

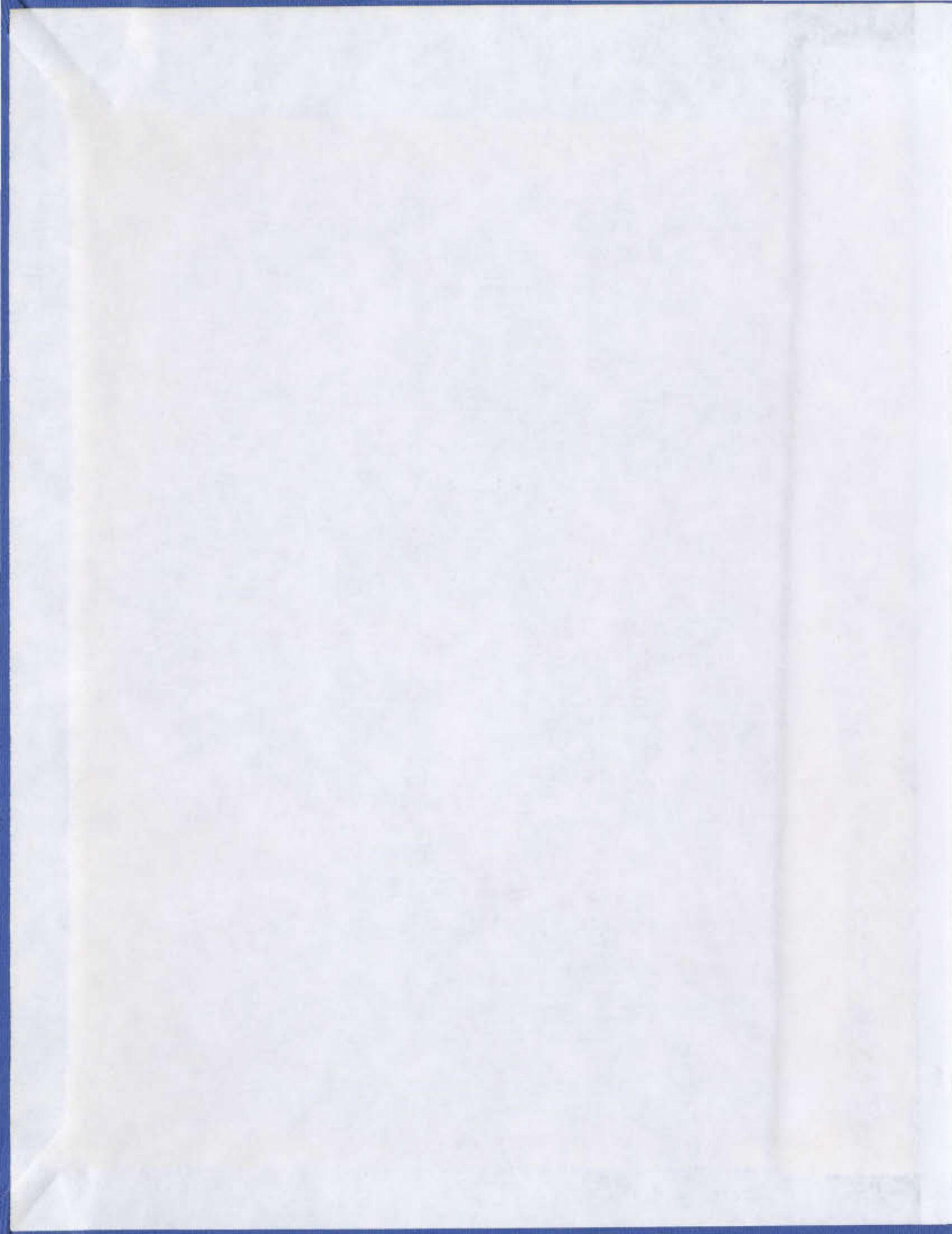
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MOTIVATION AND ECONOMIC
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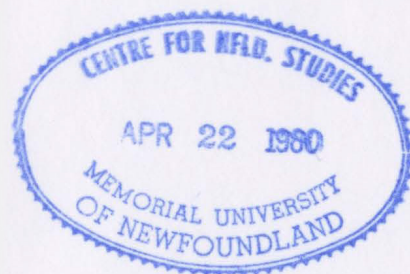
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A STUDY IN ECONOMIC PSYCHOLOGY: ACHIEVEMENT
MOTIVATION AND ECONOMIC PERFORMANCE IN THE
NEWFOUNDLAND DAIRY INDUSTRY

by

John Mercer, B.A., B.Ed.



A Thesis submitted in partial fulfillment
of the requirements for the degree of
Master of Arts.

Department of Economics
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August 1978

St. John's

Newfoundland

ABSTRACT

After two and one-half decades as a province of Canada, during which many attempts have been made at stimulating economic development, politicians, administrators, and economists alike are faced with the disconcerting reality that their various schemes and plans have generally turned out to be much less successful than was initially anticipated. Newfoundland is still one of Canada's least developed provinces.

The author of this thesis believes that, in attempting to explain the specific characteristics of Newfoundland's persistent retardation in economic development, it is useful to depart from the usual trodden paths of development economics and directly examine the psychological aspect of the development problem. David C. McClelland's concept of achievement motivation is chosen as the point of departure.

The idea that achievement motivation, a psychometric indicator of entrepreneurial success, might be significant in explaining the retarded level of economic progress in Newfoundland led to a research plan which it is hoped will give some indication as the relationship between levels of achievement motivation and occupational performance for one particular sector of the Newfoundland economy--the dairy industry.

The thesis reviews previous research into the relationship between achievement motivation and occupational performance. It also examines the role of technology and entrepreneurship in the various theories of economic development and notes the increasing emphasis on these factors in recent economic development literature.

The thesis goes on to measure achievement motivation levels in the Newfoundland dairy industry. Findings obtained from a survey of forty-four of forty-seven dairy farmers in Newfoundland indicate that there is a highly significant relationship between levels of achievement motivation and such indicators of occupational performance in the dairy industry as the number of acres farmed, the number of acres owned, the number of acres of forage crops grown, the number of cows in the dairy herd, average milk production per cow, total annual milk production (gross income), the amount of initiative shown in farm acquisition and the degree of success in subsequent farm development, breeding innovativeness and flexibility, the amount of detail and the degree of accuracy in production and breeding records, innovativeness, and the level of investment in improvements during the two years preceding the interview.

ACKNOWLEDGEMENTS

I am sincerely grateful to my supervisor, Dr. Gerald Royce, and advisor, Dr. Navin C. Jain, for their patient and capable guidance. Without the invaluable suggestions and constructive criticisms of these two men, this thesis would not have been possible.

I am also grateful to numerous other individuals, especially the Newfoundland dairy farmers who gave of their time and answered what they must have sometimes considered very probing questions. Special gratitude is also due to my parents, who were always generous with moral and financial support, and to my wife, Gloria, and daughter, Christa, for their understanding and patience.

Finally, although I acknowledge with sincere gratitude the contributions made by others, I accept complete responsibility for this thesis. If scholarship is lacking, I am responsible.

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CHAPTER I

INTRODUCTION

From the beginning of Economics as a separate discipline economists have conceded the importance of social and psychological factors in economic development. They also recognized the importance of shifts in social values as a prerequisite of economic change. However, economists usually confine themselves to general statements on these topics, and social and psychological aspects of economic development tend to be de-emphasized in their usual discussion of markets, investment, capital-output ratios, etc. In fact, early examination of social and psychological aspects of economic development by such institutional economists as Clarence Ayres and John Galsworthy encountered fierce opposition from orthodox economists¹ who felt that such study was outside the scope of economics. As a result, there were few detailed empirical investigations of social and psychological aspects of the development problem.

In recent years, economists have gone outside the confines of classical economics. They have examined the importance for economic development of such variables as

¹ Benjamin Higgins, Economic Development (New York: W.W. Norton & Company, Inc., 1968), p. 224.

education, literacy, ideology, tradition, and even religion. As a result, the scope of economics has broadened, bringing into the center stage of professional respectability the work of such interdisciplinary economists as Everett Hagen, Bert Hoselitz, and Arthur Lewis. Benjamin Higgins goes so far as to say that cross-disciplinary inquiries are showing signs of becoming "standard economics."¹

The change in economic development literature has been such that Egbert De Vries, after a review of contemporary literature on development theory, concluded that the traditional combination of capital and labor linked through entrepreneurial activity is no longer considered an adequate explanation for development or lack of it. He stated:

"The natural resource base or inherent richness of a country has disappeared from science, except in the sense of warning against waste, spoilage, and pollution. Social, political, and administrative development are coming into their own right as aspects of development."²

Development literature now studies such catalysts and inhibitors of economic development as social structure, systems of land tenure, the caste system, the legal and social position of women, etc. All aspects of modern entrepreneurial activity are examined: i.e., where and how modern entrepreneurship began, traditional attitudes concerning entrepreneurship, formal and inservice education,

¹Higgins, Economic Development, p. 224.

²Egbert De Vries, "A Review of Literature on Development Theory 1957-1967," International Development Review, 10 (1), 1968, 43-49.

motivation and other psychological factors.

Newfoundland has traditionally been, and still is one of the least developed of Canada's provinces. Efforts at stimulating economic development during the past two and one-half decades have not had a significant effect on the province's economic position relative to other Canadian provinces.

The fact that various incentive and other programs undertaken by the Canadian and Newfoundland governments have not had the desired effect would seem to indicate that something about the social climate of the province inhibits development. Nevertheless, very little effort has been given to empirical investigation of the possibility that there might be some connection between social and psychological factors and the evident retarded development of the Newfoundland economy.

As early as 1939, Thomas Lodge, a member of the British Commission which governed the island in the thirties, stated that Newfoundland's problem was more moral or psychological than material.¹ He felt that Newfoundland's backwardness had its origins in the character of the people. He stated:

"Had the island been colonized by dour Lowland Scots instead of West Countrymen and Irishmen of charm there would never have been a problem. As it is, the

¹Thomas Lodge, Dictatorship in Newfoundland (London: Cassel & Company, Ltd., 1939), p. 192.

Newfoundlander has already had too much experience of gifts handed out by governments."¹

Guy Henson, Director of the Institute of Public Affairs at Dalhousie University, in a talk given to the Atlantic Regional Conference on Adult Education at Charlottetown, Prince Edward Island in 1955, stated:

"We have failed to think sufficiently for ourselves and expected others to find, or providence to give, solutions to our problems." "We have lost much of that sense of adventure and achievement in the use of our resources which characterize a healthy economy."²

In more recent years, Premier Joseph R. Smallwood has emphasized the role of sociological and psychological factors in economic progress. On numerous occasions, he spoke of the importance of raising the Newfoundlander's low self-concept and of eliminating his traditional inferiority complex. Smallwood commented in his government's 1969 budget speech, in which he extolled the achievements in the preceding twenty years since confederation with Canada:

"And perhaps the best thing of all is that our people are no longer suffering from the ancient inferiority complex which was so characteristic of them."³

¹Lodge, Dictatorship in Newfoundland, p. 192.

²Guy Henson, "Looking Ahead in the Atlantic Provinces: Education as a Factor in Regional Development" (paper presented to the Atlantic Regional Conference on Adult Education at Charlottetown, Prince Edward Island, June, 1955), pp. 11, 17.

³Government of Newfoundland and Labrador, "The Budget Speech," presented to the House of Assembly at St. John's, Newfoundland, on April 6, 1969, p. 33.

Many people would probably concede that Newfoundlanders, since confederation with Canada, have gained a higher sense of their own value and have lost some of their old feelings of inferiority, but few informed observers would agree that Newfoundlanders no longer suffer from feelings of inferiority. Not the least of these is H.W. Kitchen who in a 1969 study found that low levels of expectation and fatalism, the inability of people to see themselves improving their "lots," is a considerable impediment to education in Newfoundland outports.¹

Although the degree of success achieved by Mr. Smallwood's government in ridding Newfoundlanders of their inferiority complex is debatable, the preceding quotations show that Smallwood is not alone in considering social and psychological factors to be very important determinants of individual economic performance, and thus significant factors in the economic development of the province. Moreover, the line of thought exemplified by Thomas Lodge, Guy Henson, Joseph R. Smallwood, and Hubert Kitchen is consistent with the social and psychological emphasis of recent development literature.

¹H.W. Kitchen, "Differences in Value-Orientations," The Canadian Administrator, 5 (December, 1965), pp. 9-13; also H.W. Kitchen, "A Preliminary Study of Demographic and Socio-Economic Factors in the Atlantic Provinces and their Relationship to Measures of Educational Output" (a report presented to the Atlantic Development Board in 1968), p. 13.

The present author believes that more rigorous examination of the psychological aspect of development which uses David McClelland's concept of achievement motivation will contribute to the understanding of the Newfoundland development problem. McClelland's concept of achievement motivation, which may be defined as a social value which emphasizes a desire for excellence in order to obtain a sense of accomplishment,¹ or more specifically, the desire to do something better, faster, more efficiently, and with less effort,² was chosen as an appropriate point of departure for investigating the psychological aspect of the economic development problem in Newfoundland. McClelland felt that achievement motivation, also called need for achievement, need achievement, and n-achievement is the single most important social value for promoting successful entrepreneurship and national economic development.³

The original intent of this study was to find the relationship between levels of n-achievement in a segment or segments of Newfoundland's population and comparable populations in more developed provinces of Canada. However, this broad inquiry proved impossible because of the large gaps in

¹Early definition used by Roger & Neill in their Columbian Study, which is based on David C. McClelland, The Achieving Society (Princeton: D. Van Nostrand, 1961).

²For a more specific definition, see David C. McClelland, The Achieving Society (New York: Irvington Publishers, Inc., 1976), p. A.

³Ibid., pp. 391-437.

existing basic research. A survey of relevant literature failed to turn up any previous investigation of McClelland's hypothesis in Newfoundland.

It was decided, therefore, that it would be advisable to determine whether or not McClelland's concept of achievement motivation could be isolated in the Newfoundland context and to establish whether or not the positive relationship between achievement motivation and occupational (economic) performance demonstrated in other countries is also evident in Newfoundland.

In order to achieve this end, a research project was initiated to determine the relationship between individual levels of achievement motivation and occupational (economic) performance in a specific industry. For the industry, which was examined, the dairy industry, a correlation analysis was made in order to ascertain the relationship between need for achievement levels of individual dairy farmers and such indicators of excellence and success in the dairy farming as gross income, farm size, efficiency, innovativeness, and rate of farm growth.

CHAPTER II

ACHIEVEMENT MOTIVATION AND INDIVIDUAL ECONOMIC PERFORMANCE:

A REVIEW OF LITERATURE

Numerous volumes have been written on achievement motivation in the past thirty years and it would be impossible to review all of the literature available on the topic. Much of the current research, however, is concerned primarily with the relationship between achievement motivation and one variable: individual occupational (economic) performance. The singleness in the direction of the current research makes a review of the relevant literature much more manageable than it might otherwise have been.

The purpose of this chapter is to provide an overview of the findings of past research into the relationship between achievement motivation and individual occupational or economic performance. It is hoped that a summary and critique of this research will provide a fair indication as to the present level of knowledge concerning this relationship.

Neill, writing in 1963, concluded that up to that time, most need achievement studies had dealt with academic.

achievement and except for Morrison,¹ few researchers had studied the relationship between social values and entrepreneurial decision-making.² Since 1963, however, a considerable amount of research has been conducted into the relationship between need achievement and individual agricultural performance and between need achievement and individual occupational performance generally.

Neill himself carried out a correlational analysis between achievement motivation and such indicators of excellence in farming as gross farm income, farm management ability, total acres owned, and total acres farmed.³ Although only one variable, farm labor efficiency, was found to correlate significantly (at the 5 per cent level) with achievement motivation, the correlations were all in the anticipated direction. Neill felt that his small sample size and the small number of items (five) in his need achievement sentence completion scale may have been the reason for his difficulties.⁴

¹Denton E. Morrison, "Achievement Motivation: A Conceptual and Empirical Study in Measurement Validity" (Ph.D. dissertation, University of Wisconsin, 1962). Morrison found need achievement to be positively related with several measures of innovativeness.

²Ralph E. Neill, "Motivation Among Ohio Farmers" (M.S. thesis, The Ohio State University, 1963), p. 15.

³Ibid., pp. 44-54.

⁴Ibid., p. 54.

Rogers and Neill conducted a very thorough and careful study of the relationship between need for achievement and various indicators of farming excellence in a number of Columbian villages. They found that need achievement scores correlated significantly with such indicators of farming excellence as innovativeness, production per hectare, level of living and social status.¹ They also reported, for similar research in India, significant relationships between achievement motivation and agricultural innovativeness, farm size in terms of both land and labor, standard of living, and reputation as a good farmer.²

Narayan P. Singh also studied the relationship between need achievement levels and agricultural performance in India. Singh measured need for achievement levels among four subgroups of agricultural entrepreneurs: progressive-successful, progressive-unsuccessful, traditional-successful, and traditional-unsuccessful. He found a positive relationship between need for achievement and agricultural productivity. The progressive agricultural entrepreneurs showed higher need achievement levels than the traditional ones, and those who were successful, regardless of whether they were progressive or traditional, displayed higher need

¹ Everett M. Rogers with Ralph E. Neill, Achievement Motivation Among Columbian Peasants, Diffusion of Innovations Research Report 5 (East Lansing, Michigan: Michigan State University, 1966), pp. 56-67.

² Ibid., pp. 95-100.

achievement levels than the unsuccessful ones.¹

The relationship reported between achievement motivation and performance in farming also seems to exist in other occupations. S.W. Koch measured the level of achievement motivation of managers of Finnish firms involved in the production of knitwear, and obtained economic data over a period of time for a number of these firms. He found that over the duration of the eight year period which he examined, achievement scores of the managers were significantly associated with such measures of business expansion as increases in the number of employees, increases in gross value of output, increases in turnover, and increases in gross investment.²

That business performance is related to achievement is also supported by Dufand and Shea. They administered measures of achievement motivation to twenty-nine black individuals engaged in the operation of small businesses and assessed their level of business activity eighteen months later. They found the individuals with a high need to achieve were significantly more active than those whose

¹Narayan P. Singh, "Need Achievement Among Agricultural and Business Entrepreneurs of Delhi," Journal of Social Psychology, 81 (2), 1970, 145-149.

²S.W. Koch, "Management and Motivation," summary of a doctoral thesis presented at the Swedish School of Economics, Helsingfors, Finland, 1965.

achievement motivation was low.¹

P.S. Hundall gives further backing to the thesis that high levels of achievement motivation are related positively with business success. Hundall determined the level of achievement motivation associated with the differential rates of industrial growth of small scale industrial firms in Punjab, India. Analysis of tests of 184 entrepreneurs showed that need achievement was associated with a rapid rate of economic growth of their enterprises.²

Many other researchers have also found a direct relationship between achievement motivation and indicators of enterprise and occupational performance. Mohammed A. Rashid correlated need achievement scores of 121 insurance salesmen with a criteria of success used by their Insurance Career Achievement Club. He found that need achievement scores of the 121 salesmen correlated significantly with sales success.³

Glen Elder, in an analysis of longitudinal data on men of working-class origin came up with results which support the hypothesis that achievement motivation is predictive

¹ Douglas Durand and Dennis Shea, "Entrepreneurial Activity as a Function of Achievement and Reinforcement Control," The Journal of Psychology, 88, 1974, 57-63.

² P.S. Hundall, "A Study of Entrepreneurial Motivation: Comparison of fast and slow-progressing small-scale industrial entrepreneurs in Punjab, India," Journal of Applied Psychology, 55 (4), 1971, 317-323.

³ Mohammed A. Rashid, "Need Achievement and Academic and Job Success" (Ph.D. dissertation, Purdue University, Lafayette, Indiana, 1969).

of occupational status.¹

It is noteworthy that the positive relationship between need achievement and economic success is evident in vastly different cultural contexts. R. Levine measured need achievement levels of Ibo and Hausa students and established that a close relationship exists between need for achievement and entrepreneurial spirit in these two African tribes. He determined that achievement motivation was much higher among the upwardly mobile and economically successful Ibo in Eastern Nigeria than among the less successful Hausa in Northern Nigeria.²

Achievement motivation has even been discovered to affect the behavior of the unemployed. Shepherd and Belitsky surveyed over 300 blue-collared workers who had been out of work in Eire, Pennsylvania in 1964. They found that those with the greater measured "urge to improve"³ started looking for work sooner, checked directly on more than the average number of companies, took their job hunt out of town more often, examined the possibility of getting a different job, and most of the unemployed who had a high

¹Glen H. Elder, Jr., "Achievement Motivation and Intelligence in Occupational Mobility: A Longitudinal Analysis," Sociometry, 31 (4), 1968, 327-354.

²R. Levine, Dreams and Deeds: Achievement Motivation in Nigeria (Chicago: University of Chicago Press, 1966).

³The term "urge to improve" has been used for achievement motivation.

"urge to improve" used at least five out of eight job-hunting techniques. Unsurprisingly, a greater portion of them found jobs sooner.¹

The research studies which have been examined up to this point indicate that need for achievement affects economic performance in various walks of life. The fact that the studies reviewed were carried out in countries with completely different cultures (The United States, India, Columbia, and Nigeria) also indicates that the relationship between achievement motivation and occupational performance may transcend national and cultural boundaries.

A word of caution is in order, however. Not all researchers have been able to find the expected relationship between need achievement and economic performance.

Pridipto Roy, in a study of 680 Indian farmers, failed to find any significant relationship between measured achievement motivation of respondents and their propensity to adopt modern agricultural practices.²

Claud R. Sutcliffe was also unsuccessful in finding a relationship between need achievement and economic

¹H.L. Shepherd and A. Harvey Belitsky, The Job Hunt (Baltimore, Maryland: The John Hopkin's Press, 1961), pp. 31-92.

²Prodipto Roy, et al., Agricultural Innovation Among Indian Farmers (Hyderabad, India: National Institute of Community Development, 1968).

behavior in the Jordan Valley.¹

The results of both Roy and Sutcliffe studies are suspect, however. As in Neill's Ohio study, the number of items in the need achievement scales used (three and two items, respectively) was probably too small to get an accurate and reliable estimate of the level of achievement motivation.²

Also, there is no indication in either the Roy or Sutcliffe studies that the need achievement scales were tested for validity and reliability except on a face-value basis. Sutcliffe tried to remedy this problem by using the Rogers Sentence Completion Scale. But instead of using the complete fourteen-item scale and identifying the items with the best item-to-total score fit in order to obtain a feeling for the new cultural context as Rogers suggested,³ Sutcliffe used the eight-item scale which Rogers found to be best suited for the Columbian cultural milieu.

Other researchers have also failed to find a significant association between achievement motivation and economic activity.

¹ Claude R. Sutcliffe, "Achievement Motivation and Economic Development Among Peasants: An exploration of measurement problems," Rural Sociology, 39, 1974, pp. 238-246.

² Ralph E. Neill, "Achievement Motivation Among Ohio Farmers," p. 54.

³ Everett M. Rogers and Ralph E. Neill, Achievement Motivation Among Columbian Peasants, pp. 87-88.

David Featherman failed to find significant support for previous assertions that achievement orientation influences career attainment in an examination of longitudinal data (1957 to 1967) for 715 white metropolitan males in the United States.¹

Rhoda Barauch, in a study of need achievement in women and career development came up with mixed results.² A study of 137 Ratcliffe alumnae supported the hypothesis that higher need achievement is associated with higher incomes. However, a nationwide sample of 763 women failed to confirm the hypothesis.

Barauch's findings may be due to the fact that the achievement drives of most women in North American culture are not the same as those of men. The girls graduated from Ratcliffe may be an exceptional group with privileged backgrounds and atypical economic motivation. Moreover, some factor or factors in their backgrounds may have resulted in them having achievement orientations similar to those of men and quite different from those of most North American women. For as McClelland comments concerning the different achievement motivations of men and women in the North American cultural context:

¹David L. Featherman, "Achievement Orientations and Socioeconomic Career Attainments," American Sociological Review, 37 (2), 1972, 131-149.

²Rhoda Barauch, "The Achievement Motive in Women: Implications for career development," Journal of Personality and Social Psychology, 5 (3), 1967, 260-267.

"Women have achievement drives which are tied up with getting along successfully with other people, whereas men have achievement drives associated with 'getting ahead' (i.e., getting a good job, being cleverer than other men, leading others, and so on)."

"Women were left unmoved by references to leadership and intelligence, but if they were socially rejected, their achievement motivation increased as measured in the standard way. Men, on the other hand, were unaffected by social rejection on the achievement dimension. The reasonable way to interpret this seems to be in terms of the different expectations involved in achievement motivation for men and women in our culture."¹

Summary

A number of studies of the relationship between need achievement and occupational (economic) performance support the contention that need achievement is positively and significantly related to success in a wide variety of economic activities. Other researchers, however, have found no significant relationship between need for achievement and economic success. The present author feels that most of the negative results can be attributed to inappropriately designed research. But, in any case, it would be unwise to generalize that need achievement is everywhere positively and significantly connected with economic success. Therefore, the level of significance of the relationship should be carefully tested with each new population.

¹David C. McClelland, Atkinson, Clark, and Lowell. The Achievement Motive (New York: Irvington Publishers, Inc., 1976), pp. 330-331.

CHAPTER III

THE ROLE OF ENTREPRENEURSHIP IN ECONOMIC DEVELOPMENT

One of the dangers of an interdisciplinary study that converges on an area that can properly be described as psychoeconometrics is that it is not completely at home in either economics or psychology and it is likely to provoke hostility from the specialist points of view of both economists and psychologists. Since psychoeconometrics is an invention of psychology and not economics, I suspect that psychologists might be less prejudiced than economists to this type of study. In any case, it might be instructive for economists to attempt to explain how McClelland's need for achievement is related to the ideas about entrepreneurship and economic development as found in modern economic literature.

In this chapter, I will review changes in development theory over the years and examine some of the theories that are most relevant to the main currents in entrepreneurial theory. Because this chapter is a rather lengthy digression on the main theme of my thesis, the busy reader may choose to skim through it or move on to the subsequent chapter.

Nature of Economic Development

For many people, the terms developed and undeveloped imply that there are only two categories of development and that there is a line that sharply delineates the two. However, economic development is, in fact, a continuous process and progress along the scale of development is a matter of degree. There is no nation which is completely developed or completely undeveloped. In fact, economic development is an infinite process; ~~there~~ there is no known pinnacle or peak; there is always room for improvement.

However, largely for convenient classification, the development scale is often divided into two parts. The nations on the lower end of the scale are called the less-developed and those on the upper end of the scale are generally referred to as the more-developed.

A number of indexes of economic development are available but progress along the development scale is usually measured in terms of per capita income. This is partly due to the fact that this index is more easily computed and more often available than the others. Less developed countries are generally considered to be those with a relatively low per capita income, a low standard of living, and relatively traditional methods of production and social organization. More developed countries are considered to have the opposite characteristics: relatively high per capita income, a high standard of living, and comparatively modern and innovative

methods of production and social organization.

Economists and social scientists have long speculated about the process by which a nation changes from a less-developed country to a more-developed one, and the factors which determine the rate of movement along this scale. Adam Smith's famous An Inquiry Into the Nature and Causes of the Wealth of Nations was preoccupied mainly with trying to determine the necessary conditions for progressive economic development, and this issue has intrigued social scientists ever since.

The Classical Theories of Economic Development

The main variables in the classical theories of economic development were: the stock of capital, the size of the labor force, the amount of land or the resource base, and the level of technology.

For the classicists, who assumed that the resource base was fixed, development was a race between population growth and technological progress. As long as more resources were available and more profit could be made, technology would win. Profits would provide the pool of investment capital necessary for technological advance; output per capita would increase; and population would grow. In essence, capital formation was seen to be the essential factor for economic growth and development.

As the economy of a country matured and the resource base was used up, however, there would be a diminishing

return to resources. As a result, profits would fall, investment would dry up, the rate of technological growth would slow down and population growth would be curtailed. The end result: stagnation at a subsistence level of consumption.

The classicists included technology as a part of their system. They were also aware of the importance of the entrepreneurial function¹ but they did not make it a strategic part of their system and they did not make the crucial distinction between entrepreneurship and management.²

Marx

Karl Marx's production model, or development theory, although it has been described as "Part and Parcel" of the classical period's general economics,³ was different in that it operated on a new level of dynamics, and the classical variables were given a different emphasis. This was especially true with respect to technology.

The classicists, although partially recognizing the role of technology in economic development, did not think it sufficiently powerful to prevent the ultimate arrival of the stationary state. Marx seems to have had more faith in

¹Gerald M. Meier and Robert E. Baldwin, Economic Development (New York: Robert E. Krieger Publishing Company, 1976), p. 87.

²Joseph Schumpeter, History of Economic Analysis (New York: Oxford University Press, 1954), p. 573.

³Ibid.

technology as the motor of development and he did not agree with the classical economists' prediction that capitalist economics would progress to secular stagnation and stationary state. He maintained that the progress of technology and the enticement of greater and greater riches obtained through the use of ever-increasing technology would lead the capitalist system to its eventual doom through the revolt of its self-created industrial reserve army of the unemployed.¹

Marx not only assigned a more important role to technology and the entrepreneur but he also attached a new significance to the profit motive as the driving force behind the entrepreneur.

Schumpeter

Schumpeter saw development as spontaneous and discontinuous changes from the continuous circular flow of an economy in equilibrium.² These discontinuous disturbances were the result of innovative behavior on the part of entrepreneurs. In Schumpeter's theory, innovation (technology) was the mainspring of autonomous investment and development, and the entrepreneur, the vital force in the whole economy, was the main mover of innovation.³

¹Gerald Meier and Robert Baldwin, Economic Development (New York: Robert E. Krieger Publishing Company, 1976), p. 52.

²Joseph Schumpeter, The Theory of Economic Development (Cambridge: Harvard University Press, 1961), p. 64.

³Ibid., pp. 89, 91-93.

Although Schumpeter did not try to provide an explanation of changes in sociological and political factors which precede accelerated economic development, he did consider them important. He drew on them to explain changes in economic data and the development of entrepreneurial spirit.¹ In this regard, his ideas concerning the role of social factors in the economic development process are similar to those of McClelland.

Rostow

Rostow viewed the economic development process as a series of stages. He identified five such stages: (1) traditional society; (2) preconditions for take-off; (3) take-off; (4) drive to maturity; and (5) age of mass consumption. Rostow's explanation of the causes of take-off is in terms of capital output ratios and investment rates, but the following statement indicates that he recognizes that a new type of entrepreneurship is necessary at the take-off stage if economic development is to occur.²

"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 perceive it to be both possible and good to undertake acts of capital investment; and for their acts to be

¹Schumpeter, The Theory of Economic Development, pp. 89, 91-83.

²Walter W. Rostow, The Stages of Economic Growth (New York: Cambridge University Press, 1961).

tolerably successful they must act with approximate rationality in selecting the directions toward which their enterprise is directed."¹

Although Rostow mentioned the necessity for development of a new form of entrepreneurship and acknowledged the fact that the entrepreneurs have to be directed by some underlying motivating force of social value, he did not try to identify the social value or values in question.

Weber

Max Weber, in a general way, pointed out the relationship between a change in social values and economic development.² He suggested 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.

Weber described the new social values (the Protestant Ethic) as a belief in the value of work, an emphasis on savings and thrift and a desire for upward mobility. Weber felt that this work ethic also explained the fact that, in countries of mixed religious composition, business leaders and owners of capital, as well as the higher grades of skilled labor are overwhelmingly Protestant.³

¹ Rostow, The Stages of Economic Growth, p. 50.

² Max Weber, The Protestant Ethic and the Spirit of Capitalism, trans. by Talcott Parsons (London: George Allen and Unwin Ltd., 1976).

³ Ibid., p. 35.

Hagen

Hagen also speculated about the different rates of technological advance in different societies. He felt that the answer lay more in the social-psychological processes of childhood development, where social values are learned, rather than in such economic theories as the demonstration effect, the lump of capital argument, or the vicious circle of inadequate markets.¹

Hagen suggested that two social values, achievement and autonomy are very important from the economic development viewpoint.² He argued that, historically, it is a loss of traditional status and respect over time which has driven certain minority groups to bring up their children in such a manner that they emerge with a high value on achievement and autonomy. According to Hagen, this explains why social minorities are pre-eminent in providing the entrepreneurial stimulus for economic growth.

Hagen's theory is particularly pertinent to this study because he hypothesizes a relationship between something akin to need achievement (value on achievement) and the early upbringing of the child.

¹ Everett E. Hagen, On the Theory of Social Change: How Economic Growth Begins (Homewood, Illinois: Dorsey Press, 1962).

² Ibid., pp. 232-233.

Recent Literature

In a number of theories of economic development, in those that we have discussed as well as those of Alvin Hansen¹ and Ayres,² technological progress has been given the "pride of place." Like Joseph Schumpeter, A.H. Cole³ and T.C. Cochran⁴ also regard entrepreneurship as the vital progressive force in economic expansion. According to these theorists, if technological progress, the introduction of new techniques which raise the productivity of available resources for development is the motor of development, then the entrepreneur, the person who exerts the effort and accepts the risks involved in the introduction of these innovations, is the main mover of development.

For Meier and Baldwin, entrepreneurship is an indispensable variable in the economic development process. They stated:

"Even if a country has resources, labor supply, technological knowledge and capital, its productivity still cannot be effectively realized unless there are also active

¹ See Benjamin Higgins, Economic Development, pp. 120-146.

² C.E. Ayres, The Theory of Economic Progress, Schocken Books (New York: The University of North Carolina Press, 1944), pp. v-xxv.

³ Arthur H. Cole, Business Enterprise in its Social Setting (Cambridge, Massachusetts: Harvard University Press, 1959), p. 28.

⁴ T.C. Cochran, "The Entrepreneur in Economic Change," in Entrepreneurship and Economic Development, ed. by Peter Kilby (New York: The Free Press, 1971), pp. 95-108.

entrepreneurs who have the ability to organize the other factors of production for the creation of economic goods and who are economically motivated. For development does not occur spontaneously as a natural consequence when economic conditions are in some sense 'right'. A catalyst or agent is needed and this requires entrepreneurial activity."¹

Albert Shapiro is another notable proponent of the view that initiative-taking, risk-taking, and resource organizing (entrepreneurship) is indispensable to a country.² He expanded on this belief concerning the importance of entrepreneurship in the following statement:

"We all know by now that development is a complex process and that a region or economy is an open system in which old variables disappear forever and new ones appear to confound us. There is no single approach or technique that is both necessary and sufficient for regional development. However, there is no approach that offers the same potential for development offered by a program that includes a strong effort to develop entrepreneurship."³

Millikan and Blackner suggest that entrepreneurship is not something that is found in equal proportions in all societies. They feel that without an environment that breeds a group of men with strong motivation for personal achievement and habits of hard work and economy, the process of

¹Gerald M. Meier, and Robert E. Baldwin, Economic Development (New York: Robert E. Krieger Publishing Company, 1976), p. 299.

²Albert Shapiro as found in James W. Schrier, et al. (eds.), Entrepreneurship and Enterprise Development: A Worldwide Perspective (Milwaukee: Project ISEED, Ltd., 1975), p. 28.

³Ibid., p. 648.

modernization may be long delayed.¹ R.S. Eckaus says that the emergence of entrepreneurs and the psychological and cultural factors that account for them define the crucial areas of research for understanding the basic problems of development.²

We could go on to present many more examples of economists who give entrepreneurship a central role in development theory. However, the foregoing review of economic literature is sufficient to show that McClelland's concept of achievement motivation is not outside the mainstream of economics in making entrepreneurship the main mover of economic progress. McClelland's brand of psychoeconometrics is therefore, by nature, an integral part and a logical extension of a main current in economic thought.

McClelland, in fact, made a very considerable contribution to theoretical economics. For what a review of the literature reveals is that, despite the fact that many economists have emphasized the importance of the entrepreneur and entrepreneurship for economic development, economists have not made a thorough study of the precise functional nature of entrepreneurship and the values associated with it.

¹Max F. Millikan and Donald L.M. Blackner, eds., The Emerging Nations (Boston: Little, Brown and Company, 1961).

²R.S. Eckaus, "Technological Change in the Less Developed Countries," in Economic Development: Challenge and Promise, ed. by Stephen Spiegelglas and Charles J. Welsh (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1970), pp. 168-177.

It was left to McClelland to make conceptualization of entrepreneurship sufficiently precise to bring it into the scope of empirical investigation.

McClelland's Theory

McClelland defines need for achievement as a desire for excellence in order to attain a sense of personal accomplishment.¹ McClelland contended that need achievement, which he early felt to be the product of independence and mastery training during youth, suits men for entrepreneurial roles and results in more entrepreneurial activity.² McClelland, like many economists, believed that the improvement of entrepreneurial activity at the individual level was necessary in order to increase the rate of economic development.

A paradigm of McClelland's basic model, which is presented in Figure 1, depicts the central position of need achievement and entrepreneurial activity in his theory of economic development. McClelland described people with high need achievement as follows:

"People with high need achievement appear to work harder when there is a chance that personal efforts will make a difference in the outcome. Specifically, they do not work harder under all possibilities of winning but only when there is some chance of losing. Furthermore, they do not work harder at routine tasks,

¹See Hans L. Zetterberg, On Theory and Verification in Sociology (New York: The Tressler Press, 1954), p. 30.

²McClelland, The Achieving Society, p. 239.

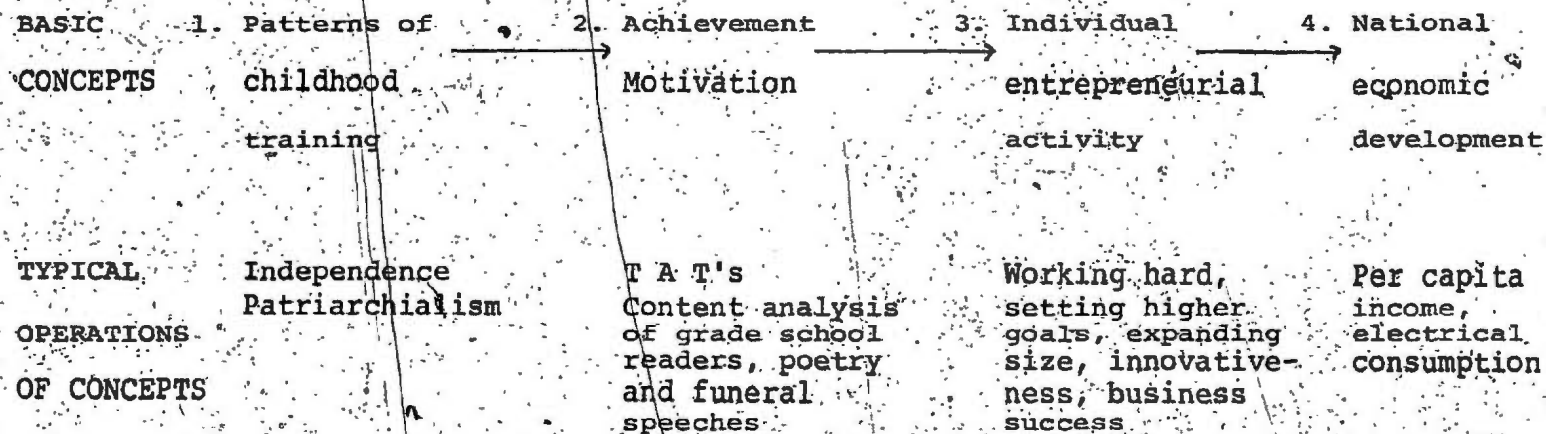


Figure 1. Paradigm of McClelland's Model of Economic Development.

Source: Everett M. Rogers with Ralph E. Neill,
Achievement Motivation Among Colombian
Peasants, p. 14.

but only at tasks which appear to require some degree of mental manipulation, originality or new angle of approach for successful solution."¹

The characteristics attributed to people with high need achievement in the above statement are very similar to those of the entrepreneur who is by definition progressive and innovative, a taker of calculated risks who is not bound by tradition.

McClelland's contention that persons with high need achievement tend to prefer occupations or tasks involving some risk (such as that in the innovative role of the entrepreneur), is supported in his own research with children.² More support for McClelland's hypothesis that people with high need achievement prefer occupations which involve some moderate degree of risk or challenge comes from Atkinson and Feather.

Atkinson claimed that it is precisely those people with a high level of need achievement who are sensitive to changes in economic opportunities, whereas those with a low level of need achievement are not.³ Figure 2 helps to illustrate the findings of Atkinson and Feather concerning

¹McClelland, The Achieving Society, p. 226.

²David C. McClelland, "Risk Taking in Children with High and Low Need for Achievement," in Motives in Fantasy, Action and Society, ed. by J.W. Atkinson (Princeton: D. Van Nostrand, 1958), pp. 306-321.

³J.W. Atkinson, "Motivational Determinants of Risk-Taking Behaviour," Psychological Review, 64, 1957, 359-372.

what happens when need for achievement and opportunities (degree of risk) covary.¹

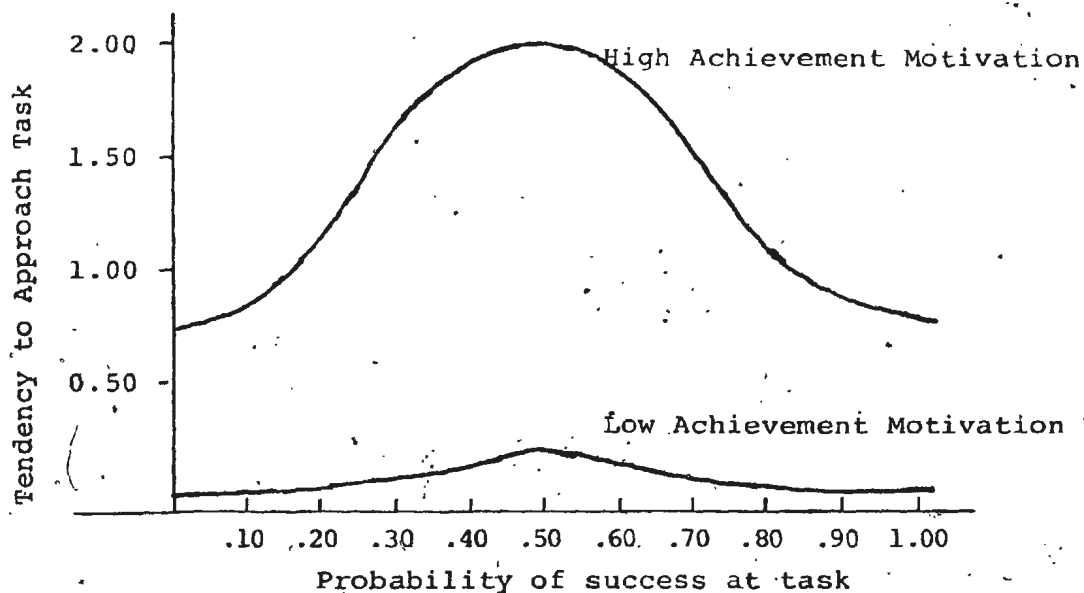


Figure 2. The Interaction of Achievement Motivation and Probability of Success in Determining Approach of a Task.

Figure 2 shows that a person with a high level of achievement motivation tends to select tasks of moderate difficulty where probability of success is equal to .50. A man with a low level of achievement motivation also tends to approach moderately difficult tasks more readily than he does those with a higher or lower degree of difficulty, but his performance curve is flatter, indicating that he may show

¹J.W. Atkinson and N.T. Feather, eds., A Theory of Achievement Motivation (New York: John Wiley & Sons, Inc., 1966), pp. 327-340.

little differential preference for tasks as a function of their difficulty. In fact, his curve indicates that he will attempt very few tasks at all.

This research supports not only McClelland's theory but also the so-called rational model of economic development, which holds that most men naturally seek to maximize their interests given the particular situations and constraints in which they find themselves. The effect of achievement motivation on response to opportunity may well explain experiences with development programs in recent years which suggest that people do not always respond to incentives which change some of the major constraints of their situations. A low level of achievement motivation may be such a great constraint that the reactions of a particular man or group of men to new opportunities may be so small as to be ineffective and unnoticeable.

Economic activity can be successfully stimulated by a policy of changing incentives alone. However, there are numerous instances in economic development where people have failed to act in their own self-interest and take advantage of new opportunities provided by incentives. Part of the problem may be that people with low levels of need achievement, although they may be aware of the new opportunities, do not exert enough effort to capitalize on them. As Meier says:

"Of course vigorous economic activity has been and can be successfully encouraged by a policy of changing incentives alone; but only if the target

population (entrepreneurs, managers in public enterprises and the like) have the appropriate interests, strategies, time perspectives--in short if they have the appropriate structure of response to the situation."¹

Research into McClelland's achievement motivation concept may well provide the tools for effecting the appropriate structure of response to changing incentives. A better understanding of methods or ways of increasing the need achievement level of a population may result in increased effectiveness of the rational model in promoting economic development.

McClelland's early writings concerning the role of achievement motivation in entrepreneurial activity and indirectly in economic development were discouraging to anyone attempting to accelerate economic growth and development because the need to achieve seemed to be a relatively stable personal characteristic rooted in experiences in middle childhood.² This implied that all a developer could do was to try to change parental habits of childrearing--known to be very resistant to change--and then hopefully wait for the children to grow up with a stronger need to achieve.

McClelland, himself, recognized this problem and set out to determine whether or not it was possible to increase the level of achievement motivation among adults, especially

¹Gerald M. Meier, Leading Issues in Economic Development Studies in International Poverty (2nd ed.; New York: Oxford University Press, 1970), p. 668.

²See Figure 1, page of this paper.

adult businessmen. McClelland and Winter reported that participants in short Achievement Motivation courses in India, Spain, the United States, and Mexico showed significant improvement in many aspects of entrepreneurial performance, both as compared with themselves before the course and as compared with three other groups of controls.¹ Course participants showed more active business behavior. They worked longer hours and made more definite attempts to start new business ventures. Also, they actually started more such ventures and made more specific investments in new, fixed productive capital. Finally, they employed more workers and tended to have relatively larger percentage increases in gross incomes of their firms. McClelland and Winter concluded that the motivation of adult businessmen can be changed in such a way that it results in concrete increases in investment and employment.²

The results of this latter study and many other studies for other parts of the world,³ which indicate that need for achievement or some reasonable facsimile thereof can be increased by short intensive courses for adults, has caused McClelland to revise his thinking concerning the significance of the middle childhood period on subsequent levels of

¹David C. McClelland and David G. Winter, Motivating Economic Achievement (New York: The Free Press, 1969), p. 230.

²Ibid., p. 339.

³David C. McClelland, The Achieving Society (New York: Irvington Publishers, Inc., 1976), p. E.

achievement motivation. He states:

"So obviously the period of middle childhood is not so crucial as I thought it was when I wrote this book. It may be the easiest time to develop lasting n-achievement--although we do not even know that for sure--but certainly events in later life can also significantly alter n-achievement levels."¹

While it is true that many people do not have a sufficient level of achievement motivation to respond in a meaningful way to economic incentives, what is significant for the theory of development is that their response to economic opportunities can be altered by appropriate training.

¹McClelland, The Achieving Society, p. E.

CHAPTER IV

ACHIEVEMENT MOTIVATION IN THE NEWFOUNDLAND DAIRY INDUSTRY: A THEORETICAL MODEL

Achievement motivation, which is defined as a desire for excellence in order to attain a sense of personal accomplishment may be displayed in a number of different types of activities. Such activities include sports, school achievement and occupational success. However, since this study is concerned primarily with the possible effect of achievement motivation on entrepreneurship and national or provincial economic development, emphasis will be placed on the relationship between achievement motivation and occupational performance. Due to time, space, financial, and other constraints, this research is further limited to the dairy sector of the agricultural industry.

Although the dairy sector of the Newfoundland agriculture industry (and indeed the total agriculture industry) is a very small part of the total provincial economy, advances made here, as in any other business or resource sector, contribute to the economic development of the province. If a strong relationship can be demonstrated to exist between need for achievement and progressive and innovative (entrepreneurial) behavior on the part of dairy farmers and

between need for achievement and level of performance or success as a dairy farmer, there is no reason why one should not expect to find the same relationship in other industries such as forestry, the fishery, and the business sector.

An illustration of the theoretical model used in this study is presented in Figure 3. This model is based on McClelland's basic model which was presented earlier. It is an adaptation of the model used by Rogers and Neill in their Columbian study.¹

The model reflects McClelland's most recent findings and ideas concerning the origin of achievement motivation. Achievement motivation may be the result of childhood training, ideology, religious beliefs, social rejection, social pressure generally, specially designed training courses, etc. In turn, a high level of achievement motivation leads to entrepreneurial ability and activity which result in improved occupational performance and a faster rate of economic development.

The central hypothesis of this thesis is a particular application of the hypothesis implicit in McClelland's theoretical model. The central hypothesis is that the level of performance (excellence/success) in dairy farming in Newfoundland is directly and significantly related to achievement motivation. In order to test this hypothesis, it has

¹Rogers and Neill, Achievement Motivation Among Columbian Peasants, p. 18.

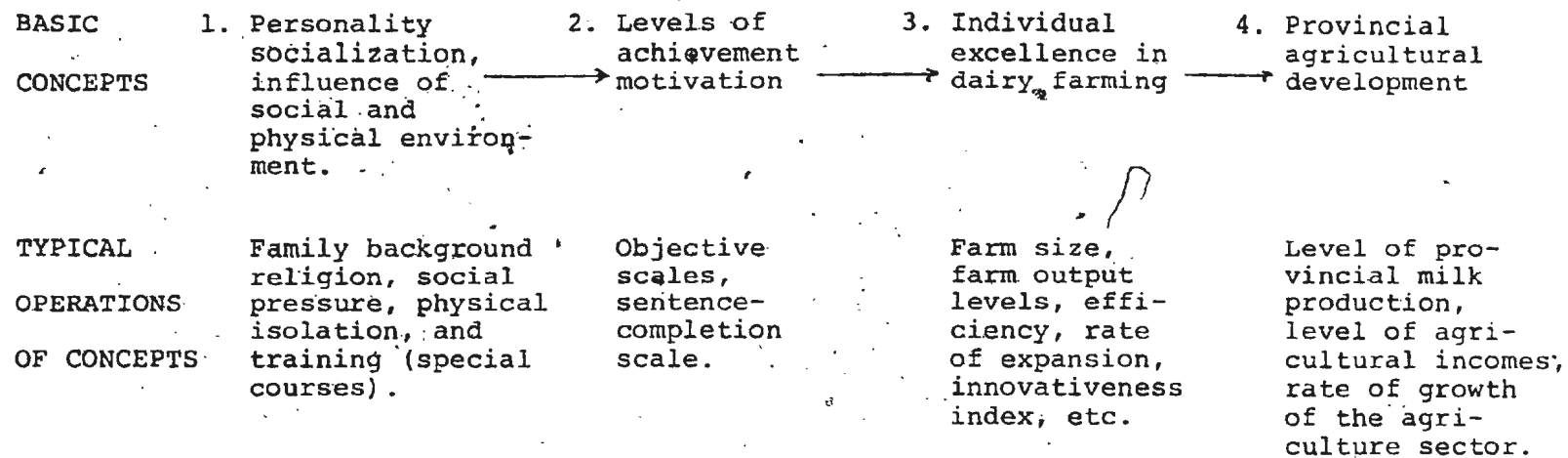


Figure 3. Paradigm of the Model Used as the Basis of Present Research.

been necessary to break it down into a number of empirical hypotheses which can be stated in operative terms.

Empirical hypothesis 1. The level of performance in dairy farming as measured by the total number of acres farmed varies directly with the degree of achievement motivation.

Since a large land base is particularly important in the case of the Newfoundland dairy industry, where imported feed is very expensive, it is reasonable to expect that the amount of land farmed is a good indicator of the level of performance in the dairy industry. It is reasonable to suppose, too, that the dairyman's ability to manage a large land base is an indicator of the level of his performance as a dairy farmer.

Empirical hypothesis 2. Level of performance in dairy farming as measured by the number of acres owned by the dairyman varies directly with the level of achievement motivation.

Of course, many dairymen have inherited much of the land which they farm. Nevertheless, it is true that the successful dairymen increase their land base through the purchase of additional land. The dairyman's ability to purchase land is an indicator of his performance as a dairy farmer.

Empirical hypothesis 3. The level of performance in dairy farming as measured by the number of acres of forage crops grown varies directly with the level of achievement motivation.

In Newfoundland, it is possible to grow hay for between \$50.00 and \$60.00 per ton, while the cost of imported hay is in the \$130.00 to \$160.00 range. Thus, the number of acres in forage crops is a very good indicator of the level of performance as a dairy farmer in Newfoundland. The use of imported hay, instead of hay that the farmer grows himself, could increase the annual feed cost for each cow in his herd by \$200.00.

Empirical hypothesis 4. The level of performance in dairy farming as measured by the number of cows in the dairy herd varies directly with the level of achievement motivation.

Since the dairy farmer's main concern is producing milk, there is little doubt that the size of his herd is a very good indicator of his performance as a dairy farmer.

Empirical hypothesis 5. The level of performance in dairy farming as measured by average milk production per cow per annum varies directly with the level of achievement motivation.

It is reasonable to hypothesize that milk output per cow is a good measure of a farmer's efficiency and management ability. This figure has a major effect on return on

investment and, as such, it is a good indicator of a farmer's growth potential.

Empirical hypothesis 6. The level of performance in dairy farming as measured by total annual milk production (gross income) varies directly with the level of achievement motivation.

Total milk production is a matter of prime concern to any dairy farmer. Also, it is an indication not only of his performance as a farmer but also of his contribution to the provincial economy. Since all Newfoundland farmers receive a set price per pound of milk, milk production is directly related to gross income, another index of occupational success.

Empirical hypothesis 7. The level of performance in dairy farming as measured by the amount of initiative shown in farm acquiral and the degree of success in subsequent development of the farm varies directly with the level of achievement motivation.

This measure of excellence in dairy farming distinguishes between six categories of dairy farmers. The categories are: (1) farmers who inherited a dairy farm which has deteriorated since take-over by the present owner; (2) farmers who inherited their farms in much the same condition as they are in today; (3) farmers who inherited their land and a somewhat smaller dairy herd; (4) farmers who inherited dairy farms with much smaller dairy herds; (5) farmers who inherited

some land only and increased their acreage as well as developing a dairy herd; and (6) farmers who completely developed their own farms themselves.

Information obtained from interviews as well as information available from the Agriculture Division of the Newfoundland Department of Forestry and Agriculture was used to fit each farmer into a specific category.

Empirical hypothesis 8. The level of performance in dairy farming as measured by breeding innovativeness and flexibility varies directly with the level of achievement motivation.

The breeding program is a very important aspect of dairy farm management. If special care is not taken to see that cows are bred at the right time and to quality bulls, a high level of milk production cannot be maintained. A good breeding program is indispensable if a farmer is to improve the milk producing capability of his dairy herd.

Empirical hypothesis 9. The level of performance in dairy farming as measured by the amount of detail and the degree of accuracy in production and breeding records varies directly with the level of achievement motivation.

The fact that a farmer keeps detailed and accurate production and breeding records for each cow in his herd shows that he is concerned with obtaining the maximum output from his cows. Detailed and accurate records are

essential if this goal is to be attained. Records are necessary in order to determine a cow's feed requirements, which bull a given cow should be bred to, when a particular cow should be culled, and a number of other factors.

Empirical hypothesis 10. The level of performance in dairy farming as measured by innovativeness varies directly with the level of achievement motivation.

Return to labor as well as general efficiency and effectiveness can be increased by mechanization and utilization of innovative, non-traditional methods. In Newfoundland, for example, dairy farm productivity and efficiency can be increased considerably by switching to silage instead of attempting to dry hay under Newfoundland's humid climate conditions. Despite the fact that most Newfoundland dairy farmers are aware of the obvious advantages of silage production,¹ only a few of them have switched from the traditional method of curing hay to the production of silage.

In this study innovativeness was measured by checking the degree of mechanization and new practices in use on a particular farm at the time of the interview against a prepared list.

¹The Agriculture Division of the Newfoundland Department of Forestry and Agriculture has offered courses to dairy farmers which were designed to help them with silage production. The advantages of silage production were pointed out in these courses as well as in various widely circulated articles.

Empirical hypothesis 11. The level of performance in dairy farming as measured by the level of investment in improvements during the two years preceding the interview varies directly with the level of achievement motivation.

Points were allocated to each improvement listed as being completed by a given farmer, during the two years preceding his interview, on the basis of cost. The level of improvement made by a farmer during the two years in question, is a good indicator of his performance as a dairy farmer. It is also an indication that he is not satisfied but is still pursuing improvement.

The reader may wonder why economic performance or excellence is judged by eleven separate criteria. Would not the single criteria of an individual dairy farm's profitability be a sufficient measure of its owner's economic performance? There are several objections to using profitability to measure economic performance. First of all, businessmen do not like to give out information concerning profits. Simply stated, the interviewer is not likely to get accurate information about profits. In any case, in farm businesses such as dairy farms, profitability is computed primarily for tax purposes, and it is notorious that very successful businesses (often the most successful) show low profits.

The next two chapters will discuss the methods used for testing the preceding hypotheses and the results that were obtained.

CHAPTER V

METHODOLOGY FOR TESTING THE THEORETICAL MODEL.

Sample and Sampling Procedures

The sample for the present study consisted of forty-seven Newfoundland dairy farmers. Dairy farmers were chosen for the study for three reasons: (1) they are a readily identifiable group; (2) they are relatively accessible for the purpose of interviewing; and (3) the sample size was adequate for the purposes of this study.

The names, addresses, and telephone numbers of all forty-seven dairy farmers in the province were obtained from the Agriculture Division of the Newfoundland Department of Forestry and Agriculture. The dairymen were contacted by phone concerning the importance, purpose, and nature of the study.

Field Interviewing

All of the interviews were conducted by the author during the months of December, 1977, and January and February, 1978. Forty-four dairy farmers were interviewed. In order to better fit into the farmers' busy schedules, most of the interviews were conducted in the evening. Each appointment was arranged by telephone and the interview was conducted at

the farmers' convenience.

Only three of the forty-seven dairy farmers in Newfoundland were not interviewed. They would not agree to provide the interviewer with the information required.

Each of the dairy farmers interviewed was administered a questionnaire which consisted of three achievement motivation scales and a number of questions concerning farming performance. The three achievement motivation scales used were The Lynn Achievement Motivation Scale, The Smith Quick Measure of Achievement Motivation, and the Rogers and Neill Achievement Motivation Scale.¹

Scale Analysis

Due to the lack of confidence of many researchers in the validity of achievement motivation scales, three scales were used instead of one.

Validity

Scale validity refers to the ability of a scale to measure what it is supposed to measure. If it does this, it is said to be valid. Although this is one of the most critical aspects of scale analysis, it is the most difficult to determine. However, a number of methods of determining scale validity are used.

¹The questionnaire used is presented in Appendix A. Each individual scale has been identified by a note at the bottom of the appropriate page.

Face Validity.--All three achievement motivation scales used in this study have been carefully designed for face validity--that is to say, all items in the scales are consistent with the definition of achievement motivation.

Jury Opinion.--Jury opinion is very similar to the face validity concept mentioned above. It refers, however, to examination and acceptance of the items of a scale as consistent with the definition of achievement motivation by a number of researchers rather than just one.

The question-completion scale used in this study is similar to the one used by Rogers and Neill in Columbia.¹ After examination at the Facultad de Sociologia at the Universidad Nacional de Columbia, it was deemed to have passed the jury test.² The other two achievement motivation scales used in this study have also been used by various researchers to measure achievement motivation.³

Known Groups.--Both the Smith Quick Measure of Achievement Motivation Questionnaire and the Lynn Achievement Motivation Questionnaire have measured up quite well when administered to categories of individuals who are known to be high or low in achievement motivation. The eight-item

¹Rogers and Neill, Achievement Motivation Among Colombian Peasants, p. 43.

²Ibid.

³See pp. 48-49 of the present study.

Lynn Motivation Questionnaire has proved successful in distinguishing between university students, managers, and naval officers.¹ The ten-item Smith Quick Measure of Achievement Motivation Questionnaire was able to distinguish between men drawn from the Who's Who list and a sample of eighty-nine men drawn from a panel of volunteers. In addition, when the forty-four men from Who's Who were separated into two categories, "Business and Commerce" and "University and Civil Service," the superiority of the "Business and Commerce" group was significant at the 0.01 level ($t = 4.09$; $d.f. = 17,25$).²

Independent Criterion.--This method of determining scale validity involves the relating of the scale to another measure of the same concept: As already mentioned, in my own study three need achievement scales were used.

Table 1 shows that the coefficients of correlation among the three achievement motivation scales that I have administered are significantly different from zero at the 1 per cent level or better. They provide a valid measurement of achievement motivation.

¹Richard Lynn, "An Achievement Motivation Questionnaire," British Journal of Psychology, 60 (4), 1969, 529-534.

²J.M. Smith, "A Quick Measure of Achievement Motivation," British Journal of Social and Clinical Psychology, 12, 1973, 137-143.

TABLE 1

PEARSON MOMENT CORRELATIONS AMONG THE LYNN,
SMITH AND ROGERS AND NEILL, ACHIEVEMENT
MOTIVATION SCALES

Scale	Scale		
	Lynn	Smith	Rogers & Neill
Lynn73*	.75*
Smith	77*
Rogers and Neill		

*Significant at the 1 per cent level or better.

Internal Consistency

Internal consistency is the degree to which items in a scale measure the same dimension. In this study, item-to-total score correlations and item-to-item correlations were used to determine the degree of internal consistency of the Lynn, Smith, and Rogers and Neill achievement motivation scales.

Item-to-Total Score Correlation.--As previously mentioned, all three achievement motivation scales have been validated by previous researchers and they have also been demonstrated, by the present author, to be valid measures of achievement motivation for Newfoundland dairy farmers. Therefore, since the total scores represent a recognized measure of achievement motivation, item-to-total score

correlations indicate the degree of internal consistency or the relative contribution of each item to the measurement of achievement motivation. Extremely high or low correlations are not desired as a too high correlation would indicate a lack of need for a scale, while a low correlation would contribute little to the measurement of the concept in question.

The item-to-total score correlations for the three scales utilized in this study are presented in Table 2.

TABLE 2

ITEM-TO-TOTAL SCORE CORRELATIONS FOR THE LYNN, SMITH, AND ROGERS AND NEILL ACHIEVEMENT MOTIVATION SCALES

Scale Item No.	Achievement Scales		
	Lynn	Smith	Roger & Neill
1	.45*	.69*	.56*-
2	.81*	.66*	.22**
3	-.09	.21	.60*
4	.39*	.35**	.69*
5	.81*	.33**	.49*
6	.46*	.65*	.65*
7	.42*	.14	.80*
8	.78*	.53*	.56*
9		.63*	.58*
10		.46*	.65*
11			.63*
12			.30**
13			.85*
14			.76*
15			.71*

*Significant at the 1 per cent level or better.

**Significant at the 5 per cent level.

Note: The actual items used in each of the achievement motivation scales are listed in Appendix A.

The low item-to-total score correlation for item three¹ in the Lynn scale indicates that this item makes no significant contribution to the measurement of achievement motivation among dairy farmers in Newfoundland, and thus, in this case, should be dropped from the scale. The low but non-significant correlations of items three and seven to total score in the Smith scale also raises questions as to the value of their contributions.

Intercorrelations Among Scale Items:--Item-to-item correlation provides another indication of internal consistency. Intercorrelation matrices for each of the three achievement motivation scales indicate that the relationship between scale items is for the most part positive but low. Thus it may seem reasonable that a multiple item scale rather than a single item is needed to measure achievement motivation.

Reliability

The term reliability refers to the consistency with which a scale will measure whatever it does measure, or the degree to which a scale will produce similar results when administered to the same individuals over time.

Three common techniques for measuring reliability are: test-retest, multiple forms, and the split-half method. Time and cost considerations, as well as consideration of

¹Individual items of each scale are presented in Appendix A.

the effects of increased response burden on the part of farmers¹ prevented the use of the test-retest method in this study. However, both the multiple forms and split-half methods were utilized.

Multiple Forms.--If two or more scales have been produced to measure the same dimension and each subject in the sample scores each of the scales, then the correlations between the scores on the different scales provide an estimate of their reliability. The fact that a high degree of correlation exists between scores on the Lynn, Smith, and Rogers and Neill achievement motivation scales has already been demonstrated in Table 1.

Split-Half Method.--The difficulties that are often associated with the test-retest and multiple or equivalent forms methods of testing reliability led to the development of the split-half method. In this case, the items of a scale are divided into reasonably equivalent sub-scales and the correlation between the scores on the two sub-scales is calculated.

Splitting the scales in this way cuts the number of items in each scale by half and results in a lower correlation. In order to obtain an estimate of the reliability of

¹Farmers are asked to fill out so many survey forms that they are fast arriving at a point when they will refuse to complete questionnaires for anyone.

the original test a Spearman Brown formula¹ was used to correct or step up the Half-test correlation to the expected full-length value. The resulting corrected split-half coefficients for the Lynn, Smith, and Rogers and Neill scales were .72, .53, and .92, respectively.

Scoring Agreement

Two of the achievement motivation scales used in this study (the Lynn and Smith scales) required simple yes/no or true/false type answers. Since no subjective scoring was involved, scoring correlation was not necessary in those cases.

In the case of the Rogers and Neill sentence-completion scale, two methods of determining scoring agreement were used: inter-judge agreement and judge agreement over time.

Inter-judge Agreement:--Three judges scored the sentence-completion achievement scale for each of the forty-four farmers surveyed. The judges who scored the sentence-completion scales included a professor and two graduate students at Memorial University. All three judges were thoroughly familiar with the concept of achievement motivation. The three judges used the same

¹Robert L. Ebel, Measuring Educational Achievement (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1965), pp. 314-315.

scoring guide. The guide is presented in Appendix B.

Inter-correlations computed among the total scores assigned by the judges were .91, .84, and .87. This is a rather high level of inter-judge agreement. It is a higher level than the .78, .62, and .75 correlations of inter-judge agreement reported by Rogers and Neill in their Columbian study.¹

Judge Agreement Over Time:--This method of determining scoring agreement involves the scoring of the questionnaires by one judge at two different points in time. The author scored the completed achievement motivation scales a second time approximately three months after the first scoring. The coefficient of correlation between the two groups of scores was .97.

Farm Performance Criteria

Most of the farm performance criteria, i.e., number of cows, total milk production, etc., are self-explanatory; however, some of the criteria used may require elucidation.

The amount of initiative shown in farm acquiral and the degree of success in subsequent farm development is divided into six different categories ranging from the smallest level to the highest.² Information from farm

¹Rogers and Neill, Achievement Motivation Among Columbian Peasants, p. 53.

²The six categories are presented in Section V of Appendix A.

interviews, data available from the Agriculture Division of the Newfoundland Department of Forestry and Agriculture and advice from the provincial dairy specialist was used to fit each farmer into a specific category. Each farmer's score was determined by the category he was in. Scores ranged from 1 for the lowest category to 6 for the highest.

Breeding innovativeness and flexibility, and quality of records were measured in much the same manner. The dairymen's descriptions of their farming practices were used to fit themselves into specific categories ranging from least innovative and flexible to most innovative and flexible in the case of the breeding program. The same was done from the quality point of view for production records. Each farmer's score was determined by the category he was in. The specific categories used in each case may be seen in Section V of Appendix A.

Innovativeness was measured by determining the farmer's propensity to adopt new farming machinery and techniques. A list of dairy farm equipment was prepared. A farmer's score on the innovativeness scale was determined by the number of these pieces of equipment that he actually used. If his operation was completely manual, his score was 0. If he used one of the pieces of equipment on the list, he scored 1; if he used two pieces, he scored 2, and so on.

Data Analysis.

All data from the completed questionnaires (raw and coded where necessary) were punched on IBM cards by the author. Coding and punching operations were checked for accuracy.

A computer program (Dest 02) from the University of Alberta titled "Pearson Product Moment Correlations" was used to obtain most of the correlations and significance data presented in this study. The only exception is the split-half reliability correlations for the three achievement motivation scales which were calculated with a desk calculator.

Summary

This chapter has described the procedure used to gather and analyze data for this study. It has described the sample and presented validity, internal consistency, reliability, and scoring agreement criteria for the three achievement motivation scales used.

The scales have been demonstrated to possess acceptable levels of validity, reliability, and internal consistency; and they also show a high degree of inter-judge and over-time scoring agreement.

CHAPTER VI

FINDINGS: THE CORRELATIONAL SIGNIFICANCE OF THE RELATIONSHIP BETWEEN ACHIEVEMENT MOTIVATION AND LEVEL OF PERFORMANCE IN THE NEWFOUNDLAND DAIRY INDUSTRY

Table 3 shows the correlations between the different indicators of performance in dairy farming used in this study and achievement motivation as measured on three achievement motivation scales. The level of significance of each correlation is also given.

Empirical hypothesis 1. The level of performance in dairy farming as measured by the total number of acres farmed varies directly with the level of achievement motivation.

Correlations between total acres farmed by dairy farmers in Newfoundland and achievement motivation levels of dairy farmers, as measured on the three achievement motivation scales, were .51, .48, and .62. These correlations are significant at better than the 1 per cent level of significance. Empirical hypothesis 1 is supported.

Empirical hypothesis 2. The level of performance in dairy farming as measured by the number of acres owned

TABLE 3

CORRELATIONS BETWEEN TOTAL SCORES ON THE LYNN, SMITH, AND
ROGERS AND NEILL ACHIEVEMENT MOTIVATION SCALES AND
INDICATORS OF PERFORMANCE IN DAIRY FARMING

Indicators of Performance	Measures of Achievement Motivation		
	Lynn Scale	Smith Scale	R. & N. Scale
1. Total acres farmed	.51*	.48*	.62*
2. Total acres owned	.41*	.41*	.55*
3. Acres in forage crops	.55*	.49*	.69*
4. Number of cows	.72*	.62*	.73*
5. Milk production per cow	.30**	.29**	.24
6. Annual milk production	.66*	.59*	.69*
7. Initiative shown in farm acquiral and subsequent development	.48*	.39*	.61*
8. Breeding innova- tiveness and flexibility	.47*	.50*	.63*
9. Quality of production records	.52*	.64*	.75*
10. Innovativeness	.70*	.80*	.81*
11. Investment in improvements during two years preceding inter- view	.54*	.53*	.64*

*Significant at the 1 per cent level or better.

**Significant at the 5 per cent level.

varies directly with the level of achievement motivation.

Correlations between the number of acres owned by Newfoundland dairy farmers and achievement motivation, as measured on the three achievement motivation scales, were .41, .41, and .55. All three correlations are significant at the 1 per cent level. Empirical hypothesis 2 is supported.

Empirical hypothesis 3. The level of performance in dairy farming, as measured by the number of acres of forage crops grown, varies directly with the level of achievement motivation.

Correlations between the number of acres of forage crops grown and achievement motivation, as measured on the three achievement motivation scales, were .55, .49, and .69. All three correlations are significant at the 1 per cent level. Empirical hypothesis 3 is supported.

Empirical hypothesis 4. The level of performance in dairy farming, as measured by the number of cows in the dairy herd, varies directly with the level of achievement motivation.

Correlation between the number of cows in the dairy herd and achievement motivation, as measured on the three achievement motivation scales, were .72, .62, and .73. These correlations are significant at better than the 1 per cent level. Empirical hypothesis 4 is supported.

Empirical hypothesis 5. The level of performance in dairy farming, as measured by average milk production per cow per annum, varies directly with the level of achievement motivation.

Correlations between average milk production and achievement motivation, as measured on three achievement motivation scales, were .30, .29, and .24. The first two correlations are significant at the 5 per cent level. The third correlation, although not significant, is in the desired direction and is fairly strong. Empirical hypothesis 5 is supported.

~~Empirical hypothesis 6.~~ The level of performance in dairy farming, as measured by total annual milk production (gross income), varies directly with the level of achievement motivation.

Correlations between annual milk production and achievement motivation, as measured on the three achievement motivation scales, were .66, .59, and .69. All three correlations are significant at the 1 per cent level or better. Empirical hypothesis 6 is supported.

Empirical hypothesis 7. The level of performance in dairy farming, as measured by the amount of initiative shown in farm acquiral and the degree of success in subsequent development of the farm, varies directly with the level of achievement motivation.

Correlations between initiative shown in farm acquiral and success in subsequent farm development, and achievement motivation, as measured on the three achievement motivation scales, were .48, .39, and .61. All correlations are significant at the 1 per cent level or better. Empirical hypothesis 7 is supported.

Empirical hypothesis 8. The level of performance in dairy farming as measured by breeding innovativeness and flexibility varies directly with the level of achievement motivation.

Correlations between breeding innovativeness and flexibility and achievement motivation, as measured on the three achievement motivation scales, were .47, .50, and .62. All three correlations are significant at better than the 1 per cent level. Empirical hypothesis 8 is supported.

Empirical hypothesis 9. The level of performance in dairy farming, as measured by the amount of detail and degree of accuracy in production and breeding records, varies directly with the level of achievement motivation.

Correlations between amount of detail and degree of accuracy in production and breeding records and achievement motivation, as measured on three achievement motivation scales, were .52, .66, and .75. All three correlations are significant at better than the 1 per cent level. Empirical hypothesis 9 is supported.

Empirical hypothesis 10. The level of performance in dairy farming, as measured by innovativeness, varies directly with the level of achievement motivation.

Correlations between innovativeness and achievement motivation, as measured on the three achievement motivation scales, were .70, .80, and .81. All three correlations are significant at better than the 1 per cent level of significance. Empirical hypothesis 10 is supported.

Empirical hypothesis 11. The level of performance in dairy farming, as measured by the level of investment in improvements during the two years preceding the interview, varies directly with the level of achievement motivation.

Correlations between the level of investment in the time period specified and achievement motivation, as measured on the three achievement motivation scales, were .54, .53, and .64. All three correlations are significant at better than the 1 per cent level. Empirical hypothesis 11 is supported.

Conclusion

All eleven empirical hypotheses are supported. The high correlations found between achievement motivation and such indicators of occupational performance as acres farmed, acres owned, acres in forage crops, the number of cows in the dairy herd, milk production per cow, annual milk production, initiative shown in farm acquisition and development,

breeding innovativeness and flexibility, quality of production records, innovativeness, and investment in improvements during the two years preceding the interview leave little doubt that the level of occupational performance in the Newfoundland Dairy Industry is significantly associated with the individual farmer's level of achievement motivation. The central hypothesis of this thesis is supported.

CHAPTER VII

QUESTIONS RAISED BY PRESENT RESEARCH

This study has taken as its premise the argument by James N. Morgan that, presumably at some point, it is advantageous to give up a little of the parsimony and elegance of economic theories concerning the behavior of consumers, workers, and businessmen for improvement in the ability to explain and predict such behavior.¹ Hopefully, the broad goal of this study--to improve one's ability to explain how the social values of Newfoundlanders and the resulting behavior patterns may affect the rate of economic development of the province--has been attained without undue sacrifice to the parsimony and elegance that economists seem to value so highly.

The research findings presented above indicate that there is a highly significant relationship between achievement motivation levels and economic performance on the part of Newfoundland dairy farmers. Although correlation does not prove cause and effect, this research, by establishing significant correlation, has raised important questions concerning the possibility of a causal relationship which

¹James N. Morgan, "The Achievement Motive and Economic Behaviour," Economic Development and Cultural Change, 12, 1964, 243-267.

may have important implications for economic development strategy in Newfoundland.

It would be interesting to determine whether or not the strong relationship between achievement motivation and occupational performance on the part of Newfoundland dairy farmers holds true for other sectors of the agricultural industry, the fishery, the forest industry, and the manufacturing and business sectors of the provincial economy.

A number of other questions also come to mind. Do Newfoundlanders have lower levels of achievement motivation than people in more developed Canadian provinces? Is a lack of achievement motivation, on the part of Newfoundlanders, a major factor in the retarded rate of economic development in the province?

If it is found that Newfoundlanders have a lesser need for achievement than other Canadians and that this variable is an important factor in the province's retarded rate of economic development, yet other questions must be answered.

What is the reason for the low level of achievement motivation? What caused it?

Some people have charged that Newfoundland is a victim of neo-colonialism. Can the low levels of achievement motivation referred to above be attributed to the demoralizing influence of neo-colonialism? Are the relatively low levels of achievement motivation among outport

Newfoundlanders¹ in any way related to the fatalistic outlook on life that is characteristic of people in the province's outports?² Are the low levels of achievement motivation in the outports, and in Newfoundland generally, caused by geographical isolation and relatively poor means of communication with the outside world? What effect has the traditional way of making a living, the inshore fishery, had on the achievement motivation among Newfoundlanders?

How could low levels of achievement motivation prevent or interfere with a rapid rate of economic development in Newfoundland? Do low levels of achievement motivation prevent Newfoundlanders from being entrepreneurs, from taking advantage of natural opportunities as well as new improved ones provided by provincial and federal incentive programs?

If low levels of achievement motivation are a major impediment to economic development in Newfoundland, what can be done to evade or remove the impediment?

How can the achievement motivation variable be used to increase the rate of economic development in Newfoundland?

¹Other research by the author has indicated that need achievement levels of high school students living in rural areas of Newfoundland, as measured on the Lynn and Smith need achievement scales, are significantly lower than scores of urban high school students. For further details of this research, see Appendix C.

²Hubert W. Kitchen, "Difference in Value Orientations," The Canadian Administrator, 5 (December, 1965), 9-13.

Should achievement motivation scores be used, as I.Q. scores have been, in the field of education, to determine who gets the opportunity to take advantage of special programs?

Should incentive programs be directed towards areas of the province where achievement motivation levels are already relatively high or should an effort be made to raise achievement motivation levels in all areas of the province?

If it is deemed necessary for some political, economic, or other reason to raise achievement motivation levels throughout the whole province, how could this be done?

What is the role of improved means of communication, improved transportation networks, adult education, achievement motivation courses, and resettlement, in increasing achievement motivation levels and economic development? How do incentive programs fit into this system? What other factors are involved?

Should major emphasis in a development strategy for Newfoundland be placed on improved communication, improved transportation networks, etc., or should more emphasis be placed on incentive programs? Maybe a careful combination of both types of programs would have a greater effect?

The policy implications of any presumed causal relationship between achievement motivation and economic development are, of course, very considerable. But it should be emphasized that this thesis has not established a definite causal relationship, as is suggested by the foregoing enumeration of pertinent but unanswered questions.

Some of these unanswered questions refer to the inherent theoretical and factual boundaries of the present thesis. It is important that both social scientists and their audience be acutely aware of the practical limitations of any research since misplaced confidence has been a recurring problem doing much harm in the application of social science theories to social policy.

Moreover, some of the unanswered questions are ethical in nature. One should, for example, be forewarned by the evident abuse of I.Q. tests that one should be cautious in using achievement motivation scores for determining social or economic policy.

These cautions notwithstanding, the present author feels that a great deal of further research into the relationship between achievement motivation and economic development is justified, particularly in the Newfoundland context. This is especially evident to anyone who agrees with Harbison's statement that:

"The progress of a nation depends first and foremost on the progress of its people. Unless it develops their spirit and human potentialities, it cannot develop much else--materially, economically, politically, or culturally."¹

¹Frederick Harbison, "Education for Development," in Technology and Economic Development, ed. by Dennis Flannagan, Penguin Books (Harmondsworth, Middlesex, England: 1965), pp. 118-128.

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APPENDIX A
ACHIEVEMENT MOTIVATION SCALES AND PERFORMANCE
QUESTIONNAIRES USED IN RESEARCH

DEPARTMENT OF ECONOMICS
MEMORIAL UNIVERSITY OF NEWFOUNDLAND
DAIRY SURVEY

DATE..... FARM.....

SECTION I

1. How many cows do you have in your dairy herd? _____
2. What is your milk production in gallons?
Last Year _____ Last Week _____ Yesterday _____
3. How many full-time employees do you have? _____
Hours of work per week for each: _____
4. How many part-time employees do you have?
Number of months each one is employed per year: _____
Hours of week each week for each: _____
5. What is the area of your farm? _____ acres
6. How much of it is owned by you? _____ acres
How much is rented? _____ acres
7. How many acres do you use for forage production? _____
8. What proportion of your feed requirements do you produce yourself? _____
9. How much feed do you buy in a year? Hay _____ tons
Dairy rations _____ tons Brewers' grains _____ tons
10. Have there been any major changes in your operation in the last two years? i.e., more/less cows, new machinery, more land cleared, etc. _____

SECTION II*

1. Do you find it easy to relax completely
when you are on holiday? YES NO
2. Do you feel annoyed when people are
not punctual for appointments? YES NO
3. Do you dislike seeing things wasted? YES NO
4. Do you like getting drunk? YES NO
5. Do you find it easy to forget about
your working outside normal working
hours? YES NO
6. Would you prefer to work with an
incompetent partner who is easy to
get along with rather than with a
difficult but highly competent one? YES NO
7. Does inefficiency make you angry? YES NO
8. Have you always worked hard in order
to be one of the best dairymen in
your area? YES NO

*Lynn Achievement Motivation Scale.

SECTION III*

Please indicate whether each of the following statements is true or false. If you feel that a statement is true, underline True. If you feel that it is false, underline False.

- | | | |
|---|------|-------|
| 1. In an unknown situation it doesn't pay to be pessimistic. | True | False |
| 2. Most people want success because it brings respect. | True | False |
| 3. I don't think I am a good trier. | True | False |
| 4. I would sooner admire a winner than win myself. | True | False |
| 5. Incentives do more harm than good. | True | False |
| 6. It's never best to set one's own challenges. | True | False |
| 7. I don't care what others do, I go my own way. | True | False |
| 8. Even a good poker player can't do much with a poor hand. | True | False |
| 9. Modern life is not too competitive. | True | False |
| 10. You can try too hard sometimes; it's best to accept things as they are. | True | False |

*Smith Quick Measure of Achievement Motivation Scale.

SECTION IV*

Please complete the following statements: _____

1. Farmers in this province need _____

2. A good man is one that _____

3. What I want to do on my farm is _____

4. To have twenty cows is _____

5. I would like my oldest son to _____

6. For a better life on my farm, I need _____

7. If I lost my arm in an accident at work on my farm, I
would _____
8. The thing most necessary for my farm is _____

9. Today to have success in farming you _____

10. To earn a good profit from farming, a farmer must have _____

11. In the next five years, I'm going to _____

12. A good farmer must have _____

13. If my dairy operation was not improving, I would _____

14. My greatest goal in life is _____

15. If I won \$100,000 in Atlantic Loto, I would _____

*The above scale is an adaptation of the Rogers and Neill fourteen-item sentence-completion achievement motivation questionnaire.

SECTION V

1. Education Level: a) No schooling ☐ b) Grade one ☐
c) Grade two ☐ d) Grade three ☐ e) Grade four ☐
f) Grade five ☐ g) Grade six ☐ h) Grade seven ☐
i) Grade eight ☐ j) Grade nine ☐ k) Grade ten ☐
l) Grade eleven ☐ m) Some vocational school ☐
n) Finished vocational school ☐
o) Some university ☐ p) University degree ☐

2. Age _____ 3. Number of years farming _____

4. Farm Acquiral:

- a) Inherited farm which has deteriorated since take-over by present owner ☐
b) Inherited farm in much the same condition as it is in today ☐
c) Inherited farm and somewhat smaller dairy herd ☐
d) Inherited farm and much smaller dairy herd ☐
e) Inherited land only and developed dairy farm ☐
f) Farm acquired and developed from scratch by owner ☐

5. Breeding: a) Uses bull only ☐
b) Uses A. I. service provided by government ☐
c) Uses bull and government A. I. service ☐
d) Farmer does his own A. I. ☐
e) Uses both bull and own A. I. service ☐

6. Records: a) No written for breeding or production ☐
b) Written breeding records only ☐
c) R.O.P. or D.H.A.S. or farmer's own breeding
and production records ☐

7. Degree of Mechanization:

- a) Completely manual ☐ b) Tractor and
implements ☐
c) Manure spreader ☐ d) Bulk milk tank ☐
e) Electric milkers ☐ f) Lime spreader ☐
g) Mechanical or
liquid cleanout ☐ h) Silage ☒
i) Pipe-line milking ☐ j) Bulk feed ☐

APPENDIX B

SCORING CRITERIA FOR THE SENTENCE-COMPLETION
ACHIEVEMENT MOTIVATION SCALE

SCORING CRITERIA FOR THE SENTENCE-COMPLETION
ACHIEVEMENT MOTIVATION SCALE

There are six possible categories, ranging from 0 to 5, for use by judges in rating each respondent's answers to each of the sentence-completion scale items.

0 Points -- Absence of achievement motivation.

Replies indicate independence, patriotism, familism, affiliation, sex, honesty, altruism, religion, spiritual belief, etc.

1 Point -- Slight indication of achievement motivation.

Replies indicate concern with health, security, material comfort, debt, help, taxes, richness, property, prosperity.

2 Points -- Partially implied achievement motivation.

Responses indicate concern with the new or modern, knowledge, size or quantity, difficulties of execution or implementation.

3 Points -- Implicit achievement motivation.

Responses indicate care, efficiency, industry, intensity, perseverance, ambition, concern with education.

4 Points -- Explicit achievement motivation.

Responses denote concern with improvement and advancement as well as quality. They contain such words as advance, improve, ideal, excellent, exact, better than, wrong, worst, failure, progress.

5 Points -- Definite achievement motivation.

Responses indicate definite need and intentions to improve and become better. Specific goals and plans for reaching them are mentioned. Some key words which may be found in responses are must, have to, need, worthless, useless, etc.

APPENDIX C

NEED ACHIEVEMENT LEVELS OF RURAL AND URBAN
HIGH SCHOOL STUDENTS IN NEWFOUNDLAND

NEED ACHIEVEMENT LEVELS OF RURAL AND URBAN HIGH SCHOOL STUDENTS IN NEWFOUNDLAND

The Lynn and Smith Achievement Motivation Scales were administered to samples of rural and urban grade eleven students.

The rural sample consisted of 103 students in four small high schools in different areas of Newfoundland. The urban sample consisted of 100 students from a high school in St. John's, the capital city, which has a population of approximately 100,000 people.

Table 4 shows the mean score of each sample on the two achievement motivation scales. The urban sample scored higher on both achievement motivation scales. The difference in the mean scores of the two samples on each scale is significant at the 5 per cent level.

TABLE 4
MEAN NEED ACHIEVEMENT SCORES
URBAN AND RURAL SAMPLES

Sample	Scale	N	X	S.D.
Urban	Lynn	100	4.12	1.25
	Smith	100	5.38	1.80
Rural	Lynn	103	3.79	1.05
	Smith	103	4.92	1.46



