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ACHIEVEMENT MOTIVATION AMONG COLOMBIAN PEASANTS

by

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with

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Diffusion of Innovations Research Report 5
Department of Communication
Michigan State University
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¿ Usted cree que una persona que nace pobre puede cambiar su situación económica? (Do you think that a person born in poverty is able to change his economic situation?)

Interviewer.

Sí, señor, para eso se necesita nada más, primero pensar, tener una aspiración como para seguir adelante y pensando hacer alguna cosa. (Yes sir, for this you need no more than first to think, to have an inspiration to go forward and so thinking, accomplish it.)

Peasant with high achievement motivation.

Ségun si Dios lo hecho para ser pobre, pobre y si Dios lo hecho para ser rico, rico. (Depending upon God, if He made one poor, he is poor. If He made one rich, he is rich.)

Peasant with low achievement motivation.

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Lastly, we wish to thank our Colombian peasant respondents for their cooperation in providing the data on which this report is based.

EXPLANATORY NOTE

The present publication is one in a series entitled "Diffusion of Innovations Research Reports." They are produced by staff members in the Department of Communication at the Michigan State University, and deal with the communication of technological innovations in the processes of social change and economic development, especially in less developed countries. This report series is one aspect of a research project sponsored by the U. S. Agency for International Development, Diffusion of Innovations in Rural Societies. Data-gathering is presently underway by research teams in Brazil, Nigeria, and India.

The present report presents results from a 1963-64 investigation of achievement motivation and agricultural development in Colombia, sponsored mainly by the Agricultural Development Council, New York. Diffusion researchers have long maintained that social and cultural values are important in affecting the adoption of new ideas. The present study tests this hypothesized relationship in the case of one important type of social value, achievement motivation, and proceeds to analyze the antecedents and other consequences of achievement motivation among Colombian peasants.

Following is a list of publications that are based on the same field investigation as the present report. They offer further detail on related findings, but only the first two papers utilize achievement motivation as the main dependent concept, while the others deal with achievement motivation as one of several independent variables studied.

1. Everett M. Rogers, "Achievement Motivation and the Adoption of Farm Innovations in Colombia," Paper presented at the Society for Applied Anthropology, San Juan, Puerto Rico, March, 1964.
2. Everett M. Rogers, Elssy Bonilla, and Eduardo Ramos, "Measuring Achievement Motivation Among Colombian Farmers," Paper presented at the Ninth Congress of the Inter-American Society of Psychologists, Miami, December, 1964.
3. Everett M. Rogers, "Comparative Study of the Process of Innovation: Information Sources in the Adoption Process for 2,4-D Weed Spray in Three Colombian Peasant Neighborhoods," Paper presented at the First Interamerican Research Symposium on the Role of Communications in Agricultural Development, October 5-13, 1964, Mexico.
4. Everett M. Rogers and Wicky L. Meynen, "Communication Sources for 2,4-D Weed Spray Among Colombian Peasants". Rural Sociology, 30: 213-219, 1965.
5. Everett M. Rogers and Johannes C. van Es, Opinion Leadership in Traditional and Modern Colombian Peasant Communities, East Lansing, Michigan State University, Department of Communication, Diffusion of Innovations Research Report 2, 1964.
6. Johannes C. van Es, Opinion Leadership in Colombian Veredas with Different Norms on Social Change, M. S. Thesis, Columbus, The Ohio State University, 1964.
7. S. Thomas Stickley, Socio-Economic Correlates of Levels of Living Among Farmers in Three Colombian Neighborhoods, M. S. Thesis, Columbus, The Ohio State University, 1964.

8. Elssy Bonilla, La Predicción de la Adopción de Hortalizas en Tres Comunidades Colombianas, Licenciatura Thesis, Bogotá, Universidad Nacional de Colombia, Facultad de Sociología, 1964.
9. Everett M. Rogers and Elssy Bonilla de Ramos, "Prediction of the Adoption of Innovations: A Progress Report," Paper presented at the Rural Sociological Society, Chicago, August, 1965.
10. Everett M. Rogers, "Mass Media Exposure and Modernization among Colombian Peasants," Public Opinion Quarterly, 29:614-625, 1965.
11. Everett M. Rogers and William Herzog, "Functional Literacy Among Colombian Peasants", Economic Development and Cultural Change, 14:190-203, 1966.
12. Everett M. Rogers, "Attitudes, Values, and Motivations of Subsistence Farmers: Toward A Subculture of Poverty," Paper presented at the Conference on Subsistence and Peasant Economics, Honolulu, Hawaii, East-West Center, March, 1965.
13. Eduardo Ramos, Client's Perceptions of Change Agents, M.A. Thesis, East Lansing, Michigan State University, 1966.
14. Elssy Bonilla de Ramos, Fatalism and Modernization in Colombia, M.A. Thesis, East Lansing, Michigan State University, 1966.
15. Teresa Kang Mei Chou, Homophily in Interaction Patterns in the Diffusion of Innovations in Colombian Villages, M.A. Thesis, East Lansing, Michigan State University, 1966.
16. Caeser Portocarrero, The Measurement of Empathy in Three Villages in Colombia, M.A. Thesis, East Lansing, Michigan State University, 1966.
17. Everett M. Rogers, Communication and Modernization among Colombian Peasants: Middle Range Analysis with Some Cross-Cultural Comparison, Book manuscript in process.

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ACHIEVEMENT MOTIVATION AMONG COLOMBIAN PEASANTS

by

Everett M. Rogers with Ralph E. Neill*

Chapter I

INTRODUCTION

Social scientists agree that one must understand social values before explaining and predicting human behavior. In spite of this widely held view, there is a disappointingly small number of investigations that sought to measure specific social values and utilize these measurements in predicting human decisions. The present study will deal with one type of value-orientation thought to be of particular importance in explaining both (1) individual differences in occupational excellence, and (2) differential rates of national economic development. This value-orientation is achievement motivation.

ACHIEVEMENT MOTIVATION

Achievement motivation is a social value which emphasizes a desire for excellence in order to attain a sense of personal accomplishment.** Achievement motivation has also been referred to as need for achievement, n Achievement,

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**This definition is based upon McClelland (1961 and 1963b, p. 76). At a later point in the present report, it will be argued that achievement motivation should be regarded as a rather special type of social value.

or n Ach. The social scientist most noted for his investigations of achievement motivation is David C. McClelland, a social psychologist at Harvard University. In many of the investigations by McClelland and his students until very recent years, the respondents were often college students and his measure of achievement motivation was a modified version of the Thematic Aperception Test (TAT). This type of projective technique may serve as a satisfactory measure under laboratory conditions, but does not lend itself well to field interviewing conditions with farmers.

Another type of projective technique, a scale composed of sentence-completion items, has been utilized in recent years to measure achievement motivation in field interviews. Morrison (1962) devised an achievement motivation scale containing eight sentence-completion items, which were scored according to a modified TAT scoring rationale based upon McClelland's work. In order to validate his scale, Morrison administered both McClelland's TAT measure and the sentence-completion scale to a sub-sample of 37 Wisconsin farmers. Generally similar, although far from equivalent, results were obtained with both methods of measuring achievement motivation. The advantage of the sentence-completion measure was that it required much less interview time to administer, was accepted more readily by the respondents, and was more easily scored than the TAT measure.

Replication studies were conducted in 1963 by Neill and Rogers (1963) with samples of 54 farmers in one Ohio county and with a state-wide sample of 79 Ohio farmers. They analyzed a sentence-completion measure of achievement motivation for reliability, internal consistency, and undimensionability. Their investigation, and that of Morrison, demonstrated that measurement of achievement motivation in field interviews with U. S. farmers is possible.

However, until the present investigation no attempts had been reported in the research literature to measure achievement motivation among peasant villagers in a developing society like Colombia. In fact, almost no research has been accomplished on achievement motivation in developing nations, especially among peasant respondents.

ACHIEVEMENT MOTIVATION AMONG COLOMBIAN PEASANTS

Why study achievement motivation among Colombian peasants? For one reason, because most descriptions of peasant life seem to imply it as characterized by extremely low achievement motivation. The life-situation of a peasant with its limited resources, blocked opportunities, authoritarian child-rearing, and long history of exploitation by others, tends to produce individuals with low achievement motivation. This viewpoint is clearly reflected in the anthropological-sociological writings of Fals Borda (1955), Reichel-Dolmatoff and Reichel-Dolmatoff (1961), and others about Colombian peasants. After their investigation of a Colombian Indian community, Reichel-Dolmatoff and Reichel-Dolmatoff (1961, p. 259) concluded:

The villager's fatalistic outlook on life results in failure to see a relationship between work and one's economic condition. Having enough is thought to be almost entirely due to 'luck' (suerte) and is never believed to be brought about or furthered by personal effort and initiative. This 'lucky' accumulation of wealth is suspected of being the result of shrewd, if not immoral, practices in business transactions, but work, in the sense of persistent individual effort, is never recognized as the reason back of success.

Fals Borda (1955) came to similar conclusions after his analysis of a peasant village in the Colombian Andes Mountains. He clearly pictures the

typical peasant as withdrawn and suspicious in his interpersonal relations with others, fatalistic in his outlook in life, and low in achievement motivation. "Resignation, docility, and fatalism were the natural result of the settled, unbending conditions created during colonial times" (Fals Borda, 1955, p. 245). Fals Borda argues that low levels of aspiration may be functional for peasants whose opportunities have historically been severely limited by pressure on their major resource, land.

Similarly, Rosen (1964) described one reason for the lower levels of achievement motivation that he found among Brazilian urban boys in comparison to their North American counterparts. "Where poverty is widespread and opportunity for advancement very limited, where only a few enjoy power and independence while most are powerless and dependent, the belief that the individual has little control over his environment is perhaps inevitable - and probably psychologically functional."

It is a widespread notion in Colombia that the rare individual with higher levels of achievement motivation (who is produced in a peasant village), is likely to migrate cityward where there may be greater opportunities to express his achievement values. One result of this selective farm-city migration is a drain of those individuals with higher levels of achievement motivation.

Nevertheless, one of the assumptions of the present study is that differences in achievement motivation exist among Colombian peasants; they are not a homogeneous group in this regard. It is further assumed that these differences in achievement motivation are measurable, and have important consequences for farming excellence.

Thus, the present investigation seeks to measure achievement motivation among Colombian peasants, a group whose levels of this value-orientation appear to be low (in comparison to other groups that have been studied), but where the consequences of achievement motivation are thought to be important.

OBJECTIVES

The main purposes of the present study are:

1. To develop a measure of achievement motivation that may be used in field interviews with peasants.
2. To determine the relationship of achievement motivation with certain of its antecedents such as childhood training and family structure, communication exposure, and modernization variables.
3. To determine the relationship of achievement motivation with certain of its consequences such as indicators of excellence in farming.

Also, a minor objective is to determine the degree to which the Colombian findings regarding antecedents and consequences of achievement motivation are cross-culturally consistent in a different cultural setting, such as India.

Chapter II

A THEORETICAL MODEL OF ACHIEVEMENT MOTIVATION IN ECONOMIC DEVELOPMENT

Since early times social scientists speculated about the process by which a nation changes from a state of tradition, primitiveness, and underdevelopment to a general state of modernism, "Westernization," and development. In recent years various theories have been advanced as to the nature of this development process, and especially as to the role of social and cultural values in social change and economic development.

The purpose of the present chapter is to briefly review what are considered the more relevant of these theories and to synthesize them into the theoretical model that serves to guide the present investigation. First, however, let us examine the meaning of social change and economic development.

SOCIAL CHANGE AND ECONOMIC DEVELOPMENT

Social Change

Social change is the process by which alterations in the structure and function of a social system occur. The social structure of a system consists of the various social statuses (such as divisions made on the basis of age, sex, or power classifications) and the interrelationships among these statuses. The fundamental unit of social function is role, the actual behavior of an individual is a social status. Thus, social change consists of alterations in the statuses and roles in a social system.

Various classifications of social change have been made.

1. Some changes are imminent in the sense that they originate from within the social system with little or no external influence. An example would be a new idea invented by a member of a social system and then adopted by his peers.

2. The second type of social change, contact change, is introduced from sources external to the social system under analysis. It may be of two types: (a) selective, or (b) directed. Selective contact change occurs when outsiders unintentionally or spontaneously communicate new ideas to members of a social system. The receptors of these innovations are left to their own choice and interpretation of the new ideas. Directed social change (sometimes called planned change) is caused by outsiders to the social system who, on their own or as representatives of programs of change, seek to introduce new ideas in order to achieve definite goals. An example of directed contact change was the introduction of Catholicism in Latin America by the Spanish and Portugese conquistadores. In the present era, government-sponsored programs to introduce technological innovations in agriculture, health, education, and industry provide many examples of directed social change.

Economic Development

The nations of the world today are often divided into two camps: the less developed and the more developed. Less developed countries are generally considered those with (1) a relatively low income per capita and low level of living, and (2) comparatively traditional methods of production and social organization. The process of economic development is often measured by the increase in per capita income, perhaps because this index is more easily computed and more often available than others.

Economic development is a type of directed social change, one in which new ideas are introduced in a social system in order to attain higher per capita incomes and levels of living and more modern production methods and social organization.

THEORIES OF ECONOMIC DEVELOPMENT

Weber

Weber (1930) postulated that the rise of capitalism in Europe was associated with a basic change in social values which occurred as a result of the Protestant Reformation. He described the essential elements of the Protestant Ethic (perhaps better called the Puritan Ethic) as a belief in the value of work, an emphasis upon savings and thrift, and a desire for upward social mobility. In a more general sense, Weber was pointing out the relationship between a change in social values and economic development.

Rostow

Rostow (1961) represents the viewpoint of several social scientists who conceptualize the economic development process as a series of stages. He has labelled these stages as (1) traditional society, (2) preconditions for take-off, (3) take-off, (4) drive to maturity, and (5) age of high mass-consumption. At the take-off stage, in which a widespread desire for economic development is expressed by the society, Rostow (1961, p. 50) recognized that a new type of entrepreneurship must emerge, "It is evident that the take-off requires the existence and the successful activity of some group in the society which is prepared to accept innovations....Under some human motivation or other, a group must come to perceive it to be both possible and good to undertake acts

of capital investment; and, for their efforts to be tolerably successful, they must act with approximate rationality in selecting the directions toward which their enterprise is directed." Rostow sought to explain the causes of take-off mainly in such economic terms as capital/output ratios and investment rates rather than in terms of shifts in social values. Nevertheless, Rostow recognized that a corps of entrepreneurs must arise at the take-off stage in order for economic development to occur, but he did not specify the social values that these new elites must possess.

Hagen

Hagen (1962, p. ix) sought to answer the question, "Why have the people of some societies entered upon technological progress sooner or more effectively than others?" The answer, Hagen felt, lies more in the social-psychological processes of childhood personality development, where social values are learned, than in such economic theories as the demonstration effect, the lump of capital argument, or the vicious circle of inadequate markets. Case histories of economic growth in several nations including Colombia are analyzed. Special attention is paid to the origins of different social values among Antioqueños (a province in Colombia) which lead them to become more successful entrepreneurs than Colombians of non-Antioqueño stock.* Hagen stresses the role of value changes in causing economic development, and suggests that two social values, achievement and autonomy, are most central to national economic development. These values

*This argument was originally expounded briefly in Hagen (1960-61), and later expanded in book form (1962).

are felt by Hagen to arise historically when some elite group in a traditional society suffers "withdrawal of status respect" by being conquered or through loss of political power. After a period of retreatism and inferiority, the offspring of these former elites emerge with a high value on achievement and autonomy as a result of low authoritarianism in their child-rearing. These relatively deprived minority groups then provide entrepreneurial ability for economic growth.

Entrepreneurship and Achievement Motivation

Most theories of economic development stress, or at least recognize, the importance of shifts in social values as a prerequisite to economic change. Hoselitz (1960) summed up this point of view when he stated, "...If economists specify (as they sometimes do) that, in addition to the various economic adjustments, a change in the social values cherished by a population is necessary [for economic development], they make a statement which is true, but, on this level of generality, meaningless, for it cannot be translated into operational terms." Thus, social values are considered central in any explanation of economic development, but are also very difficult to measure.

Values dealing with entrepreneurship are especially important in explaining economic development. Cole (1947) stated, "To study the entrepreneur is to study the central figure in modern economic history...the central figure in economics." For economic development to occur in a society, entrepreneurs must be present to introduce new techniques, to accept the risks of their innovations, and to manage their enterprises in an efficient and profitable manner. Some countries appear to breed entrepreneurs more readily than others, and this may lead to greater economic change in these nations.

Schumpeter (1934) early recognized the entrepreneur as the key figure in economic growth. He viewed the economy as pushed forward in sudden jumps by the efforts of key men who wanted to promote new products, exploit new sources of materials, and develop new markets. Yet in spite of Schumpeter's emphasis upon the important role of entrepreneurship in economic growth, there have been few investigations of this topic. The UNESCO Expert Working Group on Social Aspects of Economic Development in Latin America* listed as one of the sixteen research needs of highest priority, "Study of the role of entrepreneurs in Latin America and changing concepts of entrepreneurship and attitudes to it (social, political, psychological)." The significance of the type of research reported in the present investigation is also illustrated by the conclusions from the Inter-American Conference on Research and Training in Sociology.** Selected as a strategic area for social research was the role of entrepreneurs, their ideologies, and capacities for innovation.

Thus, while many social scientists have emphasized the crucial role of entrepreneurship in economic development, there have been few studies of this topic.

McClelland's Theory

McClelland (1961) sought to show that an essential ingredient of entrepreneurship is a social value that he called achievement motivation. In comparison to previous theories of economic development, that of McClelland has the advantage of a more limited scope, a sounder basis in social psychology, and a greater

*This listing of research needs may be found in de Vries and Echavarría (1963, p. 395).

**The conclusions from this conference are reported by Wood and Wagley (1961).

potential for empirical testing.

McClelland (1961, p. 11) emphasized that strictly economic factors alone could not explain economic development, "Interestingly enough, the economic theorists themselves seem to have always felt that sources of change in the economic system lay outside the system itself." He further stated, "Economists, sociologists and others have always known and have stressed increasingly in recent times the importance of values and motives in speeding up or slowing down the process of economic development" (McClelland, 1961, p. 393).

The central social value* in McClelland's model, achievement motivation, is important in explaining economic development. "In the social science of the future, economic development of a country must be understood not only in terms of such economic variables as rate of capital formation but also in terms of n Achievement levels (which apparently affect incremental capital-output ratios). Neither economic nor psychological variables by themselves are sufficient" (McClelland, 1963a, p. 172).

While not specifically defining achievement motivation***, McClelland equates it to an inner concern with achievement, a disposition to engage in activities in which doing well or competing with a standard of excellence are important.*** He emphasizes the point that achievement motivation is a desire

*A question might be raised at this point as to whether achievement motivation is a social value. Certainly, achievement motivation is somewhat different in nature than, for example, the social value on work. Nevertheless, in terms of commonly-accepted sociological definitions of social values, we feel that achievement motivation can be considered as a type of social value. Rosen (1964) prefers to speak of the "achievement syndrome," which he defines as including both achievement motivation and such "achievement values" as activism, independence, and future orientation. In general, however, most authors seem to regard achievement motivation as a rather special type of social value.

**McClelland's book, The Achieving Society, has been criticized by Hagen (1961) for its lack of a precise definition of achievement motivation.

***McClelland and others (1953, p. 110) stated, "Success in competition with some standard of excellence...is our generic definition of n Achievement." More recently, McClelland (1964a) regarded achievement motivation as "...a spontaneously expressed desire to do something well for its own sake rather than to gain power or love, recognition or profit."

for excellence, not so much for the sake of social recognition, but rather to attain an inner feeling of personal accomplishment. The similarity between achievement motivation and certain aspects of the Puritan Ethic was noted by McClelland (1961, p. 47), "Certainly, Weber's description of the kind of personality type which the Protestant Reformation produced is startlingly similar to the picture we have drawn of a person with high achievement motivation."

Figure 1 presents a paradigm of McClelland's basic model. A necessary factor in national economic development is the improvement of entrepreneurial ability at the individual level. An essential ingredient of entrepreneurial ability is achievement motivation, which in turn, is largely acquired in the family during childhood personality development. McClelland (1961, p. 341), like Hagen, emphasizes the importance of the nature of personality socialization in later economic development, "Something apparently happens in the family in childhood, beginning at least as early as the fourth or fifth year, which produces differences in n Achievement level, and much research attention has focused on trying to find out exactly what it is."

McClelland and his students* present a wide range of evidence for his hypothesized relationship between levels of achievement motivation and national economic development. The societies investigated range from ancient Greece, pre-Inca Peru, Spain in the Middle Ages, England from 1500 to 1850, twenty-two countries from 1925 to 1950, and thirty-nine countries from 1950 to 1958. Critics of McClelland's work have pointed to (1) the inadequacy of his measures of achievement motivation and economic development in some cases, (2) his implication that a causal relationship exists between achievement motivation

*These studies are summarized in McClelland (1961). Among the works of McClelland's students are Bradburn and Berlew (1961), Cortés (1961), and others.

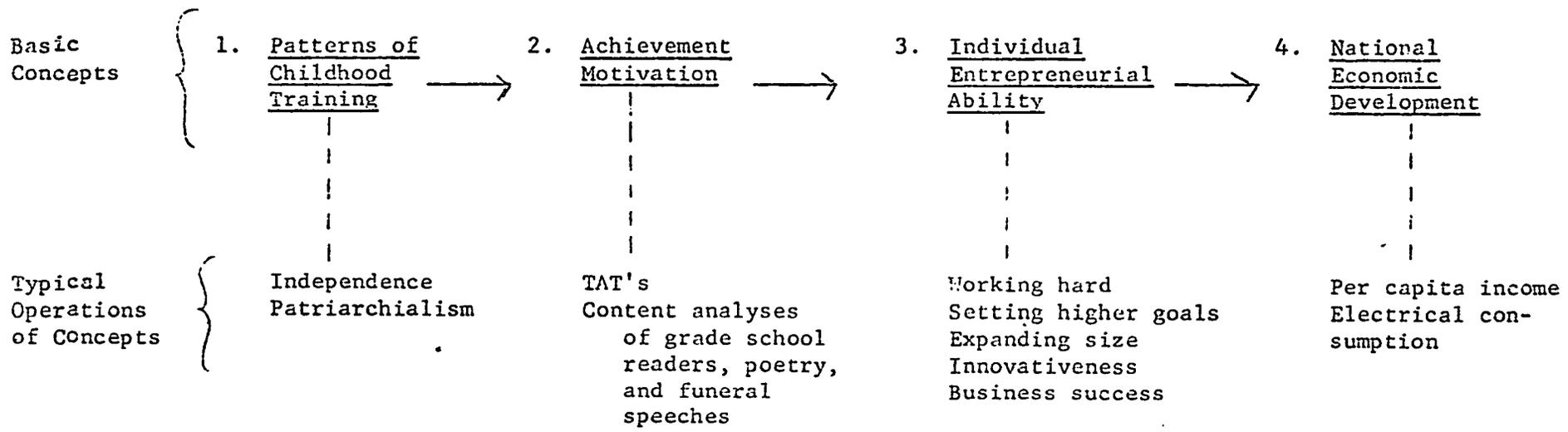


Figure 1. Paradigm of McClelland's Model of the Role of Achievement Motivation and National Economic Development

Source: Adapted from McClelland (1961).

and economic development, and (3) his common usage of nations as the unit of analysis.

McClelland's measures of achievement motivation in these investigations were usually content analyses of selected cultural expressions such as children's literature. The unit of analysis was generally a country. A positive relationship between achievement motivation and national economic development was found, although this relationship was often of rather low magnitude. While these types of data are of great importance, evidence where the individual is the unit of analysis is also needed, as Morgan (1963) pointed out, "What is needed for proof [of McClelland's basic hypothesis] is a series of studies of people's behavior of types that contribute to economic development - working hard, accepting new ways of producing and consuming, planning ahead, providing for their children's advancement. If these activities are found to be related to levels of the achievement motive both within and between countries, then new support is provided for McClelland's hypothesis."

Certain of McClelland's and his students' investigations have indicated that economic success at the individual level, as well as when nations are used as units of analysis, is related to achievement motivation. This relationship has been found true for U. S. businessmen (McClelland, 1961), Turkish businessmen (Bradburn, 1960, p. 103), and artisans in India (Fraser, 1961).

While correlational analysis can tell us much about the relationships of achievement motivation to other behaviors, it cannot prove that achievement motivation causes individual economic success and national economic development. The time-order aspect of cause-and-effect relationships* can better be determined by experiments over time, and McClelland and his followers have several recent analyses of this type which suggest that by raising levels of

*But probably not the "forcing quality" of one variable upon another, which is the other basic ingredient of cause-effect relationships.

achievement motivation through counseling or special training, the likelihood of greater success is increased among college students (Burris, 1958), high school underachievers (Kolb, 1963), or U. S., Mexican, and Indian businessmen (McClelland, 1964a and 1964b).

Thus, we may conclude that considerable evidence exists for McClelland's hypothesized relationships between achievement motivation and (1) individual entrepreneurial success, and (2) national economic development. However, no study has yet investigated this hypothesis among peasants in a developing country. The present investigation was designed to test a part of McClelland's model (Figure 1) with data from individuals in one developing country, Colombia, and in one sector of economic development, agriculture.

A THEORETICAL MODEL OF ACHIEVEMENT MOTIVATION IN AGRICULTURAL DEVELOPMENT

Achievement Motivation and Occupational Success

In the present investigation, achievement motivation is defined as a social value which emphasizes a desire for excellence in order to attain a sense of personal accomplishment. It is possible for an individual to display his achievement motivation in numerous types of competitive activity, such as school, sports, sexual behavior, or occupational success. In the present study, the primary concern is with the occupational consequences of achievement motivation. Justification for this limitation of achievement motivation at the operational level to occupational success is found (1) in the desire for comparison with the recent research of McClelland (1961), Morrison (1962)*, and Neill and Rogers (1963); and (2) in the conceptual importance of entrepreneurship (which is, in part, an occupational expression of achievement motivation) as an intervening

*Morrison (1962) stated, "By achievement-performance goal is meant concern with success in competition with some standard of excellence in occupational performance."

variable between levels of achievement motivation and national economic development. Thus, the present investigation is operationally limited to studying only the occupational consequences of achievement motivation.

Achievement Motivation and Agricultural Development

The present investigation is further limited to expressions of achievement motivation in one occupation, agriculture. Economic growth in a developing society must at first largely occur in the agricultural sector. Until farmers in a developing society adopt new agricultural technology and become more productive, adequate food cannot be provided for an increasing population, and the prospects of a rapid and balanced economic growth would be hampered. A surplus-producing agriculture is probably necessary for the success of national programs of development in any developing nation.

The average yield of corn in Colombia is only seventeen bushels per acre, wheat yields are less than half that of the United States, potato yields are only one-quarter that of Maine producers, and the cattle-inventory to cattle-slaughter ratio is three times that of the U. S. There appears to be ample opportunity for improving agricultural production in Colombia, and the national development plan for Colombia recognizes this necessity.

As Rostow (1961, p. 8) stated, "New techniques spread in agriculture as well as industry, as agriculture is commercialized, and increasing numbers of farmers are prepared to accept the new methods and the deep changes they bring to ways of life. The revolutionary changes in agricultural productivity are an essential condition for successful take-off; for modernization of a society increases radically its bill for agricultural products."

Figure 2 presents a paradigm of the theoretical model, closely based upon that of McClelland's utilized in the present study. Two basic hypotheses

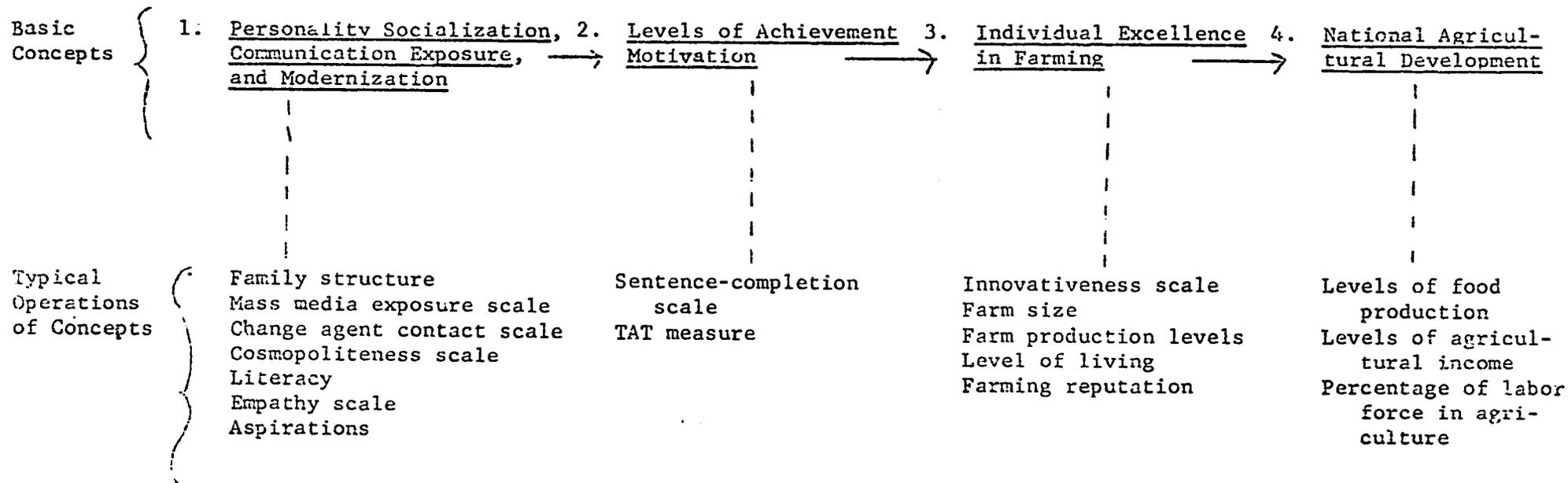


Figure 2. Paradigm of the Basic Model Utilized in the Present Investigation.

(corresponding to two of the objectives of the present study) that are tested in this investigation emerge from this model:

- I. Individual excellence in farming varies directly with levels of achievement motivation. This hypothesis deals with such possible consequences of achievement motivation as:
 - (a) Innovativeness (the degree to which an individual is relatively earlier than his peers to adopt innovations).
 - (b) Farm size
 - (c) Land tenure status
 - (d) Farm production levels
 - (e) Social status and level of living
 - (f) Reputation as a good farmer

- II. Levels of achievement motivation vary directly with the nature of family structure and personality socialization, communication exposure, and modernization variables. This hypothesis deals with such possible antecedents of achievement motivation as:
 - (a) Individual independence versus familism
 - (b) Parental authoritarianism, especially patriarchalism.
 - (c) Absence of the father from the home during childhood.
 - (d) Birth order
 - (e) Communication exposure to mass media and to change agents.
 - (f) Cosmopolitaness
 - (g) Literacy and education.
 - (h) Empathy
 - (i) Aspirations

Because the data in the present study are gathered only within one country, it is not possible to test a third hypothesis implied in the model, that levels of national agricultural development vary directly with individual excellence in farming, but this is almost a truism.

Chapter III

METHODOLOGY

AREAS SELECTED FOR THE INVESTIGATION

Selection of the Country

Colombia was chosen as the site for the present investigation for the following reasons:

1. The country represents a level of economic development somewhat higher than the median for Latin American countries, and, at present, has one of the fastest rates of growth. Hagen (1962, p. 353) stated, "Although the economic growth of Colombia during the past forty years has gone largely unnoticed by the world at large, one could count on one's fingers... the countries of the world whose rate of increase in per capita income during this period has been greater." Colombia's per capita gross national product was roughly doubled in the thirty year period since the mid-1920's, to somewhat more than \$265.00 in 1957.
2. An adequate base of operations for the investigation was available in the Facultad de Sociología in the Universidad Nacional de Colombia, Bogotá. This organization is one of the centers of social science teaching and research in Latin America, and offered experienced interviews, data-analysis facilities, and a compatible intellectual atmosphere for conduct of the present investigation.
3. In addition, one of the authors had previous experience in rural Colombia.

Colombia is the third largest country of South America. It is equal in area to the combined size of Texas and California, and has a total population of close to fifteen million. Colombia is the only country in South America to have seaports on both the Atlantic and Pacific Oceans. It has more cities of over 500,000 persons than any other country in Latin America. The eastern two-thirds of the country consists largely of llanos (plains) and jungle, and has less than two percent of the country's population. The western one-third of the country is mountainous, but has ninety-eight percent of the total Colombian population. This region is divided by the Andes Mountains into three finger-like cordilleros, which are separated by the Magdalena and the Cauca Rivers. The rich valleys formed by the two rivers are the centers of highly-developed agriculture. A savana (plateau) that lies 8,600 feet above sea level is located in the eastern cordillero. The capital and cultural center of Colombia, Bogotá, is located on this high central plateau.

There are wide sub-cultural differences within Colombia due to geographical diversity and lack of adequate transportation and communication facilities. For example, it was not until 1961 that a railroad link was established between Bogotá and an Atlantic coastal port. Expressions of sub-cultural differences are apparent in dress; speech patterns; racial composition; political, religious, and other attitudes; diet; level of economic development; degree of urbanization and industrialization; and level of living.

Selection of the Study Areas

It is difficult to speak of the typical Colombian. In fact, Colombia should really be thought of as composed of eight sub-cultural regions* shown in Figure 3.

*Smith (1956) stressed the importances of these sub-cultural differences. "...In Colombia, the mental luggage of the population of Nariño seems entirely different from that of the sturdy inhabitants of Antioquia and Caldas, or even from that of other parts of the republic such as Boyacá or Magdalena."



Figure 3. The Eight Sub-Cultural Regions in Colombia and the Six Communities of Study.

They are Costeño, Antioqueño, Santandereano, Cundi-Boyacense, Tolimense, Caucaño, Llanero, and Nariñense. It was considered desirable to select study areas most representative of Colombia, yet time and resources did not permit the collection of data in each of the eight sub-cultural regions. Therefore, three areas, shown in Figure 3, were selected to represent the mountainous coffee-growing area of Antioquia, the central Savana of Bogotá in the Cundi-Boyacense region, and the Southern mountainous region of Nariño.

In addition to a desire to select communities so as to maximize representativeness over the socio-cultural regions of Colombia, it was thought important to choose communities of study to represent a contrast in community norms on social change. In social systems that evaluated social change favorably, it was expected that individuals with high achievement motivation were less likely to be viewed as deviants, while in systems with traditional norms, those with high achievement motivation would be treated quite differently. Eisenstadt (1963) criticized McClelland's book, The Achieving Society, for its lack of consideration of the relationship of social system norms and achievement motivation.

What happened to people with a high n achievement in a society which does not approve of it and which does not provide various outlets for its developemnt? Would people in such societies perhaps become revolutionaries of religious innovators or undertake other activities?

Comparisons of findings dealing with achievement motivation will be made in the present publication on the basis of relatively modern and traditional community norms on social change.

DESCRIPTION OF THE COMMUNITIES

The six communities* that were studied will be described in the following section in order of their location on the traditional-modern continuum of community norms on social change. The communities** ranged from Támesis; to Pueblo Viejo, San Rafael, and Cuatro Esquinas; to Nazate and La Cañada (which is considered most traditional).

Municipio of Támesis

The Municipio of Támesis is located in the state of Antioquia, approximately 100 miles southwest of Medellin. There are almost 18,000 residents in the municipio, of which about two-thirds are rural.

Ninety percent of the farmers of Támesis own the land they operate. Támesis is characterized by a large number of small-sized farms located on steep mountain slopes. In fact, the municipio takes up the largest part of one mountainside.

The major crops of Támesis are coffee, which is grown at a medium altitude in a band across the width of the municipio, and bananas. Cultivated crops are corn, sugar cane, beans, and potatoes. The diversity of crops is largely due to the range in altitude in the municipio. The farms are generally small; over one-third are less than five acres in size.

*In terms of a strict definition of the term, the six research sites are not exactly communities. A Colombian vereda is probably most similar to a rural school district or a neighborhood in the Midwestern U.S. of the 1930's. A municipio (somewhat similar to a county) generally consists of several veredas. However, for the sake of simplicity of terminology in the present report, we will refer to the six research sites as communities.

**At one time the authors had planned to include a seventh community in their sample, Ariari, a recently-settled village in the Amazon River Basin of Colombia, but this village was later dropped due to its small size and the low quality data.

The level of living in Tamesis is higher than in the other communities studied. Eighty percent of the homes have electricity. The Federation of Coffee Growers, I. N. A. (Instituto Nacional de Abastecimientos), and Acción Comunal, have change agents working in the municipio to improve agricultural production and family living conditions.

Three Veredas of Facatativa

The three veredas of Pueblo Viejo, San Rafael, and Cuatro Esquinas are located on the western edge of the Savana of Bogotá near the town of Facatativa, which is the marketing center for the farmers of the area. While these veredas border the Savana, most of the farmland is located in the foothills of the Andes Mountains. The town of Facatativa provides most institutional services except for elementary education and such economic services as food and farm supplies, which are found in the veredas.

Pueblo Viejo

Pueblo Viejo is one of the relatively more progressive veredas near Facatativa, and contains ninety-three households. Most landowners have very small plots of land characteristic of the minifundia (small landholding) pattern of Colombia. However, there are also a few haciendas (large farms) in the community.

Agricultural extension service personnel from Facatativa spend one day each week in the vereda conducting programs of planned change. They cooperate closely with the local school teacher, who plays a very prominent role in introducing changes in the vereda. The extension program includes a community development council, a home economics club, a 4-S (similar to 4-H) club, and a marketing and supply cooperative.

The social center of the vereda is the school and the cooperative store. Both are located near the main road and are near the center of the vereda (although there are four or five other small tiendas and one tejo court in the vereda).

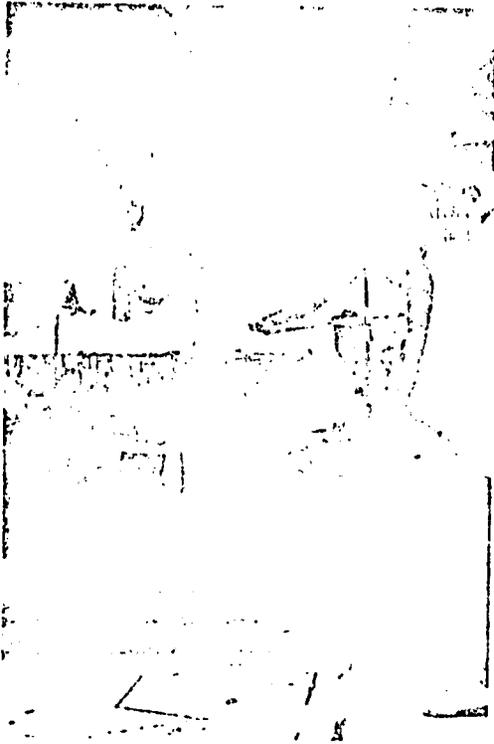
The main road passing through the vereda is of great importance in explaining communication patterns. A bus service operates three times daily along the main road to Facatativa, from where a bus leaves each hour for Bogotá. There are frequent contacts with Bogotá, and many of the youth migrate there to work in factories or as housemaids.

The major crops are potatoes, wheat, barley, and corn. Almost every farm has a few chickens, rabbits, hogs or sheep.

San Rafael

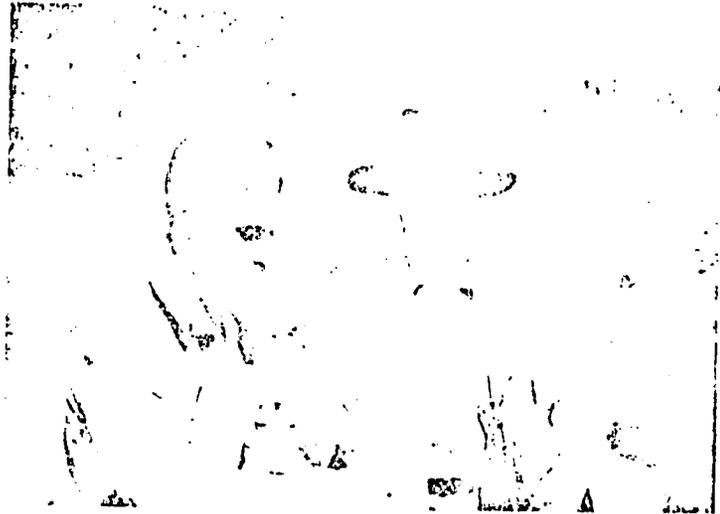
San Rafael, which contains sixty-one households, is located northwest of Facatativa. The homes are scattered along both sides of a two mile-long dead-end road that begins on the plain of Bogotá, crosses several ridges, and ends in a valley. The boundaries of the vereda are quite clear-cut, and consist of mountain ridges on three sides and the Savana of Bogotá on the fourth. The main crop grown by the small farmers is potatoes, while the hacendados are mainly cattle breeders.

The extension service has had an active program in the vereda since about 1959. Their organizations include a community development council, a home economics club, a 4-S club, and a cooperative store. The co-op was reorganized in 1962 after a near-failure the previous year. Presently, it functions with moderate success and has recently moved into a new building. A new aqueduct has recently been completed to supply water to some homes



Left - Market place in the town square of Tamesis.

Right - A farmer in San Rafael offers a drink a corn liquor to a guest.



Left - School children in Cuatro Esquinas aided in the distribution of letters informing farmers about the forthcoming interviewing.

near the co-op. Both projects were started by extension service personnel who also have a home improvement program underway.

There is no bus service in the vereda, and only a jeep or truck is able to traverse the entire distance of the dead-end road, and then not in rainy weather. As compared to Pueblo Viejo, San Rafael is somewhat more isolated, but the level of living is not lower; in fact, more than two-thirds of the farm households have latrines.

Cuatro Esquinas

Cuatro Esquinas, a vereda consisting of seventy-three households, is located about six miles northeast of Facatativa. The vereda stretches for about five miles along a passable road in the foothills off the plain of Bogotá. The center of the vereda is the school and a nearby tienda.

The extension service has had an active program in the vereda since 1961. Their program is generally similar to those in the other two veredas near Facatativa. In general, programs of directed social change in Cuatro Esquinas have been relatively less successful than in Pueblo Viejo or San Rafael.

Bus service is limited to Sunday and Tuesday mornings, and people of the vereda have relatively few contacts outside of the community. For most residents, transportation is by foot or animal, and then usually only to church services or to the market day in Facatativa.

Two Veredas of Nariño

The two veredas, Nazate and La Cañada, are located in the state of Nariño in the southwestern part of Colombia bordering Ecuador. This is a

very mountainous region and reputed to be one of the most traditional areas in Colombia. Two veredas in Nariño with somewhat different climates and sub-cultures, were selected for the present study.

Nazate

Nazate, located in the Municipio of Cumbal, is situated in a high valley that borders the Cumbal volcano. It has about sixty households, and is located near the Ecuadorian border (Figure 3). Most of the people of Nazate are naturales with completely Indian blood, Indian surnames, and a mixed Indian-Spanish culture. Only a few "white" people (really of mixed Indian-Spanish blood but with Spanish surnames) live in the vereda, and they are generally large landowners. Relations between the whites and the naturales are rather strained because of a feud about thirty years ago over possession of communal lands. The main crops grown are potatoes, wheat, and barley. The larger farmers are mostly cattle breeders.

Most of the houses are constructed of adobe with straw roofs and dirt floors. None of the homes have latrines, electricity, or running water. There are no active programs of Acción Comunal, extension service, or U. S. Peace Corps in Nazate, although they exist in other parts of the municipio.

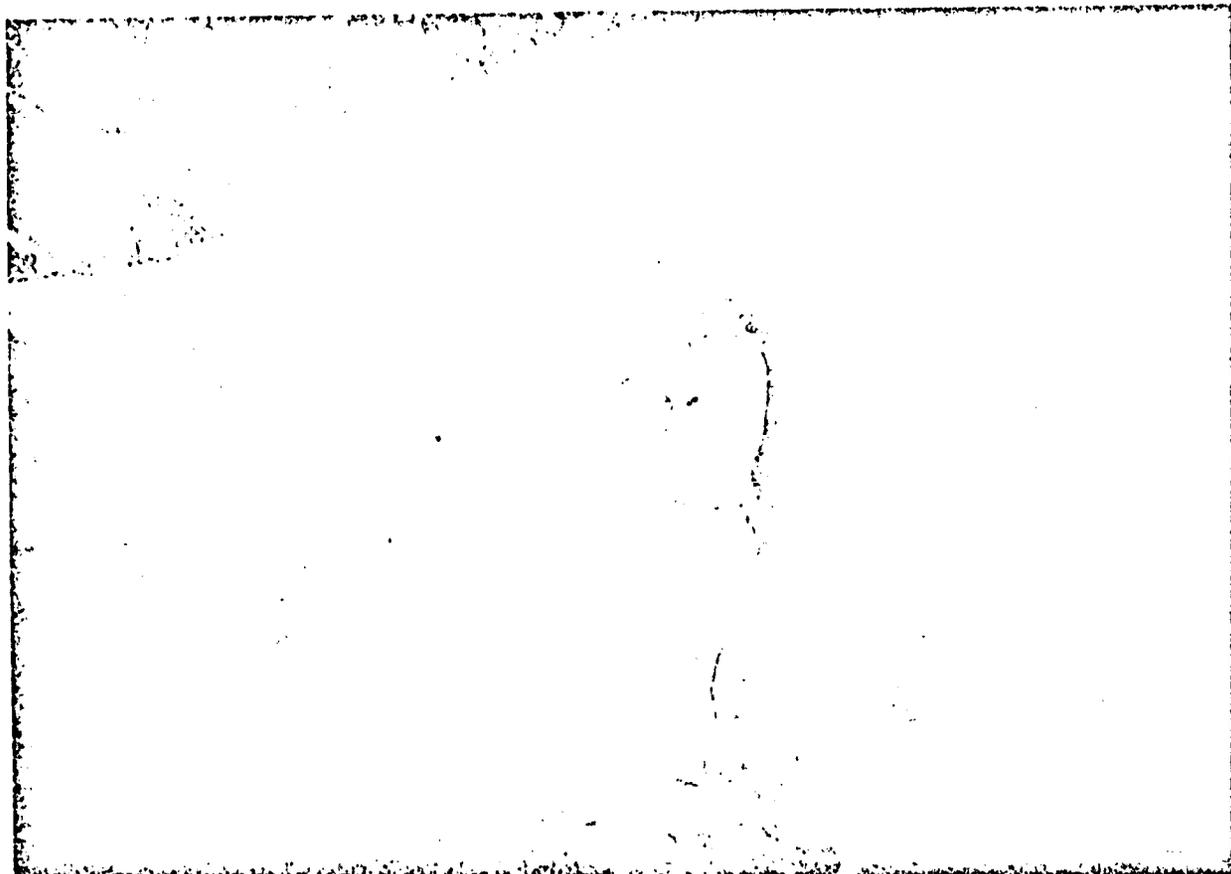
La Cañada

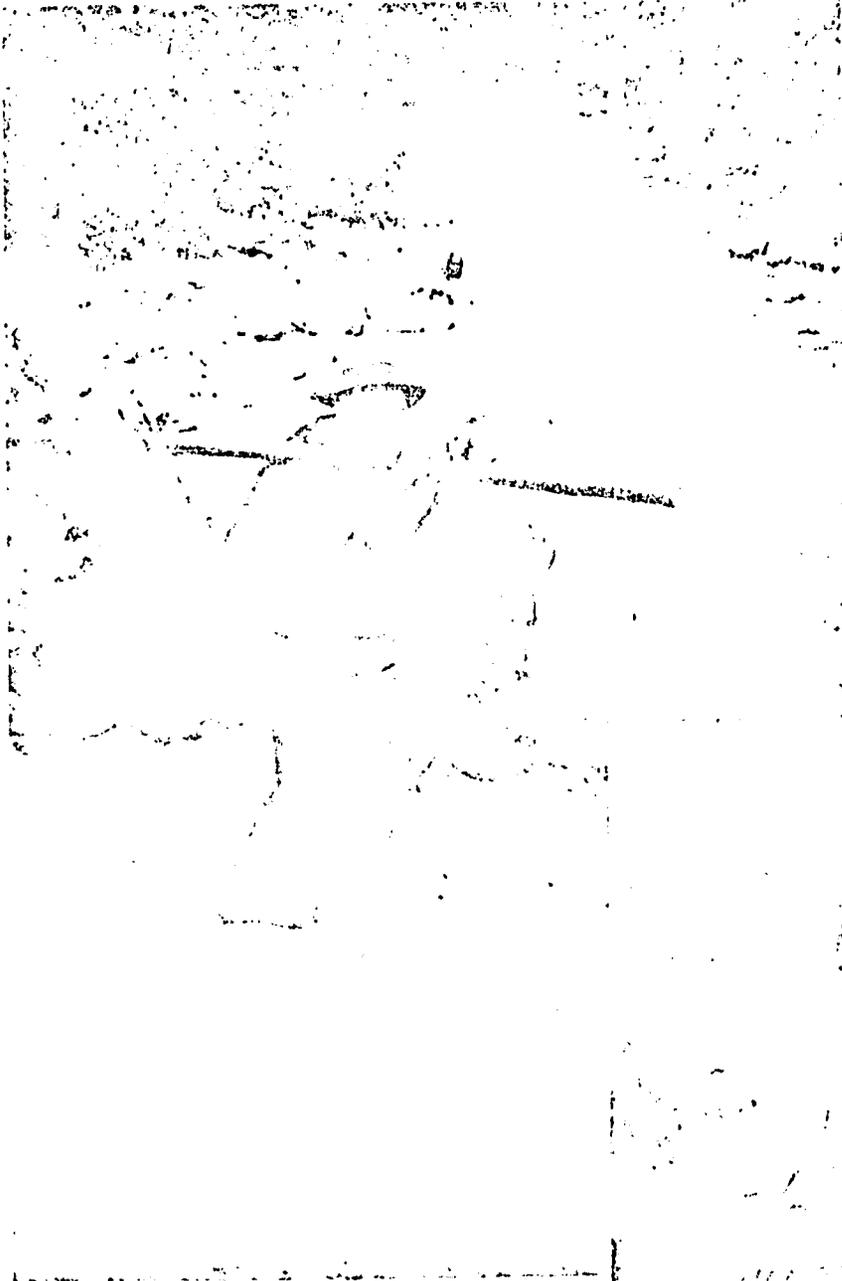
La Cañada, in the Municipio of San Pablo, is located on the northern edge of the state of Nariño. The municipio is divided by the River Mayo, which forms the northern border of the vereda. There are about sixty-five households in the community, which almost adjoins the town of San Pablo. A road runs the length of the vereda and ends in San Pablo.



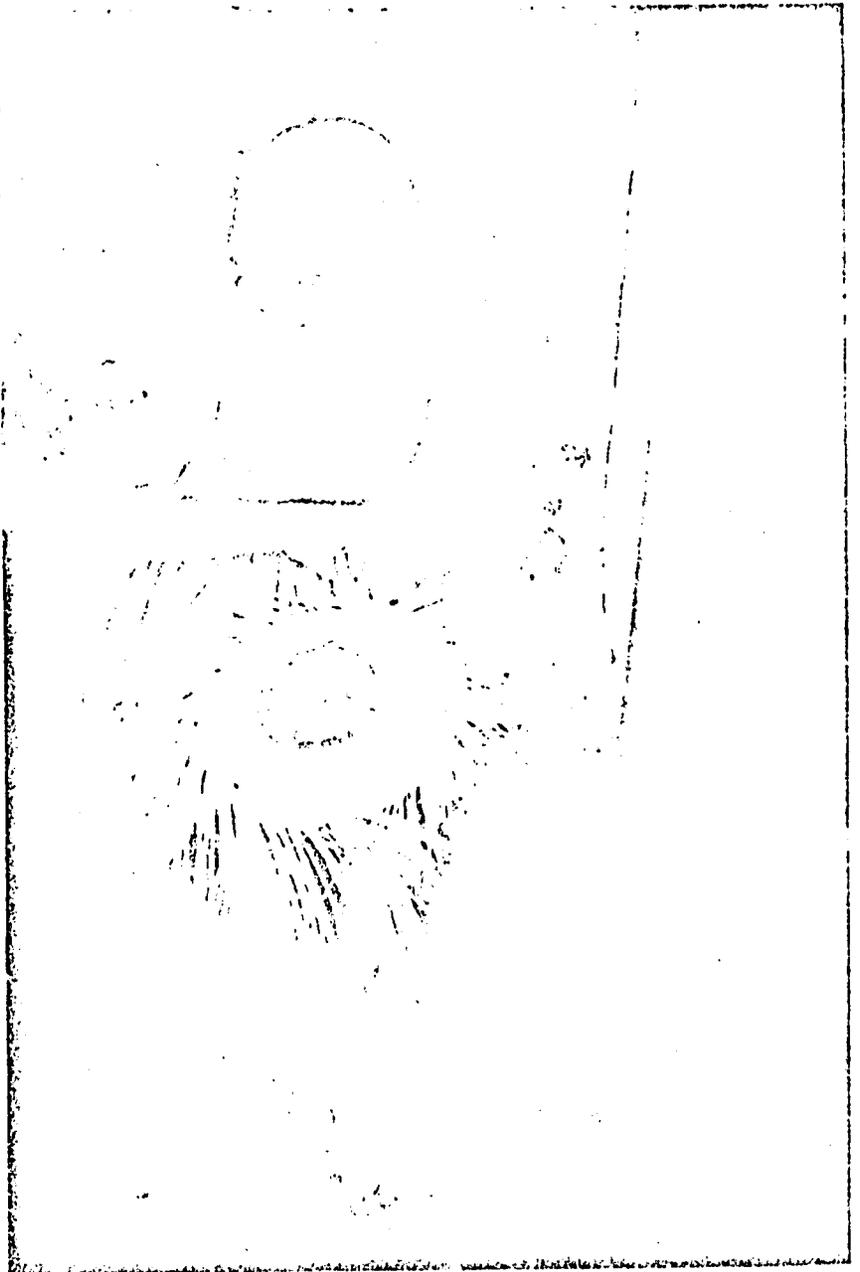
Above - The weekly market day in Nazate. Notice the steep slope of the irrigated land in the background.

Below - Water rusts no pipes in La Cañada where this boy wheels home a fresh supply from the river.





Left - This farmer in La Cañada is crossing a small river on his way to the municipio market to sell his chickens.



Right - The hand manufacture of "Panama" hats is a source of non-farm income for farmers and their families in La Cañada.

Minifundia is present to a high degree; only a few farms are more than one hectare (or 2.47 acres). In fact, the standard unit of land measure is the plaza (one-tenth of a hectare). The larger farmers raise coffee, while the smaller operators mainly grow corn, bananas, yucca, and anise.

The extension service does not operate in the vereda, but there is an office in nearby San Pablo. Their personnel feel that the people of La Cañada are not eager to help themselves through community development efforts. Two members of the U. S. Peace Corps installed electricity in about eighty percent of the homes in the vereda in 1961, but they did not undertake further work because of a lack of community cooperation.

Many persons of the vereda are physically and mentally degenerate. Much intermarriage has occurred among the families, and one result is many deaf, dumb, and physically-deformed persons. Syphilis is widespread, but most people refuse to visit a medical doctor in San Pablo.

Summary of Characteristics of the Six Communities

Table 1 presents a tabular summary of the salient characteristics of the communities. The data are drawn from personal interviews with residents of the communities, and from secondary sources. Farmers in the relatively more modern communities* are generally characterized by more education, higher rates of literacy, greater mass media exposure, larger sized farms, and higher adoption of farm and sanitation ideas.

*A detailed account of the ordering of these communities in terms of their norms on social change may be found in Rogers and van Es (1964).

1. Characteristics of the Six Communities.

Characteristics	Tamesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
Mean Years of Education of Respondent	3.2	1.6	2.1	2.2	1.2	1.8
Percentage of Respondents Who Are Functionally Literate	--	27%	39%	49%	24%	15%
Percentage of Respondents Reading* a Newspaper at Least Once a Week	--	54%	61%	67%	22%	18%
Percentage of Respondents Reading* a Magazine at Least Once a Month	--	18%	17%	19%	0	11%
Percentage of Respondents Having Seen a Film in the Past Year	--	69%	72%	63%	0	20%
Percentage of Respondents Listening to Radio at Least Once a Week	--	55%	56%	68%	56%	35%
Percentage of Respondents Using Chemical Fertilizer	--	90%	94%	95%	72%	8%
Percentage of Respondents Possessing a Latrine	--	8%	78%	60%	0%	43%
Median Farm Size in Acres	13.8	14.2	21.8	19.7	2.5	2.5
Major Crop Grown	Coffee	Potatoes	Potatoes	Potatoes	Potatoes	Coffee

*In the case of both newspaper and magazine exposure, these percentages also include someone else reading to the respondent.

SAMPLING PROCEDURES AND FIELD INTERVIEWING

Because of the wide sub-cultural differences among the three study areas, somewhat different sampling procedures were necessary in each area. However, standard criteria for inclusion of a household in the sample was used in each community. All respondents were (1) the head of the family, and (2) were the most influential family member in making farm decisions. These criteria excluded family heads who were employed only in non-farm work or who worked only as farm laborers. Both farm owners and renters were included. Most respondents were males, but a few widows were included in the sample because they were family heads who made the farm decisions.

A somewhat different interview schedule was utilized in each study area, but a generally similar list of concepts was measured in each. For instance, innovativeness (defined as the degree to which a farmer is relatively earlier to adopt new ideas than his peers) was measured by the relative time of adoption of various new farm ideas. Naturally, the farm innovations studied were somewhat different in each community, but the concept measured was the same in each area.

The interview schedule was extensively pretested in each study area, and appropriate alterations resulted. Travel to the homes of the respondents by the interviewers was by auto, horseback, or on foot, depending on local transportation facilities. The interviewers were instructed to introduce themselves as students from the Facultad de Sociología at the Universidad Nacional de Colombia.

Municipio of Tamesis

A member of the research team spent approximately one month in the Municipio of Tamesis as a participant observer, gathering basic data from which the interview schedule was constructed. The final schedule required approximately one hour to complete. Data were collected in late November, 1963. The interviewers were two investigators from the Facultad de Sociología, and three local high school graduates.

The investigation was conducted jointly by the Land Tenure Center of the University of Wisconsin and the present research project. Data on both land tenure problems and achievement motivation were gathered from the same respondents.

A sample of 100 rural families was drawn from the total of about 1,000 in the municipio, in a fashion which was intended to be representative of the rural sections of the municipio. An average of ten interviews were conducted around each of ten different schools scattered throughout the municipio. Due to the lack of accurate municipio maps and a list of families in the area, the sampling methods used were considered the best possible substitute for a random sample.

Of the 100 families interviewed in Tamesis, fifty-three schedules were unusable in the present study because the respondents were either (1) not farmers, or (2) not the head of their household. Almost all of the fifty-three unusable interviews resulted from interviews with some other family member than the head.*

*The interview schedules obtained from other family members than the head were discarded because the data on achievement motivation obtained from a farmer's wife is certainly not the same as that obtained from the farmer.

Three Veredas of Facatativa

One of the project staff members spent considerable time in Facatativa during October, 1963, as an observer gathering information from which the interview schedule was constructed. The schedule was pretested in late October, 1963, with about seventeen farmers. The final schedule required about one hour to administer.

Data were collected during November and early December, 1963. Interviews were conducted by twelve students (all of whom had completed at least three years of university training and had previous interviewing experience) from the Facultad de Sociología, and one employee of an agricultural research farm near Bogotá, who was a university graduate.

Pueblo Viejo

The sample in Pueblo Viejo consisted of sixty-seven respondents. The vereda included a total of ninety-three households, and seventy-seven households met the criteria for interview. Even after as many as five call-backs, including Sundays, it was impossible to contact six respondents, most of which lived in the remote sections of the community. Four farmers refused to be interviewed. Thus, completed interviews* were obtained from sixty-seven (eighty-seven percent) of the seventy-seven eligible respondents (Table 2).

San Rafael

The vereda of San Rafael included a total of sixty-one households of which forty-five were eligible for interview. Most of the ineligible worked

*Of the completed interviews, one was conducted with a farmer who resided outside of the vereda, but who farmed land in the vereda.

as farm laborers on large haciendas. Five farmers refused to be interviewed, and four could not be contacted after five visits to their homes. Thus, thirty-six interviews (eighty percent) were completed* out of the forty-five persons eligible (Table 2).

Cuatro Esquinas

Cuatro Esquinas contained a total of seventy-three households of which sixty-eight were eligible for interview. However, eight farmers could not be contacted after repeated call-backs to their homes; six of these resided outside of the vereda, but farmed land in the vereda. Three interview schedules were discarded from the final analysis due to insufficient data, generally indicating poor rapport during the interview. A total of fifty-seven completed** interviews (eighty-four percent of the sixty-eight eligible) were obtained (Table 2).

Two Veredas of Nariño

Basic data were collected for construction of the interview schedule by the project staff in La Cañada and Nazate during December, 1963, and January, 1964. The schedules used in the two veredas were similar except for the adoption of farm practices scales. Pretesting was conducted in January, 1964. The final schedule required about one hour to complete. Personal interviews were completed during January, 1964. The four interviewers from the Facultad de Sociología all had had previous interviewing experience.

*One of the completed interviews was conducted with a farmer who resided outside of the vereda, but who farmed land in the vereda.

**Two of the completed interviews were conducted with farmers who resided outside of the vereda, but who farmed land in the vereda.

Table 2. Results of Personal Interviewing in the Six Communities.

Results of Personal Interviewing	Támesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada	Total
1. Residents in the Community Not Eligible for Interview	53	16	16	5	12	6	108
2. Eligible Respondents From Whom Completed Interviews Were Not Obtained		10	9	11	4	0	34
a. Could Not Be Contacted After Several Call-Backs	--	6	4	8	0	0	18
b. Refused To Be Interviewed	--	4	5	0	1	0	10
c. Schedules Discarded Due to Incomplete Data	---	0	0	3	3	0	6
3. Completed Interviews	47	67	36	57	41	54	302
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
TOTAL	100	93	61	73	57	60	444
Percentage of Completed Interviews from Those Eligible	100%	87%	80%	84%	91%	100%	90%

Nazate

There are fifty-seven households in Nazate. A list of the heads of households was secured from a vereda census completed by the local priest in 1961. All fifty-seven households were contacted; however, twelve did not meet the criteria for interview, and one refused to be interviewed. Three schedules were not usable for analysis due to lack of adequate information on achievement motivation. Thus, forty-one usable interview schedules (ninety-one percent of those eligible) were obtained (Table 2).

La Cañada

Sixty heads of households were contacted by the interviewers. Six did not meet the criteria for interview, and fifty-four farmers were interviewed. There were no refusals, and all schedules were usable for analysis (Table 2).

Tape-Recorded Interviews

Two types of interviewing methods were used in the present investigation: (1) most of the data were gathered by personal interviewing with a prepared schedule, and (2) these data were supplemented by less structured interviews using a tape recorder. The tape recordings were used mainly (1) in an attempt to determine some of the antecedents (in the personality socialization process) to achievement motivation, (2) to determine additional consequences, and (3) to administer the Thematic Aperception Test (TAT) measure of achievement motivation (developed by McClelland) to sub-samples of highs and lows on the sentence completion achievement motivation scale. The tape-recorded interviews were conducted with those

respondents who scored the highest (approximately five percent in each community studied except Tamesis) on the sentence-completion achievement motivation scale, and with the respondents who scored the lowest (approximately five percent) on the sentence-completion scale.

The tape-recorded interviews were conducted by a fourth-year student (somewhat comparable in social science training to a first year graduate student in the U. S.) in the Facultad de Sociología, Universidad Nacional de Colombia. Each interview was approximately forty minutes in length. An interview guide was used : that a similar list of topics was included in each interview, but most of the standard questions were memorized by the interviewer. These were interspersed with probe questions. A small battery-operated tape recorder was utilized. Neither the tape recorder nor the four TAT pictures that were utilized seemed to harm interview rapport.

Summary of Field-Interviewing

A resumé of the field interviewing procedures in the three study areas is shown in Table 3. A total of 302 personal interviews using an interview schedule, and 23 tape-recorded interviews, were completed.

SCALE ANALYSIS

The present section presents the methodology by which a sentence-completion measure of achievement motivation was developed and utilized in the present study.

Table 3. Summary of Data-Gathering in the Six Colombian Communities

Community Studied	Location of Community	Type of Sample	Number of Usable Interview Schedules Completed	Percentage of Eligible Farm Households From Which Usable Interview Schedules Were Obtained	Number of Tape-Recorded Interviews Completed
Támesis	Departamento de Antioquia	Modified random sample of areas within <u>municipio</u>	47	100%	0
Pueblo Viejo	Departamento de Cundinamarca	All household family heads influential in farm decisions in the <u>vereda</u>	67	87%	5
Sar. Rafael	Departamento de Cundinamarca	"	36	80%	4
Cuatro Esquinas	Departamento de Cundinamarca	"	57	84%	3
Nazate	Departamento de Nariño	"	41	91%	6
La Cãnada	Departamento de Nariño	"	54	100%	5
TOTAL			302	90%	23

A Sentence-Completion Scale for Achievement Motivation

Past research and theory suggested the impossibility of measuring achievement motivation with direct questions. Individuals often have inaccurate perceptions of their level of achievement motivation. A TAT-type measure of achievement motivation has been widely used by McClelland and his associates, especially with college student respondents. However, the TAT measure requires considerable time to administer to respondents in field interviews (our experience indicated this was somewhat more than one-half hour in the case of Colombian farmers), and seemed to encounter some resistance by our respondents when they were asked to tell stories about what was going on in the four TAT pictures. They would answer probe questions about the TAT pictures, but generally would not volunteer stories or lengthy answers.

The previous research of Morrison (1962) and Neill (1963) suggested that a sentence-completion measure of achievement motivation could be developed for use with farmers. It could be administered in a few minutes of interview time, would encounter less respondent resistance than the TAT, and could be more easily adapted to peasant conditions in rural Colombia.

Only sparse and somewhat contradictory evidence existed in the research literature* on the use of sentence-completion items as a measure of achievement motivation until the Morrison (1962) study among Wisconsin farmers.

*Studies which have utilized sentence-completion measures of achievement motivation are Lindzey and Heinemann (1955), McClelland and others (1953, pp. 254-257), and Mitchell (1961).

He developed an eight-item, sentence-completion measure of achievement motivation. The items were constructed on the basis of McClelland's scoring rationale for the TAT measure. Typical items were "A farmer today should...", "A good farmer...", and "A 400 acre farm...". The responses were scored using a version of McClelland and others' (1953) scoring guide. Morrison correlated achievement motivation scores with various economic indicators of excellence in farming for a sample of 335 Wisconsin farmers; the relationships he found were often in the expected direction, but many were not significantly different from zero.

Not only did Morrison find some evidence for the "construct validity" of his sentence-completion measure (that is, his scale behaved about as expected in its relationship to measures of farm success), but he also administered the McClelland-type TAT measure of achievement motivation to a sub-sample of thirty-seven of his respondents. He found a Spearman rank-order correlation of +.33 between the TAT and the sentence-completion measure, which was significant at the five percent level. Both measures tended to operationalize the same concept (although far from identically), and the sentence completion did so in a more appropriate manner in terms of farmer respondents.*

Neill (1963) utilized an almost identical set of sentence completion items (to those of Morrison) with a sample of 46 Ohio farmers in 1963. He also found correlations with economic success in farming in the expected direction, but most were low and few were significant. Similar results

*Furthermore, Morrison (1952) reported that his sentence-completion scale correlated at least as consistently (that is, as expected on the basis of theory) with measures of farm success as did the TAT measure of achievement motivation.

were reported by Neill and Rogers (1963) for a statewide sample of 79 Ohio farmers.

Both the Wisconsin and the Ohio studies generally indicated the potential for measuring achievement motivation among farmers with sentence-completion items. However, the researchers did not feel they had developed a very adequate set of scale items. Further, no attempt had been made to measure achievement motivation with sentence-completion items in a developing country like Colombia*, where farmers are obviously much different than in Wisconsin or Ohio.

Validity

A scale is said to be valid if it measures the concept that it is designed to measure.** Although it is the most critical aspect of scale analysis, validity is the most difficult to determine.

Four methods are commonly utilized to determine the validity of scales. The first, logical validation or "face validity," is a type of common sense analysis. For example, the achievement motivation scale would have face validity if it contained items consistent with the definition of the concept. While logical validation is undoubtedly an important consideration in the construction of any scale, one's intuitive judgment of scale items lacks the precision of more objective measurement.

A second method for determining scale validity, jury opinion, is similar to the first approach except that the judgment of validity is

*However, Phillips (1965) reported utilizing sentence completions with Thai peasants, although not to measure achievement motivation.

**Validity, as well as other aspects of scale analysis, is discussed in Havens and others (1965).

secured from several knowledgeable persons about the concept being measured. Opinions of colleagues in the Facultad de Sociología of the Universidad Nacional de Colombia were solicited in the original development of about thirty-five sentence-completion items to measure achievement motivation among Colombian farmers; some items of doubtful validity were discarded at that time on the basis of jury opinion.

Known groups are a third method for measuring scale validity. In this method, the scale is administered to two categories of individuals who are known to be high and low on the dimension that the scale seeks to measure.

A fourth method for determining scale validity is to relate the scale with an independent criterion, or measure of the same concept*. Morrison's (1962) findings indicate a positive but low relationship ($r = +.33$) between the present type of sentence completion measure of achievement motivation and the TAT measure.

In the present investigation, the four-picture TAT measure of achievement motivation utilized by McClelland and his associates was administered to those respondents in five of the six communities who were highest (14 respondents) and lowest (9 respondents) in achievement motivation as measured by the sentence-completion scale. The persons and scenes shown in the four TAT pictures were North American, but they seemed to be equally applicable in Colombia. The persons shown have dark hair and their exact

*In one sense, this type of validity measure is quite similar to the known groups approach, except that the validity measure is often continuous instead of dichotomous.

features are somewhat blurred. None of our respondents mentioned that the TAT scenes were non-Colombian.*

The four standard probe questions about each of the TAT pictures were utilized (after translation to Spanish), and the resulting protocols were scored by two judges according to the method described by McClelland and others (1953), after the tape recordings were transcribed in written form.** Some difficulty was encountered in scoring the TAT protocols due to the lack of detail in the respondents' answers to the probe questions. As mentioned previously in this report, many of the respondents only provided short and rather direct answers, rather than telling full stories about the pictures.

The difference in mean TAT achievement motivation scores for those extremely high and low on the sentence completion achievement motivation scores was not significant and slightly opposite to the direction expected. That is, the "highs" in the sentence-completion scale were lower on the TAT measure of achievement motivation. This lack of relationship between the two measures is difficult to explain, but of the two measures, the TAT operation

*Rosen (1964) utilized the same four TAT pictures with respondents in two Brazil cities and concluded that "Careful pre-testing in Brazil indicated that the pictures appeared as natural to Brazilians as they had to Americans...." However, Tumin (1961, p. 75) deemed it necessary to redraw the TAT pictures before using them with Puerto Rican respondents.

**The transcriptions were kept in Spanish because of the possible danger of losing cultural meanings of certain expressions through the process of translation. The two judges who scored these protocols for level of achievement motivation were Colombian advanced students in sociology who were thoroughly trained by the present authors in the methods of scoring described by McClelland and others (1953) and Smith and Feld (1958).

is more suspect*. The small number of respondents with which both measures were used is also a possible reason for the inconclusive findings.

Nevertheless, on the basis of experience in using both measures of achievement motivation with Colombian peasants, the authors and field interviewers are unanimous in concluding that the sentence-completion measure was much more appropriate to the present data-gathering situation.

Internal Consistency

Internal consistency is the degree to which items in a scale measure the same dimension. The degree of internal consistency of scale items may be determined by (1) intercorrelations among all scale items, (2) item-to-total score correlations, (3) cluster analysis, (4) factor analysis, or with other methods. The first two methods were utilized in the present investigation with data from each of the six communities.

Item-Total Score Correlations

The correlation between each scale item and total scores is one indication of internal consistency because the total scores represent the best available measure of the concept. These item-total scores correlations are somewhat spurious because the contribution of each item is also included in the total scores, but this difficulty is less serious with greater numbers of scale items. Extremely high or negative correlations are usually

*After the present scale analysis was largely completed, the authors encountered the conclusions of Morrison (1964) with which we agree on the basis of the present results, "While these data hardly provide a firm basis for concluding that the TATs and Sentence-Completions are tapping the same dimension, they seem to give some support to this notion. They most certainly do not give a basis for regarding TATs as an unequivocally 'known' measure of II Achievement for a sample of this sort."

not desired as a too-high correlation indicates that a scale is not needed, because one scale item will measure the same dimension (although less reliably) as the total scale, while a negative correlation indicates that the scale item contributes nothing to the measurement of the desired dimension.

An early version of the sentence completion scale composed of nineteen items was pretested in a rural community on the Savana of Bogotá in October, 1963, with a sample of twenty farmers (Villamizar, 1963). Five of the scale items* were then discarded on the basis of their low internal consistencies.

Of the remaining fourteen items all were included in the interview schedules utilized in the three Facatativa communities and twelve of the fourteen items were used in Tamesis, Nazate, and La Cañada.

As can be seen from Table 4, some of the item-total score correlations were negative and others were very low. Accordingly, the items with the lowest item-to-total score correlations in each community were then dropped from the scale. The final items included in the sentence-completion scale for each community are shown in Table 5, with the internal consistency correlations of each item with the total scores (these correlations were re-computed after certain items were dropped from each scale). A rather high degree of internal consistency can be noted in Table 5.

A somewhat different set of scale items was utilized to measure achievement motivation in each community. This may be due in part to the sub-cultural

*The five scale items that were discarded are: (1) "The thing most necessary is...", (2) "Not to have sufficient land is...", (3) "To make a farm produce, one should...", (4) "To have 10 acres of land is...", and (5) "Agriculture in our country should be...." These scale items are translated literally from Spanish.

Table 4. Item-to-Total Score Correlations for the Fourteen-Item Sentence-Completion Achievement
Motivation Scale for Six Colombian Communities.

Scale Items	Item-to-Total Score Correlations for the Six Communities					
	Támesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
1. "If I lost an arm in an accident at work (or on my farm), I would..."	.47*	-.17	.03	-.17	.46*	.54*
2. "For a better life on my farm, I need..."	.12	.32	.03	.30	.67*	.26*
3. "I wish that my eldest son..."	.27*	-.18	.38	.30	.50*	.39*
4. "In the next 10 years, I'm going to..."	.70*	.26*	.52*	.35*	.60*	.56*
5. "My greatest aspiration in life is..."	.33*	-.12	-.30	-.14	.73*	.56*
6. "The thing most necessary for my farm is..."	.08	.40*	.40*	.30*	.46*	.33*
7. "Today, to have success in farming, one..."	.33*	-.16	.10	-.04	.52*	.42*
8. "Farmers in this country need..."	.13	.41*	.43*	.43*	.43*	.28*
9. "A good farmer must have..."	.32*	.12*	.32*	.28*	.42*	.35*
10. "That which I wish to do on my farm in the future is..."	.59*	-.13	.23	.02	.66*	.61*
11. "A good man is one that..."	.30*	.50*	.66*	.55*	.22*	.23*
12. "If my work did not progress, I..."	.30*	.48*	.54*	.22*	.62*	.24*
13. "To have 15 head of cattle is..."	----	.45*	.28*	.34*	----	----
14. "To earn a good return from farming, a farmer must have..."	----	.30*	.18*	.29*	----	----

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*These items were selected for the final version of the scale on the basis of their relatively higher item-to-total score correlations.

Table 5. Item-to-Total Score Correlations for the Final Versions of the Sentence-Completion Achievement Motivation Scale for the Six Colombian Communities.

Scale Items	Item-to-Total Score Correlations for the Six Communities					
	Tamesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
"If I lost an arm in an accident at work (or on my farm), I would..."	.26	----	----	----	.46	.54
"For a better life on my farm, I need..."	----	----	----	----	.67	.26
"I wish that my eldest son..."	.27	----	----	----	.50	.39
"In the next 10 years, I'm going to..."	.70	.38	.50	.55	.60	.56
"My greatest aspiration in life is..."	.28	----	----	----	.73	.56
"The thing most necessary for my farm is..."	----	.45	.44	.21	.46	.33
"Today, to have success in farming one..."	.46	----	----	----	.52	.42
"Farmers in this country need..."	----	.43	.33	.39	.43	.28
"A good farmer must have..."	.39	.49	.28	.46	.42	.35
"That which I wish to do on my farm in the future is..."	.60	----	----	----	.66	.61
"A good man is one that..."	.41	.46	.36	.13	.22	.23
"If my work did not progress, I..."	.36	.57	.41	.50	.62	.24
"To have 15 head of cattle is..."	----	.52	.46	.48	----	----
"To earn a good return from farming, a farmer must have..."	----	.46	.43	.25	----	----

differences among the three study areas.* In any event, these differences in scale items suggest that the items used in the present investigation should be subjected to scale analysis again before they are utilized in future research to measure achievement motivation in Colombia or in other countries. This need for repetition of the scale analysis process for achievement motivation scale items in future investigations is one justification for the inclusion of the community descriptions and the detail on methods of scale analysis in this publication.

Intercorrelations Among Scale Items

Another indication of internal consistency is the correlation of each item with each other scale item. These matrixes of intercorrelations for each of the six communities were inspected for degree of interrelationships. In general, the intercorrelations are positive but low. One may conclude that a scale composed of several items is needed to measure achievement motivation (rather than a single item), and that each of the items in the final versions of the sentence-completion achievement orientation scale measures a somewhat distinct portion of the concept (with relatively low overlaps with other scale items).

Reliability

Reliability is the degree to which a scale will consistently produce similar results when administered to the same individuals at different times.

*Where these regional differences were not encountered, among the three Facatativa veredas, it was possible to select eight scale items that functioned adequately in all three of the veredas. Likewise, in Nazate and La Cañada, twelve common scale items were selected after analysis. This is one indication of the importance of sub-cultural differences in the development and selection of achievement motivation scale items.

There are two major methods of determining scale reliability: (1) the split-half, and (2) the test-retest method.

Split-Half Method

In the split-half method of determining scale reliability, the items in a scale are divided into two sub-scales and the correlation between these two sub-scores is computed. It is argued that administering two forms of the same scale at one point in time is almost equivalent to administering the scale to the same individuals at two different times. The items to be included in one sub-scale are usually determined by selecting the odd-numbered items; the even-numbered items are then summed for the other sub-scale. However, since each of the sub-scales have only one-half as many items as the original scale, a lower coefficient of reliability results. A correction is therefore necessary to obtain a more correct coefficient of reliability. This correction is made by the use of the modified Spearman-Brown correction formula.

Table 6 presents the split-half coefficients of reliability (after correction for half length) for each of the six communities.

Test-Retest Method

The test-retest method of determining scale reliability consists of administering the same scale items to the same respondents after a period of time has passed since the original scale administration. Time and travel costs prevented the determination of test-retest reliabilities in each of the six communities, but retest data were gathered from sixteen respondents living in one of the six communities about ten weeks after the original interviews.

Table 6. Split-Half Coefficients of Reliability for the Achievement
Motivation Scale for the Six Colombian Communities

Community	Number of Scale Items	Split-Half Coefficient of Reliability (After Correction)
1. Tamesis	9	.44
2. Pueblo Viejo	8	.55
3. San Rafael	8	.74
4. Cuatro Esquinas	8	.20
5. Nazate	12	.75
6. La Cañada	12	.64

innovativeness scores measured each individual's innovativeness relative to others living in his community.*

Agricultural innovativeness is one indicator of farming excellence; clearly it is through the adoption of technological innovations that a farmer can improve his farming performance and gain higher levels of farm production and greater profit.

Table 7 shows the Pearsonian zero-order correlations between agricultural innovativeness scores and achievement motivation scores for each of the six communities. The correlations are significant in Nazate and La Cañada, positive but not significant in three communities, and negative in one village. Thus, Hypothesis 1 is accepted, although the evidence is not compelling. The strongest relationships were found in the two most traditional villages; settings where the authors have the impression that the respondents were relatively most heterogenous in both agricultural innovativeness and achievement motivation; hence, the greater "range of talent" there may be one factor in the higher correlations.

Hypothesis 2 is that home innovativeness scores vary directly with achievement motivation scores. Similar measurement techniques were utilized in construction of the home innovativeness scale (composed of the relative time of adoption of 10 to 12 sanitation, health, nutrition, and household equipment innovations) as were used in developing the agricultural innovativeness scale. The head of household was usually the most influential person involved in decisions to adopt or reject these home innovations.

*For a detailed discussion of the methods of innovativeness scale construction, see Rogers and others (1962).

As in the case of the previous hypothesis, we expect home innovativeness to be positively related to achievement motivation. Among subsistence peasants, the distinction between farm production and household consumption activities is not always clear-cut. Thus, adoption of home innovations is considered one indicator of farming excellence, partly because farming financial success often provides the resources with which to purchase home innovations.

Table 7 shows that correlations between home innovativeness scores and achievement motivation scores are positive in all six communities, and significant in San Rafael and Mazate. Thus, Hypothesis 2 is accepted.

A third indicator of the general dimension of innovativeness is an attitudinal one. Our respondents were asked their opinion toward innovators, the first farmers in their village to adopt new ideas. Hypothesis 3 is that attitude toward innovators varies directly with achievement motivation scores.

Table 7 shows positive correlations were obtained in all five of the communities where this hypothesis could be tested; three of these five correlations were significant. Thus, Hypothesis 3 is accepted.

FARM SIZE

One partial indicator of excellence in farming is farm size, whether measured in land units or in labor inputs. A farmer with a larger-sized operation is generally considered by his peers to be more successful; of course, there are many possible reasons for a large operation other than farming ability, such as inheritance, off-farm employment, etc. Nevertheless,

Table 7. - Pearsonian Zero-Order Correlations Between Achievement Motivation Scores and Indicators of Individual Excellence in Farming for Six Colombian Communities.

Indicators of Individual Excellence in Farming	Correlations with Achievement Motivation Scores by Community Studied					
	Tamesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
Agricultural Innovativeness	.039	.149	-.186	.231	.479**	.324*
Home Innovativeness	.078	.079	.373*	.246	.352*	.254
Attitude toward Innovators	--	.164	.455**	.140	.431**	.341*
Farm Size (in Land)	-.069	.023	.029	-.020	.193	.192
Farm Size (in Labor)	.103	-.101	.122	.135	-.167	.030
Desire to Increase Farm Size	--	--	--	--	.205	.541**
Land Tenure Status	.061	-.160	.159	.061	.298	.184
Farm Intensification	.303*	-.175	-.036	.161	--	--
Farm Production per Hectare	--	--	--	--	.381*	.141
Social Status	--	.181	.357*	.339*	.442**	.265
Level of Living	--	.062	.507**	.201	.302	.130
Sociometric Opinion Leadership	--	.061	.230	.380**	.518**	.266*

* Significantly different from zero at the five percent level.

** Significantly different from zero at the one percent level.

it might be argued that a farmer with low ability would not be able to successfully operate a large unit for long, even if he inherited it. Indeed, several cases of just this tendency were observed in the communities of study.

Hypothesis 4 is that farm size in land units varies directly with achievement motivation scores. Table 7 shows low but positive correlations in four of the communities, and very low but negative correlations in Tamesis and Cuatro Esquinas. There is weak evidence for the acceptance of Hypothesis 4.

Hypothesis 5 is that farm size in labor units varies directly with achievement motivation scores. The measure of farm size was the number of days of family or hired labor utilized on the respondent's farm in the past year. Because some of the farm land was almost impossible to cultivate, while other farms could be operated intensively, the measure of farm size in labor inputs may have been more accurate than the measure of farm size in terms of hectares, etc.

Table 7 shows low but positive correlations for four of the communities, and negative correlations in Pueblo Viejo and Nazate. There is weak evidence for the acceptance of Hypothesis 5.

In two of the communities an attitudinal component of farm size was also measured, which was the desire to increase farm size. This was felt to be a particularly important variable in Mazate and La Cañada where there was great pressure on land resources, and where desires for larger operations were often blocked by the unavailability of farm land. Hypothesis 6 is that desire to increase farm size varies directly with

achievement motivation scores, Table 7 shows positive correlations in both communities, and a significant correlation in La C nada. Thus, Hypothesis 6 is accepted.

Another aspect of the farm size variable (as an indicator of farming excellence) is land tenure. It was measured as the percentage of the respondent's land that he owned. Thus, the land tenure measure is independent of the measure of farm size in land units. Hypothesis 7 is that land ownership varies directly with achievement motivation scores. Table 7 shows positive but not significant correlations in all of the six communities except Pueblo Viejo, where the correlation is negative. Thus, Hypothesis 7 is accepted.

A final indicator of farm size is farming intensification, measured as the number of days of farm labor (per year) expended per hectare. For farmers who have difficulty in obtaining additional land resources for expansion purposes, one alternative is greater farming intensification by shifting to high labor requirement crops. Hypothesis 8 is that farming intensification varies directly with achievement motivation scores. Table 7 shows two positive correlations, one of which is significant, and two negative correlations. There does not appear to be sufficient evidence to accept Hypothesis 8.

FARM PRODUCTION

Hypothesis 9 is that farm production per land unit varies directly with achievement motivation scores. One indicator of farming excellence is farm production; in fact, from the viewpoint of agricultural development and

higher levels of food production, farm production is one of the most important expressions of farming excellence.* In the present study, farm production was measured as the respondent's yield per hectare of his major crop; this was potatoes in Nazata and coffee in La Cañada, the only two communities for which satisfactory measures of farm production could be developed. Table 7 shows both correlations are in the expected direction, and one is significant. Hypothesis 9 is accepted.

SOCIAL STATUS AND LEVEL OF LIVING

Hypothesis 10 is that social status ratings vary directly with achievement motivation scores. Social status is defined as an individual's position relative to others in a social system. Social status was measured in the present investigation by an interviewer rating of the respondent at the conclusion of the interview. The interviewers noted the respondents' social status in five categories on the basis of such indicators as ownership of material possessions, prestige, education, community leadership, etc. As such, the rating represents a subjective composite of the various social status indicators. The interviewers were well-acquainted with the nature of the concept of social status, and were trained in standardized procedures for making the ratings.

*It is rather curious, perhaps, that few investigations of the adoption of agricultural innovations have considered farm production, rather than agricultural innovativeness, as the main dependent variable whose variance is to be explained. These studies have almost entirely stopped with the task of explaining the variance in innovativeness (with such independent variables as literacy, mass media exposure, change agent contact, etc.), rather than continuing the analysis one step further to analyze the relationship of these independent variables and innovativeness upon levels of farm production. One likely reason for this omission is the difficulty in accurately measuring farm production in personal interviews with peasant farmers.

Social status, it might be argued, is a partial indicator of farming excellence. All of the present respondents were occupied in a common occupation, farming, and this was probably one of their primary means of earning higher social status.

Table 7 shows positive correlations in all five of the six communities where a status measure was available; three of the five are significant. Thus, Hypothesis 10 is accepted.

Hypothesis 11 is that level of living scores vary directly with achievement motivation scores. The logic for this hypothesis is similar to that dealing with social status; in fact, level of living might be considered as one aspect of social status which deals with the possession of status-conferring material objects. The present level of living scale* included items like brick house walls, glass windows, and certain items of household equipment. Possession of adequate resources to have purchased these level of living items was felt to be one indicator of excellence in farming.

Table 7 shows positive correlations (in all five of the communities where the hypothesis is tested), one of which is significant. Therefore, Hypothesis 11 is accepted.

REPUTATION AS A GOOD FARMER

One other possible measure of farming excellence is the respondent's reputation as a good farmer in the eyes of his neighbors. This reputation was tapped by asking each respondent which of his neighbors he sought for

*In the three Facatativa communities a self-perceived measure of relative level of living was utilized rather than the measure based upon possession of material objects.

information and advice about agricultural problems. This sociometric measure of opinion leadership is also one indicator of an individual's reputation as a good farmer, as those individuals sought for such help would usually be those with favorable reputations as farmers. Hypothesis 12 is that reputation as a good farmer varies directly with achievement motivation scores.

Table 7 indicates positive correlations (in all five of the communities in which the hypothesis is tested), three of which are significant. Thus, Hypothesis 12 is accepted.

GENERAL CONCLUSIONS

The objective investigated in the present chapter was to determine whether individual excellence in farming varies directly with levels of achievement motivation. Twelve hypotheses were tested. Eleven of the 12 hypotheses were accepted, although only rather weak evidence for doing so was found in the case of a couple of the hypotheses. More specifically, of the 58 correlations that were computed (Table 7), . . .

Eight are not in the expected direction.

Thirty-three are in the expected direction, but are not significant.

Nine are in the expected direction and significant at the 5 per cent level.

In general, there was a greater tendency for the hypotheses to be supported in the more traditional communities, Nazate and La Cañada.

CROSS-COMMUNITY CONSISTENCY OF FINDINGS

What can we conclude about the consistency of the correlations, whether in the expected direction or not, between indicators of farming excellence and achievement motivation scores, across the six communities? This is an important question because one reason for including the six communities, representing a range in modern-traditional norms on social change, was to test the consistency of the findings.

An index of cross-village correlational consistency was constructed by the following procedures.

1. Each of the zero-order Pearsonian coefficients of correlation between achievement motivation scores and an indicator of farming excellence, such as agricultural innovativeness in Table 7, were converted to Z scores. The Z transformation is linear in function (that is, a Z score of .40 indicates twice as high a degree of relationship as a Z score of .20), while correlation is not linear.
2. The Z scores for an indicator of farming excellence were averaged across the six communities,* keeping the sign (positive or negative) of the original correlation.
3. The standard deviation of these Z scores was computed as the index of cross-village inconsistency. That is, the higher the degree of consistency of these correlations, the smaller the size of the inconsistency index.

In order to illustrate the use of this index of inconsistency, consider two extreme cases.

*In some cases, these Z scores were not available for all of the six communities, as shown in Table 7.

1. In one case, we have two correlations between achievement motivation scores and an indicator of farming excellence that are identical. For example, both r 's are .50. The Z scores are .549 and .549; their standard deviation or inconsistency index is 0.
2. Assume we have two maximally different correlations; one is +.99 and the other is -.99. Both Z scores are 2.647 (one is positive and the other is negative). Their standard deviation, the index of inconsistency, is 2.647.

Thus, the inconsistency index can range from 0 to 2.647. One advantage of this index is that it is largely independent of the number of villages for which correlations were available between a particular indicator of farming excellence and achievement motivation scores.

Table 8 presents the inconsistency indexes for the indicators of individual farming excellence for the six communities. It can be seen that the highest degree of consistency was found for social status, farm size (in labor), and home innovativeness. Least consistency across the villages was found in the case of agricultural innovativeness, desire to increase farm size, and farm intensification.

Table 8. - Inconsistency Indexes for Correlates of Achievement Motivation by Indicators of Farming Excellence

Indicators of Individual Excellence in Farming	Number of Communities for Which Correlations with Achievement Motivation Were Computed	Inconsistency Index
1. Agricultural Innovativeness	6	.223
2. Home Innovativeness	6	.124
3. Attitude Toward Innovators	5	.146
4. Farm Size (in Land)	6	.099
5. Farm Size (in Labor)	6	.116
6. Desire to Increase Farm Size	2	.198
7. Land Tenure Status	6	.145
8. Farm Intensification	4	.186
9. Farm Production per Hectare	2	.129
10. Social Status	5	.093
11. Level of Living	5	.173
12. Sociometric Opinion Leadership	5	.163

Chapter V

ANTECEDENTS OF ACHIEVEMENT MOTIVATION

In the present chapter evidence shall be presented regarding the objective of determining whether levels of achievement motivation vary directly with the nature of family structure and personality socialization, communication exposure, and modernization variables. Little past research has been concerned with investigating these variables in relationship to achievement motivation, except perhaps in the case of family structural variables.

FAMILY STRUCTURE AND PERSONALITY SOCIALIZATION

Past writings have generally indicated that an individual's level of achievement motivation is, at least in part, a function of certain family structural variables. For example, McClelland (1964c, p. 185) stated "...There is substantiating evidence that n Achievement is a motive which a child can acquire quite early in life, say, by the age of eight or ten, as a result of the way his parents have brought him up."

Familism is defined as the degree to which an individual's personal goals are subordinated to those of his family. The operation of familism is a rating made for each respondent in the tape-recorded interviews. The rating was made on the basis of a content analysis of several interview questions dealing with family versus individual goals. Hypothesis 13 is that levels of achievement motivation vary indirectly with familism scores.

It should be remembered, as was pointed out in the previous chapter, that the tape-recorded interviews were completed with the approximately five per cent of the respondents who had the highest and lowest scores on the sentence completion achievement motivation scale. Thus, we are testing the present hypothesis with data from two extreme groups on achievement motivation, who represent 23 respondents in five of the six communities. Working with data from extreme groups is sometimes a useful way to explore tentative hypothesis with a view toward further refinement for later testing with a larger, more representative sample.

The farmers high in achievement motivation had a mean familism score of 34.7, while those low in achievement motivation had a mean familism score of 38.9. This difference provides some slight evidence for the acceptance of Hypothesis 13.

Hypothesis 14 is that levels of achievement motivation vary directly with independence training of children. There is considerable theoretical reasoning and some empirical evidence* to expect that higher achievement motivation should be associated with a type of childhood training that emphasizes independence, autonomy, and self-reliance. Accordingly, a measure of the respondent's independence training was constructed by asking him at what age he had first been allowed by his parents to perform certain activities, such as to care for his younger brothers and sisters, feed farm animals, mount a horse, purchase items in a store, use a machete, swim, hunt, and drink aguardiente (brandy). A similar measure of independence training was utilized by Tumin (1961, p. 215) in Puerto Rico and by Rosen (1964) in Brazil.

*For instance, see Rosen (1964).

The measure of independence training was only administered to the respondents in the tape-recorded interviews. Those respondents high in achievement motivation averaged 58 on the independence training scale (a lower number indicates higher independence training), and those respondents who were low in achievement motivation averaged 64. Thus, some evidence for the acceptance of Hypothesis 14 is provided.

Hypothesis 15 is that levels of achievement motivation vary indirectly with parental patriarchialism. Patriarchialism is defined as "the degree to which family power is concentrated in the hands of the father. It is argued that authoritarian fathers usually produce sons with low achievement motivation because..." "the son does not learn to set his own achievement goals and to learn to find his own ways of achieving them" (McClelland, 1963a, p. 173).

In the present study the respondents in the tape-recorded interviews were asked a series of questions about the nature of power and decision-making in their parental family. From these tape-recorded protocols, a content analysis was made by three trained judges of the degree of parental patriarchialism. Admittedly, this measure is rather crude. The respondents high in achievement motivation scores averaged 42.6 in parental patriarchialism scores; those low in achievement motivation scores averaged 33.0 (indicating less patriarchialism). Thus, the findings are opposite to our expectations; Hypothesis 15 is rejected.

Yet another dimension of family structure is whether the father is absent or present in the home during the years of childhood personality socialization. Colombian rural fathers are generally quite patriarchial.

Thus, if the father is absent from the home there is greater likelihood that the son will develop higher achievement motivation. Hypothesis 16 is that levels of achievement motivation vary directly with father absence. McClelland (1964c, p. 186) stated, "The extent to which the authoritarian father is away from the home while the boy is growing up may prove to be another crucial variable in higher achievement motivation." Bradburn (1960, pp. 133-135) found that Turkish university education students who had lived in village institutes since age 14 had higher achievement scores than similar students who had lived with their parents. Furthermore, three samples of university education students, business students, and senior business executives whose fathers had died or lived apart from them had higher achievement motivation scores than similar samples who had lived with their parents.

Data were available in the present investigation only from the respondents to the tape-recorded interviews; these are summarized in Table 9. There is a slight tendency for higher achievement motivation scores to be associated with father absence from the home before age 12. Thus, there is some slight evidence for accepting Hypothesis 16.

Hypothesis 17 is that levels of achievement motivation vary directly with the wife's role in farm decision-making. It is expected that less patriarchal respondents, who are higher in achievement motivation, would allow their wives to have a larger role in farm decisions. Table 10 shows all five correlations were positive (but none were significant) between achievement motivation scores and the degree to which the respondent indicated his wife was consulted in making farm decisions. Thus, Hypothesis 17 is accepted.

Table 9. - Relationship Between Achievement Motivation Scores and
Father Absence from the Home During the Respondent's
Childhood.

Level of Achievement Motivation	Father's Presence or Absence in the Home (Until Respondent Was 12)	
	Present	Absent*
Low	4	6
High	4	9
Totals	8	15

*Due to such causes as death, separation, chronic illness, etc.

Table 10. - Pearsonian Zero-Order Correlations Between Achievement Motivation Scores and Indicators of the Nature of Family Structure and Personality Socialization, Communication Exposure, and Modernization Variables for Six Colombian Communities.

Indicators of the Nature of Family Structure and Personality Socialization, Communication Exposure, and Modernization Variables	Correlations with Achievement Motivation Scores by Community Studied					
	Támesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
1. Wife's Role in Farm Decisions	.026	.204	.044	.174	.149	
2. Respondent's Birth Order	-	-	-	.130	.038	
3. Mass Media Exposure	-.032	.169	.373*	.181	.511**	.457**
4. Political Knowledgeability	.146	.176	.411*	.244	.503**	.354**
5. Cosmopolitaness	.084	.219	.348*	.142	.325*	.297*
6. Extension Contact	-.074	.236	-.019	.375**	-	.219
7. Schoolteacher Contact	-	.052	.004	-.160	-	-
8. Salespeople Contact	-	-.002	.010	.344*	-.087	.230
9. Literacy	.322*	.219	.285	.294*	.436**	.353**
10. Years of Formal Education	.355*	.048	.244	.083	.462**	.349**
11. Age	-.169	-.197	-.056	-.313*	-.387*	-.030
12. Empathy	-	.259*	.491**	.331*	.482**	.431**
13. Educational Aspirations	-	.020	.293	.332*	.470**	.312*
14. Occupational Aspirations	-	.003	.101	.083	.395*	.120
15. Attitude Toward Credit	.108	.122	.383*	.053	.354*	.169

*Significantly different from zero at the five percent level.
 **Significantly different from zero at the one percent level.

Hypothesis 18 is that levels of achievement motivation vary directly with birth order. Rosen (1961) found that U.S. boys who were first born had higher achievement motivation than those later in birth order. The argument is that individuals higher in birth order may have been trained for higher achievement standards during childhood in order to assume greater responsibility for their younger brothers and sisters. Findings from a sample of students in India (McClelland, 1961, p. 374) and in Japan (Abegglen 1958) indicate that younger sons have higher achievement motivation. Table 10 shows one positive and one negative correlation between achievement motivation scores and birth order. Thus, Hypothesis 18 is rejected.

COMMUNICATION EXPOSURE

Now let us turn our attention to a series of empirical hypotheses dealing with achievement motivation and various communication exposure variables. The central notion in all of the next seven hypotheses is that exposure to more modern communication sources (such as the city or to village change agents) is associated with higher levels of achievement motivation.

Hypothesis 19 is that levels of achievement motivation vary directly with mass media exposure. Mass media exposure was measured by the frequency of reading, listening, and watching the five most important types of mass media in Colombian villages: newspapers, magazines, radio, TV, and films. The content of the mass media in Colombia are highly urban-oriented and development-minded. Exposure to these media content should help instill higher levels of achievement motivation. Table 10 shows one negative and

five positive correlations (of which three are significant). Empirical Hypothesis 19 is accepted.

Another indicator of communication linkage with sources external to the village is political knowledgeability, which indicates a knowledge of political events and people external to the village. For example, one question in the five-item political knowledgeability scale is whether the respondent knew his representative to the national legislature. Hypothesis 20 is that levels of achievement motivation vary directly with political knowledgeability scores. Table 10 shows all six correlations are positive and three are significant. Hypothesis 20 is accepted.

Hypothesis 21 is that levels of achievement motivation vary directly with cosmopolitaness. Cosmopolitaness is defined as the degree to which an individual is oriented externally to his social system. It was expected that villagers who are more cosmopolite regard the village as a less important reference group for their behavior; they are oriented to the city even though they live in the village. The cosmopolites are thus more likely to be similar to urban people in their achievement motivation than are village localites. The measure of cosmopolitaness used in the present study is the number of trips to an urban center within the past year. Table 10 shows all six correlations are positive and three are significant. Hypothesis 21 is accepted.

Hypothesis 22 is that levels of achievement motivation vary directly with extension service contact. It is expected that farmers with a greater degree of contact with extension service workers (who were probably the most active agents of change in the villages studied) would have higher achievement motivation. Table 10 shows three positive correlations (one of which is

significant) and two negative correlations between achievement motivation scores and extension contact.* Thus, Hypothesis 22 is rejected.

Hypothesis 23 is that levels of achievement motivation vary directly with schoolteacher contact. Schoolteachers work in close cooperation with the extension service change agents in the three Facatativa communities. However, Table 10 shows only two of the correlations were positive (and they approached zero), and one is negative. Thus, Hypothesis 23 is rejected.

Hypothesis 24 is that levels of achievement motivation vary directly with salespeople contact. Commercial change agents had contact with certain of the respondents in each community in order to sell fertilizers, seeds, equipment, and other farm products. It was expected that contact with these change agents would be associated with higher achievement motivation. Table 10 shows that three of the correlations were positive (one was significant), and that two were negative, although near zero. Thus, there is only rather poor evidence to accept Hypothesis 24.

MODERNIZATION VARIABLES

The present section deals with a series of "modernization variables" which are each correlated with achievement motivation scores. In general, we expect positive relationships between these modernization variables and achievement motivation.

Hypothesis 25 is that levels of achievement motivation vary directly with literacy. The ability to read and write is often regarded as one of the most important indicators of modernization. In the present investigation,

*No correlation could be computed in Nazate because none of the respondents indicated any extension service contact.

literacy was measured by asking each respondent to read a short sentence that was handed to him during the interview on a small card.* This measure of functional literacy seems to be somewhat more accurate than a self-perceived literacy question (e.g., "Can you read and write?").** Table 10 shows that all correlations between achievement motivation scores and literacy are positive, and four of these six correlations are significant. Hypothesis 25 is accepted.

Hypothesis 26 is that levels of achievement motivation vary directly with years of formal education. Literacy and formal education are somewhat different in nature, but both are certainly similar indicators of modernization among peasants. Table 10 shows that all six correlations are positive, and that three of these are significant. Hypothesis 26 is accepted.

Hypothesis 27 is that levels of achievement motivation vary indirectly with age. In a changing culture like that of rural Colombia, we expect older persons to be less modern than younger individuals, who are often more literate and cosmopolite. Table 10 shows that achievement motivation scores are negatively related to age, as expected, in all six communities. Two of the correlations are significant. Hypothesis 27 is accepted.

Hypothesis 28 is that levels of achievement motivation vary directly with empathy. Empathy is defined as the degree to which an individual is able to take the roles of others (Lerner, 1958). In the present study empathy was measured by determining whether each respondent could take the roles of president of the community development council, extension service worker, mayor of a nearby town, Colombian Minister of Education, and President

*In Tumbes a self-perceived, rather than this functional measure of literacy, was employed.

**For details, see Rogers and Herzog (1966).

of Colombia. Lerner (1958) emphasized the importance of empathy in modernization; it lubricates the individual's internalization of mass media and cosmopolite experiences. Empathic respondents should be able psychologically to feature themselves in the roles of urban people and thus have higher achievement motivation. Table 10 shows all five correlations between achievement motivation scores and empathy scores are positive and significant. Thus, Hypothesis 28 is accepted.

Hypothesis 29 is that levels of achievement motivation vary indirectly with fatalism. Fatalism is defined as the degree to which an individual feels that he cannot control his future. He would attribute the determinants of his fortune to nature or to supernatural causes. Such a fatalistic orientation is expected to be inversely related to achievement motivation. The degree of fatalism was content-analyzed on the basis of the tape-recorded protocols from answers to queries dealing with what the respondent felt was the cause of crop failure, good luck, etc. Those high in achievement motivation had mean fatalism scores of 31.3; those low in achievement motivation averaged 46.1. This difference is some evidence for the acceptance of Hypothesis 29.*

Hypothesis 30 is that levels of achievement motivation vary directly with educational aspirations. One characteristic of the modern individual is that he has aspirations to improve his lot in life. In the present study educational aspirations were measured by asking each respondent how many

*Further evidence is provided by Ramos (1966) who found a correlation of $-.191$ (which is significantly different from zero at the 5 per cent level) between achievement motivation scores and an eight-item fatalism scale for the respondents in Pueblo Viejo, San Rafael, and Cuatro Esquinas, who she interviewed in 1965.

years of formal education he wished for his eldest son.* Table 10 shows positive correlations in all five of the communities; three are significant. Thus, Hypothesis 30 is accepted.

Hypothesis 31 is that levels of achievement motivation vary directly with occupational aspirations. Each respondent was asked what occupation he wished for his eldest son. The occupations so named were then categorized in levels of occupational prestige. Table 10 shows that all five correlations are positive, and one is significant. Hypothesis 31 is accepted.

One final indicator of modernization, attitude toward credit, was investigated in its relationship to achievement motivation. Hypothesis 32 is that levels of achievement motivation vary directly with a positive attitude toward credit. Traditional peasants usually believe that borrowing capital for any purpose, even farm production inputs, is undesirable. This belief may have been functional when credit was available only from village money lenders who charged excessive interest rates. However, the government agricultural bank in Colombia now offers agricultural credit at relatively modest interest rates. The more modern farmer recognizes that credit is one tool for farm improvement. Table 10 shows positive correlations in all six communities,** and two of the six correlations are significant. Hypothesis 32 is accepted.

GENERAL CONCLUSIONS

The research objective pursued in the present chapter was to determine whether levels of achievement motivation vary directly with the nature of

*This question was asked hypothetically in case he did not have a son.

**In Tamesis use of credit was correlated with achievement motivation scores, rather than attitude toward credit.

family structure and personality socialization, communication exposure, and modernization variables. In the present chapter we have presented evidence to test 20 hypotheses. Of the 20 hypotheses, only four were rejected, although in the case of five of the 16 hypotheses that were accepted, the evidence was not very compelling.

The strongest evidence was found for the hypotheses dealing with modernization variables (all eight were accepted), and somewhat less evidence was found for the hypotheses dealing with communication exposure variables (two of six empirical hypotheses were not accepted). Weakest evidence was found in the case of family structural and personality socialization variables; two of six hypotheses were rejected, and strong evidence was found only in the case of one of the four hypotheses that was accepted.

Of the 77 correlations dealing with antecedents of achievement motivation (Table 10),...

Seven are not in the expected direction.

Thirty-nine are in the expected direction, but are not significant.

Eighteen are in the expected direction and significant at the 5 per cent level.

Thirteen are in the expected direction and significant at the 1 per cent level.

In general, there was a greater tendency for the hypotheses to be supported in the more traditional communities, Nazate and La Cañada. A similar tendency was noted in the previous chapter for the hypotheses dealing with consequences of achievement motivation.

CROSS-COMMUNITY CONSISTENCY OF FINDINGS

The same index of cross-community correlational inconsistency, which was described in the previous chapter, was utilized to compare the consistency of the empirical relationships across the six communities (Table 11). This index could only be utilized with the 15 variables correlated with achievement motivation (which are presented in Table 10), as the data from the tape-recorded interviews did not allow comparison across the communities.

It can be seen that the highest degree of consistency was found for the respondent's birth order; lowest consistency of the relationships across villages was found for mass media exposure, formal education, and extension contact. In general, Table 11 shows less consistency of cross-community correlations for the antecedent variables, than for the consequent variables (Table 8).

MULTIPLE CORRELATION ANALYSIS OF ACHIEVEMENT

MOTIVATION SCORES

As a closing section of the present chapter, we will present the results of a multiple correlation analysis of achievement motivation scores. Multiple correlation is a method of explaining the variance in a dependent variable, achievement motivation in the present case, with a series of independent variables. The advantage of the multiple correlation approach is that instead of determining only the zero-order relationships between each independent variable and achievement motivation scores (as in Tables 7 and 10), we can determine the joint effects (interaction effects or overlaps) of all of these

Table 11. - Consistency Indexes for Antecedent Correlates of Achievement Motivation by Indicators of the Nature of Family Structure and Personality Socialization, Communication Exposure, and Modernization Variables.

Indicators of the Nature of Family Structure and Personality Socialization, Communication Exposure, and Modernization Variables	Number of Communities for Which Correlations with Achievement Motivation Were Computed	Cross-Community Inconsistency Index
1. Wife's Role in Farm Decisions	5	.162
2. Respondent's Birth Order	2	.119
3. Mass Media Exposure	6	.507
4. Political Knowledgeability	6	.354
5. Cosmopolitaness	6	.251
6. Extension Contact	5	.390
7. Schoolteacher Contact	3	.168
8. Salespeople Contact	5	.372
9. Literacy	6	.144
10. Years of Formal Education	6	.396
11. Age	6	.325
12. Empathy	5	.234
13. Educational Aspirations	5	.353
14. Occupational Aspirations	5	.319
15. Attitude Toward Credit	6	.234

independent variables together upon achievement motivation scores. For example, we found (Table 10) that in Pueblo Viejo, achievement motivation scores are correlated .259 with empathy scores, and .219 with functional literacy. Yet, we know that empathy and literacy are positively related; perhaps the zero-order correlation of achievement motivation and literacy is due, in part, to the mutual covariance of both variables with empathy. Thus, multiple correlation analysis can tell us the multiple-order relationships of achievement motivation with the independent variables; it controls or removes the effects of the interrelationships among the independent variables in explaining the variance in achievement motivation.

Six independent variables were selected for the multiple correlation analysis on the basis of (1) their zero-order correlations with achievement motivation scores, (2) their theoretical importance, (3) their measurement in all six of the communities,* and (4) to represent the general dimensions of farming excellence, communication exposure, and modernization variables. Table 12 shows the results of the multiple correlation analysis. In general, we conclude that...

1. The highest percentage of the variance in achievement motivation scores ($R^2_{y.123456}$) was explained in the most traditional villages, Nazate and La Cañada, where 31 per cent and 44 per cent of the variance, respectively, was explained.
2. Empathy was consistently one of the better independent variables in explaining variance in achievement motivation scores; however, there was no one best predictor of achievement motivation scores across all the villages.

*Except that social status and empathy were not measured in Tamesis.

Table 12. - Multiple Correlation Analysis of Achievement
Motivation Scores in Six Colombian Communities

Independent Variables	Approximate Percentage of the Variance in Achievement Motivation Scores Explained in the Six Communities					
	Támesis	Pueblo Viejo	San Rafael	Cuatro Esquinas	Nazate	La Cañada
1. Years of Formal Education	8.32	-0.98	-0.50	-1.29	1.34	8.78
2. Literacy	7.68	3.30	-3.27	9.52	2.87	1.23
3. Social Status	--*	0.24	-2.27	9.03	-3.11	10.16
4. Mass Media Exposure	0.67	0.93	4.23	-1.94	16.97	16.51
5. Cosmopolitaness	0.37	4.40	7.15	0.09	-1.28	3.13
6. Empathy	--*	4.52	23.61	6.41	13.77	3.85
Total Variance Explained ($R^2_{y.123456}$)	17.04	12.91	28.95	21.82	30.56	43.66

*Social status and empathy were not measured in Támesis.

3. Mass media exposure and cosmopolitaness (trips to urban centers) seemed to play a complementary role in explaining variance in achievement motivation scores, especially in the two most traditional villages where mass media exposure was of greater importance than cosmopolitaness. This might be due to the relative isolation of Mazate and La Cañada; the mass media seemed to be a more important link to the urban world than did trips to cities, which were much less frequent than in the other four villages.
4. Social status was most important as a predictor of achievement motivation scores in Cuatro Esquinas and La Cañada; elsewhere it was of almost no importance, and was negative in two communities.*
5. Literacy and formal education seem to play a complementary role in predicting achievement motivation scores; perhaps this is due to the high correlation between literacy and formal education. These two variables were relatively better predictors of achievement motivation scores in Tamesis and La Cañada, the least and the most traditional villages.

*An independent variable will explain a negative portion of the variance in the dependent variable when it is more highly related to the other independent variables than it is to the dependent variable; it thus makes a negative contribution as one of the predictors of the dependent variable. In San Rafael, for example, social status is evidently more highly related to formal education, literacy, mass media exposure, cosmopolitaness, and empathy than it is to achievement motivation scores.

Chapter VI

SUMMARY, CONCLUSIONS, AND CROSS-CULTURAL COMPARISON

SUMMARY

Achievement motivation is a social value which emphasizes a desire for excellence in order to attain a sense of personal accomplishment. The present investigation sought to study the antecedents of achievement motivation among Colombian peasants in six communities, and the consequences of achievement motivation for agricultural development.

One of the purposes of the present study was to develop a measure of achievement motivation that could be utilized in personal interviews with Colombian peasants. No previous research of this nature had been completed among peasants in a less developed country, but a measurement technique, sentence-completion scale items, that had been utilized in three studies of U. S. farmers, was adapted for use in the present investigation. Data were gathered via a total of 302 personal interviews with heads of farm households in six communities located in three of the subcultural areas of Colombia, and via 23 tape-recorded interviews using a less structured approach. The six villages represented a range in community norms on social change. After various types of scale-analysis, a sentence-completion measure of achievement motivation was developed which was found to possess acceptable levels of validity, internal consistency, reliability, and scoring agreement. The number of items in the achievement motivation scale ranged from 8 to 12 in

the different communities; this suggests the importance of repeating the scale analysis procedures in future investigations before a final set of scale items can be developed which possesses general applicability throughout Colombia or in other cultures.

It was concluded that individual excellence in farming varies directly with levels of achievement motivation. We found that achievement motivation scores were related to such indicators of farming excellence as...

- Agricultural innovativeness
- Home innovativeness
- Attitude toward innovators
- Farm size in land units
- Farm size in labor units
- Desire to increase farm size
- Land ownership
- Farm production per hectare
- Higher social status
- Higher level of living
- Reputation as a good farmer

Levels of achievement motivation were found to vary directly with the nature of family structure and personality socialization, communication exposure, and modernization variables. We found that achievement motivation scores were related to...

- A lack of familism
- Independence training of children
- Father absence from home during childhood socialization

Wife's role in farm decision-making
Greater mass media exposure
Political knowledgeability
Cosmopolitaness (trips to urban centers)
More salespeople contact
Liferacy
More years of formal education
Younger age
Greater empathy
Lower fatalism
Higher educational aspirations
Higher occupational aspirations
Favorable attitude toward credit

Expected relationships were not found between achievement motivation scores and...

Farm intensification
Parental patriarchalism
Birth order
Extension contact
Schoolteacher contact

CONCLUSIONS

In general, stronger evidence for most of the hypotheses was found in the more traditional villages. What might explain this tendency? It is our impression that Mazate and La Cañada, the two most traditional villages,

were relatively retarded in the process of social change and development; they contained some individuals who were literate, empathic, cosmopolite, and who had high mass media exposure, yet most residents of these two villages were still quite traditional. Thus, there was a greater "range of talent" in the variables studied among the respondents in Nazate and La Cañada than in the other four villages where the process of modernization had proceeded more completely and where urban influences were more pervasive. Thus, the respondents in the two more traditional villages were more heterogeneous, and so we would expect higher correlations to be found.

One gains the impression from inspecting Tables 7 and 10 that most of the correlations with achievement motivation scores are in the expected direction, but none are very high. The highest correlations in the two tables are .541 and .511, respectively. Perhaps these generally low correlations suggest the need for further research on achievement motivation. In explaining the generally low correlation found in their study, Ramsey and others (1959) pointed out that "There has been much fundamental thinking about values, their nature, and their relationship to social change. However, little has been done to advance the correspondence between measurement and concepts." We agree that a priority step for future research is to further refine our existing measures of achievement motivation and to develop adequate operations for other social values.

NEEDED RESEARCH

In addition to the methodological need for improved measurement, several substantive suggestions for future investigation may be offered. We have seen

(Table 12) that the highest amount of variance explained in achievement motivation scores was 44 per cent in one of the six villages. This suggests that much variance in achievement motivation remains to be explained in future research.

Undoubtedly, it is an oversimplification to conclude that achievement motivation is related to such behavioral consequences as occupational excellence in zero-order relationships; often its effects occur through and in relationship to other value-orientations. Thus, attention needs to be devoted to conceptualization and measurement of these other value-orientations. For a start, we wish to suggest the following as deserving priority attention.

1. Fatalism, the degree to which an individual feels he is unable to affect his future, was measured very crudely in the present study. An adequate scale should be developed.* Perhaps high levels of achievement motivation cannot develop among peasants until they feel able to control their future.
2. Familism, the subordination of individual goals to those of the family, was only crudely measured in the present study, and deserves future attention. Until a certain minimum level of familism is reached by an individual, his achievement motivation may have little relationship to his occupational excellence. This is to say that until an individual has majority control of his own business, his values will not bear much relationship to his business performance because it is not his, but rather his family's business.

*Ramos (1966) has, in fact, attempted to develop such a fatalism scale.

3. Machismo, the Latin American masculinity complex, is believed by some observers to explain such varied behaviors as automobile driving recklessness, high rates of prostitution, the high frequency of beauty queen contests, and large family size. Numerous of the responses to the sentence-completion scale items in the present investigation were clearly indications of machismo, even though the items were not designed to measure this concept. An adequate sentence-completion measure of machismo should be developed, and perhaps it would be related with achievement motivation, at least in some of its occupational expressions in Latin cultures.
4. McClelland (1961) defined the concept of need for affiliation as a..."concern over establishing, maintaining, or restoring a positive affective relationship with another person." Need for affiliation, which seems to be similar to other-directedness, may act as a deterrent to innovativeness; a potential innovator with high need for affiliation may hesitate to adopt a new idea that will mark him as a deviant to his peers in a social system. It would be interesting to determine the joint relationships of need for affiliation and achievement motivation upon innovativeness among farmers in a peasant village.
5. McClelland (1961) defined need for power as a concern..."with the control of the means of influencing a person." Perhaps opinion leadership in a peasant community is particularly found among individuals who might be high both in need for power and in need for affiliation.

Not only do these and other value-orientations need to be investigated in connection with achievement motivation, but additional measures of consequences of achievement motivation need to be developed and examined. For example, Neill (1963) found that the most highly related variable with achievement motivation among Ohio farmers was a measure of farm labor efficiency. In the present investigation we were unable to develop adequate measures of agricultural production efficiency (such as labor efficiency, capital return, cost per pound of gain in livestock, etc.) due to difficulties in securing these data from peasant farmers. Future researchers should study the relationship of farm efficiency to achievement motivation.

The consequences of achievement motivation on migration out of agriculture also need to be investigated. It is commonly observed in Colombia that to become rich, one must leave agriculture because of its limited opportunities. The design for this type of investigation would involve measuring the achievement motivation of early teenagers in a peasant village, and then following up the respondents about a decade later to determine the relationship between achievement motivation and urban migration.

RESEARCH ON ACHIEVEMENT MOTIVATION IN OTHER CULTURES

Since the present data-gathering was conducted in 1963-64, several investigations have been designed in other cultures which utilize essentially a similar approach to the study of achievement motivation. Among these are...

1. A 1964 study of the economic correlates of achievement motivation among 50 farmers in four Malaysian villages by Dr. Clifton Wharton, Agricultural Development Council.

2. A 1964 investigation of correlates of achievement motivation among 27 small-scale industrialists in Delhi, India, by Dr. Gloria V. Javillonar, then of the UNESCO Research Center, Delhi.
3. A 1966 study of achievement motivation and other social values among industrial entrepreneurs in the Philippines by Dr. Javillonar, Institute for Human Relations, Philippine Women's University, Manila.
4. A 1964 investigation of social-psychological aspects of 92 small-scale industrial entrepreneurs in Punjab state by Dr. P. S. Hundal, Department of Psychology, Panjab University, Chandigarh, India. Generally satisfactory levels of split-half and test-retest reliability and interjudge scoring agreement were found. A rank order correlation of .52 was found between the sentence completion and a TAT measure of achievement motivation.
5. A study of 84 farmers in two Punjabi villages served by the Intensive Agriculture District Programme, Ludhiana, India; the data were gathered by Dharam P. Yadav, now Research Assistant, Department of Communication, Michigan State University.
6. A 1966 study of 106 Philippino farmers by Tej Pratap Singh, University of the Philippines, College of Agriculture, Los Banos.
7. A 1964-66 UNESCO-sponsored study of 703 farmers in eight villages in Uttar Pradesh by Dr. Prodipto Roy, National Institute of Community Development, Hyderabad, India.

All seven of these researches utilized a version of the sentence-completion achievement motivation scale developed in the present study. Hence, as the results of these varied investigations become available in the near

future, we will accumulate further evidence about certain of the hypotheses tested in the present investigation, as well as the measurement techniques that were used.

Cross-Cultural Consistency of Results: Colombia and India

The last investigation, including 702 farmers in eight Indian villages, bears close similarity to the design of the present study; hence a cross-cultural comparison of results can be made.* The data were obtained via personal interviews with all heads of farm households in the eight villages by trained interviewers from the National Institute of Community Development. After pretesting a more lengthy instrument, the sentence-completion achievement motivation scale was reduced to six items,** which were closely similar to the items included in the final versions of the Colombia scale. The items were correlated .49, .49, .42, .51, .40, and .56 with total scores.*** The scoring procedure, generally similar to that utilized in Colombia, consisted of coding each item response in one of three levels of achievement motivation.

*The authors of the present report are in general agreement with the caution about cross-cultural research expressed by Kluckhohn and Strodtbeck (1961, p. 92), "Anyone who has attempted cross-cultural testing, using the medium of language, is well aware of the deep and as yet bridgeless chasms which separate the linguistically ordered thought-ways of the peoples of varying cultural traditions...."

**The six items are: (1) "For a better life on my farm, I need...," (2) "My greatest aspiration in life is...," (3) "Farmers in our country are...," (4) "A good farmer must have...," (5) "A true man is one who...," and (6) "What are your plans for the next five years?" The latter item was not asked in sentence-completion style.

***These correlations are for the total sample of 702 respondents; the item-total score correlations were generally similar in magnitude and all were positive, when computed separately for each of the eight villages.

- 0 - Indicating absence of achievement motivation in the response. A typical example is "God is Master" in answer to the query about plans for the next five years.
- 1 - Indicating some achievement motivation. An example is the response, "Helping nature," to the item, "My greatest aspiration in life is...."
- 2 - Indicating definite achievement motivation. Examples are "More land" or "Build a pucca house" in response to "For a better life on my farm, I need...."

Seven consequent variables were correlated with achievement motivation scores in India; these seven variables were measured in as similar a way to Colombia as possible. However, there were some minor differences; for example, farm production per land unit was computed for the three major crops grown in the Indian villages and only for the one major crop in Colombia.

Table 13 shows evidence from India that individual excellence in farming varies directly with levels of achievement motivation. One exception occurs in the case of farm production per land unit which was not significantly, nor very consistently, correlated with achievement motivation scores in the eight villages. Of the 56 correlations by villages in Table 13, 5 were not in the expected direction, 30 were in the expected direction but not significant, and 21 were in the expected direction and significant. These results are approximately similar to those presented in earlier chapters for the six Colombian communities. Generally, similar levels of cross-community consistency were found in India also; highest consistency was found for farm size in land units, while lowest consistency was found for reputation as a good farmer and for agricultural innovativeness.

Nine antecedent variables were correlated with achievement motivation scores in the eight Indian villages (Table 14). All of these variables were

Table 13. - Pearsonian Zero-Order Correlations Between Consequent Variables and Achievement Motivation Scores in Eight Indian Communities.

Consequent Variables	Correlations with Achievement Motivation Scores by Community Studied								All Eight Communities Combined (N=702)	Cross-Community Inconsistency Index	Cross-Cultural Inconsistency Index (India and the Colombian Villages Near Facatativa)
	Karimabad (N=80)	Buhar (N=61)	Barawan Khurd (N=139)	Dasdoi (N=32)	Sikanderpur Kurd (N=39)	Uttardhauna (N=141)	Atravli (N=60)	Bahadurpur (N=100)			
1. Agricultural Innovativeness	.37**	.30*	.34**	-.02	.10	.28**	.33**	.26**	.32**	.440	.140
2. Home Innovativeness	.32**	.10	.31**	-.06	.19	.14	.17	.05	.13**	.347	.045
3. Farm Size in Land Units	.14	.16	.23**	.06	.20	.08	.24	.24*	.22**	.194	.070
4. Farm Size in Labor Units	.15	.09	.27**	.01	.06	.10	.31*	.24*	.19**	.295	---***
5. Farm Production per Land Unit	-.06	.17	.18*	-.04	.02	.01	.06	.16	.04	.256	---***
6. Level of Living	.21	.40**	.29**	.04	.48**	.26**	.36**	.18	.31**	.399	.050
7. Reputation as a Good Farmer	.21	.26**	.25**	.04	-.23	.02	.19	.16	.11**	.444	---***

*Significantly different from zero at the five per cent level.

**Significantly different from zero at the one per cent level.

***Comparable measures were not available from the three Colombian Villages.

Table 14. - Pearsonian Zero-Order Correlations between Achievement Motivation Scores and Antecedent Variables in Eight Indian Communities.

Antecedent Variables	Correlations with Achievement Motivation Scores by Community Studied								All Eight Communities Combined (N=702)	Cross-Community Inconsistency Index	Cross-Cultural Inconsistency Index (India and the Colombian Villages Near Facatativa)
			Barawan		Sikanderpur						
	Karimabad (N=30)	Buhar (N=61)	Khurd (N=139)	Dasdoi (N=32)	Kurd (N=39)	Uttardhavna (N=141)	Atrivli (N=60)	Bahadurpur (N=100)			
1. Mass Media Exposure	.07	-.05	.30**	-.12	.39*	.33**	.07	.10	.17**	.523	.080
2. Political Knowledgeability	.27*	.32*	.30**	.10	.46**	.36**	.32*	-.02	.23**	.428	.024
3. Cosmopolitaness	.22*	.11	.13	.04	.02	.16*	.07	-.07	.09*	.491	.050
4. Change Agent Exposure	.27*	.10	.08	.25*	.28	.20*	.20	-.14	.17**	.379	.094
5. Literacy	.11	.10	.23**	.00	.24	.20*	.20	.27**	.21**	.245	.034
6. Years of Formal Education	.19	-.12	.26**	.01	.33*	.18*	.38**	.37**	.24**	.488	.060
7. Age	.04	-.12	.03	-.10	.00	.04	.01	.02	-.03	.169	.090
8. Empathy	.24*	.52**	.45**	.22*	.45**	.41**	.32*	.00	.38**	.494	.054
9. Educational and Occupational Aspirations	-.08	.39**	.15	.05	.34*	.24**	.28**	.12	.24**	.432	.054*** .100***

*Significantly different from zero at the five per cent level.

**Significantly different from zero at the one per cent level.

***Educational and occupational aspirations were pooled in India, but not in Colombia

measured in a similar way in India as in Colombia, except...

1. Change agent exposure in India was a composite of contact with various types of change agents, while in Colombia these were treated separately.
2. Educational and occupational aspirations were combined into a single score in India because of their high interrelationship, while they were treated separately in Colombia.

Table 14 shows that levels of achievement motivation vary directly with communication exposure and modernization variables in India. Measures of family structure and personality socialization were unfortunately not available in the India study. Of the 72 correlations with achievement motivation scores by village in Table 14, 11 are not in the expected direction, 28 are in the expected direction but not significant, and 33 are in the expected direction and significant. Generally lower levels of consistency were found for the antecedent variables in India (Table 14) than in Colombia (Table 11).

Not only can the consistency of our findings be compared across communities, but also across the two countries. Although social scientists give widespread support to the notion that propositions should hold true cross-culturally, we have relatively few investigations designed to provide cross-cultural tests of hypotheses. In Tables 13 and 14 we have computed an index of cross-cultural inconsistency between India and Colombia for four of the seven consequent variables and for each of the nine antecedent variables. The index is computed by essentially the same formula as the index of cross-community inconsistency; the comparisons in Tables 13 and 14 are for (1) the eight Indian villages pooled, with (2) three of the six Colombian villages pooled.

Very high consistency was found for the correlates of achievement motivation across the two cultures. In fact, there was much higher consistency across the two cultures than among the villages within each country.

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APPENDIX

PROTOCOL SCORING GUIDE FOR THE SENTENCE COMPLETION

ACHIEVEMENT MOTIVATION SCALE

The scoring guide was utilized by trained judges to rate each respondent's answers to each of the sentence completion scale items into one of six categories, ranging from 0 to 5.

0 Points - Absence of Achievement Motivation

Typical replies indicate independence, patriotism, familism, affiliation, sex, honesty, altruism, religion, or spiritual belief.

1 Point - Partial Indicators of Achievement Motivation

Examples are material concerns such as health, prosperity, richness, aquisition, property, security, material comfort, debt, help, taxes, work, etc.

2 Points - Partially Implied Achievement Motivation

Examples are responses relating the new or modern, knowledge, size and quantity, difficulties of execution, etc.

3 Points - Implicit Achievement Motivation

Responses indicate care, efficiency, intensity, perserverance, wish, industry, education, ambition, etc.

4 Points - Explicit Achievement Motivation

Responses contain such key words as advance, nice, exact, excellent, failure, gain, ideal, wrong, improve, better than, worse than, worst, progress, etc.

5 Points - Definite Achievement Motivation

Example of key words which may be found in responses are intention, need, necessity, attempt, etc.

As illustrations of use of this scoring guide, the reader's attention is again called to the responses from two farmers on the beginning pages of the present report. The first peasant's answer is scored "5", while the second peasant ("Depending upon God....") is scored "0".