular orientation as independent variables.			
Education	.0497	.0515	.178
Psy. Mob.	.3824	.3250	.0005
Phy. Mob.	.0595	.0574	.131
Sec-Orien.	.1455	.1593	.0005

TABLE 5-6.--Regressions and partial correlations.

Variable	Beta Weights	Part. Corr.	Sig.
1. Self-Autonomy as dependent, and Education, Psychological Mobility, Physical Mobility, and Innovative Behavior as independent variables.			
Education	.0733	.0668	.079
Psy. Mob.	.0507	.0379	.326
Phy. Mob.	-.0696	-.0588	.122
Inn. Beh.	.1075	.0951	.013
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility, and Self-Autonomy as independent variables.			
Education	.0604	.0623	.102
Psy. Mob.	.4043	.3423	.0005
Phy. Mob.	.0650	.0622	.102
Self-Auto.	.0841	.0941	.013

TABLE 5-7.--Regressions and partial correlations.

Variable	Beta Weights	Par. Corr.	Sig.
1. Achievement Motivation as dependent, and Education, Psychological Mobility, Physical Mobility and Innovative Behavior as independent variables.			
Education	-.0939	-.0852	.025
Psy. Mob.	-.0212	-.0157	.685
Phy. Mob.	.1423	.1195	.002
Inn. Beh.	.0047	.0042	.878
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility and Achievement Motivation as independent variables.			
Education	.0676	.0692	.069
Psy. Mob.	.4124	.3478	.0005
Phy. Mob.	.0592	.0560	.141
Ach. Mot.	.0037	.0042	.878

TABLE 5-8.--Regressions and partial correlations.

Variable	Beta Weights	Part. Corr.	Sig.
1. Deferred Gratification as dependent, and Education, Psychological Mobility, Physical Mobility, and Innovative Behavior as independent variables.			
Education	.0728	.0658	.083
Psy. Mob.	-.0531	-.0395	.306
Phy. Mob.	.0871	.0730	.055
Inn. Beh.	-.0492	-.0434	.259
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility and Deferred Gratification as independent variables.			
Education	.0699	.0717	.059
Psy. Mob.	.4095	.3453	.0005
Phy. Mob.	.0629	.0599	.115
Def. Gra.	-.0382	-.0434	.259

TABLE 5-9.--Regressions and partial correlations.

Variable	Beta Weights	Part. Corr.	Sig.
1. Interpersonal Trust as dependent, and Education, Psychological Mobility, Physical Mobility and Innovative Behavior as independent variables.			
Education	-.0069	-.0062	.845
Psy. Mob.	-.0185	-.0137	.720
Phy. Mob.	.0418	.0350	.367
Inn. Beh.	.0330	.0290	.454
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility and Interpersonal Trust as independent variables.			
Education	.0673	.0692	.068
Psy. Mob.	.4124	.3480	.0005
Phy. Mob.	.0586	.0559	.143
Interp. Trust	.0254	.0290	.454

TABLE 5-10.--Regressions and partial correlations.

Variable	Beta Weights	Part. Corr.	Sig.
1. Empathy as dependent, and Education, Psychological Mobility, Physical Mobility and Innovative Behavior as independent variables.			
Education	.1363	.1265	.001
Psy. Mob.	.0917	.0702	.065
Phy. Mob.	.1370	.1181	.002
Inn. Beh.	-.0510	-.0463	.227
2. Innovative Behavior as dependent, and Education, Psychological Mobility, Physical Mobility and Empathy as independent variables.			
Education	.0728	.0743	.051
Psy. Mob.	.4153	.3498	.0005
Phy. Mob.	.0654	.0619	.103
Empathy	-.0421	-.0463	.227

have been a few factors which collectively shed some light on the unexpected findings.

First, this study dealt with the heads of households, and not the young population. A perusal of the data showed that about 72 per cent of our respondents were more than 30 years old, and another 18 per cent were between 25 to 30 years. Thus it follows that the most of our respondents went to school fifteen to twenty years ago. One would then have to look at then prevailing state of affairs of education, especially at the elementary and secondary levels, to interpret our findings in their proper perspective.

All observers agree that the primary and secondary education is in a highly unsatisfactory state in India. The conditions were definitely worse in the past. The lack of resources, nonavailability of trained teachers, indifference of the local authorities and the general poverty of the masses contributed to the prevalence of a highly ineffective and inefficient educational system.

Let us describe a typical village school as it used to function in most of the villages. Often, it consisted of a teacher and forty to fifty students of diverse backgrounds. Most of the schools had only one large room and were not in a position to provide facilities for recreation and games. The teacher had little formal education and practically no training. The lack of space and the paucity

of teaching staff prevented any rational organization of classes. Since the teacher was unable to cope with all the work, the senior students would teach the junior ones. The school discipline was maintained on the threat and use of corporal punishment. There were no well defined criteria for evaluation and performance; it was left to the arbitrary judgment of the teacher to promote a student from one class to another.

The attendance in these schools was hardly regular. The general atmosphere being far from pleasant, the student would utilize every opportunity to avoid it. And when the family required an extra hand at the farm or home, school attendance was the first casuality.

The curriculum contents of these schools did not necessarily articulate modern values and norms. Good text books were generally scarce, and there was a great emphasis on memorizing at the primary school level. Often the teacher himself reflected the traditional values and age-old prejudices of a peasant society; the difference was at best marginal between him and the proverbial peasant.

The above description should not give the impression that all the schools were functioning on this pattern. The conditions were definitely better in the middle and high schools. Urban schools had more access to the physical and human resources. Since our respondents have come from the

villages, and most of them did not go to post-primary schools, we have every reason to assume that they were the products of typical village schools as described above.

Under these circumstances, the modernizing effects of formal education are bound to be extremely limited. Neither the school organization nor the curriculum content promoted modern values and attitudes. These schools were unsuitable for such pruposes. We would suspect that if we had used data from urban areas to test the model, the findings might have been different.*

The second factor which might have affected our findings is the long time interval between the formal education and the interviews. While we have no direct data, we can infer from the age of our respondents and the level of their educational attainment that most of them left schools at least fifteen to twenty years ago. This long interval might have eroded some modernizing effects of formal education. The respondents have been living in the village environment since their birth, and therefore we can well visualize as how it would have affected their attitudes and values learned in the school. Schuman et al. (1967) also realized the effect of this factor in their study. They observe:

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*Inkeles (1969) studied relatively younger populations and his data were drawn from both rural and urban areas. This may perhaps account for the difference between the findings.

> Our results suggest that early education as such may play a small role, especially since the primary schooling of most of the men studied were restricted in amount and occurred some ten to fifteen years previous to the interviewing.

There is reason to believe that unless the norms and attitudes learned in the school are reinforced in one's occupational and community environment, they would be gradually lost.

The third factor which we would like to mention is the low percentage of those who had relatively high levels of education. Our data suggests that only 13 per cent in our sample have had more than eight years of education, and 58 per cent had less than eight years of education. This fact is understandable since we have been dealing with the rural population in an underdeveloped country. The general level of education being low, our data were the best we could expect in Indian society. But it might have affected the correlational and regression tables. We were aware of this unavoidable methodological limitation and therefore calculated cross-tables to compare our results. In fact, the cross-tables show closer relationship between education and modernity than do the coefficients of correlations and multivariate regressions.

The above factors, we believe, partly go to explain our findings in this study.

However, we confess that our assumptions concerning the relationships between the various variables were rather simplistic and shaky. We took many hypotheses suggested by earlier researchers as proved facts. We did not doubt the validity of the generalizations put forward by the diffusion experts. We also overlooked a number of research findings which went to prove to the contrary.* A more careful analysis showed that not only a number of researchers did not note the hypothesized relationship but also that even in the cases where it was regarded as

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*There are a number of studies that can be cited in this regard. We shall mention a few by way of illustration.

Ross (1968) in his study of Turkey concluded that education has very slow effects on change in one's attitudes and orientations. Gouveia (1967) found that the level of education did not show significant effects on the religious orientations of the school teachers in Brazil. Two experimental studies of the effects of literacy training on social psychological correlates of modernity, one in Brazil by Herzog (1967) and the other in India by Kivlin et al. (1968) did not find significant difference in the psychological traits of the respondents.

Several studies in India like Barnabas (1957), Dasgupta (1966), Jain (1963), Junghare and Rao (1963), Rao (1966), Reddy and Kivlin (1968), Singh and Pardasani (1967), and Verma (1966) did not note any relationship between educational attainment and the adoption of innovations. Rogers and Shoemaker (1971) who have content analyzed 203 studies have noted that about 36 per cent of them do not give support to the hypothesis of the relationship between education and adoption innovations.

Fett (1971) found that education has little or no effect on radio listening. Frey (1966) found that the mass media had greater effects on the illiterate than literate male listeners in Turkey. Fliegel (1966) found that neither literacy nor education was related to farm education programs among the Brazilian peasants. Brown (1968) found that the knowledge gain was higher for illiterates than for the literate farmers. Illiterates often made others read to them from information circulars. Salazar (1970) has also noted the similar phenomenon.

as positive and strong, the association was actually weak and insignificant.

We shall conclude this chapter by saying that our findings should not be regarded as definitive. The poor quality of schools, the long interval between formal education and data collection and the rather small percentage of respondents having high education might have affected our findings. Therefore the study cannot be taken to prove that formal education has no effect on individual modernity. However, our findings in conjunction with a few other researches in this field go to prove, beyond reasonable doubt, that the relationship between education is affected by a variety of factors present in the social system, and unless these variables are specified within a proper theoretical framework, much of the present types of investigations would be of little theoretical import.

CHAPTER VI

SOME RESEARCH IMPLICATIONS OF THE FINDINGS

One negative findings appear to have some interesting implications in this field of study. They, at least, force us to question some of the basic assumptions and hypotheses which are often treated as established facts. Therefore we propose to briefly examine their implications with regards to (a) the concept of modernity, (b) the relationship between value orientations and economic behavior, and (c) the impact of formal education on individual modernity.

The Concept of Modernity

Individual modernity has been defined as a complex personality syndrome embracing a wide gamut of psychological orientations and ways of acting which are related to the functioning of the modern, industrial society. Social scientists have specified the contents of the modernity syndrome. In fact, our index for individual modernity was based on six variables which are generally regarded as its components. It may also be mentioned here that these mental traits and qualities are not viewed as distinct

or isolated variables but as the different dimensions of modernity. Thus they are supposed to be interrelated and interdependent.

The findings of this study do not support such a conceptualization. The different variables on which our index of modernity is based are found to be unrelated. No association is suggested by the zero order correlations as is evident from Table 6-1. The data presented in the earlier chapter, also show that innovative behavior which is an important component of the modernity syndrome, is also not correlated with the other modernity variables. Under these circumstances, the notion of the modernity syndrome becomes a suspect.

We do not believe that our findings can be attributed to the limitations of the measuring instruments. We selected operational definitions and scales from a number of studies undertaken in India and abroad. Thus our measurement instruments do not significantly differ from the studies which have noted close relationship between the components of the modernity syndrome. Besides, there is some reason to believe that the empirical relationship noted in the studies of Kahl (1968), Inkeles (1969) and Doob (1967) may be partly due to the methodological strategies they have adopted. By subjecting their original themes and topics to intensive

TABLE 6-1.--Inter-correlations between the modernity syndrome variables zero-order correlations.

	Self-Autonomy	Interpersonal Trust	Secular Orientation	Achievement Motivation	Deferred Gratification
Self-Autonomy	-	-	-	-	-
Interpersonal Trust	.02	-	-	-	-
Secular Orientation	.16	.19	-	-	-
Achievement Motivation	.11	-.10	-.05	-	-
Deferred Gratification	.02	.03	.02	.01	-
Empathy	.16	-.02	.07	.16	.17

Guttman scaling and similar devices, they discarded some of the items which did not show the hypothesized association. This may partly account for the close association between the modernity variables suggested by their findings.

One can perhaps argue that even if we fail to establish close association between the different components of modernity, the concept of modernity can still serve as a useful theoretical construct. Modernity then becomes a collective name for a group of specified qualities associated with the modern man. We can call a person modern if he scores high on variables a, b, c, d, e, f, ... n; otherwise we cannot categorize him as modern.

The main trouble with such a view is that the concept of modernity becomes a tautology. Therefore its value in any theoretical or empirical exploration is bound to be limited. Besides, such an approach also raises a number of conceptual and methodological issues, some of which are as follows:

a. What kind of variables will be selected?

b. What should be the criteria underlying the selection process? Should they be regarded as the cause or consequence or both of the growth of complex, industrial societies.

c. If the relationship between the selected variables and the society is not direct and is mediated

by other variables, how the mediating variables are to be incorporated in the conceptual framework.

d. What general assumptions such a conceptualization involves about the structure and functioning of the complex, industrial societies and its effects on the individual personality, and

f. Whether the assumed relationship between the selected variables and the complex, industrial society is universal, or is affected by the cultural and temporal factors and forces.

These issues have not been satisfactorily resolved in the current literature and research. Often the investigators make some general assumptions and do not care to test them. There have been unavoidable ethnocentric biases in the selection process; the variables selected have been basically those to be found in the countries of Western Europe and North America. One often suspects that sociologists have unconsciously attributed all the qualities associated with the modern man to the people living in these countries. Nor the analysis and identification of the traditional value orientations and attitudes has been quite satisfactory. Social scientists have largely relied on the insights and researches of anthropologists for their image of the traditional man. The latter studied small, isolated, social systems in non-industrial societies.

There is nothing wrong with such a reliance except that much of these conceptualizations have become obsolete in the changed conditions of today; during the last two decades, rapid changes have taken place which have affected the urges, aspirations and attitudes of the people living in the countries of Asia, Africa and Latin America.

Critics have also pointed out that sociologists have too readily assumed the relationship between people's values and attitudes and the social and economic development. Industrialization need not generate the same personality characteristics among the people all over the world. Not all the similarities in the attitudes, life styles and general orientations of the people living in highly industrialized societies can be accounted by the process of economic development; we cannot overlook the fact that these nations share a common historical heritage and traditions. On the other hand, one can note some significant differences between Japan and other industrialized nations. Probably China, Cuba or Viet Nam may be successful in inculcating slightly different attitudes and values among their populace. To recognize that the effects of industrialization upon the personality structures would be tempered by the cultural specifics and the nature of the political order, is not to deny what

Inkeles calls 'the psychic unity of mankind.' The very notion of the unidimensional nature of social modernization is being increasingly questioned by a number of social scientists (see Bendix, 1967; Blumer, 1964; Gusfield, 1967; Illich, 1969; and Frank, 1969).

Thus we can say that the concept of modernity, as is commonly used, needs further conceptual refinement and elaboration on the basis of research findings in different societies. There are various issues that need to be settled before some definitive propositions and statements can be put forward. To be sure, our findings have been neither the first nor the foremost in sensitizing conceptual limitations.

Modern Values and Economic Behavior

Our findings concerning the relationship between modernity and the innovative behavior have been quite revealing.* Both in the zero order correlations as well

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*So far we have failed to locate studies in which a comprehensive scale of modernity was constructed and then related to the adoption of innovations. However there are many studies that have found no positive correlation between some modernity variables and the innovative behavior. We shall mention their content analyses done by Rogers and Shoemaker (1971).

Empathy: Out of the 14 studies content analyzed by Rogers and Shoemaker, 5 did not report any relationship between empathy and innovations. These are Herzog (1967), Narang (1966), Reddy and Kivlin (1968), Rogers and Ramos (1965), and Yaukey et al. (1967).

Achievement Motivation: Out of 23 studies content analyzed by Rogers and Shoemaker (1971), 9 did not report any relationship. These are Beal et al. (1967), Beal and

as in the multivariate regressions, we find that modernity does not seem to make any noticeable contribution toward the adoption of innovations. This has been also the case when the modernity variables were individually analyzed. If one regards modernity as an indicator of modern values and innovative behavior of the rational economic behavior, then one can suggest that values do not affect economic behavior in a developing society.

These simple findings assume special significance in the context of India. Since Max Weber propounded his famous thesis on the Protestant ethic and the emergence of capitalism, and compared Christianity with the religions of Asia, it has become fashionable among a section of social scientists to attribute people's poverty and backwardness to their religious orientations and values. In fact, the original thesis of Weber is often misconstrued by zealous admirers. While Weber himself was aware of the pitfalls of his thesis and often qualified it while dealing with

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Sibley (1966), Morrison (1964), Neill and Rogers (1963), Pitzer (1959), Rogers (1964), Roy et al. (1968), Smith (1966), and Spencer (1958).

Self-Autonomy: Out of the 14 studies, at least three did not report any association. These are Cohen (1961), Goldsen and Ralis (1957), and Smith (1966).

Dogmatism: Our concept of secular orientation is rather close to that of dogmatism. Rogers and Shoemaker (1971) report that almost 53 per cent of the studies did not find any relationship. Some of the studies that can be cited about India are Bhasin (1966), Chattopadhayaya (1967), Chattopadhyaya and Pareek (1967), Kivlin (1968), and Mulay and Ray (1965).

India, some social scientists do not show such inhibitions. A number of studies like Taylor (1948), McClelland (1961), Nair (1964), and Myrdal (1968) have repeated the theme, often without sound empirical research data. Our findings go to challenge such simplistic assertions and hypotheses which are often taken to be granted as established truths. They show that innovative behavior is not the function of values and attitudes associated with the subsistence farmers in India.

We think that these findings suggest that the relationship between psychological orientations like achievement motivation, empathy, secular orientation, deferred gratification, etc., is not direct and simple. It is mediated and affected by a variety of the variables yet to be specified, and unless some way is found to incorporate them in our conceptual scheme, no reliable results can be secured. We cannot make any reasonable predictions about one's economic behavior on the basis of his psychological attributes and orientations.

In other words, we may suggest that the effects of one's value orientations and personality traits on his economic behavior should be looked at in the context of his total milieu, the constraints of his situation and the real choices open to him. Thus the effects of achievement motivation may be different in the case of two

individuals in a social system or even the same person in two social situations. The drive for success may lead a well-to-do farmer to adopt modern innovations for increasing his total produce. However, the same drive is unlikely to make any difference in the condition of a landless laborer in India; it may even pose some problems for him in his community. The same individual can be planning oriented in an urban environment and behave in a different way in his village. The point we wish to emphasize is that a methodological way should be found to study some of the concepts associated with modernity syndrome in the situational context of the individual behavior. Then probably we would be able to make some generalizations predicting one's economic behavior on the basis of his social psychological orientations.

Education and Individual Modernity

The implications of the findings do not appear to be significant with regards to our main problem, i.e., the impact of educational attainment on the modernity. A variety of variables, which have been specified in the earlier chapter, might have affected the findings in this regard. Therefore we are not in a position to derive unqualified conclusions.

However, we can say that the findings, in conjunction with some of the earlier findings in this area,

suggest that the impact of education is neither uniform on all the modernity variables nor universal. One discerns significant variations. Inkeles's (1969) and this study were conducted in India. But while Inkeles noted close correlation between education and over-all modernity, we did not find such relationship. Schuman (1967) and Armer and Young (1971) have also found that the effects of education or literacy were selective in nature; certain variables were affected and the others not. This fact underscores the need for more research and analysis.

There is also some weak evidence in our data to indicate that mobility experience can be regarded as an intervening variable between education and modernity. The zero order correlations for innovative behavior and modernity sharply decline and become insignificant, the moment the mobility variables are controlled. There is also enough empirical evidence in other studies which give support to this hypothesis.

The weak relationship between education and innovativeness and the absence of such relationship between modernity and education, may possibly suggest the importance of the role of education as a facility. One can speculate that educational attainment could slightly affect innovative behavior and not the modernity for the simple reason that it provided some skills and advantages to the farmer which were not available to the uneducated ones.

However, the above mentioned implications are not fully justified in view of the extremely weak nature of the relationship between the relevant variables.

CHAPTER VII

SUMMARY AND CONCLUSIONS

The main objective of the present study was to explore the relationship between formal education and individual modernity in developing societies. More specifically, the study was designed to focus on three crucial but interrelated questions: (1) whether formal education contributed significantly to individual modernity; (2) whether the impact was direct or indirect or both; and (3) whether formal education had more or less similar effects on the attitudinal and behavioral dimensions of modernity.

We developed a conceptual model concerning the relationship between education and modernity. The model has five components. The first is the educational achievement of the individual, which has been treated as an independent variable. The second and third components are psychic mobility and physical mobility. The model postulates that education is directly related to them, and this relationship is unidirectional. The two types of mobility also affect each other. Innovative behavior is the fourth component. The model stipulates both a direct and

indirect relationship between education and innovative behavior. Psychic mobility and physical mobility serve as the intervening variables. The last component is individual modernity. Education has both direct and indirect impact on it. The mobility experience and innovative behavior serve as intervening variables. We also assert a direct, reciprocal relationship between individual modernity and innovative behavior.

The above model marks a significant departure from the earlier conceptualizations in at least two respects.

First, all the reported empirical studies (Inkeles, 1969; Schuman et al., 1967; Rogers, 1969; Armer and Youtz, 1971) have hypothesized a direct relationship between the two variables. None of these studies was designed to incorporate some intervening variables in the conceptual scheme. The model developed by us regards mobility experience as the crucial variable intervening between education and individual modernity.

Second, the earlier studies did not distinguish between the psychological and behavioral dimensions of modernity. It has been assumed that psychological modernity precedes behavioral modernity. Thus education generates modern orientations which in turn facilitate the adoption of innovations. This assumption is not fully justified in our view. While the whole controversy about attitude versus behavior is at par with that of chicken

versus egg, one can reasonably suggest just an opposite path. Educated people, by virtue of their skills, are able to adopt innovations which bring out changes in their attitudes and values. After all, it is reasonable to believe that education may be more effective in facilitating adoption of innovations which bestow tangible benefits than in eradicating age-old prejudices and beliefs.

The hypothesized model, we insisted, is not universally applicable. It is based on certain assumptions which are highly restrictive. The model assumed (1) that the universe to be studied or explained is composed of the adult population who have finished their formal education, (2) that population is engaged in self-employed occupations where there remains a significant scope for the adoption of innovations, and (3) the social system is underdeveloped and the programs of the planned social change are being undertaken in it.

We utilized data from India to test the above model. We studied agricultural population from eight villages in three different states. Several considerations affected our choice. First, India is the second largest country, and is on the threshold of modernization. It has already achieved an agricultural revolution. Green revolution has already become a reality there. Second, all the specified assumptions of the model were met in this

case. Last, our own familiarity with the Indian village life was a decisive factor in the choice. We had 679 respondents, although we could use data for only 675 in this particular study.

A scale of psychological modernity was constructed by taking into consideration the following six variables: secular-orientation, self-autonomy, achievement motivation, inter-personal trust, deferred gratification and empathy. All these variables have been regarded as components of the modernity syndrome. Obviously, the scale did not include all the variables emphasized by Inkeles (1969), Rogers (1969), or Kahl (1968). However, we may note here that a separate scale was constructed for innovative behavior. Besides, mass media participation which is generally regarded as a component of the modernity syndrome, was included in the index for psychic mobility.

We confess that we did not test the consistency of the different items in our scale of modernity. This was a deliberate omission which ultimately proved to be a blessing. The main reason for not testing the consistency of the different items in the scale was that all the major research enterprises (Inkeles, 1969; Kahl, 1968; Doob, 1967; and Rogers, 1969) have stressed the close, unidirectional relationship between these variables. Besides, our measurement instrument was such that the consistency or

inconsistency of the items did not make any difference as far as the total score of a person was concerned.

The index for innovative behavior was based on the innovations which are useful in agricultural operations. Originally, twelve items were selected and subjected to Guttman scaling. The scale retained ten items. Formal education was measured by the number of years spent at the school.

We used three methodological strategies to test the model. First, we constructed cross tables. Respondents were classified under three broad heads: illiterate, low education and high education. All the other variables were dichotomized as high and low, and their relationship was studied. Second, we tested the conceptual proximity of the variables on the basis of the strength of their correlations. Finally, we used multi-variate regression, treating (1) modernity as dependent, and the remaining four variables as independent variables, (2) modernity as dependent, and education as an independent variable, (3) innovative behavior as dependent, and the remaining four variables as independent ones, (4) innovative behavior as dependent and education as an independent variable, and (5) innovative behavior as dependent, and psychic mobility, physical mobility and modernity as independent variables. The same regressions were also calculated for each of the

six components of the modernity syndrome, by regarding each of them as a separate indicator of modernity.

The findings came as a total surprise. The data did not show any strong relationship between the different components of the model. With the simple exception of the association between psychic mobility and innovative behavior, all other relationships were found to be very weak to be of any predictive value. Educational attainment had little effect on innovative behavior and negligible effects on the modernity syndrome. Again, contrary to our expectations, mobility did not have close association with modernity. Finally, the association between innovative behavior and modernity syndrome was found to be rather weak. Thus the data did not support our conceptual model.

However, the findings cannot be taken at their face value; great deal of caution is required in interpreting our results. Several factors might have affected our findings. The extremely poor quality of formal education in village India, which was available in the past, the long interval between the completion of formal education and the time for interview, and finally the relatively small percentage of the educated people in our sample, are some of the factors which deserve to be mentioned in this regard. Some allowance needs also be made of the limitation of the operational definitions. Therefore we do not regard our findings as definitive. And yet they are sufficient to

generate some scepticism about the relationship between educational attainment and individual modernity on the one hand, and innovative behavior and modernity on the other.

There are a number of implications of our negative findings which deserve to be mentioned here.

First, the very notion of individual modernity becomes a suspect. No positive association was noted between the various components of the modernity syndrome. This raises crucial issues about the validity as well as the usefulness of the concept in the research enterprise.

Second, we also need to reconsider the assumed relationship between psychological orientations and innovative behavior. Our findings do show that the various qualities associated with the modern man make little contribution to the adoption of innovations.

Third, the role of education as a generator of new attitudes and orientations needs further analysis and research. Our findings seem to indicate that its effects may be conditioned by a variety of variables which need to be specified and incorporated in the conceptual scheme. In this connection, the hypothesis of Briones and Waisanen (1966) and Waisanen and Kumata (1972) becomes a path-setter.

Fourth, we believe that our findings can be taken to underscore the role of education as a facility in the

modernization process. The very fact that education has a closer relationship with innovative behavior than with the modernity syndrome, provides some support to this assertion.

We shall conclude by saying that the importance of our study lies not in exploring some new dimensions of the intricate relationship between individual modernity and formal education but in questioning some of the hypotheses and assumptions which often pass as established truths in the discipline. Our negative findings force us to have a second look at them. And there lies the main contribution of this study.

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