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Factors Affecting Unemployment Status Among Residents of a Lesser Developed Region of Ohio

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INTRODUCTION

The purpose of this paper is to report the findings of a study designed to evaluate the relationship of human capital formation variables and unemployment status within a selected five-county area of Ohio. The study reported here is one component of a major community development research effort being conducted by development sociologists at The Ohio State University and Ohio Agricultural Research and Development Center to obtain input of local residents in the selection of development priorities for the study region.

Respondents in the selected study area provided information relative to the length of time the head of household had been unemployed. These data combined with selected sociodemographic characteristics of the respondent and his/her family are the primary focus of this report. This type of research is needed to identify predictive variables associated with unemployment status which may then be considered by action agencies in the initiation of social programs to eliminate blockages to employability.

UNEMPLOYMENT AS A SOCIAL PROBLEM

Unemployment has been a significant social concern for many years since social status, life styles, and psychosocial well-being are partial functions of employment status. Occupational positions play a significant role in the development and maintenance of a person's self concept and perceptions of self worth. Due to the very high value placed upon work in the United States, anyone who is not engaged in a socially acceptable job is stigmatized unless some legitimate reason is apparent which prevents the person from being employed (*i.e.,* physical handicap or age). The stigma attached to unemployment may become internalized by the individual to the extent that negative self definitions emerge and feelings of self worth become quite negative. In essence, the psychosocial state of the individual may be adversely affected by unemployment.

Purchasing power is also constrained during periods of unemployment. Since economic compensation for work rendered provides the means to secure desired goods and services, life styles frequently must be radically modified to comply with the new economic position when people become unemployed. Individuals may be required to seek public welfare assistance which has many personal and regional development implications.

From an individualistic perspective, long term unemployment creates many adverse social consequences for people experiencing the unemployment and for close family members and friends. If a person has internalized a negative self image as a result of unemployment and feels that he/she is of little use to themselves and others, such orientations may be exhibited in terms of withdrawal from those around them or expressed by open rebellion against a social system that has denied them legitimate access to a desired life style. The person, in essence, would be defined as alienated (18, 24, 32). Alienation may in turn contribute to many types of deviant behavior such as crime or escapism in the form of alcohol or drug abuse since alienated people have few social bonds to constrain their actions. Regardless of the form used to express the alienation, the end result is often quite negative for individuals experiencing personal estrangement and for people in close contact with them.

The social consequences of a large and expanding public assistance program are also often adverse. Limited economic and human resources are often allocated to economically disadvantaged people to the extent that few resources remain for attacking other development problems. Human (*i.e.,* professional social workers) and economic resources used to sustain unemployed people and their families on a minimum subsistence level cannot be allocated to alternative uses which will do much more to increase the socio-economic viability of an area. Unless external financing and expertise are made available to supplement existing development resources, many economically deprived regions cannot begin to resolve existing socio-economic problems until the number of unemployed people within the region is significantly reduced.

While unemployment is a serious social problem in many regions of the United States during "normal" economic periods, the difficulties encountered by disadvantaged family units and for regional development groups are compounded during times of economic recession. This is especially true within regions which have experienced long histories of high

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TABLE 1.—Unemployment Rates for the United States and the Appalachian Region.

	Percent of Labor Force Unemployed				
	1962*	1965*	1966*	1970†	1974†
United States	5.5	4.5	3.8	4.9	5.6
Total Appalachian Region	8.6	5.1	4.3	5.4	5.4
Ohio-Appalachian Counties	7.8	5.6	4.9	6.5	5.6

Sources: *Rothblatt (28, p. 185).
†Bureau of the Census (5, p. 422).

unemployment rates. As the proportion of public assistance recipients to employed persons increases within a region, the probability of expanding regional community development programs will concomitantly decrease, assuming no significant infusion of external development resources. In essence, economically deprived areas with traditionally high unemployment rates will continue to decline unless unemployment can be reduced or external development resources can be increased.

An area within the United States which has experienced extensive development difficulties for many years is Appalachia. The Appalachian Regional Commission in 1964 (25, pp. 28-29) commented upon the nature of the region's economic problems by identifying unemployment as one of the most serious development issues. With the decline of employment in the extractive industries, especially mining and agriculture, sections of Appalachia have experienced very high unemployment rates for extended periods of time. The data presented in Table 1 show that unemployment rates in Appalachia have been frequently higher than the national average. The data also reveal that the rates in the Ohio counties included in the designated Appalachian region in recent years have been higher than comparable data for the region as a whole.

The socio-economic situation within the designated Appalachian counties of Ohio in many ways mirrors the social history of Appalachia as a whole. Unemployment rates and other social class variables have repeatedly demonstrated that the Appalachian counties of Ohio are disadvantaged relative to other areas of the state. Data presented in Table 2 clearly demonstrate that the study counties have: 1) fewer people employed in manufacturing, 2) a smaller proportion of the population in the labor force, 3) lower incomes, and 4) higher unemployment rates than comparable data for the state.

If one accepts the assertion that high unemployment rates are an impediment to socio-economic growth of a region, then it should follow that community development efforts to enhance the socio-economic viability of the Appalachian region of Ohio must focus at least some attention upon the factors serving to block employability of people. Identification of the factors which are predictive of length of unemployment should prove valuable for development planning since programs could be devised to redress the employment blockages and thus reduce the public assistance expenditures. It was in this context that this research effort was undertaken.

UNEMPLOYMENT AND POVERTY RESEARCH

Much of the research completed to date relative to unemployment has focused upon the identification of characteristics associated with unemployed persons as well as regions where unemployed people compose a disproportionate percentage of the population. As a result, unemployment studies tend to be quite similar to poverty research which has also emphasized a similar approach. In fact, comparisons made between the two types of social research will reveal that many variables demonstrated to be significant in the explanation of poverty conditions are identical to those shown to be related to unemployment. This should not be surprising since "poverty" as a concept is most often defined in the context of family income and income is most frequently derived from employment. Families with heads of household that are unemployed for extended periods of time would undoubtedly have low incomes and be classified in the poverty category. Consequently poverty literature will be reveiewed in addition to unemployment research studies.

Poverty Literature

Several factors have been shown to be consistently related to poverty life styles. The characteristics which have been shown to be associated with poverty are: age, gender, educational achievement level of household head, occupation of major income earner, family size, and place of residence (6, pp. 21-23). The findings from numerous poverty research studies which were reviewed for this study may be summarized as follows:

1) Poor families have a higher propensity to be headed by people who are either quite young or quite old; 2) poor families have a higher propensity to be headed by females; 3) non-whites have a higher probability of being poor than whites; 4) the heads

of household in poor families tend to have lower educational achievement levels than other socio-economic groups; and 5) low family incomes are most frequently discovered among farm workers, service workers, and unskilled laborers (26, pp. 83-84).

Orshansky (26), Watts (37), Levitan (17, p. 10), and Coppedge and Davis (6, pp. 25-26) have evaluated the relationship of family size and poverty status. They conclude that family size is associated with being poor since economically disadvantaged families tend to have larger families.

Place of residence is another factor which has been researched relative to poverty. The findings consistently demonstrate high incidence of poverty in rural areas. The President's Commission on Rural Poverty (27), Hansen (10), and Coppedge and Davis (6, pp. 26-28) have noted that the ratio of poor to non-poor people varies considerably by place of residence. The data show that one in every four rural people is poor while only one in fifteen in the suburbs and one in eight in central cities are defined as economically poor. While only 30% of the population live in rural areas, 40% of the nation's poor reside in the nonmetropolitan areas.

The poverty literature indicates that a serious social problem exists in rural areas of the U. S. and strongly suggests that development programs designed to resolve the poverty problem must consider age, gender, education, occupation, and area of residence as important explanatory factors.

Unemployment Literature

As noted above, the research literature in the area of unemployment should mirror in many ways poverty research reports and exploration of the unemployment literature did reveal significant similarity. Many of the factors shown to be associated with poverty were also significantly related to length of unemployment. Women, teenagers, and non-whites have traditionally experienced much higher rates of unemployment than white adult males (35). Gallaway and Dyckman (8) observed that most of the increase in unemployment between 1953 and 1966 was attributed to increases in unemployment for females, teenagers, and very young adults (20-24 age group). Within the same time period, the only cohort that did not change significantly was the 25-54 age group (8, pp. 488-491). Lebergott (16, pp. 9-10) and Zeisel (38, pp. 115-117) also observed that unemployment was higher for workers under 25 years of age. Thus, one must conclude that some agreement exists in the literature relative to the relationship of age and unemployment status.

Educational achievement also has been shown to have an effect upon employment status. Between 1950 and 1962, unemployment rates decreased for highly educated people but increased for individuals with lower educational achievement (15, p. 61). This finding suggests that early termination of educational programs will increase the probability of becoming employed at some time during work careers. Zeisel's research (38, p. 117) provided further empirical evidence that education affects employment when he observed that persons with fewer years of education experienced more frequent periods of unemployment than persons with higher educational achievement levels. The literature suggests that educational achievement levels are related to unemployment.

Unemployment rates have been observed to be highest for unskilled workers but relatively low for professional, technical, managerial, and proprietor groups (29, pp. 69-70; 38, pp. 119-120). As machines continue to displace lower skilled workers (19, pp. 65-66), it is highly probable that unskilled workers will encounter more difficulty in locating work. Rothman (29, p. 48) traces the occupational trends within the United States from 1870 to 1970 and makes a projection into 1980. He suggests that higher level occupations will remain stable or slightly increase while lower level occupations will decrease. The time series data clearly demonstrate a trend toward expansion of higher level positions and a continued decline of the lower level occupations. Unless people achieve relatively high skill levels, there will be fewer useful roles for them to play in the economic work world. The literature strongly suggests that occupation is significantly related to unemployment status.

Stein's research (33) revealed that females have much higher unemployment rates than males because many women do not seek a new job or return to the same job once they become unemployed. Rothman (29, p. 84) states that unemployment has been higher for women every year since 1948. Stein also observed that unemployment and family size were related. He noted that families with unemployed heads of household tend to have larger families. These findings suggest that gender and family size are related to unemployment status.

Iden (14, p. 388) synthesized many research findings into a comprehensive listing of characteristics of regions which had high unemployment rates. He identified 24 areas of high unemployment and compared these areas with 22 areas which had consistently low unemployment rates for the time period of 1950-1965. A summary of the findings are presented below. The areas which had consistently high unemployment rates tended to have a relatively:

TABLE 2.—Selected Socio-Economic Statistics for the State of Ohio and the Five Study Counties, 1970.

Civilian Labor Force, Percent Unemployed		Percent in Manufacturing Industries	Percent in White Collar Occupations	Percent Govt. Workers	Female 16+	Male 18-64	Male 65+	Median Age	(Persons 25 and Older) Median School Years Completed	Persons per Household	Median Family Income
Ohio	4.0	35.6	45.4	13.1	40.1	75.1	24.1	27.7	12.1	3.16	$10,313
Athens	5.9	13.2	49.0	39.7	35.0	40.5	19.9	23.0	12.2	2.94	7,628
Gallia	6.0	15.0	37.3	21.8	30.7	54.2	16.6	30.4	10.0	3.07	6,915
Jackson	7.6	30.8	36.7	17.5	30.5	68.7	15.9	30.6	10.5	3.11	6,635
Meigs	7.5	18.2	34.9	17.3	24.3	70.1	14.7	31.9	10.5	3.05	6,485
Vinton	8.3	29.7	28.7	25.0	27.0	74.8	17.6	29.2	10.1	3.19	6,334

Source: Bureau of the Census (4).

1) High proportion of people 25 years of age and older with educational achievement levels of 5 years or less;
2) Low proportion of the labor force in white collar occupations;
3) High proportion of total employment in manufacturing;
4) High proportion of families with incomes less than $3,000 in 1959;
5) Low labor force participation rate for males;
6) Rapid increase in female labor force participation rates for the time period 1950-1960.

Table 2 shows that the counties selected for investigation reflect many of the same characteristics that Iden noted were associated with high unemployment areas.

Another factor which has been observed to be associated with social status and income is participation in formal organizations. Higher status people tend to assume leadership roles within community groups. Since social status is in large part gained from employment, it should follow that unemployed people should be less frequently members of formal groups. Thus, membership in formal groups should be significantly related to unemployment status. Brazer (3, pp. 507-512) summarized his assessment of the social class literature by noting that numerous studies show that formal group membership is related to occupation, income, and other status indicators.

Selection of Explanation Variables

The poverty and unemployment literature reviews demonstrated an overlap of explanatory variables. The reason for this agreement is that the studies are probably evaluating the same social phenomenon and applying different names to it. The research studies tend to indicate that gender, age, number of children in the household, occupation, educational achievement levels, and participation in formal groups should be significantly related to unemployment status. These variables were selected as potential explanatory factors of length of unemployment.

It was reasoned that since these factors have been shown to discriminate between unemployed and employed people, they should have utility in the explanation of length of time that people remained unemployed. Each of the selected factors will be discussed in the context of length of time unemployed and hypotheses developed for testing.[2]

[2]Gender will not be discussed since the study results revealed that few of the respondent households were headed by females (N = 19), which precluded the use of the variable in the analysis.

SOCIAL EXCHANGE THEORY APPLIED TO THE STUDY OF UNEMPLOYMENT

The primary research objective of this study is to determine the factors predictive of length of unemployment. Many people at some time during their work careers become unemployed for short periods of time but the situation is only temporary and very infrequent. Others, however, remain unemployed for long periods of time or are permanently unemployed. The question is why? To gain insight into this complex development problem, a study was undertaken to isolate the covariants of unemployment. Prior to data collection a series of hypotheses were developed to guide the development of questions to be asked of the respondents. The basic theoretical position used to formulate testable hypotheses was created from selected components of social exchange theory (2, 7, 11, 31, 36). A brief theoretical perspective is presented and hypotheses are put forth for testing.

One of the major theoretical perspectives in contemporary sociology is social exchange theory (2, 7, 9, 12). While many writers have recognized the existence of the theory, relatively few have attempted to use the theoretical approach for research purposes. One of the reasons for the infrequent use of the theory for research is the difficulty in the application of the model to large group situations. Most researchers conceptualize and use exchange theory in a manner similar to Homans (12), which is basically the application of the theory to interaction between two people.

One aspect of social exchange theory is primarily devoted to interaction of individuals with collectivities and is called group focused generalized social exchange (7, p. 209). This perspective for viewing social exchange situations basically posits that people are motivated to become engaged in collective social exchange situations even when they are not interacting with a specific individual. The collectivity acts in many ways like an individual within the exchange situation, but unlike a two-person exchange situation, such collective exchanges frequently are governed by formal rules.

In a two-person exchange situation, the costs and rewards are often easily identifiable. The exchange may be goods or services but may also be some social good such as deference behavior. The actors are aware of the costs and rewards. In the situation of group focused generalized exchange, the individual does not necessarily become engaged in a direct exchange with a specific individual but rather with a representative of a collective group. The individual who is engaging in an exchange situation with a group does not expect any one member of the group to provide the rewards for contributions he/she may make to the group. The individual contributors, however, do expect rewards from the group. If rewards are not comparable to the contributions made, the person will cease to participate in the exchange situation. In like manner, if the individual does not contribute to the functioning of the collective group in a manner that is expected, the nature of the rewards given for contributions made will change. The social exchange concept of reciprocity is applicable in this situation. Reciprocity means that the contributions of one of the actors in a social exchange situation obligates the other actor or actors to reciprocate in a manner that compensates the contributor adequately for the contributions made.

The application of these ideas to an industrial work situation may be accomplished by describing the relationship between the individual worker and the corporate entity. The individual worker is often willing to enter into a social exchange situation with an industrial firm and exchange labor for monetary rewards. The individual actor (worker) has certain expectations but so does the collective group (corporation). If the contributions made by the individual to the accomplishment of the corporate goals are comparable to the rewards received, then a stable exchange situation is established. If, however, the rewards exceed the contributions or vice versa, the exchange situation will be changed by one of the actors. This assumes of course that each of the actors has some power to make decisions which are in their best interest to make.

An example of the imbalance of power would be a situation in which the collective group has coercive power over a worker. The collective group is able in such a situation to command greater contributions from the individual than the existing reward system would appear to merit. In situations where the worker has power to act in his/her best interest, the individual may leave a job when compensation falls below what he/she feels is appropriate for the contributions made. In like manner, the corporate entity may terminate employment or change the reward system when the rewards become greater than the contributions made to the accomplishment of group goals.

The concept of distributive justice forms the underpinnings for assessing the relative "justness" of any exchange situation. Distributive justice involves an evaluation of whether or not compensation which one receives in an exchange situation is proportional to the costs incurred (36, pp. 235-236). In the situation of a firm evaluating the performance of an employee or making an assessment about whether or not to employ a person, a decision must be made relative to the probability that the person will be or is presently "worth" the costs that are or will be incurred by employment. In essence, the rewards to the corporate entity must be greater than or at least equal to the cost of continued rewards going to the person.

Distributive justice from a sociological perspective does not necessarily connote equality. The concept includes the possibility for the existence of social inequalities and recognizes that individuals will be rewarded differently relative to their contributions to the group. This means that some individuals will be rewarded more than others since they will contribute more to the operation of the group. In the context of the group focused generalized exchange model, an employer will distribute rewards in an unequal manner, with the distribution dependent upon the relative contribution of the individual actors in the accomplishment of the group goals. Some people within a group will receive a great deal while others will receive little or nothing from a particular employer.

This line of reasoning suggests that the type of skills a person possesses and takes into a social exchange situation will affect the outcome of the exchange process. If a person has the needed skills to perform a role, then the probability is greater that the individual will be employed and/or retained in the organization. The person will also be paid higher wages than those without certain skills since they will be contributing more to the goal accomplishment of the group. If the person lacks needed skills, the individual will not be employed or will be terminated when some other option is available to eliminate them such as automating the job or replacing the person lacking skills with someone who possesses them.

Individuals who lack needed skills to function in work roles will have a very difficult time in locating employment and will probably remain unemployed for longer periods of time. The skill-related characteristics of individual actors in an exchange situation are termed "investments." Investments are the factors that differentiate individual actors. Some people have gained extensive skills through formal education or work experiences which provide them advantages over other people in the competition for work roles. People with these experiences are said to have higher investments in terms of work skills. For this reason it was hypothesized that investment variables would be significantly related to length of unemployment. If people lack certain skills they will be the first persons terminated from their jobs and the last to be rehired. This means that people with the less relevant "investment" skills will have the longest tenure in terms of unemployment.

DISCUSSION OF INVESTMENT VARIABLES

The investment variables selected for assessment in this study are: age, education, occupational background, number of children living at home, length of residence in the region, and formal group membership. Individual actors bring these characteristics into potential exchange situations which affect their opportunities to actively participate and the type of rewards they will receive for participation. A brief discussion of how each variable should affect employment opportunities is presented below.

Age

Age is an investment variable which will affect employment primarily due to the fact that increasing age will limit the extent of physical activity in which a person can engage and the length of time a person will be expected to work before retirement. Hard physical labor which is often associated with lower skilled jobs will be difficult for older people to do. Therefore, many low skilled jobs are too physically demanding for older people. Length of expected employment also affects employability since most jobs require training periods which cost the employer productivity and the employer is only able to recoup the investment when workers have many years of service remaining before retirement. If a person is older, the years of productive employment (high return to the employer) will be limited. Employers will, therefore, most frequently seek younger people for employment who can do more physically demanding work and will have more years to work before retiring. It was therefore hypothesized that age would be positively correlated with length of unemployment.

Education

Education should be inversely related to length of unemployment since more highly educated people should have more relevant work skills to exchange for employment. Since skills are important requisites for employment, employers should perceive more highly educated people as desirable and should select them over less educated persons. It was therefore hypothesized that educational achievement levels would be inversely related to length of unemployment.

Occupation

Experience in work roles should affect employment opportunities since the training period for new workers should be significantly shortened for those with work experience. A person with work experiences which are closely aligned to the needed work roles should be highly valued by employers because they should more effectively function in the job than a person without such knowledge. Since technology is reducing the unskilled jobs over time but expanding highly skilled occupational opportunities (30), more highly skilled people will have an advantage for employment. It was hypothesized that occupation would be significantly related to length of unemployment. It was expected that people with lower skilled occupations would have the longest periods of unemployment since the skill levels they have to exchange for employment are lower.

Number of Children Living at Home

The number of dependents that a person possesses will affect their ability to secure additional job training or formal education (increase relevant investments). Individuals who have established nuclear families cannot easily return to school or participate in evening class programs since familial responsibilities are present. As the number of dependents increases, the demands for personal time for family interaction and economic responsibilities increase. Limited economic resources cannot be easily redirected to other uses such as education to increase the individual's employability. Social pressure from the children to keep them in school systems where they are already integrated also is greater as the number of children involved increases. This means that physical mobility to a location where employment opportunities are greater is significantly reduced. It was reasoned that the number of children living at home would be positively related to the length of unemployment.

Length of Residence in the Region

It was reasoned that long term residents of rural communities who become unemployed should remain unemployed for longer periods of time than shorter tenured people since they should be less physically mobile for employment reasons. People who have lived in a community for extended periods of time will have established friendships and have become well integrated into the community group. The social costs of migration to find or accept a job should be perceived as very high, and therefore people should be reluctant to move their home and sacrifice the security of social relationships for employment. It was hypothesized that length of residence would be positively related to length of unemployment.

Group Membership

The last factor to be discussed is formal group membership. Social contact with other people is an important form of diffusion of information. Contacts made at organizational meetings may prove valuable in alerting people to job opportunities. The same organizational contacts may provide information about job training programs which would increase work skills. It was reasoned that contacts with organizational members would expose individuals to more job information and thus provide a medium through which employment could be attained. It was hypothesized that the number of formal organizational memberships would be inversely related to length of unemployment.

METHODOLOGY

The Research Situation

The region selected for investigation is a five-county area within the designated Appalachian counties of southeastern Ohio. The region is characterized by rolling hills and widely separated farmsteads and small villages. The primary occupations in the study area have traditionally been associated with the extractive industries, even though the occupational structure is slowly becoming more differentiated over time.

The socio-economic history of the region shows that the area has experienced slow decline for many years. Outmigration has been the norm rather than the exception since jobs in the local area were difficult to locate and opportunities for economic security were much better outside the study area. The social infrastructure tended to reflect this history of socio-economic decline. Services, both public and private, have been in a state of decline relative to other areas of the state. Unemployment rates have remained high and many other indicators of a declining area are identifiable within the region.

Table 3 presents the migration data for the period 1950-1975 and shows that the study region has experienced outmigration until very recent years. Table 4 presents socio-economic characteristics of the study area compared with the state data. The data show that the region is disadvantaged relative to the state and has not experienced much industrial growth over time.

The socio-economic viability of the area looked rather bleak until several coal mines were opened in the early 1970's. The mines did more than provide jobs and increase spending in the area. The new economic enterprises created new interest in development planning among several groups to sustain the growth and, therefore, increase the probability that the recent surge of economic activity would not wane and permit socio-economic decline to begin again.

TABLE 3.—Net Migration Data for the Study Area, 1950-1975, by County.

County	1970-75	1960-70	1950-60
Athens	—10.1	10.5	— 6.3
Gallia	9.0	— 8.5	— 5.4
Jackson	3.8	—12.8	— 6.6
Meigs	6.5	—13.2	—11.6
Vinton	6.2	—14.3	—15.4

Source: Thomas (34).

TABLE 4.—Socio-Economic Characteristics of Study Area Compared with the State.

	County					
	Athens	Gallia	Jackson	Meigs	Vinton	Ohio
Percent Urban*	51.2	29.7	45.1	27.6	0	75.3
Percent Less Than 18 Years	25.2	32.0	35.1	34.0	35.9	35.1
Percent 65 Years +*	9.1	11.4	13.0	13.8	12.5	9.4
Percent Under Poverty Level*	13.1	19.1	20.5	22.1	19.9	7.6
Percent Non-white*	3.1	4.5	0.8	1.3	0.3	9.4
Percent Employed in Manufacturing*	13.2	15.0	30.8	18.3	29.7	35.6
1975 Manufacturing Employment†	1,206	836	2,469	383	566	1,266,728
1970 Manufacturing Employment†	1,719	437	2,060	401	495	1,403,801
Population (1975 estimated)†	51,500	28,100	28,900	21,300	10,300	10,759,000

*Source: Thomas (34).
†Source: Hushak (13).

To aid in the planning process, a study was commissioned to investigate the priorities placed upon alternative development activities by residents in the region. The primary focus of the study was upon industrial and outdoor recreation development programs (23), even though other types of development options were evaluated. One component of the data set was concerned with recent unemployment histories of the primary income earner. These data provided the necessary information to test the merits of the hypotheses noted above.

Sampling

The data collection phase of the study began in the summer of 1975 and was completed in the late fall of the same year. Systematic random sampling (20, 21, 22) was adopted as the means to select the subjects for inclusion in the study. The field staff who conducted the interviews were instructed to begin the sampling process at different sites each day and to select every fifth occupied residence. The purpose of the study was explained to an adult resident of the selected dwelling and a request was made for the person to grant an interview. If the person refused to be interviewed, the interviewer was instructed to select an adjacent dwelling until an interview was granted, at which time the original procedure was again initiated. A total of 1,493 interviews were completed, with a refusal rate of approximately 5%. Only one adult member of each household was interviewed.

Monitoring of the sample distribution was conducted via detailed county maps which identified occupied dwellings. The field staff were required to mark on the maps the location where each interview was conducted and visual inspections of the sample distribution were made periodically during the data collection phase of the study and at the conclusion of the field work. Inspection of the maps demonstrated that the study subjects were randomly distributed throughout the counties and that all geographical segments of the counties were represented. Comparison of intra-county distributions by townships demonstrated that the expected number of people per township was very close to the actual number taken by the method described above. The expected number was calculated from census data of township population compared with the total population of the county.

The field staff were instructed not to conduct interviews prior to 9 a.m. or later than 10 p.m. This was done to reduce inconvenience to the respondents.

Identification of Unemployed Respondents

Of the 1,493 families included in the study, 290 respondents indicated that the primary family income earner had been unemployed for a period of time during the preceding year. This constitutes 19.4% of the sample drawn on a random basis.[3] Retired people were disaggregated from the data set prior to the identification of the people termed "unemployed." Data from individuals who noted that the primary income earner in the family had been unemployed at some time during the preceding year constituted the study group for this analysis. The respondents were asked to indicate the number of months the primary income earner had been unemployed. Thirty respondents reported unemployment time periods greater than 12 months.

The characteristics of the respondents termed "unemployed" and the "employed" are presented in Table 5 for comparative purposes.

[3]This is a very interesting finding which indicates that the unemployment rate within the study area is much higher than reported. The official unemployment statistics are calculated from data generated from people who report their unemployed status. While it is possible that all 19.4% were not unemployed at the same time, the high incidence of unemployment clearly shows that the unemployment data for the study region grossly underestimates the severity of the problem. This is especially true when one considers that only unemployed heads of household were included. Unemployed spouses would probably inflate the figure considerably. This phenomenon should be investigated in future research.

Operationalization of Variables

The variables included in the study were: age, number of children in the household, occupation, educational achievement level, length of residence in the region, formal group membership, and length of unemployment. The variables were operationalized in the following manner:

- "Age was measured in terms of age in years of the major income earner at last birthday.
- "Children" were measured by asking the respondent to note the number of children living in the household at the time of the study.
- "Occupation" was operationalized into two categories termed "skilled" and "unskilled" classifications. The respondents were asked to give a title of the head of household's present or last occupation and to provide a description of the duties attached to the work role they were playing. These data were screened by trained professionals and the occupations were placed in the skilled or the unskilled categories.
- "Education" was measured by the total number of years of formal education completed by the major income earner.
- "Length of residence" in the community was measured in terms of years the respondent had lived in the region.
- "Formal groups" were measured in terms of the number of formal organizations to which the respondent belonged.
- "Length of unemployment" was measured in terms of the number of months the primary income earner had been unemployed. If the respondent noted that the primary income earner had been unemployed at any time during the preceding year, he or she was asked to indicate the total length of time in months that the primary income earner remained unemployed.[4]

The data were subjected to multiple correlation and stepwise regression analysis as well as analysis of variance.

FINDINGS

The findings basically repudiated the theoretical position offered to explain length of unemployment. All of the independent variables were demonstrated to be insignificant in the explanation of the variance in the dependent variable. Data presented in Table 6 reveal that none of the independent variables was significantly correlated with length of unemployment at the .05 level.

Stepwise reression analysis revealed that the five variables included in the analysis explained approximately 1.5% of the variance in length of unemployment. None of the variables which entered the analysis was significant at the .05 level. Age, length of residence in the community, number of formal group memberships, number of children living at home, and education of the primary income earner were shown to be insignificant as predictors of length of unemployment. The relationship of length of residence to length of unemployment was so small that

TABLE 5.—Summary Characteristics of Unemployed and Employed Groups.

	Unemployed (N = 290)	Employed (N = 830)
Mean Years of Education	10.63 SD = 3.49	11.15 SD = 4.46
Mean Number of Formal Group Memberships	1.05 SD = 1.40	1.79 SD = 1.89
Mean Number of Children Present in Household	1.58 SD = 1.45	1.48 SD = 1.48
Mean Age	34.56 years SD = 12.24	39.2 years SD = 12.59
Mean Length of Residence	22.67 years SD = 15.26	26.87 years SD = 17.24
Mean Number of Months Unemployed	5.39	0

[4]The data used in the analysis included responses from females who were not heads of households. Age, length of residence, and number of formal group memberships for female respondents were used in lieu of not having this data for the head of household. It was assumed that a close correlation existed between husband and wife characteristics. To test this assumption, data for the unemployed male respondents were disaggregated and analyzed separately. The findings from the "males alone" data were almost identical to those reported here, which validates the assumption that selected information of the female spouse provides good proxies for male heads of household.

TABLE 6.—Correlation Matrix for Length of Unemployment and Selected Independent Variables (N = 290).

	Age	Children	Length of Residence	Formal Groups	Education	Length of Unemployment
Age	1.00					
Children	—0.05	1.00				
Length of Residence	0.53*	—0.03	1.00			
Formal Groups	0.13*	0.15*	0.18*	1.00		
Education	—0.24*	—0.14*	—0.08	0.18*	1.00	
Length of Unemployment	0.11	0.01	0.05	—0.03	—0.11	1.00

*Significant at the .05 level.

TABLE 7.—Stepwise Regression Findings for Selected Independent Variables and Length of Unemployment Presented in Unstandardized Coefficient Form (Standard Error of the Estimate Within Parenthesis), N = 290.

Independent Variables	Step 1	Step 2	Step 3	Step 4
Age	0.058 (0.031)	0.047 (0.031)	0.050 (0.032)	0.051 (0.032)
Education		—0.246 (0.174)	—0.230 (0.179)	—0.222 (0.183)
Groups			—0.115 (0.278)	—0.126 (0.284)
Children				0.056 (0.269)
Constant	3.38	6.58	6.43	6.24
Adjusted Coefficient of Determination R^2	0.012	0.016	0.013	0.009

*All of the regression coefficients are insignificant at the .05 level.

it did not meet the minimum criteria for entry into the regression analysis and is therefore not presented in the regression findings table. The regression findings are presented in Table 7.

To insure that a curvilinear relationship was not operative for age in the regression analysis, an analysis of variance was conducted on the data using the following age categories as the criterion variable: less than 25 years of age, 26-35 years of age, 36-45 years of age, and 46 and more. There were no significant differences among the age categories since the F ratio for the analysis of variance was 1.3 which is not significant at the .05 level. The analysis of variance statistics are presented in Table 8.

Occupation also proved to be of little utility in explaining the variance in length of unemployment. The occupation findings are presented in Table 9.

A Comparative Analysis of Employed and Unemployed Groups

The repudiation of the theoretical perspective developed from selected components of social exchange theory was surprising given the literature support for the variables selected for investigation and the high esteem that human capital models have in contemporary development programs. Since the implications of the findings were so great for development programs within the study area, an additional analysis was conducted of the data to assure that the findings were not an artifact of variance constriction within the study variables. The statistical technique used to test the validity of the regression findings was discriminant analysis. The same independent variables used in the regression calculations[5] were also used in the discriminant analysis. Employment status (employed vs. unemployed) was used to formulate the study groups for comparative purposes. Un-

[5]Occupation was operationalized in a different manner for the discriminant analysis. The Census classification of occupations was used and weights applied. Unclassified was given a weight of 1, service worker 2, small farmer 3, unskilled laborer 4, skilled blue collar 5, white collar 6, manager-administrator 7, and professional 8. The remaining variables were operationalized in the same manner as discussed in the methods section of this bulletin.

TABLE 8.—Analysis of Variance for Length of Unemployment and Age (N = 290).

Group	Sample Size	Mean Length of Unemployment	Source of Variation	Sum of Squares	Mean Square	F	Coefficient of Determination R^2
< 25	82	5.18	Main Effects				
26-35	99	4.87	Age	162.1	54.0	1.3*	0.01
36-45	49	5.02	Explained	162.1	54.0		
46 >	60	6.83	Residual	11740.5	41.0		
Grand Mean = 5.39			Total	11902.6	41.2		

*Not significant at the .05 level with 3 and 286 degrees of freedom.

TABLE 9.—Analysis of Variance for Length of Unemployment and Occupation (N = 290).

Group	Sample Size	Mean Length of Unemployment	Source of Variation	Sum of Squares	Mean Square	F	Coefficient of Determination R^2
Unskilled Workers	163	5.85	Main Effects Occupation	77.7	77.7	1.89*	0.007
Skilled Workers	127	4.80	Explained	77.7	77.7		
			Residual	11824.9	41.1		
			Total	11902.6	41.2		

*Not significant at the .05 level with 1 and 288 degrees of freedom.

TABLE 10.—Discriminant Analysis of Unemployment-Employment Status by "Investment" Variables (Unemployed Group N = 290; Employed N = 830).

	Standardized Discriminant Function Coefficients	Eigen Value	Cannonical Correlation	Wilks' Lambda	Chi-Square	DF	Significance Level
Education	—0.031						
Children	0.067	0.067	0.251	0.937	72.43	6	0.001
Age	—0.456						
Tenure	—0.126						
Groups	—0.489						
Occupation	—0.458						
Group Centroids							
Unemployed	0.424						
Employed	—0.148						

employed subjects were assigned a value of 1 and persons who had been employed throughout the study period were given a value of 2. Data for retired heads of household were excluded from the analysis. The unemployed group is composed of 290 people while the employed group includes 830 subjects.

The findings of the discriminant analysis basically demonstrate that the variables used to discriminate between the employed and unemployed groups were very poor indicators. The discriminant findings, in essence, reproduced the regression findings. Table 10 presents the summary statistics for the discriminant analysis findings.

While the investment variables were significant at the .001 level in discriminating the two groups, the amount of explained variance was so small (6.3%) as to make the findings useless for predictive purposes. The cannonical correlation of 0.251, the eigen value of 0.067, and the Wilks' lambda value of 0.937 all demonstrate that the variance explained was of little substantive importance.[6] Thus, one must conclude that the "investment" variables used in the study cannot be used to discriminate between unemployed and employed people. The discriminant analysis demonstrates that the human capital formation variables are practically useless in understanding unemployment status.

[6]A) A standardized discriminant function coefficient is generally interpreted as a beta in regression. The discriminant function coefficient represents the contribution of the variable being measured to the function. The sign basically shows the direction of the contribution. B) The eigen value measures the relative importance of the function. C) The cannonical correlation is the measure of association between the discriminant function and the dummy variables composing the groups. When the cannonical correlation is squared, it is interpreted as an eta squared in analysis of variance (total amount of variance explained by the groups). D) The Wilks' lambda is a measure of the discriminatory power of the original variables which has not been explained by the discriminant function. The larger the value, the less information remains to be explained. In the case of the employment study, only 6.3% of the variance can be explained by the group categorization (cannonical correlation squared equals 0.063). The Wilks' lambda is very high (0.937), which means that nearly all of the discriminating power of the variables used to discriminate the groups has been used.

SUMMARY OF FINDINGS, CONCLUSIONS, AND IMPLICATIONS

The study findings revealed that the "investment" variables selected for investigation were basically insignificant in the explanation of length of unemployment and unemployment status (employed vs. unemployed) among residents of the study area. Household heads who were unemployed for extended periods of time could not be distinguished from heads of household who had been unemployed for shorter periods of time using the "investment variables" chosen for analysis. The discriminant analysis findings also demonstrated that the "investment variables" were unable to discriminate between unemployed and employed groups of household heads. Thus, the major conclusion of the study is that the theoretical perspective offered above to explain unemployment within the study area must be repudiated. Age, educational achievement level, number of children living at home, length of residence within the region, formal group memberships, and type of occupation of primary income earner have very little utility for understanding employment status within the study area. It must be concluded that the "investment variables" used in the study must be replaced with other investment variables (the most significant investment factors were not selected) or explanations of unemployment must be sought using other theoretical perspectives (the wrong theoretical orientation was embraced).

The theoretical position used for this study tends to place a major portion of the "blame" for unemployment upon the individual experiencing job displacement (individual deficit model). The rationale of this approach is that once blockages to employment are identified, then the person can be manipulated to "fit" the system. Relatively little consideration is given within an individual deficit model to the possibility that a major cause of the problem is structurally based. Given the study findings, research conducted by colleagues in the area, and intimate knowledge of the study region, the authors suggest that the resolution of the unemployment problem in the area is more closely associated with social infrastructure than with individual inadequacies of the region's populace.

Opportunities for employment have been shown to be quite limited within the five-county region and the jobs that do exist are low skilled (1, 13). Hushak (13) observed that 165 economic establishments existed within the study region in 1975 and employed 16,228. He also noted that most firms employed less than 20 people and required very low skilled workers. Acquah and Hushak (1) discovered that the study region[7] contained very few skilled workers, but also noted that a demand for such labor did not exist within the region. They also noted that the wage differential between the skilled and unskilled workers within the region was quite small, which suggests that classification of workers into such categories was arbitrary and unnecessary. Finally, these researchers suggest that assessment of layoffs and voluntary termination of employment indicated that little evidence existed to show that industries were "investing" very much in their employees in terms of training or job skills.

The economic situation within the study area suggests that people with limited investment skills can adequately function in the work roles which are prevalent there ("investments" do not prepare some people to do the jobs better than others). The logical conclusion is that until some means can be devised to expand work opportunities (both quantitative and qualitative), efforts to enhance the employability of the unemployed segment of the resident population using the individual deficit model will probably meet with very limited success or failure. If skill levels are raised without concomitant improvement in job opportunities on the local level, then individuals with the best investment skills (young, best educated, etc.) will be forced to migrate for employment.

The people living in the study region are very much aware of the limited job opportunities within this area and realize that a strong need exists to broaden the occupational structure of this region. Documentation of this awareness was made by Napier *et al.* (23, pp. 6-7), when they discovered that respondents to a survey placed jobs and industrial expansion at the top of their development priorities. The respondents indicated that heavy and light manufacturing should be primary development goals to complement continued expansion of the extractive industries (23, p. 8). These findings in conjunction with those discussed above strongly suggest that more emphasis must be placed upon development of the social infrastructure of the region and less emphasis upon changing the "investments" of the region's inhabitants.

This conclusion does not mean that no consideration should be given to human capital formation because such skills must be enhanced as the need arises. The primary development question which must be answered, however, is when must the development of the social infrastructure take precedence over human capital development? The time order the authors are suggesting is based upon the findings from the study region and basically states that development of the social infrastructure must precede human capital development since the demand for highly skilled "investments" does not exist within the area. It is recognized that when the social infrastructure is elaborated to the point that a heterogeneous occupational structure is achieved, then a human capital formation model could be effectively employed.

Concluding Comments

The findings and conclusions of this study should not be viewed from a pessimistic perspective and should not be interpreted as justifying a "do-nothing" approach to planned change efforts. On the contrary, the authors believe that the findings simply demonstrate the potential futility of "traditional" development models for attacking unemployment problems within areas with socio-economic histories comparable to the one under investigation. Individually based explanations of unemployment status were shown to be grossly inadequate, which means that other avenues of change must be explored. It is argued that structural variables should be considered. Modification of structural variables is more difficult than changing people, but the long range results of such development thrusts within the study region will probably be much greater.

[7]The Hushak and Acquah and Hushak research efforts were conducted in the same counties as this study.

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