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SELF-AUTONOMY IN A  
MODERNIZATION SETTING

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## ABSTRACT

### SELF-AUTONOMY IN A MODERNIZATION SETTING

By Robert E. Krebs

This thesis attempts to explore one aspect of the attitudinal configuration referred to as modernity: attitudes toward self-autonomy. Using a measure of autonomy, an attempt was made to predict the degree of autonomy on the basis of five independent variables: age, family size, physical mobility, formal education, and mass media use.

The research is dictated by a model of modernization process developed by Frederick B. Waisanen. Relevant aspects of the model are presented.

The data employed for this analysis were provided by a survey conducted by Waisanen and Durlak in Costa Rica. The sample consists of 760 male heads of households in fourteen villages in Costa Rica.

The techniques employed for analysis were partial correlation and Stepwise Multiple Regression. Only partial support was established for the hypotheses.

Findings suggest that further research would be highly desirable.

SELF-AUTONOMY IN A MODERNIZATION SETTING

By

Robert Ernest Krebs

A Thesis

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## I.

### INTRODUCTION: THE PROBLEM OF SOCIAL CHANGE AND DEVELOPMENT

The problem of social change and development is increasingly coming to be recognized as perhaps the single greatest concern of the contemporary sociologist or social psychologist. From the standpoint of substantive issues, there is perhaps no single area of study which finds more crucial expression in the events and experiences of our times. Whether one cites the struggles of minority Americans in the contemporary United States or the struggles of the developing nations in the international market, one is citing an instance of the attempt to effect, implement, or to adapt to change. The frustrations, successes, orders and disorders of our time can all be viewed in the dynamics of the change process. The recent history of the world, and in fact all of human history, may be viewed as the record of a continuous attempt on the part of man to adjust to the changing demands of a changing world. In this light the experience of social systems--such as nations, states, governments, and industrial organizations--of groupings--such as racial ethnic and kinship groupings--and of individual men, is the same: it is the experience of change.

Conceived broadly in this manner, the problem of change is



the reverse of the coin of the classical problem of social order and stability. In the intellectual history of sociology, the problem of change thus has one of the richest heritages imaginable, stemming from the ancients to the social philosophy of the seventeenth, eighteenth, and early nineteenth centuries, to the more-recent founders and contemporary intellectual greats of the discipline of sociology. While it is not the intention here to attempt to relate or review that tradition in depth, it is well to recognize that such a tradition exists and to place the problem of change in the central current of intellectual history where it belongs.

Modern scholars are becoming increasingly aware of the intellectual tradition which exists, but a full catalogue of the contributions has by no means been fully realized. Etzioni and Etzioni, for example, include excerpts from the works of Spencer, Comte, Spengler, Toynbee, Marx, Engels, Weber, and Tönnies, as examples of "classical" theories of social change (4). More recently, however, Gouldner has demonstrated that the issue of social change as a motivation to social theorizing and as a focus of social theory dates back at least to the Hellenic world and to the philosophy of Plato and Socrates (6). Some further indication of the present day pervasive impact of social change as a focus of modern sociological theory is perhaps illustrated by the fact that Leemis and Leemis, in their text, Modern Social Theories, treat social change as a major concern

of each of the theorists dealt with (14). Also, the "PAS" model, developed by Leemis, is itself essentially a model articulating social change processes (15).

To suggest that a major intellectual tradition hinges on the problem of change is by no means to characterize that tradition. As a topical area the field of social change finds an almost bewildering diversity of expression in variegated contexts and situations. Perhaps the single most difficult problem in the area is to arrive at theories which are capable of meaningfully articulating the disparate elements in a change situation and then finding meaningful data to support or disprove hypotheses which may be derived from such theories. In a discipline such as sociology, which may meaningfully focus on any number of diversified simple or aggregate units, the problem is especially acute. The selection of the most relevant units from a theoretical and practical standpoint is crucial. Often that selection is the most important step in the development of theoretical models relevant to the change process.

The purpose of this thesis at a general level is to shed some light on the process of social change, exploring aspects of what is felt to be the single most important unit which may be chosen for study: the self in the social system. The most immediately pertinent theoretical stance is the symbolic interactionist tradition of social psychology which assumes the primacy

of the social system and which assumes the self to be a social object constructed through social interaction in the referent social system.\* While the emphasis of the symbolic interactionist literature is on process, there is no contradiction with a research focus which must necessarily isolate states. It is often through the analysis of successive states that process is best evidenced and understood, and the necessities of empirical research often dictate such an analysis. However, there are several linkages which must be explained in order to properly understand research which isolates states in the perspective of a model which assumes the role of process to be of greatest importance. These linkages take the form of certain assumptions and preconditions which will be touched on briefly and hopefully be more adequately explained as the model which will be employed is expanded.

The research to be reported here focuses on only a very limited aspect of the problem which is posed. Our basic concern is with one aspect of the social system, which in accordance with the symbolic interactionist position of Kuhn and McPartland, among others, is understood to be an attitudinal system (9). The component configuration which demands our attention is the attitude toward self which we have labeled the "autonomy-heteronomy" dimension. Basically this dimension attempts to isolate the degree

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\*For further examination of the symbolic interactionist tradition of social psychology, see: Manis and Meltzer, Symbolic Interaction (16), and Rose, Human Behavior and Social Processes (22).

to which the "self" functions to the person as an object of concrete<sup>R</sup> reference. It refers to a concept of self which is identified by the individual either as a distinct entity or possession of the person--(i.e.) "autonomy" or a concept of self which is rooted in the supports of the familiar social environment--(i.e.) "heteronomy."

Underlying this perspective on the self is the assumption that it is possible to predict on the basis of certain social structural characteristics, whether the autonomous or the heteronomous self system is more likely to function. The basis for this assumption is the idea that the autonomous self system is more flexible and therefore more compatible with the demands of the modern socio-economic systems. The autonomous self system will consequently be found more frequently as a result of contact with environments which may be considered "modern" such as industrialized, urban environments. In contrast, the heteronomous self system will be found more frequently in environments which may be considered "traditional," such as the rural village social system.

The strength of the autonomous-heteronomous component is thought to vary directly with a set of variables which are referred to in this study as "instrumental social structural investment" variables. In a change orientation these variables would be any variables which are instrumental in facilitating or hindering participation in modern social systems as opposed

to traditional social systems. Thus, two broad classes of instrumental social structural variables must be considered: "associative" variables and "dissociative" variables. The change conception or the modernization process conception which it thus fosters, is seen to be essentially a process of physical and psychic mobility involving the dissociation of self from traditional systems and the association of self with social systems of a more modern orientation.

The data used in the study were provided by a recent survey conducted by Waisanen and Durlak in Costa Rica (30). The sample employed in this design consists of 760 Costa Rican male heads of households from fourteen villages in the Province of San Jose and in the Canton of Perez Zeledon. The primary objective of the study is to test the structural correlates of the autonomy-heteronomy dimension of self. The goal of the research is the prediction of the autonomy-heteronomy dimension from selected social structural variables conceived as social investment variables and dissociative experiences.

The concepts and theoretical model used in this research are compatible with a broad range of sociological and social psychological thought. Certainly there is much precedent in the sociological literature for the ranking of social systems according to the traditionalism-modernity criterion. Toennie's "Gemeinschaft" and "Gesellschaft" dichotomy, Redfield's "folk-urban" continuum, and Becker's "sacred-secular" societies are

among the classic examples from sociology which come readily to mind.\* There are, however, few models which meaningfully equate such characteristics of the social system with the characteristics of the operating attitudinal systems of the members of the systems. The model which will be presented here is one of those few models which attempts to provide such an equation.

While the research which is reported in this thesis can in no way be considered a comprehensive test of the model which underpins the study, it is hoped that the findings will contribute in some small way to a furthering of the understanding of the social processes at work. It is furthermore hoped that the particular context in which the theoretical model is presented in this paper will contribute meaningfully as an illustration of the directions and foci to which it is felt our theoretical considerations should be oriented.

Especially with the advent of the concept of planned change and planned development, there is a critical need for information about all aspects of the problem of change at various levels of analysis. It is also especially important that studies of limited scope such as the present one be built from models which

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\*For a more complete description of such conceptualizations and of the contributions of various outstanding social scientists to them, see the Introduction to Ferdinand Toennie's Community and Society--Gemeinschaft and Gesellschaft, Charles P. Loomis, translator and editor, (27).

are capable of expansion and extension to a more comprehensive conception of the processes at work. The usefulness of the support which may thus be lent to our more limited suppositions and hypotheses, about the realities of social life, is thus significantly increased.

## II.

### THEORETICAL FRAMEWORK

#### The Change Model

In spite of the considerable intellectual heritage which surrounds the problem of social change, it is nevertheless true that there are few theories of change and modernization which are truly "social psychological" in the sense of focusing simultaneously on the social system and the individual actor in the given system. While inroads in the direction of such theories have been made by authors such as Hagen (8), Lerner (13), McClelland (17), and Rogers (21), McClelland's observation about much sociological work in the field remains true. He says:

[Much sociological thinking to date] has never really seriously attempted to bridge the gap between idealized 'pattern variables' as 'tools of analysis' and social norms as present in the minds of men (17: p. 17).

In fact, most of the sociological theories which are available are at best partial and outstanding of empirical proof. However, McClelland's criticism should not be confined to sociology alone. A brief review of the literature on modernization leads one to believe that McClelland's observation is equally applicable to the works of economists, political scientists, psychologists, and interdisciplinarians in the field. By and large, the



theoretical and empirical efforts which focus on the modernization process are guilty of bias and overemphasis on either system of individual, or some component of one or the other.\*

By focusing simultaneously on the social system and the attitudinal systems individual actors involved, it is believed that the model presented here surmounts McClelland's criticism. The concern is not only with a configuration of variable attributes of a social system but with their correlates "present in the minds of men."

The model stems from the thought and research of Frederick B. Waisanen, which is in the tradition of research represented by Lerner's work on the influence of the "mass media" and "psychic mobility" in the modernization process (13), Rogers' study of the "adoption process" (21) and Smith and Inkeles' work on attitudinal modernity.(26).\*\* Waisanen's work shares a

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\*For an expanded critique of certain of the weaknesses of the literature see: Robert E. Krebs, "The Need for a Sociological Theory of Personality in Modernization and Change Research," working paper (mimeo). Michigan State University, 1968. Available on request, from the author.

\*\*The sources for the presentation of the model in this thesis are working papers and empirical studies authored by Professor Waisanen and private consultations with him. At the present time, there is no single source in which the model is completely outlined, although such a source will be forthcoming (Frederick B. Waisanen, "Actor-Social System Relationships and the Modernization Process." Preliminary draft of a presentation made at the Carnegie Seminar, Indiana University, April, 1968. Currently in publication process.

similarity of conceptualization with these efforts, and the processes of physical and psychic mobility, mass media use, innovation and adoption, as well as their attitudinal components, are incorporated into the model. McClelland's work on "n-achievement levels" and Hagen's exposition on the "innovative" or "creative" personality are also relevant in the sense that these works share certain of the assumptions basic to the symbolic interactionism of social psychology which asserts the interdependence of social structure and personality structure. (17;8)

The flexibility which is inherent in the structure of the model makes it possible to characterize the conceptualization of the change process at several different levels. The process may be viewed in the context of idea diffusion and innovation, in the identification of actors with social systems of modernity and their alienation from traditional systems, or as an actual physical outmovement of actors from traditional systems to participation in systems of modernity. Actually none of these processes is exclusive, and the multiplicity of factors which may be combined to effect change within this single framework is one of the virtues of the model.

Basically, the model presents us with an actor in a social system of reference and identification. The degree to which the actor identifies with the system is seen to be influenced by four variables. These are the input variables of time and participation and the component variables of rank and esteem.

These four variables are seen as forming a matrix which is identified as "role-circumscription." It is this factor, the degree of role-circumscription in a particular social system, which is seen as crucial in determining the extent to which the actor is receptive to change. Stated most simply, the greater the amount of role-circumscription with reference to a particular actor, the less likely is that actor to perceive alternative modes of behavior, to evaluate alternative modes of behavior favorably once perceived, or to incorporate alternative modes of behavior into his lifeways.

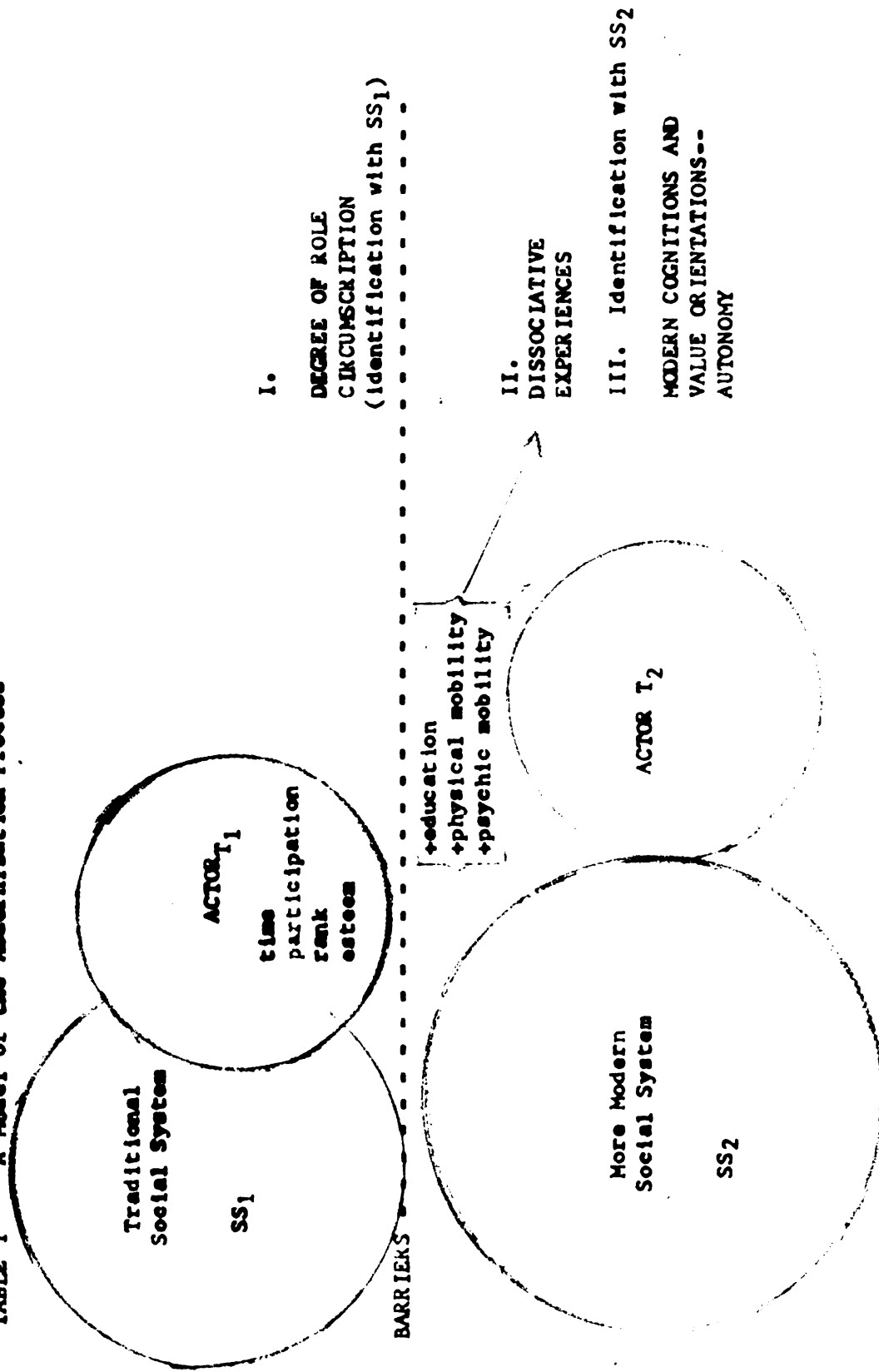
In the case of modernization, two social systems are posited. The actor of interest is the actor whose referent social system is the "traditional" or "less modern" social system, such as the isolated rural village. The second social system is the system which may be considered "modern" or "more modern" such as the industrial urban center. What is of interest in the explanation of the modernization process is what happens when the actor encounters the modes of behavior of the second (more modern) social system. Does he perceive these modes of behavior as alternatives available to him? Does he perceive such alternatives in conflict with his accustomed ways? Does his perception lead him to affirm more vigorously his identification with the traditional ways, or does his perception lead the actor to adjust and accommodate to new modes of living?

To answer these questions, a second set of variables is hypothesized as being relevant. This set of variables is termed the "dissociative experiences," and functions instrumentally to weaken the actor's identification with the traditional system by preparing him for more effective communication with units of more modern social systems. The most formidable of these dissociative experiences is believed to be formal education on the basis of certain evidence in studies by Waisanen and Durlak (32), and Waisanen and Briones (1). Other formidable dissociative experiences are the contacts produced by the physical mobility of the actor and the contacts produced by the "psychic mobility" or mass media use of the actors. These dissociative experiences result in increased identification with the social system of modernity, which is manifested in modern cognitions and value orientations on the part of the actor. To the extent which an actor's attitudinal system reflects these more modern cognitions and values, we may consider him "modern" and assume that he will be amenable to the behavioral modes of modernity. In turn, the greater the incidence of such actors in a social system, the more receptive will that system be to the innovations of modernity, the more rapidly will change be assimilated as it is introduced, and the more pervasive will be the impact of change on the system.

While the foregoing statements present the elements of the model, the variables remain expressed at an abstract and simplified

level. A partial conceptual mapping of the elements of the model appears in Table I., but some further clarification may be gained by reviewing certain considerations leading to the development of the current model. In this regard a more precise specification of the intersystemic and interpersonal dimensions which may be considered should emerge also.

In a working paper, Waisanen began a preliminary exploration of certain facets of his model by attacking the problem of "control variables" in sociology (28). He asks the question: "What do the control variables control?" and suggests that though "age," "sex," "marital status," "education," "income," and "occupation" have traditionally played a significant role in analytical schemes of control, they lack theoretically relevant specification of their phenomenal referents. In the case of upward social mobility, the process under consideration in the paper (and not incompatible with the modernization process we are attempting to understand), Waisanen suggests that there are at least the following foci: (1) what variables function instrumentally to increase commitment to the normative structure of a given social system; and (2) what variables function instrumentally to increase the likelihood or enable the possibility of identification with another social system (which can also read alienation from the first)? He suggests at this point that the process is relevant not only to the phenomenon of upward social mobility, but also to a more general phenomenon

TABLE I A Model of the Modernisation Process<sup>a</sup>

<sup>a</sup>From F.B. Walsanen, *loc.cit.* The ecological and normative variable classes specified in Walsanen's conceptualization are not included here.

of modernization and urbanization, to the dynamics of social unrest and rebellion, to the question of stability (and the entrapment of self in a social system) or change (with self-autonomy and the recognition of the possibility of self-enhancement through personal effort).

Two facets of the problem are proposed. First, the structural facet is presented as an array of "investment" variables with possible indicators. In this frame of reference Waisanen notes:

. . . Role behavior varies at least along the following dimensions:

- (1) Role circumscription (or role rigidity). Role behavior is differentially limited; the bounds of adventure are more extensive, by example, for males than for females. Similarly, the role behavior of Negroes is circumscribed (at least in some social systems) much more severely than the role behavior of whites. The same variable may limit the area of "full participation" of any person wearing badges of physical or mental atypicality.
- (2) Role investment. Time and energy input of persons are at the heart of social system maintenance. The larger the stake in a system by time and energy, the less likely that a person will either (1) move out, via instrumental routes, or (2) be spun out by fortuitous circumstances. The prime indicator of this investment variable would appear to be age.
- (3) Role interdependence. As involvement of a person in sub-systems of any larger system increases, the tendency for the person to be social psychologically 'locked' in the larger system increases. While marital status is one of the more apparent indicators of this variable, membership in formal and informal organizations, friendship cliques, family size and its genealogical extension might be others.
- (4) Normative conceptual rigidity. Behavior in a social system presents variation in role rigidity

as indicated above, but there is rigidity as well in behavior which is appropriate for a given role as perceived by the actor. The married female, already restricted positionally, can be further restricted by adherence to 'articles of faith,' i.e. doctrine of dogma. The issue here touches ideology or belief systems, and can relate to religiosity or political ideological commitment, as two more apparent indicators (28: pp.3,4).

The second facet is the "instrumental" facet which enables dissociation from one system and identification with another.

The apparent indicators which are mentioned are education and mobility which are specified as follows:

- (1) Degree of preparation for effective communication with units of another social system. In the present illustrative case, education would be an indicator of the conceptual and behavioral skills which not only increase the likelihood of interaction with A-system\* members, but will as well increase the likelihood that these members (and the normative structure of the A-system) will be seen as important attractive and relevant, thus facilitating the process of mobility.\*\*
- (2) Degree of communication with units of another social system. Communication can vary along a dimension of relative "impersonality" (as via the mass media) to that which is more personal as in face-to-face conversation. To the degree that mobility is an indicator of this variable, then, the indicator may have two facets: (1) physical out-movement of a B-member to contact with the A-actor within the A-system, and the converse: (2) 'psychic mobility' as in mass media use.(28: p. 4)

Basically the working paper provides the mold for the casting of this research and the theoretical guide and justification in

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\*Read: "system of modernity."

\*\*Read: "process of modernization."



the selection of variables for analysis. The focus here is, of course, modernization, but the problems are identically conceived. However, the emphasis on role terminology in the working paper may cause confusion or consternation to some and therefore some additional statements are extended.

While thinking in role theoretical terms has obviously contributed to the development of Professor Waisanen's model, the terminology of role theory is not essential to the presentation at hand. The "social role" is a hypothetical construct which is extremely useful in naming complexes of behaviors which usually routinely and repetitively occupy the individual in social interaction, and therefore are significant in the understanding of his behavior. The behavior which is conceptually designated as "role" behavior is especially important because of the input of time and energy which is required on the part of the actor. Yet, the "role" and the "role set" require phenomenal specification and once such phenomenal specification is accomplished, the terminology may be extraneous. In a very practical sense, whether one refers to a factor which has proven predictive power as a "role," or by some other name, has no impact on the predictive power of the factor. It may, however, affect the ease and efficacy of the theoretical understanding of the phenomenon. In brief, the point is that the role theoretical cast of this framework is optional. The value of the role theoretical cast is evident in Professor Waisanen's working paper,



Our concern is with the actor in the less modern social system. Rural villagers are the actors to be studied, and the factors of age, family size, physical mobility, psychic mobility, and formal education constitute the independent variables to be explored. These variables will be presented briefly, and though the theoretical justification for their use should by now be evident, a brief reiteration of their theoretical referents is presented.

Independent Variables--Structural Investment Variables.

The following variables are conceived as social investment variables, which would theoretically function to maintain the self in the traditional social system.

(1) Age. Age in this framework refers to the time in a social system. Thus, age is seen to be an input variable of time and energy. The greater this investment of time and energy, in a traditional social system, the less likely is the actor to perceive, evaluate favorably, and adopt, cognitions, values, and attitudes, which identify him with the social system of modernity.

(2) Family Size. This variable may be thought of as referring to the factors of role circumscription and role interdependence. The larger the family size, the greater are the responsibilities and demands of family maintenance and support, and the less available are the opportunities for contacts with

the social system of modernity which are likely to produce modern cognitions, values, and attitudes. The larger the family, the greater is the tendency for the actor to be social psychologically locked in the family subsystem of the larger traditional society and the less likely is the actor to perceive, evaluate favorably, and reflect the cognitions, attitudes, and values of the modern social system.

While other independent structural and investment variables might also have been included on the basis of the theoretical conception which has been presented, there are methodological reasons for their exclusion. These variables include sex, marital status, and place of residence, and the reasons for their exclusion will be presented in the treatment of methodology.

Independent Variables: Instrumental Dissociative Experiences.

(3) Formal Education. The experience of formal education not only prepares the actor for more effective communication with the social system of modernity. It would seem also to serve as a direct agency of socialization of the more modern system. Formal education would seem to affect the actor in a sense of "psychic mobility" similar to the phenomenon associated with mass media use. Education would seem also to prepare the actor for more effective media use and therefore directly facilitate the psychic mobility process. Thus, it is expected that formal education will prove a powerful predictor of

attitudinal modernity. As the number of years of formal education increases, the degree of identification of the actor with the social system of modernity should also increase as reflected in modern cognitions, values, and attitudes.

(4) Mass Media Use. As the use of mass media increases, the phenomenon of "psychic mobility" becomes evidenced in a stronger identification with the social system of modernity as reflected by modern cognitions, values, and attitudes on the part of the actor.

(5) Physical Mobility. In this case the resident of the rural village travels to the urban center. As the frequency of contacts with the system of modernity increase, the incidence of modern cognitions, values, and attitudes on the part of the village actor is likely to also increase.

Dependent Variable: Modernity--Self-autonomy.

The term modernity can have numerous phenomenal referents. As Inkeles and Smith point out:

As used to describe a society, 'modern' generally means a national state characterized by a complex of traits including urbanization, high levels of education, industrialization, extensive mechanization, high rates of social mobility and the like. When applied to individuals, it refers to a set of attitudes, values, and ways of feeling and acting, presumably generated by or required for effective participation in modern society (26: p. 353).

Conceived as a set of attitudes, values, and ways of feeling

and acting, individual modernity is a flexible configuration. Numerous combinations and permutations of attitudes and social objects may be thought of as defining the trait modernity.

Inkeles and Smith report a series of formats which may be thought of as indicators of individual modernity. Their overall conceptualization is not incompatible with the assumptions which have underlined the individual modernity concept represented in this study. They tell us:

Basically we assumed that modernity would emerge as a complex but coherent set of psychic dispositions manifested in general qualities such as a sense of efficacy, readiness for new experience, and interest in planning, linked in turn to certain dispositions to act in institutional relations--as in being an active citizen, valuing science, maintaining one's autonomy in kinship matters, and accepting birth control. As indicated above, we assumed these personal qualities would be the end product of certain early and late socialization experiences, such as education, urban experience, and work in modern organizations such as the factory (26: p. 355).

Inkeles' and Smith's research led them to develop several pools of attitudinal items and to refine these pools empirically to a series of measures which vary in length and in the degree of refinement of the factors. As the factors become more potently distilled in the "short form" instrument which is developed, they move closer toward the factor of self-autonomy which we have adopted as our attitudinal measure of modernity. The author's report that the short form becomes heavily weighted in the direction of what Parson's calls "instrumental activism." The

important component factors are "efficacy," "openness to new experience," and "birth control attitudes."\* The "instrumental activism" element may be as easily interpreted as a self-autonomy element with a concomitant influence or "efficacy" orientation. The items which Inkeles and Smith use, and the empirical support which they bring to bear for their attitudinal measure, would seem to give at least a rough empirical and theoretical support to the justification of the use of the self-autonomy factor as an indicator of modernity or as a psychic disposition which reflects modern cognitions, values, and attitudes. The scale of autonomy used in this paper has items which may be similarly viewed in the light of an "instrumental activism" influence loading, which may be seen by reviewing the items as they are presented in the discussion of methodology and Appendix V. of this paper.

In Waisanen's conceptualization, the explanation of the dependent variable can be interpreted from the following words:

The consequence of higher preparation (education) is knowledgeability; the consequence of greater communication with units of the A-system\*\* is cosmopolitanism. Knowledgeability and cosmopolitanism can then converge to produce an attitudinal

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\*The Smith and Inkeles' items and inter-scale correlations are reproduced in Table XVI, Appendix III of this paper.

\*\*"A-system" should be read; system of modernity for the current case. B-system may be read as the system of "tradition."

system involving perceived autonomy of self and an influence orientation which leads to identification with the A and significant involvement at an occupational level.

In contrast, movement toward the instrumental facet is least likely to occur in the case of the older, married, "fundamentalist" female. These indicators produce a syndrome of investment which produces an attitude system in which self is subordinate to social system, where she accepts "things as they are," where there is a calculus of perceived interdependence ("others here need me") and a de-emphasis of the "material world." The fuller social psychological consequences may be entrapment, with security and affect orientation, leading to identification with B and (resigned) involvement in lower status occupations (work, a "job") consonant with the identification (28: pp. 5,6).\*

Thus, in brief, the person who evidences the attributes which should facilitate participation in the social system of modernity should also evidence a self-orientation characterized by autonomy. The autonomy orientation to self is an instrumental calculus which allows the person to perceive possibilities for self enhancement by his own efforts, which involves a feeling of efficacy, of influence, of aspiration and of willingness to accept the risks of independence.

The person whose social attributes tend to entrap him social psychologically in the traditional social system is more likely to demonstrate a self-orientation which is termed "heteronomy." Heteronomy indicates a calculus of subordination of

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\*The material is taken from the mobility example, therefore the occupational factor does not necessarily apply in our present consideration of the modernization example.



self to the social system, of interdependence in the social system, of security and affect as opposed to influence and risk orientation, and of powerlessness or meaninglessness with regard to one's ability to control the circumstances of his life.

### Hypotheses

On the basis of the foregoing theoretical framework, the following general hypotheses were derived. Accompanying empirical hypotheses are also enumerated.

GH 1: AGE IS INVERSELY RELATED TO AUTONOMY.

EH 1: As age increases, the incidence of autonomy decreases.

GH 2: FAMILY SIZE IS INVERSELY RELATED TO AUTONOMY.

EH 2: As the size of the family increases, the incidence of autonomy decreases.

GH 3: FORMAL EDUCATION IS DIRECTLY RELATED TO AUTONOMY.

EH 3: As the number of years of formal education increases, the incidence of autonomy increases.

GH 4: MASS MEDIA USE IS DIRECTLY RELATED TO AUTONOMY.

EH 4: As the use of media increases, the incidence of autonomy increases.

GH 5: PHYSICAL MOBILITY IS DIRECTLY RELATED TO AUTONOMY.

EH 5: As physical mobility increases, autonomy increases.

### III.

#### METHODOLOGY

##### Data Collection and Sample

The data which are used to test the hypotheses in this research are drawn from a larger study by Waisanen and Durlak, The Impact of Communication on Rural Development: An Investigation in Costa Rica (30). The design of the larger study is experimental and called for pre-treatment and post-treatment interviews with all heads of households in fourteen selected villages in the Province of San Jose and in the Canton of Perez Zeledon, outside of the city of San Jose.\* The villages may be characterized as in "transitional" stages of development, but predominantly reflect a "less modern", or "traditional", mode of life than the urban center of San Jose.

The sample included in this study consists of 760 post-treatment interviews of male heads of households. The final interviewing took place in November and December of 1965, after a preliminary interview schedule had been pretested.\*\* Although the original sample includes information gathered from both male and

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\*For a more complete description of the national and regional setting, see, Waisanen and Durlak, pp. 15-21 and pp. 23-25.

\*\*For a more detailed description of the interviewing procedures and sample, see, Waisanen and Durlak, pp. 22-42.

and female respondents, the number of female respondents was judged too small to allow for meaningful comparisons on a sex variable. Female subjects were therefore dropped from the sample used in this research, and sex was deleted as a variable for study.

The data were coded beginning December, 1965, and were punched on IBM cards and verified. The data were ready for analysis in January, 1967. The cards used in this analysis are taken from a master deck which included certain refined indices and recoded information. Explanation of special codes and indices will be treated in our discussion of the operationalization of the variables.

Independent Variables--"Structural, Investment Variables".

(1) Age. Each subject was asked to report his age at his last birthday in years. Responses were coded in the exact number of years in two columns of the data cards. For purposes of analysis, the subjects (whose ages ranged from 17 to 87 years) were grouped into categories such as "20-29," "30-39," and so on. A convenient index was formed by using the first punch of the two punched columns identifying the exact number of years. Thus subjects whose age was "17-19" were coded "1," "20-29" years coded "2," "30-39" years coded "3," and so on.

(2) Family Size. Each subject was asked a series of questions which ascertained not only the size of the family, but the kinship or relationship of individual family members to the

head of the household, and the age, education, and literacy of such members. The size of family was punched in two columns, indicating the exact number of members of the family living in the household. Family sizes ranged from "1" to "21", but the incidence of households with one member--the unmarried segment--was so small (9 subjects in all) as to preclude consideration of marital status as a social investment variable. It was decided that probably no significant additional variance could be explained by an independent test of the predictive capabilities of marital status as a variable.

Independent Variables--Instrumental, Dissociative Variables\*.

(3) Formal Education. Information was gathered on the number of years of formal education each subject had received. This information was coded and punched on cards as the exact number of years of school completed, ranging from "zero" or no formal education to "eleven" years, which represents the most formal education completed by any of the subjects in the sample.

(4) Mass Media Use. The mass media use variable used in the present research is treated as a single item. Actually the indicator as used here is a sub-index of a larger scale of "Media Use," which includes information on use of radio, movies,

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\*For a complete description of the questions and codes, see Appendix V., this paper.

television, newspapers, and magazines.\* The items which are incorporated into the component instrument related to use of newspapers and magazines. Information was gathered by asking the subjects: "Do you read newspapers (magazines?) How many times a week (month?)". If the response to the former question was no, the alternative question was posed in an attempt to control for literacy as an effect on information seeking: "Are newspapers (magazines) read to you by others? How many times per week (month?)". Responses were coded as a sum of the number of times per week newspapers were read by the subject or to the subject and the number of times per month magazines were read by the subject or to the subject. The result was a scale from 0 to 14 points, indicating frequency of use.

(5) Physical Mobility. The information on physical mobility was gathered by asking subjects: "How many times a year do you go to San Jose?" Again, responses were coded according to frequency of visits to the urban center.

#### Dependent Variable--Autonomy

(6) The dependent variable was treated as a single item response for purposes of convenience and efficiency of analysis. The autonomy variable was coded as a single item on the master data deck which was available for the present use, and to treat separately each of the five items which compose the larger autonomy variable

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\*Inter-item correlations on the mass media index are presented in Appendix IV.

would have involved analytical complications since recoding procedures had intervened and since the original data decks could not have been as readily procured.\*

The five items on which responses were coded to form the single autonomy-heteronomy item were:

"Which is more important to you"

- 1) "To be liked by others? or to be successful in your work?"
- 2) "To be similar to other people you know? or to be different from other people you know?"
- 3) "To have many friends? or to have a lot of influence?"
- 4) "To visit friends regularly? or to read a newspaper regularly?"
- 5) "To earn enough money to live as long as you have your friends? or to earn more money, even if it means losing some friends?"

The questions are thought to have face validity in tapping the components of: (1) "affect" versus "achievement" orientation; (2) "self-assimilation" or "self-acceptance" versus "self-differentiation" or "self-enhancement" orientation; (3) "security" versus "influence" orientation; (4) "sociability" versus "instrumental information seeking" orientation; and (5) "secure subsistence" versus "risk-aspiration" orientation. The configuration of "being liked," "being similar," "having many friends," "visiting," and "earning enough money to live," is thought to reflect the attitudinal pattern of the self which is generated by, rooted in, and maintained by the less-modern, traditional social system of the village, or

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\*Inter-item correlations on the autonomy index are presented in Appendix IV.

the "heteronomous" self-system. Each such response was numerically coded "one" to yield a minimum score of "five" on the autonomy scale, or the "heteronomy" pole of the continuum. The configuration of "being successful in work," "being different," "having influence," "reading," and "earning more money", is thought to reflect the "achievement," "enhancement," "influence," "information," and "risk-aspiration" orientations required by the self which is to function successfully in the face of the less-personal, modern achievement-oriented, technical, industrial society. Each such response was coded numerically "three" to yield a maximum value on the autonomy scale of "fifteen," or the "autonomy" pole of the continuum. Non-committal "depends" responses were coded numerically as "two," indicating an attitude which is not necessarily "rooted" in either the modern or the traditional social system, and therefore is thought to indicate a self which is "transitional" between the "heteronomous" and "autonomous" self systems.

#### Analysis Program

Prior to analysis, frequency distributions, means, and standard deviations for all variables were obtained. These frequency counts presented a first view of the data, enabled corrections of illegal codes, and provided a rough check on more complex operations which were performed by the computer. Transformations of extreme codes which might spuriously affect correlation values had been previously performed.\*

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\*For an account of the transformation procedure, see Waisanen and Durlak (30: p. 43ff).

The techniques which were chosen for analysis of the data were rank order and partial correlation and multiple regression techniques performed on a least squares principle. All calculations reported in this thesis were programmed for and performed by a Control Data Corporation "3600" computer at Michigan State University.

Since the choice of any analysis and techniques for any particular research problem is fraught with difficulties, the final decision is usually a compromise between finding an efficient means to answer the central problems of the research and using a procedure which is justified given the type and precision of the data. The techniques of partial correlation and multiple regression require certain assumptions about the data for their interpretation, so results must be interpreted with caution. However, given the exploratory nature of the research and the interest in finding predictors for further tests, the advantages of the techniques chosen seem to outweigh the difficulties.

Included in our findings are a number of basic statistics and a number of supplementary statistics which may be interpreted as measures of association between the dependent variable and the set of independent variables. Those supplementary statistics which are not directly dealt with in our report of the findings have been included in Appendix III. The reader who is so motivated is encouraged to review the Appendix.



#### IV.

### RESULTS AND FINDINGS

#### Partial Correlations

The coefficient of partial correlation measures the degree of association between variable X and variable Y with other variables "held constant" or "controlled." The statistic represents an attempt to minimize the possibility that a correlation between two variables is "spurious"--that is, that their common dependence is a function of a third variable or set of variables. By example, a simple correlation between age and autonomy could well be high, but be drastically reduced after the "contaminating effect" of education is taken into account. The degree of association may be dramatically reduced if not eliminated altogether.

The results of the partial correlation analysis between the independent variables and the autonomy score are reported in Table III. For purposes of comparison, a matrix of simple correlations may be found in Table X, Appendix III.

Table III demonstrates a statistically significant relationship between the dependent variable of autonomy and the independent variables of family size, age, education, and mass media use. The independent variable of physical mobility is not statistically significant to an acceptable level of .05 or .01. Also, the

direction of the correlation between family size and autonomy, and between

TABLE III      Partial Correlations and Significance Probabilities:  
Independent Variables with Autonomy Score, Contamina-  
tion Effects Controlled

Variable Name	Partial Correlation	Significance Probability
Mobility	0.028	0.446
Family Size	0.082	0.022
Age	0.071	0.047
Formal Education	0.121	0.001
Mass Media Use	0.120	0.001

autonomy and age, is not as hypothesized. Weak but significant positive correlations are noted. Summary statements about these data follow.

(1) Physical Mobility is perhaps the most provocative finding listed in Table III. Though the partial correlation between physical mobility and autonomy is not significant, the simple correlation between mobility and autonomy reported in Table X (Appendix III) shows one of the stronger associations. The reduction in this relationship in the partial correlation measure would appear to suggest that the association is a function of one of the variables being controlled. Looking further at the data in Table X, it appears that mass media use might well be the variable which produces this effect. Not only does media use show a strong simple correlation with autonomy, it shows a



simple correlation of almost .4 with physical mobility. A second variable which shows strong possibilities of a "contamination" effect in the simple correlation between mobility and autonomy is education. This leads to speculative possibilities which will be mentioned. However, on the basis of the data in Table III., hypothesis "five" is not supported.

(2) Family Size shows a very weak but statistically significant partial correlation with autonomy. However, the direction of the relationship is positive, and the inverse relationship predicted in hypothesis "two" is not borne out. The fact that there is very little reduction in the size of the simple correlation compared to the partial, suggests that little of the association between family size and autonomy can be explained as a function of the other variables in our predictive team.

(3) Age shows the weakest, but still statistically significant, partial correlation with autonomy. However, as in the case of family size the direction of this relationship is not as predicted. Hypothesis "one" is therefore not supported.

(4) Formal Education shows the strongest relationship to autonomy among the variables selected for analysis. The strength of this relationship was expected and hypothesis "three" is supported.

(5) Media Use demonstrates a relationship to autonomy similar in strength and significance to formal education. The

strength of the simple correlation is somewhat reduced when the effects of the other variables are controlled in the calculation of the partials. However, the partial correlation lends support to hypothesis "four."

#### Multiple Regression Analysis

In Stepwise Multiple Regression, one begins with X number of variables pooled into a team of multiple predictors of the dependent variable. Each of the independent variables is then examined to determine whether its deletion will result in a significant reduction of the predictive power of the team. One variable at a time is deleted, and a new least squares equation calculated, until only those variables remain which cannot be deleted without a significant reduction in the predictive power of the team. These variables may then be considered the most parsimonious predictors of the dependent variable, relative to the variables with which one originally started.

The results of the Stepwise Multiple Regression analysis are presented in Table IV. Discussion with reference to each of the members of the team of independent variables follows.

TABLE IV "Multiple Regression Delete" Coefficients for the Five Independent Variables

Variable Name	$R^2$ Deletes
Mobility	0.063
Family Size	0.058
Age	0.059
Formal Education	0.050
Mass Media Use	0.050

Table IV shows that the variable "mobility" may be deleted from the team of independent variables with no significant loss in the predictive power of the remaining variables with reference to autonomy. Physical mobility becomes the first candidate for deletion.

The second candidate for deletion is Age. It is followed by Family Size which is the third candidate for deletion.

Variables which cannot be deleted without a significant reduction in the predictive power of the team are Formal Education and Mass Media Use. Education and Media Use emerge as the most parsimonious predictors of autonomy.

The effects of deletion on the overall analysis of variance statistics are reported in Table XIII, Appendix III.

## V.

### SUMMARY AND DISCUSSION

The findings allow us to state that in the population under study the following hypotheses are supported:

GH 3: FORMAL EDUCATION IS DIRECTLY RELATED TO AUTONOMY.

GH 4: MEDIA USE IS DIRECTLY RELATED TO AUTONOMY.

Apparently, the model which disposes us to view education and media use as "dissociative experiences" for the person in the traditional social system is correct with regard to these factors. Inasmuch as autonomy is an indicator of identification with the social system of modernity, the model may be considered to be supported.

The same cannot be said to be true of physical mobility. Significant support is not lent to the hypothesis that physical mobility is directly associated with autonomy. Rather, it appears that the greatest part of the association between physical mobility and autonomy is a function of the variables of mass media use and education. This suggests a relationship between media use and mobility, and between education and mobility, which might be fruitfully explored in further research.

With regard to the nature of the association between age and autonomy, and between family size and autonomy, our hypotheses

were not supported. The direct relationship of these variables, in contrast to the hypothesized inverse correlations, would appear to indicate possibilities which we have ignored in our conceptualization. For example, it may be that something in the pattern of family relations in the larger family is responsible for producing self-attitudes which are parallel to attitudes we take as indicators of the autonomous self-structure. It is possible that the constant presence of other persons in the larger family produces a preference for the solitary activity of reading a newspaper, as opposed to behavior which is gregarious such as visiting friends.

This line of speculation also raises questions about possible weaknesses in the overall design of the research which should be mentioned. Outstanding are the problems of 1) the validity of the autonomy scale and, 2) the related problems of attitudinal research in general.

It is possible that the factor which has been called autonomy does not in fact reflect what it is intended to reflect. The assumption is made that the questions constructed to tap the self-autonomy component have face validity. However, there is nothing to guarantee that the assumption is correct and that the responses are indeed reflective of possession of an autonomous self. Also, it should be noted that the formulation of the theoretical construct of self-autonomy is tentative and partial. As our notions about the nature and operation of self-autonomy become more refined, it may become necessary to construct an instrument which differs



considerably from the five-item measure employed here.

The related problem of most attitudinal research in general is expressed in the assumption that an attitude reflects a disposition to act. In the specific case, it is also expressed in the assumption that autonomy reflects attitudinal modernity. There is simply no reliable empirical information which reports the extent to which attitudes and concrete actions are related. In the data as presented here, there is similarly a lack of information on the concrete ways in which the possession of an autonomous self will result in a person's effective participation and assimilation into the social system of modernity. In what behaviors will the person's "modernity" be expressed as a result of his "autonomy?"

It would appear that some behavioral test would be in order in future research to overcome such limitations. As the research stands, extreme caution is required in interpreting the findings.

Recognizing the limitations in interpretation, education and mass media use do conform to our expectations with regard to autonomy as it has been defined in this study. Beyond that, only future research can be encouraged to shed light on the processes which are thought to be occurring.

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## **APPENDIX I**

### **Descriptive Data: Distributions and Percentages on Selected Variables**

**Distributions and Percentages for each of the following variables:**

<b>Autonomy</b>	<b>Number of Subjects</b>	<b>Percentage</b>
5	229	30.1
6	10	1.3
7	224	29.5
8	16	2.1
9	158	20.8
10	10	1.3
11	75	9.9
12	3	.4
13	32	4.2
14	-	-
15	3	.4
<b>Totals</b>	<b>760</b>	<b>100.00%</b>

<b>Mobility</b>	<b>Number of Subjects</b>	<b>Percentage</b>
0	298	39.2
1	227	29.9
2	109	14.3
3	76	10.0
4	19	2.5
5	7	.9
6	10	1.3
7	14	1.8
<b>Totals</b>	<b>760</b>	<b>100.00%</b>

Family Size	Number of Subjects	Percentage
1	9	1.2
2	52	6.8
3	65	8.6
4	79	10.5
5	82	10.7
6	104	13.7
7	89	11.7
8	66	8.7
9	54	7.1
10	68	8.9
11	32	4.2
12	21	2.8
13	15	2.0
14	9	1.2
15	5	.7
16	5	.7
17	2	.3
18	1	.1
20	1	.1
21	1	.1
<b>Totals</b>	<b>760</b>	<b>100.00%</b>

Age in Years	Number of Subjects	Percentage
17-19	6	.8
20-29	153	20.1
30-39	224	29.5
40-49	145	19.1
50-59	119	15.7
60-69	73	9.6
70-79	34	4.5
80-87	6	.8
<b>Totals</b>	<b>760</b>	<b>100.00%</b>



Formal Education	Number of Subjects	Percentage
0	161	21.2
1	61	8.0
2	118	15.5
3	167	22.0
4	134	17.6
5	44	5.8
6	61	8.0
7	4	.5
8	4	.5
9	1	.1
10	3	.4
11	2	.2
<b>Totals</b>	<b>760</b>	<b>100.00%</b>

Mass Media Use	Number of Subjects	Percentage
0	384	50.5
1	117	15.4
2	75	9.9
3	49	6.4
4	25	3.3
5	16	2.1
6	10	1.3
7	37	4.9
8	14	1.8
9	11	1.4
10	4	.5
11	9	1.2
12	4	.5
13	1	.1
14	4	.5
<b>Totals</b>	<b>760</b>	<b>100.00%</b>

## **APPENDIX II**

**Descriptive Data: Distributions of Subjects on  
the Dependent Variable by the Independent Variables**

TABLE V Distributions of Respondents: Autonomy by Age

Autonomy Score	Age								Totals	%
	Under 20	20-29	30-39	40-49	50-59	60-69	70-79	80 & Over		
5	1	51	62	49	36	23	7	-	229	30.1
6	-	1	2	1	3	3	-	-	10	1.3
7	2	45	71	39	33	19	11	4	224	29.5
8	-	3	5	4	3	1	-	-	16	2.1
9	3	29	44	33	26	16	6	1	158	20.8
10	-	2	1	3	3	1	-	-	10	1.3
11	-	18	24	11	10	8	4	-	75	9.9
12	-	1	1	-	-	-	1	-	3	.4
13	-	3	13	5	5	2	4	-	32	4.2
14	-	-	-	-	-	-	-	-	-	-
15	-	-	1	-	-	-	1	1	3	.4
Totals	6	153	224	145	119	73	34	6	760	
%	.8	20.1	29.5	19.1	15.7	9.6	4.5	.8		100.0%

TABLE VI Distributions of Respondents: Autonomy by Family Size

Autonomy Score	Family Size					Totals	
	1 - 5	6 - 10	11 - 15	16 - 20	21 +		%
5	99	101	26	3	-	229	30.1
6	3	6	1	-	-	10	1.3
7	86	111	24	2	1	224	29.5
8	4	9	2	1	-	16	2.1
9	59	88	9	2	-	158	20.8
10	2	5	3	-	-	10	1.3
11	25	40	9	1	-	75	9.9
12	1	1	1	-	-	3	.4
13	7	20	5	-	-	32	4.2
14	-	-	-	-	-	-	-
15	1	-	2	-	-	3	.4
Total	287	381	82	9	1	760	
%	37.7	50.1	10.9	1.2	.1		100.7

TABLE VII Distributions of Respondents: Autonomy by Physical Mobility

Autonomy Score	Mobility Score							Totals	
	0	1	2	3	4	5	6	7	%
5	99	69	39	13	6	1	1	1	30.1
6	6	3	1	-	-	-	-	-	10
7	83	62	36	26	7	2	5	3	224
8	5	6	1	3	1	-	-	-	16
9	63	49	19	17	3	1	2	4	158
10	7	1	1	-	-	1	-	-	10
11	22	27	10	10	2	2	1	1	75
12	-	1	-	2	-	-	-	-	3
13	11	9	2	4	-	-	1	5	32
14	-	-	-	-	-	-	-	-	-
15	2	-	-	1	-	-	-	-	3
Totals	298	227	109	76	19	7	10	14	760
%	39.2	29.9	14.3	10.0	2.5	.9	1.3	1.8	100.0



TABLE VIII Distributions of Respondents: Autonomy by Formal Education

Autonomy Score	Formal Education (in years)							Totals	
	0	1	2	3	4	5	6	7 or more	%
5	67	17	37	48	31	15	13	1	229 30.1
6	4	2	1	1	2	-	-	-	10 1.3
7	44	16	33	62	38	8	20	3	224 29.5
8	2	1	1	4	3	2	3	-	16 2.1
9	27	15	24	35	31	13	9	4	158 20.8
10	3	3	1	1	1	-	1	-	10 1.3
11	10	4	15	9	20	5	11	1	75 9.9
12	-	1	-	1	-	-	-	1	3 .4
13	3	2	5	5	8	1	4	4	32 4.2
14	-	-	-	-	-	-	-	-	-
15	1	-	1	1	-	-	-	-	3 .4
Totals	161	61	118	167	134	44	61	14	760
%	21.2	8.0	15.5	22.0	17.6	5.8	8.0	1.8	100.0

TABLE IX Distributions of Respondents: Autonomy by Mass Media Use

Autonomy Score	Mass Media Use Score							Totals	
	0	1	2	3	4	5	6	7	%
5	159	21	16	10	4	5	-	4	219 28.8
6	8	1	-	1	-	-	-	-	10 1.3
7	105	36	24	15	9	5	4	14	212 27.9
8	5	3	-	-	3	2	-	1	14 1.8
9	70	26	20	17	4	1	3	8	149 19.6
10	5	2	1	1	-	-	-	1	10 1.3
11	21	22	9	4	4	2	1	6	69 9.1
12	1	1	-	-	-	-	-	-	2 .3
13	9	5	5	1	-	-	2	3	25 3.3
14	-	-	-	-	-	-	-	-	-
15	1	-	-	-	1	1	-	-	3 .4
Totals	384	117	75	49	25	16	10	37	continued on
%	50.5	15.4	9.9	6.4	3.3	2.1	1.3	4.9	next page



TABLE IX (continued)

Autonomy Score	Mass Media Use Score							Totals	
	8	9	10	11	12	13	14		%
5	2	2	-	4	1	1	-	10	1.3
6	-	-	-	-	-	-	-	-	-
7	3	2	1	1	3	-	2	12	1.6
8	1	1	-	-	-	-	-	2	.3
9	3	4	-	2	-	-	-	9	1.2
10	-	-	-	-	-	-	-	-	-
11	3	-	1	1	-	-	1	6	.8
12	-	1	-	-	-	-	-	1	.1
13	2	1	2	1	-	-	1	7	.9
14	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-
Totals	14	11	4	9	4	1	4	760	
%	1.8	1.4	.5	1.2	.5	.1	.5		100.0

### **APPENDIX III**

**Supplementary Analysis Data: Correlational, Multiple  
Regression, and Analysis of Variance Information**

**TABLE X      Simple Correlations Between the Variables**

<b>Autonomy</b>	<b>1.000</b>						
<b>Mobility</b>	<b>0.127</b>	<b>1.000</b>					
<b>Family Size</b>	<b>0.088</b>	<b>0.111</b>	<b>1.000</b>				
<b>Age</b>	<b>0.044</b>	<b>0.022</b>	<b>0.128</b>	<b>1.000</b>			
<b>Formal Education</b>	<b>0.173</b>	<b>0.253</b>	<b>-0.041</b>	<b>-0.258</b>	<b>1.000</b>		
<b>Media Use</b>	<b>0.197</b>	<b>0.389</b>	<b>-0.001</b>	<b>-0.036</b>	<b>0.394</b>	<b>1.000</b>	
	<b>Autonomy</b>	<b>Mobility</b>	<b>Family Size</b>	<b>Age</b>	<b>Formal Education</b>	<b>Media Use</b>	

Table XI      Supplementary Statistics on the Variables

<u>Label</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Sum</u>
Autonomy	7.56	2.31	5745
Mobility	1.24	1.50	942
Family Size	6.77	3.27	5147
Age	3.79	1.48	2883
Formal Educa- tion	2.69	2.01	2041
Media Use	1.82	2.84	1380

**TABLE XII      Supplementary Statistics: Partial Correlation  
and Multiple Regression Analysis**

<u>Label</u>	<u>Regression Coefficient</u>	<u>Beta</u>	<u>FB</u>
Mobility	0.463	0.030	0.596
Family Size	0.574	0.081	5.151
Age	0.113	0.073	3.863
Formal Education	0.154	0.134	11.229
Media Use	0.110	0.135	11.071

TABLE XIII      Analysis of Variance: Multiple Correlation  
Coefficients,  $R^2$  Deletes

	Multiple Correlation Coefficients			
	$\frac{R^2}{0.0641}$	$\frac{R}{0.2532}$	$\frac{R \text{ BAR}^2}{0.0579}$	$\frac{R \text{ BAR}}{0.2406}$
<u>Variables deleted: <math>R^2</math> delete:</u>				
1. Mobility: $R^2$ delete: 0.06337				
	$\frac{R^2}{0.0634}$	$\frac{R}{0.2517}$	$\frac{R \text{ BAR}^2}{0.0584}$	$\frac{R \text{ BAR}}{0.2417}$
1. Mobility				
2. Age: $R^2$ delete: 0.05931				
	$\frac{R^2}{0.0583}$	$\frac{R}{0.2415}$	$\frac{R \text{ BAR}^2}{0.0546}$	$\frac{R \text{ BAR}}{0.2336}$
1. Mobility				
2. Age				
3. Family Size: $R^2$ delete: 0.05772				
	$\frac{R^2}{0.0497}$	$\frac{R}{0.2228}$	$\frac{R \text{ BAR}^2}{0.0471}$	$\frac{R \text{ BAR}}{0.2171}$
1. Mobility				
2. Age				
3. Family Size				
4. Formal Education: $R^2$ delete: 0.05017				
	$\frac{R^2}{0.0388}$	$\frac{R}{0.1971}$	$\frac{R \text{ BAR}^2}{0.0376}$	$\frac{R \text{ BAR}}{0.1938}$

#### **APPENDIX IV**

**Index Information: Inter-item  
Correlations for Selected Indices and Items**

TABLE XIV      Inter-Item Correlations on the Mass Media Use Index\*

Original Item Number	Item	Correlation Value**
Q. 30	Radio	.21
Q. 31	Newspapers	.37
Q. 32	Magazines	.33
Q. 33	Movies	.23
Q. 34	Television	.37

\*Source: Waisanen and Durlak, The Impact of Communication (op. cit.), p. 48.

\*\*The correlation values represent the correlation between each item and the sum of the other items in the index.

The index used in this research is a refined item consisting of the sum of responses on newspapers (Q. 31) and magazines (Q. 32).



TABLE XV Inter-item Correlations on the Autonomy Scale\*

Original Item Number	Abbreviated Item	Correlation Value**
(What is more important to you?)		
Q. 80	To be liked or successful	.32
Q. 80a	To be like others or different	.28
Q. 80b	To have more friends or more influence	.43
Q. 80c	To visit friends regularly or read newspapers	.23
Q. 80d	To have more friends or more money	.20

\*Source: Waisanen and Durlak, The Impact of Communication,  
(op. cit.).

\*\*The correlation value represents the correlation  
between each item and the sum of the other items in the index.

TABLE XVI Selected Items and Inter-scale Correlations: Smith and Inkeles' "Overall Modernity" Scale\*

Code	Abbreviated Question	Pearsonian R (S1)
EF-1	Poor but ambitious and hardworking man will: fail always to succeed <u>always</u> .	.183
EF-2	Accident prevention at work depends on: luck always to care <u>always</u> .	.338
EF-3	Man's position in life depends on: fate always to own effort <u>always</u> .	.386
EF-4	Can able, smart, industrious, ambitious boy succeed <u>against fate</u> : <u>completely</u> / partly/no.	.266
EF-5	Do you prefer job with <u>many/few/no</u> responsibilities	.335
EF-11	Which is most important for future of country: <u>work/government planning</u> / God/luck.	.434
EF-13	Will man some day understand nature: <u>fully/never</u> can.	.319
EF-14	If man explores nature's secrets (by science), is it: <u>good/bad</u> (ungodly).	.388
FS-1	What is the ideal number of children for man like yourself: <u>low</u> to high number.	--
FS-3	Limiting size of family is: <u>necessary/wrong</u> .	.370
FS-4	Is harmless pill contraceptive for wife: <u>good/bad</u> .	.338
FS-5	Should people take government advice on family size: <u>yes/no</u> .	.278
NE-2	Want to know stranger with different customs, speech or religion: <u>well</u> / prefer not.	.309
NE-3	In meeting people do you prefer to <u>meet new people</u> /see familiar ones.	.310
NE-4	Could you understand thinking of men of different religion: <u>yes/no</u> .	.353
NE-5	Could you understand thinking of man from distant country: <u>yes/no</u> .	.352

\*Source: D.H. Smith and Alex Inkeles, "The O.M. Scale: A Comparative Socio-Psychological Measure of Individual Modernity," Sociometry, 29, December, 1966, pp. 364-365.

## APPENDIX V

### Interview Schedule and Field Code\*

\*Source: UNESCO Study Questionnaire (translated from Spanish--June, 1966). See: Waisanen and Durlak, The Impact of Communication (op. cit.), p. 81.

Self Autonomy:Code\*

No. 80	Which is most important to you? To be liked by others? or to be successful in your work? Depends, don't know. On what?	1 = to be liked by others 2 = to be success- ful in your work 3 = depends, don't know 9 = no information
--------	---	--

NOTE: Try by all possible means that the respondents answers with "1" or "2," avoiding that way answers with "depends" or "don't know."

No. 80a	To be similar to other people you know -or- To be different from other people you know?	<u>Code</u>
		1 = to be similar to other people 2 = to be different from other people 3 = depends, don't know 9 = no information

No. 80b	To have many friends -or- To have lots of influence	<u>Code</u>
		1 = to have many friends 2 = to have a lot of influence 3 = depends, don't know 9 = no information

No. 80c	To visit friends regularly -or- To read a newspaper regularly	0 = not applicable 1 = to visit 2 = to read a news- paper 3 = depends, don't know 9 = no information
---------	---	--

\*Responses were recorded as follows:

"1" = "1" original code  
"2" = depends  
"3" = "2" original code

Self Autonomy: (continued)


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No. 80d	To earn enough money to live, as long as you have your friends	<u>Code</u> 0 = not applicable 1 = to earn enough money as long as you have friends 2 = to earn more money even if it means losing friends 3 = depends, don't know 9 = no information
	-or- To earn more money, even if it means losing some friends	

---

Physical Mobility:


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No. 50	How many times a year do you go to San Jose?	<u>Code</u> 0 = none 1 = once 2 = twice 3 = 3 to 5 times 4 = 6 to 8 times 5 = 9 to 11 times 6 = 12 to 15 times 7 = 16 to 20 times
--------	---	---

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Family Size


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No. 23a	Number of members of the family (living in the same household)?	<u>Code</u> exact number of members punched in 2 columns.
---------	---	--

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Age


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No. 23c	What was your age on your last birthday?	<u>Code</u> exact number of years punched in 2 columns
---------	---	---

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Formal Education


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	What was the last grade or year you completed in school?	<u>Code</u> exact number or grade punched in 2 columns
--	---	---

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Mass Media Use


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		<u>Code</u> 1 = yes (go to 31a) 2 = no (go to 31b) 9 = no information
No. 31	Do you read newspapers?	

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Mass Media Use (continued)


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	<u>Code</u>
No. 31a How many times a week?	0 = not applicable
	1 = 1 time or less
	2 = 2 times
	3 = 3 times
	4 = 4 times
	5 = 5 times
	6 = 6 times
	7 = 7 times
	9 = no information

---

	<u>Code</u>
No. 31b Is the newspaper read to you by others?	0 = not applicable
	1 = yes (go to 31c)
	2 = no (go to 32)
	3 = don't know
	9 = no information

---

	<u>Code</u>
No. 31c How many times a week?	0 = not applicable
	1 = 1 time
	2 = 2 times
	3 = 3 times
	4 = 4 times
	5 = 5 times
	6 = 6 times
	7 = 7 times
	8 = don't know
	9 = no information

---

	<u>Code</u>
No. 32 Do you read magazines?	1 = yes (go to 32a)
	2 = no (go to 32b)
	9 = no information

---

	<u>Code</u>
No. 32a How many times a month?	0 = none
	1 = 1 time
	2 = 2 times
	3 = 3 times
	4 = 4 times
	5 = 5 times
	6 = 6 times
	7 = 7 times
	8 = don't know
	9 = no information

---

Mass Media Use (continued)

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No. 32b	If answer is "no," ask:	0 = not applicable
	Are magazines read to you by others?	1 = yes
		2 = no
		9 = no information

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