

THE UNIVERSITY OF MANITOBA

THE SOCIAL AND PHYSICAL HEALTH
EFFECTS OF PUBLIC HOUSING ON
INDIAN RESERVATION FAMILIES

Being a Report of a Research Project
Submitted in Partial Fulfilment of the
Requirements for the Degree of Master
of Social Work

by:

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ABSTRACT

This study was concerned with the effects on physical health and social functioning of public housing provided for eighteen Indian families. To determine the effects, an ex post facto "before" and "after" study was completed. The time span of the study consisted of two five month periods. The first period in 1966, represented the time when the families lived in dilapidated housing. The second period consisted of similar months in 1967, after the same families were rehoused in public housing. The focus of the study was the comparison of the two periods.

The criteria selected for the comparison involved seven indices. They were in the context of society's major social systems which are most affected by housing, namely: education; health; family; and law. The indices include: school performance; health; crime and delinquency; family activities; church attendance; family relationships; and community activities.

Measured in the school index were ten aspects. Of these, nine pertained to the student population and one to parents. The students were measured for both clothing and personal cleanliness, their physical alertness at school and the completion of school assignments. Measured also were the inter-relationships between student-teacher and student-peer. An extremely important aspect was the official grades for both academic subjects and conduct. The tenth aspect measured, was

the students' record of absenteeism. The aspect pertaining to the school-home relationship involved parents' attendance at various school functions.

While no definite causal relationship exists between dilapidated housing and crime, there is a high positive correlation. Because of this, the major social system of law is affected by poor and inadequate housing. In order to compare the differences, the study showed a comparison of all arrests by the law enforcement officials during the two periods.

Another major social system most affected by housing is health. In this study, public housing was related to health by comparing the frequency of communicable diseases, home accidents, and "other" conditions in the two separate periods. Also measured, was the adequacy of the students' diet, and health problems of lice, scabies and impetigo. The diet and health problems were evaluated by the teachers.

The major social system of family contained four indices, family activities, church attendance, family relationships, and community activities.

The study also explored the housing of the families prior to being rehoused, in order to get a better understanding of the two environments.

It was acknowledged, that the "housing factor" can not be completely isolated. However, the results of the study are believed to have sufficient validity to permit the conclusion that the findings confirm this hypothesis, "The level of physical health and social functioning of Indians residing in Belcourt Public Housing during the period June-October, 1967, is higher than their level of physical

health and social functioning during a similar period in 1966, which is prior to their residency in public housing".

Every index but one, crime and delinquency, showed a positive and significant improvement in the families after being rehoused. The population studied was small, and they were families who were rehoused from extremely poor conditions; therefore, the extent to which these findings could be generalized is limited.

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CHAPTER I

INTRODUCTION

Problem and Purpose

The purpose of this study is to inquire about the physical health and social functioning of individuals and families of Indian ethnic origin residing in Belcourt, North Dakota Public Housing. This study explores the degree of improvement which occurs when a change is made between dilapidated and public housing. A primary concern is investigating the effects of adequate and substandard housing on the Indian population in relation to the major social systems of health, education, law, and family. This study involves a "before" and "after" comparison of individuals performing their roles in an inadequate housing environment, and the identical population performing the same roles after being rehoused in public housing. Their physical health status for the two periods are compared within the context of the major social system of health.

The fundamental purpose for this study is to activate, mobilize, expand, and instill interest, concern, and action towards the development and expansion of public housing or any housing program which may create better conditions for Indian families. It is hoped this study, which is an examination of what public housing is doing in one particular locality, will be useful to government agencies, tribal leaders, and Indian communities who are attempting to find ways of improving conditions for Indian people.

This study recognizes the fact Belcourt community has spent a large sum of money building a public housing project for improving the home environments of its Indian families. It is a matter of some practical importance to try and test the effects on social functioning of this particular housing program.

The generic problem of this study is Indian housing. Both the four major social systems already numerated, and the social work profession are extremely concerned about poor housing conditions. It is understood from social work theory that there are many physical, emotional, social, and psychological effects which are detrimental to the social functioning of individuals subjected to poor housing conditions. For these reasons the profession of social work is vitally interested and concerned about this problem.

Setting

The physical setting for this research study is the public housing apartments located in Belcourt, North Dakota, County of Rolette, in the United States. In January, 1965, there was a population of 7,131 Indians living in Rolette County. About one half of this population resided on the Turtle Mountain Indian Reservation located in the north central part of the county. Of the total population there are 1,225 family units. According to a Family Income Report dated September 21, 1965, sixty per cent of the families had income or resources which classified them in the poverty economic class. Substandard housing is so prevalent that casual observation would be sufficient to point out the need in this area.

The village of Belcourt has no municipal government. Total population is approximately 1,000 people, of which about 700 are Indians. The balance of the population is composed of those families who are employed by the Bureau of Indian Affairs and the U. S. Public Health Service.

In the public housing project there are one hundred families living in the forty apartment buildings. The first families began moving into the units in early Spring, 1967, and the last families to be awarded an apartment moved into public housing in late fall, 1967. The time covered by this study is the period of June 1, 1966 to October 31, 1966, and an identical period of time in 1967. Each period is exactly five months and it includes the first two months of the 1966-67 and of the 1967-68 school year. This study is concerned with the comparison of two separate periods. The first five month period represents the residency of the Indian families in dilapidated housing. Compared is the June-October, 1967, period when the same families resided in public housing.

The theoretical context for this study is: (1) the housing environment effects the individual's physical health and social functioning, and (2) the families and individuals who have resided in dilapidated housing and later rehoused in adequate quarters will experience a benign effect. The hypothesis formulated for testing is consistent within this theoretical context. The results of this study gives, those individuals interested in the Indian housing problem, a guide as to what effect the introduction of public housing seems to have on the individual's and family's social functioning and physical health.

Scope and Limitations

The focus, is to determine the level of physical health and social functioning of families and individuals during two identical periods, to compare the June-October, 1967 period with the June-October, 1966 one. The 1966 period represents the time span when the population of families resided in dilapidated housing. The 1967 period covers the time when they resided in public housing.

There are several ways to study the effects of public housing on families. One is to look at the family in relation to the social systems in the community. For example, the families' and individuals' interaction with schools, law enforcement officials, health facilities, church, community organizations and the intra-family relations themselves. Another study could emphasize the environmental effects of public housing from a homemakers viewpoint. This would include concern about the families' housekeeping, use of equipment, and use of bedrooms and living rooms. The dimension this study focuses on is the social systems one.

The term "social functioning" is not the whole gamut of social roles, but rather limited to specific ones. For example, the families' role as church member; their participation in community activities and organizations; and various intra-family roles which define how the family is functioning as a unit. Finally, the study is particularly interested in how the school pupils are carrying their student roles.

The study concerns itself only with those families that moved into Belcourt Public Housing between the opening of the project in March, 1967, and before June 1, 1967. It includes all individuals, whether

single, married, divorced or separated, all families whether they had children or not, and whether the children attended school or were preschoolers. These families included the total population. The student population is composed of those individuals who attended school between the grades one and eleven during the 1966-67 school year.

This study compared the physical health of the population for two separate periods. The months of June-October in both years, 1966 and 1967. Physical health was classified into three categories - communicable diseases, home accidents and other.

In regards to social functioning the focus also included the area of crime and delinquency. Compared was the individual's record of arrests, charges and complaints for both the 1966 and 1967 periods of June-October.

An effort was made to recognize the limitations of this study and its practical problems. Probably the most significant limitation is the lack of a control group. It is believed a control group would have provided greater reliability and also enhanced the validity.

Another limitation of the study is the evaluating of impact on and the effects of public and dilapidated housing on students only during the first two months of school. It would be of greater significance if an entire school year is compared and contrasted as it would facilitate the teacher's task of evaluating students.

The crime and delinquency index included only those families that resided on the reservation or government land during the period of June-October, 1966, as Law and Order jurisdiction is limited to the above areas.

It is a recognized and important limitation of this study that the "housing factor" can not be totally isolated. While the housing factor is considered the most important variable there are other factors which may be affecting the social functioning and physical health of the families. For instance, such factors as moving away from an undesirable neighborhood or children being separated from bad companions.

In summary, the scope and limitations of this study are the assessing of social functioning and health standards, and the changes which may occur between dilapidated and public housing. Seven indices are used to measure the variables of housing, social functioning and physical health.

Hypothesis and Rationale

The research hypothesis is: "The level of physical health and social functioning of Indians residing in Belcourt Public Housing during the period June-October, 1967, is higher than their level of physical health and social functioning during a similar period in 1966, which is prior to their residency in Public Housing."

The rationale for this hypothesis is based on that part of role theory which states if an individual's feelings of worthiness and dignity are enhanced it will have a benign effect on his social functioning. It is understandable that dignity and self-worth are enhanced when society takes action to build public housing for families living in substandard and dilapidated conditions. By this action, society conveys to the person that he is a human being deserving of something better than his inadequate housing. Parents rearing their children in

an environment deprived of every modern convenience, find that most of their energies are consumed in meeting the family's physical needs. They have little left over for meeting the childrens' emotional and psychological needs.

Living in a cold house, one which lacks running water, a bathroom and sanitation facilities is not conducive to healthful living. Personal cleanliness and grooming are bound to be affected. Persons are more susceptible to viruses and other communicable diseases. Skin diseases of scabies and impetigo which are affected by lack of personal cleanliness are apt to be more widespread.

Bringing these families into a decent house with modern conveniences, will free them from their drab environment. Substandard housing is also depressing. Better housing will allow the Indians to use their energies in other ways instead of having them consumed in overcoming the physical handicaps of the environment. These energies can be diverted to enhance their social functioning. It is believed that adequate and decent housing will improve an individual's self perception. He will be able to see himself as a member of some worthiness in the community. Their freed energies can be diverted to family activities. School children would have the opportunity to enhance their student role because they would have a warm comfortable home, a place to do their homework as room crowdedness is eliminated.

It will be noted in Chapter II that my rationale and hypothesized relationship is consistent with the concepts and research findings developed in that chapter.

Definitions

In defining terms in the hypothesis, physical health is the general well-being of the individuals. The quality of physical health is determined by the contacts each individual made at the public health clinic. It consists of five measurements. The objective measurements are communicable disease, home accidents and "other" category as indicated on the Health and Disease questionnaire. The other two criteria are lice, skin diseases and diet which are subjectively rated by the students' teachers.

The social functioning of the individual is role behavior in relation to the major social systems of health, education, law, and family. The method used to measure social functioning within the social systems is through the criteria of the seven indices. They are: school performance; crime and delinquency; health; family activities; church attendance; family relationship; and community activities.

The Indians are those individuals who are officially enrolled at the Turtle Mountain Enrollment Office as persons of Indian ancestry.

The term "higher than" means that there is an improvement in at least four of the seven indices.

Assumptions

This study, as do all research studies, rests upon certain assumptions. Stated below are the five primary assumptions of this study.

1. The most significant factor introduced into the lives of families in the population during the time span of this study is the event of moving into public housing. The results demonstrated are

attributed to the "public housing factor". It is recognized that the "public housing factor" cannot be entirely isolated. However, enough isolation is possible to permit conclusions to be drawn based on the comparison of dilapidated housing with public housing.

2. The subjective measurements used by the thirty nine teachers in evaluating the students are similarly interpreted, so that the students evaluations are not significantly affected in comparing 1966 first quarter of school with 1967's first quarter.

3. In rating the students retrospectively for the months of September and October, 1966, the teachers recall is sufficient to complete the questionnaire with a high degree of reliability. Similarly, the parents retrospection is reliable.

4. The concepts used in designing the schedules and questionnaires are appropriate. They are instruments which have a significant reliability and validity.

5. Responses to the questionnaires by the various respondents are valid, so that the information is a reflection of the authentic situations.

Method

The design is non-experimental as no control group is used. In obtaining the data, the population consisted of all families who moved into and lived in Belcourt Public Housing prior to June first, 1967, and resided there during the period of June-October, 1967. To be included in the population these families also lived in the County of Rolette, North Dakota, during the June-October, 1966 period. The

method of data collection was the administering of precoded questionnaires and schedules.

The analysis centers about the comparison of three major variables, housing, physical health and social functioning. Housing includes both substandard and adequate. Seven indices are used in the context of the variables in order to determine the effects of each of the variables on the indices. The indices are: school performance; health; crime and delinquency; family activities; church attendance; family relationship; and community activities.

Before the collection of data began, a pilot study was accomplished. Because the sample was finite, the pre-testing was conducted with three families chosen at random who had moved into Belcourt Public Housing after the June 1, 1967 date. Item modification was made on one of the questionnaires before the actual study began. Three teachers also pre-tested the student evaluation questionnaire before the study was undertaken.

Compared is the data from the June-October 1966 period with the June-October 1967 one. The findings are presented in twenty five tables and five histograms. All the responses to the schedules and questionnaires are tabulated in either tables or histograms.

After the data was organized and entered in the various tables and histograms, interpretations and descriptive comment was made possible. The conclusions concerned the population as it was finite. The hypothesis was confirmed and the conclusions and recommendations pertinent to the results of this study are found in Chapter V.

CHAPTER II

BACKGROUND OF THE STUDY

Why public housing? What value is society attempting to protect or fulfill when a community finances and builds public housing? The answer to this question is simple and vital to our society. Public housing fulfills the basic value of a decent home in a safe and suitable living environment for every family which cannot provide adequate housing. It is an attempt to protect the core unit of our society - the family.

Society's major social systems¹ most affected by adequate and poor housing are family, education, health, and law. The background information regarding the effects of adequate and dilapidated housing will be presented in the context of these major social systems. In other words the discussion in this chapter is limited to areas pertinent to these four social systems. In addition, this chapter reviews the literature relevant to how housing affects these four systems.

Our society today is prevention orientated. We prevent in order to enhance. One of the biggest factors in the progress of social welfare is the movement from care to cure to prevention. The objective of prevention is the goal of enhancement. We prevent for the purpose of eliminating social dysfunction, and we enhance for the purpose of

¹The major Social Systems referred to in this theses are those developed by Irwin T. Sanders in his book, The Community as a Social System (New York: The Ronald Press Co., 1958).

attaining greater social functioning. The theory of prevention is to isolate and analyze the cause-effect relationship in social dysfunction. After this is accomplished, society can act upon the cause in order to alter the effects. For example; if the inability to carry out student role is determined to be caused by poor housing and the effect is academic failure and school drop-out; then, a preventive measure can be taken to change this cause-effect relationship. The preventive measure in this case could be public housing.

Catherine Bauer, in her book, "A Citizen's Guide to Public Housing", states the values of society determine what methods of prevention will be undertaken in coping with its' problems. She says our industrialized society has three factors which determine the need for public housing. First, public housing is created because the community recognizes it has a housing problem. Second, society recognizes good housing is no longer only a matter of individual responsibility, but a public one. In today's industrialized society we are not able to provide employment for all the people needing work, and again, many who are working are under-employed with inadequate wages. Third, it is recognized that bad housing is harmful not only to the social functioning and physical health of individuals but to society as a whole.²

The most important function of any community is to protect its families. Public housing is a means towards this end. For the protection of an individual's health and welfare, decent homes are second

²Catherine Bauer, A Citizen's Guide to Public Housing (New York: Vassar College, 1940), pp. 2-3.

only to a minimum of decent food. Education is extremely handicapped in sub-standard housing. Poor housing affects citizenship and impedes ambition. Inadequate housing contributes to poor health, increases the rates of fire and home accidents. Delinquency and crime occur at higher rates in dilapidated housing than in decent housing. All of these detrimental conditions negatively affect the major social systems of family, health, law, and education. The effects of housing on the family social system will be discussed first.

The home is the center of the entire drama of life. The family is the unique institution in our society which establishes a home, a setting for the accomplishments of its cyclical functions. The home environment must be adequate so that it can perform the variety of functions which keeps a family alive and growing. The home is the environment for the family's life cycle of eight stages as numerated by Duvall.³ The first stage is beginning families and the last is aging. Because the home is so important, then surely, it should be a healthful place in which all members can develop physically, psychologically, and socially. Not only does the family develop as a unit within its various stages, but each member develops his individual personality.

Alvin Schorr writes about the physical home environment being the most important factor in the child's and later in the adult's approach to life. An adult's personality, his motivation, and his dreams are mostly determined during his childhood developmental stages. The home is a major factor in the development of "self". It is one aspect which

³Evelyn M. Duvall, Family Development (New York: J.B. Lippincott Company, 1957), P. 13.

helps a person identify who he is. Other people's perceptions about individuals are affected by the house they live in. It is a reflection which helps other people understand the complex "self". Living in poor housing influences motivation and self-evaluation. People in the lower socio-economic groups have been found to be pessimistic and present orientated. Studies have shown that families living in dilapidated housing tend to be characterized as fatalistic. These same people under physical conditions of adequate housing dropped their negative and fatalistic attitudes.⁴

It is not suggested that a bad house prevents good family relationships, yet it can be said with certainty that good family relations are made extremely difficult with a bad housing environment. The roles of mother, wife, and homemaker are difficult to fulfill adequately when her life involves a physical battle with a dirty and inadequate house. The house should not be an enemy to the family. Its physical environment should favor family life and create conditions which are conducive to the nurture of children, and one which allows for the general biological purpose of the home. The total sum of the home environment should create a feeling of security inherent in family life, a feeling of self-worth and dignity by each individual in the family. A bad house, as well as a good house, can start a chain-like reaction.

Housing which provides unsanitary conditions creates a vicious circle. The strain of living in a house with no modern conveniences

⁴Alvin L. Schorr, Slums and Social Insecurity (Washington, D.C.: U. S. Department of Health, Education and Welfare), P. 11.

tends to instill a feeling of defeat for the homemaker. The deterioration of cleanliness leads to a lowering of ambition and enthusiasm by the occupants. This generates a cause for further decline in standards leading to a complete loss of appreciation of personal and physical cleanliness. An objective of public housing which introduces modern conveniences of running water, bathrooms, bathtubs, and adequate washing facilities, hopes to create a circle in the opposite direction, a circle which leads to the ascendancy of personal and physical cleanliness, a circle which revitalizes the apathetic and indifferent homemaker to one with spirit, purpose and pride.

Overcrowding is a central factor in the definition of a dilapidated house. Such an environment interferes with health and adequate social functioning of the family and its members. The most common standard for determining crowding in a home is to count the number of people per room. The ideal ratio is one person or less per room.

What are the psychological effects of overcrowding? Mackintosh⁵ listed three. First, there is the deleterious effects of lack of sleep. Second, overcrowding is associated with excessive irritations by individuals. Third, play, which is the indispensable outlet for children, is extremely handicapped in overcrowded conditions. When a child's play is restricted this interferes with his development. He also enumerated several effects of overcrowded conditions on school children. A school child needs space for quiet and study and without this there is a hindrance to his education. Another effect is the danger of the child

⁵J. M. Mackintosh, Housing and Family Life (London: Cassell Company Ltd., 1952), P. 73.

losing his individuality in a crowded home. A very important effect is that sexual experience comes too early, and overcrowded conditions interfere with the harmonies of sex life for adults. Lastly, adolescents suffer a great loss from lack of privacy.

In all family activities, overcrowding creates a strain on all members. Joy in family life is difficult to obtain when privacy is not possible. Conditions are such that an individual cannot withdraw should he desire privacy. Everything is experienced by everyone. Overcrowding is harmful both physically and psychologically. In addition to physical health, there also is noxious effects to emotional health. The home is the place where many hours of work must be performed, especially by the mother in the capacity of her homemaker role and the children in relation to school assignments. Fatigue and irritation results if conditions are detrimental.

Probably the greatest amount of research in the housing area has been done relating the effects of housing to the major social system of health. A statement was made to exemplify this when Mackintosh said, "The house is the temple of family life and its soundness is closely interlocked with family health."⁶

Health is more than just living and being alive. Health is closely associated with general satisfaction in living. The shack which lacks proper heat and ventilation is not compatible with health. Neither is the one which lacks proper windows for sunlight and adequate illumination by night.

What relation does housing have with health? What relation really

⁶J. M. Mackintosh, Ibid., P. IX.

exists between these two problems so important to human living? It is not possible to demonstrate the exact statistical proportion of illness among people housed in substandard dwellings as the proportion may be due to other aspects of poverty or inherent in physiological and psychological handicaps. However, it is possible to use common sense to draw valid deductions. Some health problems common to families residing in inadequate housing are as follows: rat-ridden homes breed typhus; unsanitary privies, shared toilets, and polluted wells promote intestinal disease. Room overcrowding facilitates the transmission of communicable diseases, namely respiratory, childhood, and digestive diseases. Other conditions promoting illness and disease are inadequate heating and ventilation, crowded sleeping arrangements, and inadequate washing facilities.

It was clearly demonstrated by M. Millspaugh and G. Breckenfeld⁷ that housing conditions influence the incidence of communicable diseases. In addition to this there is a belief that mental illness and other physical ailments are related to housing. Communicable and certain childhood diseases which are air-borne or contact infectious are easily spread from one person to another in crowded and substandard homes. The two authors discussed a 1935-36 study which found that children living in crowded dwellings tended to have the communicable diseases at an earlier age. There were a higher per cent having these diseases than were children living under less crowded conditions. This study refutes the suggestion

⁷Martin Millspaugh and Gurney Breckenfeld, The Human Side of Urban Renewal (New York: Ives Washburn, Inc., 1960), pp. 154-155.

that communicable diseases are more prevalent in public housing projects because of the high density of children. The density factor is counteracted by the fact there is no room overcrowding.

Another important aspect of crowded and inadequate houses is the high incidence of home accidents. The higher ratio is due to cuts and burns caused by crowded and inadequate kitchens; also from tin cans and broken glass when trash is allowed to collect near the house. Other causes of home accidents are faulty cooking and heating stoves. Due to the lack of space there is no room for children to play; consequently, they are forced to play in the kitchen around where the mother is working. Home accidents contribute significantly to disability and incidents requiring medical care.

In summary, it is recognized housing and home accidents have a close relation to health, yet, this relationship is mainly deduced. While bad housing may increase sickness it is not possible to determine this on a quantitative basis. The reason for this is because the effects of an individual's house upon his health is uncertain and often indeterminate. Health is too complexly related to many unknowns.

The major social system of law is directly affected by housing. Substandard housing conditions are conducive to delinquency. Overcrowding herds families together in close proximity, resulting in the teenagers deviating social and sexual behavior. Mackintosh in quoting Burt, shows the effects of overcrowding on the sexual behavior of the family. Burt says,

"The effects of overcrowding in the production of sexual irregularities are well recognized. The inevitable lack of space and privacy makes it extremely difficult to preserve normal standards

of decency. Children develop a premature acquaintance and an unhealthy pre-occupation with sexual matters and Burt found case after case of sexual malpractices among members of crowded households."⁸

The New Jersey Juvenile Delinquency Commission found in its study that the highest delinquency rates were in the areas where housing was least adequate. The study noted that delinquency flourishes in homes which are congested, where there is no room to preserve the amenities. This was true whether the family lived in a city tenement or in a rural cabin.⁹

The general conclusion to be made regarding the relationship between poor housing and delinquency and crime is that inadequate housing is a related phenomena. Housing alone is only one factor which accounts for anti-social deviancy. Crime and delinquency is a many faceted problem and to explain this phenomena, many factors must be taken into consideration, but one of the central ones is housing.

Children are one of society's greatest assets. The major social system responsible for socialization of the child through academic training is education. Education is handicapped in its responsibility if the child suffers from the physical and psychological effects of dilapidated housing. Education, as a factor in the socialization of the child, gains its objective only to the extent that the other factors in the child's life are provided. These other important factors are his home, his family, his neighborhood, and his community.

⁸J. M. Mackintosh, Housing and Family Life, P. 111.

⁹Jay Rumney and Sara Shuman, The Social Effects of Public Housing (New Jersey: Housing Authority of the City of Newark, 1946), P. 60.

The following situation is quite common for children who reside in dilapidated housing. The children began school with enthusiasm, but because they find no opportunity for quiet study at home they cannot progress at a normal rate in school. They become permanently discontented students and drop-out as soon as they reach legal age. This trend is affected by the too-crowded conditions of their homes and the poor sleeping accommodations which all take their toll of vitality from the students.

Students lacking adequate housing find their health impaired; because of this, housing has a bearing on education as regularity in attendance is affected by the physical health of students. Conditions which reduce the students' energies and conditions which contribute to poor health reduce mental alertness and retard scholarship. Children are handicapped in their educational progress unless they have some place at home to study. In addition to space, the house should have a comfortable temperature, be reasonably quiet and have adequate lighting and ventilation.

Education on an Indian Reservation is a more complex problem than education in other communities. In addition to its primary goal of educating, it also has a large responsibility in the acculturation process of the Indian. Of all the detrimental factors to acculturation the most important is inadequate housing. The question then arises, can a child be truly educated and acculturated if the physical conditions of housing are such that the child's physical and psychological stamina are weakened by the conditions of his dilapidated home? This factor of housing has been overlooked to some degree. The schools in and of themselves

cannot overcome all these obstacles in achieving its educational goals. It is the entire environmental circumstances which affects physical health and social functioning. The school is only one aspect in the socialization process. The church and the home along with the school complete the educational background for individuals. However, the latter two are not contained in the social system of education.

In order to give this study a broader context, and to gain greater perspective on the effects of public housing, various studies which have been done in this area will be reviewed. The studies reviewed go back to the 1940's, as well as some recent ones. The study most closely related to this one, in that its major interest was investigating the "before" and "after" effects of rehoused families, is called, "The Social Effects of Public Housing",¹⁰ The 1943 study involved three public housing projects in Newark, New Jersey. The concepts of major social systems will be continued in reviewing these studies. The basic assumption the studies are concerned with is this: That rehousing of families from substandard houses to public housing will result in some social gain. The studies explore the proof of this assumption aside from common-sense expectation.

In regards to the family social system the effects of public housing are very decisive according to Mackintosh. He stated that the most important influence of public housing is the increase in community interest. The families soon began to take a new interest in the social

¹⁰Jay Rumney and Sara Shuman, The Social Effects of Public Housing (Housing Authority of the City of Newark, 1946).

life of the community. The community interests developed slowly at first. The first indications of the families' reaching out is interest in their childrens' appearance and clothing. This reaching out also involved an increase in parent-teacher contacts.¹¹

The Newark, New Jersey study found, from the seventy one personal interviews with rehoused families, the following results: Twenty one mothers said their children showed general improvement in their school record. Twenty seven mothers felt their children were in better health. Sixty seven responded affirmative to the question that their children were kept more easily clean. In response to the community activity question, they found little participation. Fifty five said the public housing environment has made the family relations happier, four said less happy, and twelve responded with no change.¹²

Overcrowding is an important aspect which must be considered when investigating the over-all effects of dilapidated housing. Results of Mr. Riemer's study showed that as the degree of crowding increases complaints about the house increase. In other words, dissatisfaction with living arrangements are related to lack of space in the home. The significance is that family frictions and personal tensions increase with homes too small to accommodate the family.¹³

¹¹J. M. Mackintosh, Housing and Family Life, PP.200-201.

¹²Jay Rumney and Sara Shuman, The Social Effects of Public Housing, PP.6-7.

¹³Mr. Riemer's study was quoted in the book by Catherine Bauer, A Citizen's Guide to Public Housing, P. 17.

In F. S. Chapin's¹⁴ study regarding the effects of public housing, he used three indices to measure housing gain or loss. The first index measured the extent to which the housewife participated in the organized social life of the neighborhood. The second index measured the condition of the living-room with respect to cleanliness, neatness, orderliness, etc.... The third index determined the degree of use-crowding, or the percentage of families that were obliged to use the living room for some other purpose, such as, to serve as a kitchen, or a bedroom, or some combination of several uses. These three conditions were observed in a group of forty four families. They were observed in 1939, when they lived in the slum and in 1940, when they lived in a public housing project.

It was found that the total number of community organizations belonged to in 1939, was fourteen, but that a year later in 1940, it increased to forty four. This gain included increased participation in Sunday school membership and in other diversified social activities. In regards to the other indices it was found that the living rooms were much cleaner, neater, and more orderly indicating better housekeeping standards in 1940, than in 1939. The use of the living room for more purposes than its ordinary function, diminished from fifty percent in 1939, to six percent in 1940.

Chapin also used a control group in his study, which consisted of thirty eight families who had remained in the same neighborhood charac-

¹⁴F. Stuart Chapin, "Social Effects of Good Housing", Housing for Health, American Public Health Association, Committee on the Hygiene of Housing (Lancaster: The Science Press Printing Company, 1941), PP.140-158.

terized by dilapidated housing. In this group they found that community membership was only about half of the gain shown by the experimental group. The condition of the living room found in 1939, and compared in 1940, showed a reverse; whereas, the rehoused group had shown great improvement. In regards to use, the control families showed only about one third of the improvement gained by the families living in public housing.

In regards to the children's role as students, public housing affected the major social system of education benignly. Mackintosh¹⁵ stated that the effects of rehousing on children was good. That parents unanimously reported the children slept better resulting in the teachers' comments of increased alertness in the mornings. School nurses reported a decline in the number of reports regarding uncleanness of personal appearance and clothing, and that this improvement was not just a temporary phenomenon.

Of the seventy one families interviewed in the Newark Public Housing Study¹⁶ sixty nine percent of the mothers said their school children showed improvement since living in the project. In this study ninety three school records of children who had moved to the public housing project and lived there for at least a year were investigated. The method used was to compare the record of each child before living in the project with his school record after living in public housing. The

¹⁵J. M. Mackintosh, Housing and Family Life, P. 200.

¹⁶Jay Rumney and Sara Shuman, The Social Effects of Public Housing, PP. 73-77.

study found that the average school grade for the students before moving into public housing was 2.0. After moving from substandard housing to the housing project, the average grade increased to 2.2, which showed a slight improvement. The increase for both the males and females was exactly the same, .2.

In regards to personality development, there was a slight improvement for the rehoused group over the grade they received prior to their move into public housing. Health habits also had a higher grade for the rehoused group when compared with the grade before they moved. There was an improvement of .4 after moving into the project. The girls showed the greatest improvement.

On the assumption that better housing resulted in fewer colds and illness, the Newark Study investigated students school attendance. Before moving into public housing the students were absent 7.3 days per semester. However, after living in the project this was decreased to 6.8 days per semester. The improvement was primarily due to the increased attendance by the boys.

Studies have shown that public housing has a highly significant effect on the major social system of health. In his study, Mackintosh¹⁷ found that unsatisfactory living conditions affected the mental health of its occupants. The syndrome is chronic discontent, unhappiness, and resentment. The effects are reduced morale and inefficiency. In his findings, approximately seventy five per cent of all families improved their physical and mental health after moving from substandard housing

¹⁷J. M. Mackintosh, Housing and Family Life, P. 102.

to public housing. The author compared the dilapidated housing conditions which affected the families as an illness. They recovered after the right treatment was found, and this treatment was public housing.

In the Newark study,¹⁸ they found in the first year, the rate of communicable diseases was significantly higher than the control families living in the surrounding neighborhoods. However, the following year the public housing project families had a much lower rate than did the control group. This situation led to the assumption that improvement in communicable diseases will increase as residency in public housing increases. This study found every health condition investigated had a better record in the second year studied than in the first.

This study pointed out that certain illnesses were casually related to special housing conditions. For example, respiratory infections were related to multiple use of toilet; inadequate ventilation and heating; and crowded sleeping arrangements. Infectious diseases were also related to these same conditions. Home accidents were related to crowded rooms and inadequate kitchens. The lack of proper washing facilities resulted in infectious and noninfectious diseases of the skin.

The following are results of three studies showing the relationship between public housing, crime and delinquency, and the major social system of law. In the Newark, New Jersey Public Housing Project,¹⁹ the study found no cases of juveniles placed on probation in any of the

¹⁸Jay Rumney and Sara Shuman, The Social Effects of Public Housing, PP. 13.

¹⁹Jay Rumney and Sara Shuman, Ibid. P. 52, PP. 63-64.

housing projects in 1942. The rate was twenty four per 1,000 for their control groups, which lived in substandard housing in the same neighborhood. In 1943, the projects had a few cases, but in that year delinquency increased by twenty five per cent throughout the county. The adults on probation were also significantly lower than the control groups. The Newark study referred to one made in Cincinnati, Ohio in 1940. In that particular study, the rate per 1,000 persons in a public housing project was compared with an adjacent neighborhood. The juvenile delinquency rate was 10.7 in public housing and 79.4 in the adjacent neighborhood. The compared rate of criminal offenses was 9.0 to 29.4 with the lesser figure from the housing project.

The third study²⁰ concerned juvenile delinquency among 317 families housed in a public housing project. This study found an appreciable decline in the delinquency rate. Barer compared the rate of delinquency for the years 1924-1940 for these families, prior to public housing occupancy. A decline occurred, although there was an increase in the rate in the surrounding community during this same period of time.

It is next to impossible to prove positively that housing, as such, is the primary cause of human difficulties, physical, psychological, and social. Yet, sufficient evidence has been presented to show that decent housing has a benign effect on the health and social functioning of individuals.

Dilapidated housing breeds a hopelessness in people's hearts.

²⁰Naomi Barer, "Delinquency Before, After Admission to New Haven Housing Development", Journal of Housing (December, 1945-January, 1946), 78.

amid a bleak environment, the human spirit seems to wither away. When given the opportunity to live in decent housing, frustration is replaced with hope. These changes in the family's social functioning and physical health are not merely a temporary by-product of decent housing, but they are pervasive, they permeate from one role to another.

CHAPTER III

METHOD

This chapter describes the study methods employed. Certain selective aspects are investigated regarding social functioning and physical health. It is not claimed that these are the best or most appropriate, but they are areas which vitally affect family functioning, their health, and interpersonal relationships. The content and data collection pertains to two areas, social functioning and physical health.

A relationship between an improvement in housing and the level of social functioning and health has been hypothesized. It is possible to observe this relationship by a statistical study concerned with the frequency with which certain measured aspects occurred "before" the families were rehoused and "after" they moved into public housing.

The preliminary step was contacting the Superintendent of the Turtle Mountain Indian Reservation outlining the content and purpose of the research project. After being assured of his interest and cooperation, the Agency Social Worker was contacted requesting assistance from his office. The Agency Social Worker discussed the project with Belcourt Public Health Service and the Public Housing Authority. Again, both agencies indicated an interest and a willingness to cooperate. At this point, after securing permission and cooperation, preparation was begun on the best method for testing the hypothesis. It was determined

that interview schedules and questionnaires would be the most appropriate.

To test the hypothesis, four questionnaires and two interview schedules were used to measure seven indices: school performance; health; crime and delinquency; family activities; church attendance; family relationships; and community activities. Each index contained various criteria which attempted to measure improvement, deterioration or no change.

The first concern was with the measurement of housing quality, that is, the houses the families occupied during the months June-October, 1966, which represented the period prior to their rehousing. In order to explore this area, an interview schedule was prepared with ten questions. This schedule was concerned with the physical aspects and basic modern conveniences which are considered standard in today's home. This schedule was Form "A" and entitled, "June-October 1966 Housing Conditions".²¹

The housing condition schedule concerned two areas. The physical structure of the house was first explored. This concerned the condition of the house, its type, how many rooms, and if it was infected with rodents etc.... The other area looked at the house in relation to comfort and convenience. The areas explored were source of water supply, bathroom, bathtub, or shower, indoor temperature, electricity, and refrigerator.

This information was not gathered with the intention of using it as a comparison between the "before" and "after" rehousing, but rather as descriptive information to show the housing conditions of these

²¹This interview schedule as well as the other one and the four questionnaires discussed in this study are found in Appendix B.

families in contrast to the public housing environment. Of particular interest was the number of persons per room.

The schedule, "General Family Information" was used to collect data in seven different areas. First, it was used to identify school children and from this information the student population was determined. Also secured, was the school attended, the grades, and the teachers' names for the past two school years.

The second area explored the church attendance for the families for the periods June-October, 1966 and 1967. The third area measured the participation of individuals in the organized social life and activities of the community. Again, the concern was for both 1966 and 1967, June-October periods. Fourth, the above identical two periods were covered in determining the level of family activities. The activities explored were those things the family could perform together indoors as well as outdoors. The fifth aspect covered in this schedule was a question regarding the family's present space, as this information was needed to determine room ratio for contrast with the 1966 family room ratio. The sixth aspect was to determine the length of residency for the families living in public housing. Finally, family relationships were explored for the two periods, June-October, 1966 and 1967. From this schedule the information secured was used in measuring four indices of this study.

Forms "B" and "C" were identical questionnaires, except for dates, called, "Teacher's Evaluation of Student During the Period of September and October, 1966", (or 1967 as Form "C" stated). These questionnaires were used in securing the information required for the school student's

index.

The 1966 teacher's evaluation represented the "before" rehous-
ing and the 1967 one pertained to the students' first two months of
school after moving into public housing. The criteria used in deter-
mining improvement, deterioration, or no change in the student role in-
volved both subjective and objective information. The subjective in-
formation required the teacher to rate the student in regards to
clothes cleanliness, personal cleanliness, alertness, student-teacher
relationship, and student-peer relationship. The objective ratings in-
volved school assignments, conduct, academic grades, and absenteeism.
Also subjectively rated was the parents attendance at school functions.

In comparing the students academic grades of 1966 with 1967's it
was necessary to change the letter grades into quantitative ones. The
numerical values were then added and after a quantitative average was
determined, they were again converted into letter grades. The letter
and numerical values are listed as follows:

F	D-	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
0	1	2	3	4	5	6	7	8	9	10	11	12

There was a total of thirty nine teachers completing the ques-
tionnaires for the student population of forty two, no teacher completed
both the 1966 and 1967 questionnaire for the same student.

A major concern of this study was the measurement of health. The
health records for the total population of 117 individuals were examin-
ed between the June-October, 1966, period and the June-October, 1967
period. There were three general classifications on the "Health and

Disease", Form "F" questionnaire. They were communicable diseases, home accidents, and other. The determinations as to which classification the diagnosis belonged was a medical decision made by the doctors at the Belcourt Public Health Service. All individuals in the above population are equally able to use the Belcourt Public Health facilities, as the services are provided free of charge.

There are two other measurements in the index of health in addition to the objective measurement of diseases and home accidents. Both are subjective measurements, made by the teachers, regarding school students. One is a measurement of diet and the other of skin disease and lice.

The final questionnaire in this study pertains to the index of crime. It is Form "E", called, "Crime and Delinquency". The information secured from this questionnaire is objective as it was taken from the official records of Belcourt Law and Order. All arrests, charges, and complaints officially recorded were secured for the two separate periods of June-October 1966 and 1967. All individuals in the population who were thirteen years or older, and who lived on the reservation or government land between the period of June-October, 1966, were included in this particular population of thirty people.

The population of this study varies according to the indices, as not all individuals meet the criteria of each index. In the index of school students the population is forty two. The criteria is the students must have been in grades one through eleven during the 1965-66 school year. Also, they must have attended a school in Rolette County, North Dakota and lived at their parents home.

The health index has a population of 117 individuals. The only eligibility requirement for medical care at the Public Health Service is that the person is Indian. The criteria is that the individual was born before June 1, 1966.

The criteria for the crime and delinquency index is that individuals be thirteen years of age. In addition to having lived on government land or the reservation during the period of June-October, 1966. The population for this index is thirty individuals.

A letter was sent to each female head of household in the population prior to the pre-test and the actual data collection. The letter requested their cooperation with the study. They were told it was a study regarding public housing and the primary purpose was for a course requirement at the University of Manitoba.

The decision to interview the female head of the family was made for the following reasons. First, it was known that several families had no male family head. Second, the mother would more likely be available than the father who was employed outside the home. Third, the mother would probably have more familiarity with the children's ages, teachers' names and school grades.

A pre-test was completed after the schedules and questionnaires were devised. Three families and three teachers participated in the pre-test, completing the appropriate questionnaires and schedules. The three families met all the criteria of the population, except the one of residency, being they had moved into public housing after June 1, 1967.

Following the pre-test the actual study was undertaken. The two interview schedules were completed by interviewing the female head of

household. Six of the interviews were conducted at the Public Housing Community Center and twelve were held in the respondents' apartments. Each individual interviewed was assured of the confidential treatment of all information given in regards to this study. They were advised that names were only used for keeping a record as to interviews and questionnaires completed, and that no names would be used in this study. On the same day of the interviews, the questionnaires were distributed to the teachers, Public Health Service, and Belcourt Law and Order.

At the time of the study there were one hundred families living in Belcourt Public Housing. The population for the indices of family activities, church attendance, family relationship, and community activities is eighteen families. The population for this research study represented eighteen percent of all the families residing in the Belcourt project. The other eighty two families moved into public housing after June 1, 1967, in fact, no family moved into public housing until sometime after the 1967-68 school year began.

The analysis of the data collected by four questionnaires and two interview schedules in relation to the seven indices is presented in chapter IV. There are twenty tables and five histograms comparing social functioning and physical health in order to confirm the hypothesis. There are five tables that do not compare the two periods. In order to confirm the hypothesis, an improvement had to be shown in four of the seven indices.

In addition to comparing and contrasting on a group basis, this study also looks separately at each individual's and family's progress. This is a comparison between the level of functioning and physical

health in June-October, 1967, compared with the same period in 1966. The progress or movement for every individual and family could be in one of three directions. They could show improvement, deterioration or no change from their 1966 functioning. It is believed this aspect has added both reliability and validity to this study.

CHAPTER IV

ANALYSIS OF THE DATA

In this chapter the data is presented and analyzed to ascertain the changes which are indicated in the selected areas of functioning after relocation in public housing. The areas are: school performance; family activities; church attendance; family relationships; community activities; health; and crime and delinquency. The criteria used in measuring improvement and deterioration is brought together and displayed in twenty five tables and five histograms in regards to each one of the seven indices.

The population consists of eighteen families. Thirteen of these families have both a male and female head of household while four have only a female head. One family consists of two retired siblings. Another one is headed by a non-Indian male who is excluded from the population. There is a total of 117 individuals in the population, consisting of thirty one adults and eighty six children. Of these eighty six children, forty four initially met the school children criteria, and they composed the student population. However, two students had to be dropped from the population as one began school three weeks after the term started, and the other missed over a month because of an accident. The school student population was then decreased to forty two. The other forty two children were not used in the student population because they were either pre-school, attended Indian boarding schools or

a handicap school. Others did not meet the school attendance criteria of attending grades one through eleven during the 1966-67 school year. In the population, thirteen families had from two to five children included in the student population, while only one family had no children.

The length of residence in public housing is relatively short for all families in the population. The first family moved in on March 1, 1967, and the last family moved into public housing on May 23, 1967. Table 1 shows the distribution of the families' residence in public housing prior to the June-October, 1967 study period.

TABLE 1

DISTRIBUTION SHOWING LENGTH OF TIME
FAMILIES RESIDED IN PUBLIC HOUSING

Days	Number	Percent
1 - 30	6	33
31 - 60	5	28
61 - 90	6	33
91 - 120	1	6
Total	18	100

Table 1 explicitly points out that one third of the families lived in public housing one month or less, approximately another third two months or less, and the remaining third three months or less. In other words, ninety four percent or seventeen of the families lived in

public housing for no more than three months prior to the study. These statistics emphasize the immediacy of effects public housing appears to have on the population. At the completion of this study, the total residency was six to seven months for eleven families which represents sixty one percent. Seven families or thirty nine percent lived in public housing for a longer period of time, representing a time span of eight to nine months. However, no family in the population lived in public housing longer than nine months.

The following five tables, two through six, describes a panoramic view of the housing conditions of the population during the study period of June-October, 1966. This particular period relates to the variable of dilapidated housing which is the "before" aspect of this study. It is important to have some understanding regarding prior housing conditions so that there is a better understanding of the variable "dilapidated housing". Also, the author's belief of an immediacy of benign affects is better understood with some description of the Indian families' prior housing conditions.

Over a third of the families lived in a log structured house, as shown by Table 2. The typical log house on the reservation is very inadequate. It is devoid of all modern conveniences, except for one or two light bulbs hanging from the ceiling. Usually the house has poor fitting doors and windows and no insulation except for clay plastered to the outside walls in late fall. Consequently, the log houses are cold, uncomfortable, and difficult to heat. In addition, the houses are small, consisting of one or two rooms.

TABLE 2

DISTRIBUTION OF HOUSE STRUCTURE OCCUPIED BY
EIGHTEEN FAMILIES PRIOR TO THEIR
RELOCATION IN PUBLIC HOUSING

Type	Number	Percent
Log	7	39
Wood frame	9	50
Stucco	2	11
Total	18	100

The conditions of these houses are shown in Table 3. Fifteen houses or eighty three percent are described as being in a substandard condition. Seven houses were condemned after being vacated. Only three families lived in houses described as suitable.

TABLE 3

PHYSICAL CONDITION OF HOUSES

Condition	Number	Percent
Unrepairable	7	39
Poor	8	44
Fair	2	11
Good	1	6
Total	18	100

Very few families, as indicated by Table 4, had running water. Seventy eight percent of the families had to haul their water. This is recognized as a hardship for the homemaker who is attempting to keep her children's physical and clothes cleanliness at an adequate level.

TABLE 4

DISTRIBUTION OF SOURCES OF WATER
SUPPLY FOR EIGHTEEN FAMILIES
DURING JUNE-OCTOBER, 1966

Source - water	Number	Percent
Running water	4	22
Well in yard	1	6
Hauled water	13	72
Total	18	100

It is not unusual for a family to travel a distance of five to ten miles for its' water. Hauling water for washing clothes and bathing a family becomes a burdensome hardship. Scabies and impetigo are directly affected by clothes and personal cleanliness.

The distribution of modern housing conveniences and internal conditions is shown in Table 5. The modern conveniences measured in this study include, indoor toilet, tub or shower, electricity and refrigerator. All of the eighteen families had electricity and only two were without a refrigerator. Most families lacked indoor plumbing and sewer, as evidenced by the absence of indoor toilet and tub or shower. In

each of these two categories, fifteen families had outdoor privies and had to haul water for baths.

TABLE 5

DISTRIBUTION OF CHARACTERISTICS OF EIGHTEEN HOUSES OCCUPIED
BY FAMILIES IN JUNE-OCTOBER, 1966

Characteristics	Number with	Percent	Number without	Percent
Rodents, bedbugs	14	78	4	22
Toilet (indoor)	3	17	15	83
Tub or shower	3	17	15	83
Comfortable Temp.	3	17	15	83
Electricity	18	100	--	--
Refrigerator	16	89	2	11

The internal conditions are concerned with rats, mice, bedbugs and the house temperature. It is noted that a little over three fourths of the families were bothered with rodents and bedbugs. These two conditions are a particular health hazard to infants and small children. The room temperature was concerned with the coldness of the house. Only three families described their 1966 living quarters as comfortable.

Table 6 contrasts the room ratio for the two periods of June-October, 1966 and 1967. In 1966 six families representing a third of them, occupied one to two rooms which this ratio was non-existent in public housing. In considering all eighteen families, eighty nine percent or

sixteen families lived in one to four rooms in 1966, while only eleven percent did so after moving to public housing. It is noted that the room ratio is reversed in 1967, as sixteen families had from five to eight rooms in public housing, while only eleven percent had this amount of living space in 1966. Also of significance, is the fact that no families had more than seven rooms in 1966, but approximately one fourth of them had this number of rooms in 1967.

TABLE 6

CONTRAST OF NUMBER OF ROOMS OCCUPIED BY
EIGHTEEN FAMILIES DURING PERIODS
JUNE-OCTOBER, 1966 AND 1967

Rooms	1966		1967	
	Families	Percent	Families	Percent
1 - 2	6	33	--	--
3 - 4	10	56	2	11
5 - 6	2	11	11	61
7 - 8	--	--	5	28
Total	18	100	18	100

The above figures represented a room ratio of 2.2 persons per room during the period of June-October, 1966, and during a similar period after moving into public housing the room ratio is decreased to 1.1 persons per room. Six families in the population composed of forty nine persons occupied one and two rooms in 1966. They had a room ratio of 5.4 persons per room. These same families, after moving into public

housing, had a room ratio of 1.2 persons per room. Also of interest, is that these six families had a total of twenty school age children. These same students represented forty seven percent of the student population.

In presenting the analysis of the data from the school performance index, nine tables and four figures are used to compare the two separate periods under study. In addition, there is a compared difference between the performance of male and female students.

Table 7 shows the combined absenteeism for male and female students for the September-October school periods in 1966 and 1967. The 1967 period shows a ten percent improvement in perfect attendance, as fifteen students missed no school in the 1966 period compared with nineteen students who had perfect attendance in September-October, 1967. The total number of students who missed over five days during the 1966 period is sixteen, representing thirty eight percent of the student population. There is an improvement in the 1967 period as only ten students, or twenty three percent missed over five days.

In comparing student absenteeism for the 1966 and 1967 periods, there is an average of 3.5 days missed per student in 1966. This decreased to 2.5 days in 1967. A gain of one whole day for each student in 1967. Total number of days missed in 1966, is 150 and in 1967 this figure is 106. This represents an increase of forty one percent improvement in school attendance.

The improvement as shown in Table 8, in school attendance for males in the 1967 period is quite significant when compared with their attendance during the 1966 period, especially in the measurement of over five days absent.

TABLE 7

ABSENTEEISM OF STUDENTS FOR SCHOOL PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Days absent	1966		1967	
	Number	Percent	Number	Percent
None	15	35	19	45
1 - 2	9	22	9	22
3 - 4	2	5	4	10
5 - 6	6	14	1	2
7 - 8	3	7	6	14
9 - 10	4	10	2	5
11 - over	3	7	1	2
Total	42	100	42	100

TABLE 8

ABSENTEEISM OF MALE STUDENTS FOR SCHOOL PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Days absent	1966		1967	
	Number	Percent	Number	Percent
None	11	61	12	67
1 - 2	1	5	3	17
3 - 4	--	--	1	5
5 - 6	3	17	--	--
7 - 8	--	--	1	5
9 - 10	2	11	1	6
11 - over	1	6	--	--
Total	18	100	18	100

During the 1967 period only two students, or eleven percent,

missed over five days. Whereas, six students, which is thirty four percent, missed over five days in the 1966 period. There is only a difference of one in the number with perfect attendance in favor of the 1967 period, but the total number of days missed by the males in the 1966 period was fifty, as compared to twenty five during the 1967 period. This is an improvement of 100 percent.

As shown by Table 9, almost twice as many female students had perfect attendance in the 1967 period when compared to their perfect attendance record during the 1966 period. Again, there were more female students, forty two percent, missing over five days in the 1966 period compared to thirty three percent in the 1967 period.

TABLE 9

ABSENTEEISM OF FEMALE STUDENTS FOR SCHOOL PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Days absent	1966		1967	
	Number	Percent	Number	Percent
None	4	17	7	29
1 - 2	8	33	6	25
3 - 4	2	8	3	13
5 - 6	3	13	1	4
7 - 8	3	13	5	21
9 - 10	2	8	1	4
11 - over	2	8	1	4
Total	24	100	24	100

The total number of days missed by females in the 1966 period was 100 and in the 1967 period they missed only eighty one days. This

represents an improvement of twenty three percent in female attendance for the 1967 period.

One of the most significant differences in contrasting the two periods is shown in Table 10. While twelve students, or twenty nine percent of the population, was rated as "dirty" or "very dirty" in personal cleanliness in September-October 1966, there were no students so characterized with this condition in the 1967 period. The highest degree of personal cleanliness, "very clean", increased three times from three students to nine in the 1967 period. Also in the 1967 period, 100 percent were rated either "clean" or "very clean" while only eighty one percent were rated as such in the 1966 period.

TABLE 10

DIFFERENCES IN STUDENTS' PERSONAL CLEANLINESS FOR THE SCHOOL PERIODS SEPTEMBER - OCTOBER, 1966 AND 1967

Degree	1966		1967	
	Number	Percent	Number	Percent
Very dirty	3	7	--	--
Dirty	9	22	--	--
Clean	27	64	33	78
Very Clean	3	7	9	22
Total	42	100	42	100

As in Table 10, Table 11 shows that no students in the 1967 period were characterized as being "very dirty" or "dirty" regarding personal

cleanliness. However, six students, or fourteen percent were given these ratings in the 1966 period.

TABLE 11

DIFFERENCES IN CLEANLINESS OF STUDENTS' CLOTHING FOR THE SCHOOL PERIODS SEPTEMBER - OCTOBER, 1966 AND 1967

Degree	1966		1967	
	Number	Percent	Number	Percent
Very dirty	1	2	--	--
Dirty	5	12	--	--
Clean	30	71	35	83
Very clean	6	15	7	17
Total	42	100	42	100

More students were rated "clean" and "very clean" in September-October 1967, than they were during a similar period in 1966. In 1967, 100 percent were classified as "clean" or "very clean", while eighty six percent were so rated in the 1966 period.

Observations of the measurements shown in Table 12 (a), indicate there are slight improvements in 1967 over the 1966 period. In the student-teacher relationship, four students moved from the "average" classification in 1966 to the "good" category in 1967. These findings are consistent with the overall improvement in the student role after moving into public housing.

TABLE 12 (a)

RELATIONSHIP OF STUDENTS AND TEACHERS FOR SCHOOL
PERIODS SEPTEMBER - OCTOBER, 1966 AND 1967

Quality	1966		1967	
	Number	Percent	Number	Percent
Poor	1	2	1	2
Average	18	43	14	34
Good	23	55	27	64
Total	42	100	42	100

There is a greater improvement in the student - peer relationship, as shown in Table 12 (b), than there is in the student - teacher relationship. They both show positive improvement for the 1967 period, but Table 12 (b) shows more significant changes.

TABLE 12 (b)

RELATIONSHIP OF STUDENTS AND PEERS FOR THE SCHOOL
PERIODS SEPTEMBER - OCTOBER, 1966 AND 1967

Quality	1966		1967	
	Number	Percent	Number	Percent
Poor	4	10	1	2
Average	22	52	19	45
Good	16	38	22	53
Total	42	100	42	100

There is an improvement for nine students, as the "poor" classification decreased from four in 1966 to one in 1967, and the "good" category increased six students from sixteen in 1966 to twenty two in the 1967 period.

Inspection of Figure 1 which concerns the completion of school assignments for the student population reveals two outstanding differences.

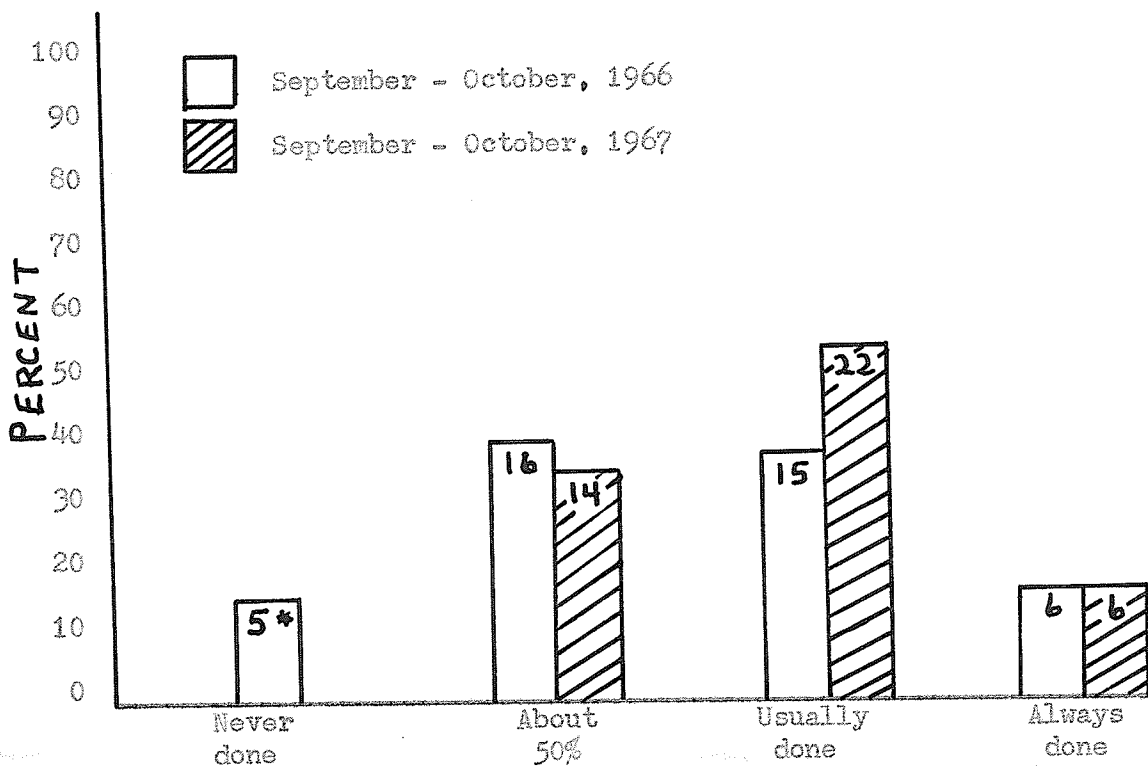


Fig. 1.--Distribution showing completion of school assignments.

*Numbers in the bars represent number of students.

First, it is noted that there are no students in the "never done" column in the 1967 period, while there are five students or twelve percent of them in the 1966 period. Next, there is a significant improvement in the "usually done" column for the 1967 period compared with the 1966 one. That is twenty two students or fifty two percent of them usually

completed their school assignments while only fifteen students or thirty six percent of them did so in the 1966 period.

Figure 2 graphically shows the distribution of the student population as measured by their physical alertness in the classroom. It is noted that there are very few students at both extremes of the graph. However, five students were rated as "very tired" in the 1966 period, while only one had that rating in the period of 1967. At the other extreme there was little difference in the "very alert" classification.

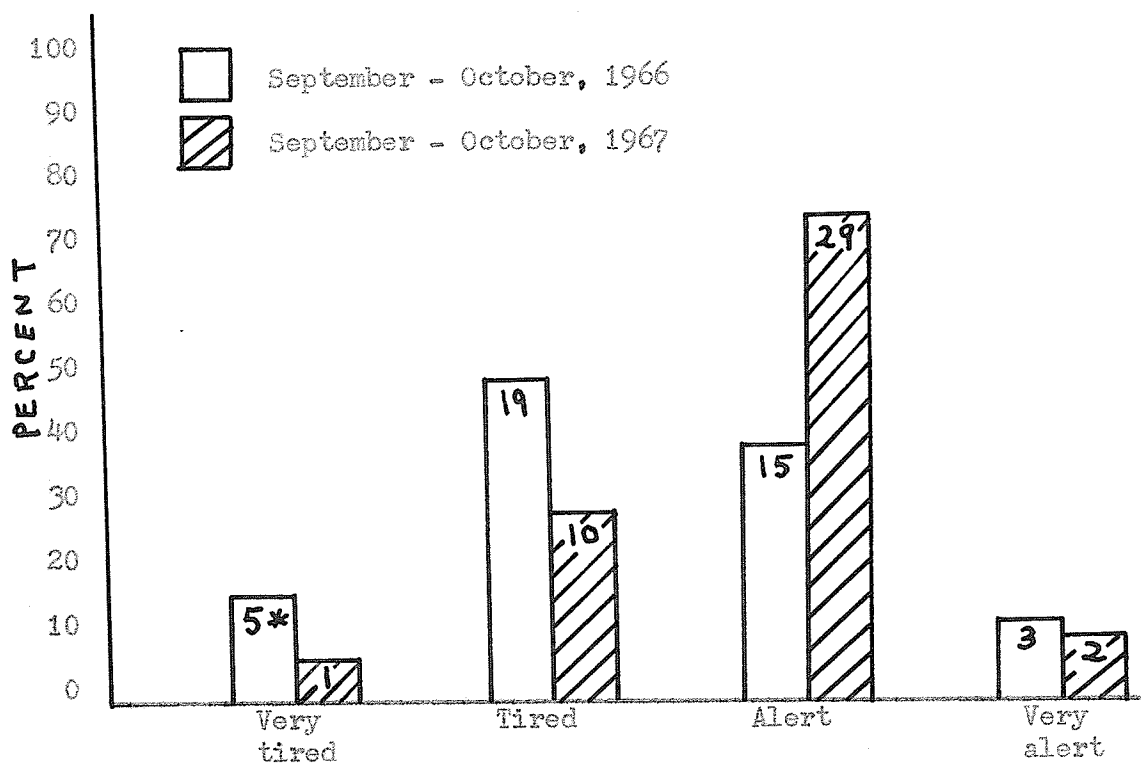


Fig. 2.--Physical alertness of students.

*Numbers in the bars represent number of students.

The significant improvement for the students after rehousing in 1967 is noticeable in the criteria of "tired" and "alert". In the period of 1966, forty five percent of the students were rated tired, while only

twenty four percent were thus rated in the 1967 period. The largest difference is shown by the criteria of "alert", as fifteen students which is thirty six percent of them, are rated with this characteristic in 1966, while twenty nine students or sixty nine percent of them are given this rating for the period of 1967.

The modes in Figure 3 are opposite from those in Figure 2 as they appear at the extreme ends in this graph, while in Figure 2 the modes were in the middle of the graph. Figure 3 shows the distribution of parents attendance at various school functions including the parent-teacher conferences.

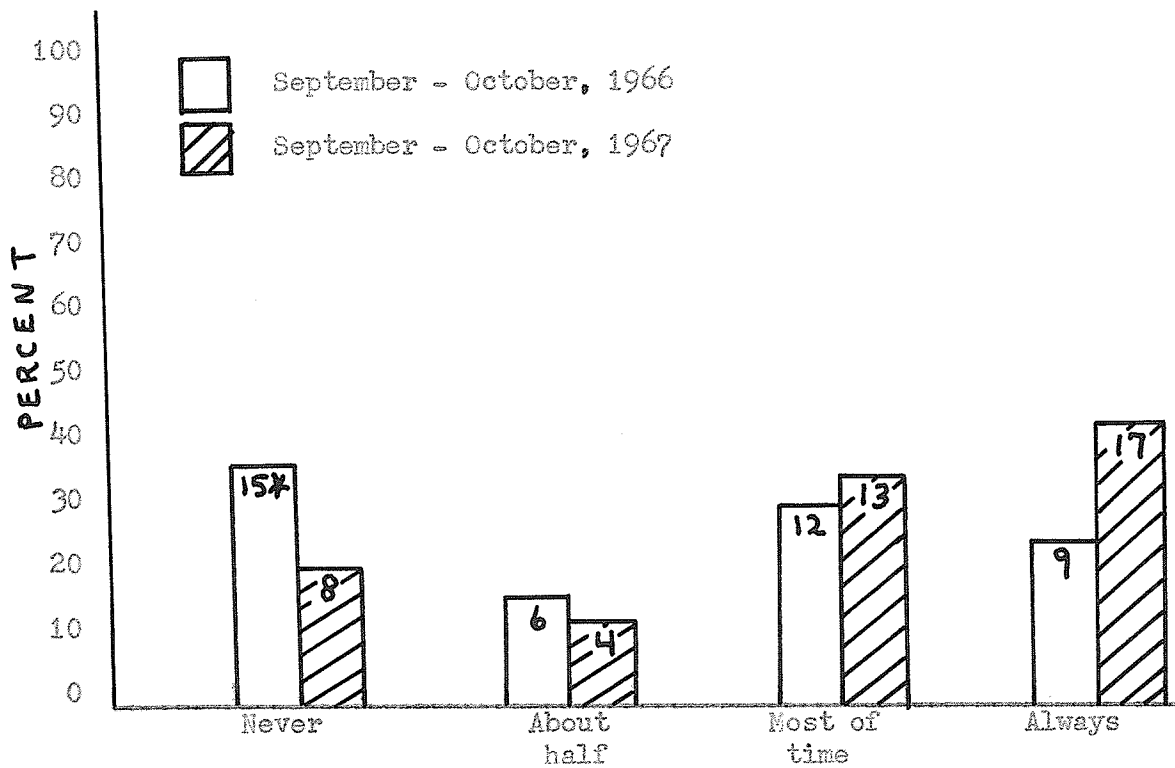


Fig. 3.--Distribution of parents attendance at school functions.

*Numbers in the bars represent number of students.

There is little change in the parents attendance ratings of "about

half" and "most of time" in both the 1966 and 1967 periods. There are two significant improvements. First, in the 1966 period fifteen parents or thirty five percent of them "never" attended school functions, while in 1967 this figure decreased to nineteen percent or eight parents. At the other end of the graph, forty percent or seventeen parents "always" attended and in the period before rehousing in 1966 only nine parents, which is twenty two percent, attended "always".

The following three tables and one figure are concerned with student grades. One table with conduct grades, two tables and a figure with academic grades.

The conduct grades are shown distributed in Table 13. In contrasting the two periods, one sees marked improvement for the 1967 period.

TABLE 13

DISTRIBUTION OF STUDENT CONDUCT GRADES FOR SCHOOL
PERIODS SEPTEMBER - OCTOBER, 1966 AND 1967

Grades	1966		1967	
	Number	Percent	Number	Percent
A	4	10	9	22
B	16	38	23	55
C	22	52	8	19
D	--	--	1	2
F	--	--	1	2
Total	42	100	42	100

There are thirty two students consisting of seventy seven percent of the population with a conduct grade of "A" or "B", as compared to twenty students or forty eight percent in the 1966 period. In 1966, over half of the students, fifty two percent of them had a grade "C" while only nineteen percent had this grade in the 1967 period.

The grades achieved by the female students prior to the year of rehousing and after moving into public housing are compared in Table 14.

TABLE 14

DISTRIBUTION OF FEMALE ACADEMIC GRADES FOR PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Grades	1966		1967	
	Number	Percent	Number	Percent
A+	--	--	--	--
A	--	--	--	--
A-	--	--	--	--
B+	1	4	1	4
B	--	--	2	8
B-	--	--	2	8
C+	6	25	4	17
C	6	25	4	17
C-	3	13	3	13
D+	2	8	6	25
D	1	4	1	4
D-	4	17	--	--
F	--	--	--	--
Unknown	1	4	1	4
Total	24	100	24	100

The criteria for an above average student is a grade of "C+" or higher. In the period of 1966 it is noticed that seven students or twenty

nine percent have achieved an above average grade. It is noted that there is a slight improvement in the 1967 period, in that nine students representing thirty seven percent of the population are graded above average students.

Improvement is also shown in the lower grades. In the 1966 period five students had grades of "D" or "D-" while only one student had a grade of "D" in the 1967 period. For both years the majority of students are in the "C" range of grades. No students received grades in the "A's". After letter grades were converted into numerical values as explained in Chapter III, the females had an average grade of 4.3 or C- in 1966. In the 1967 period they improved their average to 4.8 or C. A numerical increase of .5.

There is a marked improvement for the male grades as shown in Table 15. The most significant improvement in the 1967 period is with above average students. In the 1966 period only three students, or seventeen percent of them achieved a grade of C+ or better, but in the same period in 1967 fifty percent or nine students are graded scholastically above average. However, five students in the 1967 period are graded in the "D" range while only three received this grade in 1966.

The outstanding feature is that the male students improved their grades by a 1.0 level, from 4.7 in 1966 to 5.7 in 1967. The letter grades increased from a "C" average to a "C+" above average.

The combined grades for both male and female students are displayed in Figure 4. Probably the most outstanding feature of the graph is the fact there are only two students in the 1966 period with grades above the "C+" level, while there are a noticeable number in the 1967 period.

TABLE 15

DISTRIBUTION OF MALE ACADEMIC GRADES FOR PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Grades	1966		1967	
	Number	Percent	Number	Percent
A+	--	--	--	--
A	--	--	--	--
A-	1	6	2	11
B+	--	--	1	6
B	--	--	1	5
B-	--	--	4	22
C+	2	11	1	6
C	6	33	1	5
C-	4	22	1	6
D+	--	--	2	11
D	3	17	2	11
D-	--	--	1	6
F	--	--	--	--
Unknown	2	11	2	11
Total	18	100	18	100

In fact, almost one third, thirty one percent of the students received grades above a "B-" level in the 1967 period compared with only four percent in the period of 1966. In other words, ninety six percent of the students in the 1966 period achieved no higher grades than a "C+". Com-

paring this to the 1967 period only sixty nine percent of the students are in this category.

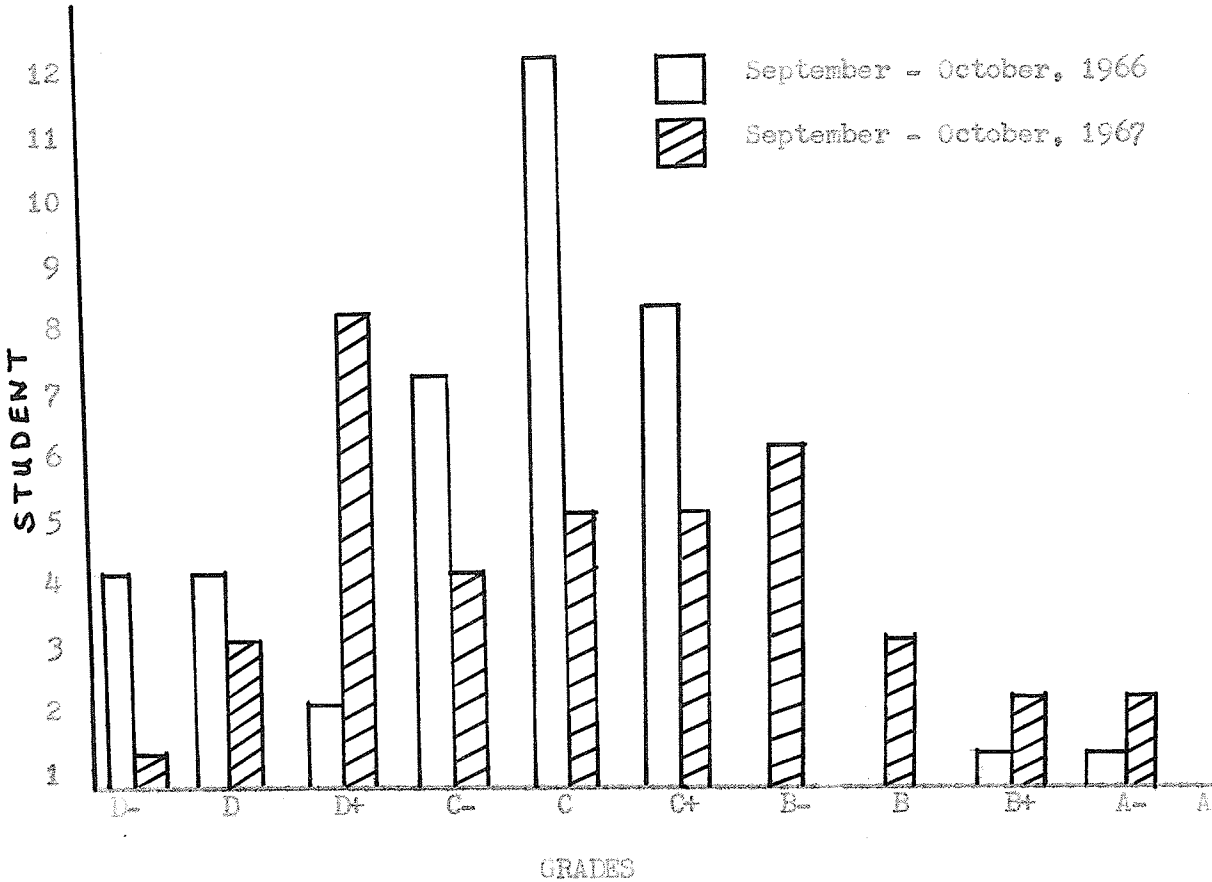


Fig. 4.—Distribution of grades of male and female students.

In the two lowest grades of "D" and "D-" eight students or twenty percent of them are in these classifications in 1966, compared with only nine percent or four students in 1967. Another marked feature of Figure 4 is the majority of students in 1966, sixty four percent are in the classification of "C's". In 1967 only thirty three percent are in this classification as many of the students moved into high grade categories. The average student grade for the population in the 1966 period is 4.5, a letter grade of "C-". There is a grade improvement in

the period of 1967 to an average of 5.3, or letter grade "C", representing a .8 difference.

The criteria that a family must have resided on the Indian Reservation or Government land in the June-October, 1966 period substantially reduced the population for this index. This criteria eliminated one third of the eighteen families, leaving only twelve in the population. Families not residing in the above stated two areas do not come under the jurisdiction of tribal law.

Table 16 shows the distribution of all arrests and charges for the population during the June-October periods of 1966 and 1967.

TABLE 16

DISTRIBUTION OF CRIME AND DELINQUENCY FOR PERIODS
JUNE - OCTOBER, 1966 AND 1967

Charges	1966		1967	
	Number	Percent	Number	Percent
Public Intoxication	2	25	4	45
Malicious Mischief	1	12	1	11
Theft	--	--	1	11
Child Neglect	2	25	1	11
Disorderly Conduct	3	38	2	22
Total	8	100	9	100

In the population of twelve families there are thirty individuals thirteen years or older. Only five of the population families of twelve had an official record of arrest for either of the two periods. This represented forty one percent leaving fifty nine percent with no arrests for the two periods of this study. Of the thirty individuals eight are juveniles, and only one of them had been arrested as delinquent with one charge for each period. Of the twenty two adults only five had a record for some form of social deviancy. The total arrests for the adults are fifteen for the combined period.

In the total population of the crime and delinquency index only twenty percent had an official arrest. Table 16 shows there is a total of eight arrests for the five various charges in the 1966 period. The 1967 period is numerically similar with a total of nine arrests. The charge "public intoxication" in 1967 increased to four from the 1966 number of two arrests. However, "child neglect" and "disorderly conduct" both decreased one in the 1967 period compared to 1966. There is no significant difference between these two periods, and the variables have not affected the index of crime and delinquency probably due to the short time span of the study and the extremely small population.

The following four tables depict the effects of the housing variable on the family oriented activities. These activities are the four family indices. Two indices are intra-family measures, they are family relationships and family activities. The other two are indices which measure family activities outside the home. They are church attendance and family community activities.

Table 17 shows the distribution of responses by the eighteen families when asked to compare their family relationships between the June - October periods of 1966 and 1967. It is very significant all the families categorized their relationships as "much happier". The results of this index certainly indicate that public housing has an immediate benign affect on family relationships.

TABLE 17
CHANGES IN QUALITY OF FAMILY RELATIONSHIPS

Relationship	Number	Percent
Much happier	18	100
No change	--	--
More strain	--	--
Total	18	100

The most prominent feature of Table 18 is the increase in the numbers of activities during the 1967 period. In the "Gains" column there is an improvement for each of the measurements. That means one or more families added an activity in 1967 in which they were not engaged in during the 1966 period. The gains in percent ranged from seven to as high as fifty percent. The three largest gains are in the activities of playing games together, visiting relatives, and attending athletic events.

TABLE 18

COMPARISON OF EIGHTEEN FAMILIES ENGAGEMENT IN FAMILY ACTIVITIES
FOR PERIODS OF JUNE - OCTOBER, 1966 AND 1967

Family Activity	1966		1967		Gains	
	Number	Percent	Number	Percent	Number	Percent
Eat meals together	15	83	17	94	+2	+13
View T.V. together	14	78	15	83	+1	+7
Help with homework	12	67	14	78	+2	+16
Play games together	6	33	9	50	+3	+50
Play cards together	9	50	12	67	+3	+33
Attends movies	11	61	14	78	+3	+27
Goes fishing	9	50	10	56	+1	+11
Discusses problems	14	78	16	89	+2	+14
Visits relatives	11	61	15	83	+4	+36
Goes church functions	15	83	18	100	+3	+20
Goes school functions	10	56	11	61	+1	+10
Goes Comm. Functions	9	50	10	56	+1	+11
Shares chores	14	78	15	83	+1	+7
Goes athletic events	10	56	14	78	+4	+40
Goes on picnics	12	67	15	83	+3	+25

The frequency of church attendance for the periods of June - October, 1966 and 1967 is shown in Table 19. It is noted that there is no significant difference in the families church attendance for these two

periods. However, the slight improvement is in favor of the 1967 period. In each of the attendance criteria there is an improvement of one family in 1967 over the period of 1966.

TABLE 19

DISTRIBUTION SHOWING CHURCH ATTENDANCE FOR
PERIODS JUNE - OCTOBER, 1966 AND 1967

Attendance	1966		1967	
	Number	Percent	Number	Percent
Never	3	17	2	11
Seldom	6	33	5	28
Most time	5	28	6	33
Always	4	22	5	28
Total	18	100	18	100

A comparison showing distribution of community activities by the family population is displayed in Table 20. The cardinal point is that fifty five individuals participated in community activities in June - October, 1967, which represents an increase of fifteen individuals over the identical period in 1966. The number of participating individuals in 1966 was forty. Of the thirteen community activities numerated for measuring this index, there is an increase of individual participation in six of them during the 1967 period. In four activities there are no changes and a decrease in three of them.

TABLE 20

DISTRIBUTION OF COMPARISON OF FAMILY MEMBERS
PARTICIPATING IN COMMUNITY ACTIVITIES FOR
PERIODS JUNE - OCTOBER, 1966 AND 1967

Activity	Number		Numerical Difference
	1966	1967	
Church circle	1	2	+1
Men's bowling	1	1	--
Women's bowling	2	1	-1
Boy Scouts	3	5	+2
Girl's 4-H	3	2	-1
School Organ.	7	8	+1
Evening classes	5	7	+2
Knights of Columbus	--	--	--
American Legion	6	5	-1
School sports	12	16	+4
Clubs at work	--	--	--
Homemakers	--	--	--
Other comm. organ.	--	8	+8
Total	40	55	

The overall improvement for the 1967 period compared to the 1966 one is a thirty seven percent increase of individuals participating in community activities.

The health index for this study consists of four tables and one figure. Table 21 and figure 5 represent data regarding student evaluations by teachers. The table is a subjective rating, while the figure is objective. Both concern important areas affecting student health. Tables 22 through 24 concern the objective data obtained from the population's official medical records.

Table 21 shows a consistent improvement in favor of better diets for the students during the 1967 period in comparison to the 1966 one.

TABLE 21

THE DIFFERENCES OF STUDENTS' DIETS FOR PERIODS
SEPTEMBER - OCTOBER, 1966 AND 1967

Diet	1966		1967	
	Number	Percent	Number	Percent
Very poor	4	10	1	2
Lacking	12	28	6	15
Average	24	57	31	74
Above average	2	5	3	7
Exceptional	--	--	1	2
Total	42	100	42	100

In the 1966 period sixteen students or thirty eight percent of them had a diet rated as lacking in some degree, while only seven students representing seventeen percent are so classified in the 1967 period. In 1966, fifty seven percent of the students are believed to

have an average diet while this increased to seventy four percent in the 1967 period. Four students in the 1967 period as compared to two in 1966, are rated as having a diet which is above average or better. For every criteria there is a favorable difference.

Figure 5 has one salient point. It is the vast difference in the student health problem of lice, scabies, and impetigo between the periods of 1966 and 1967.

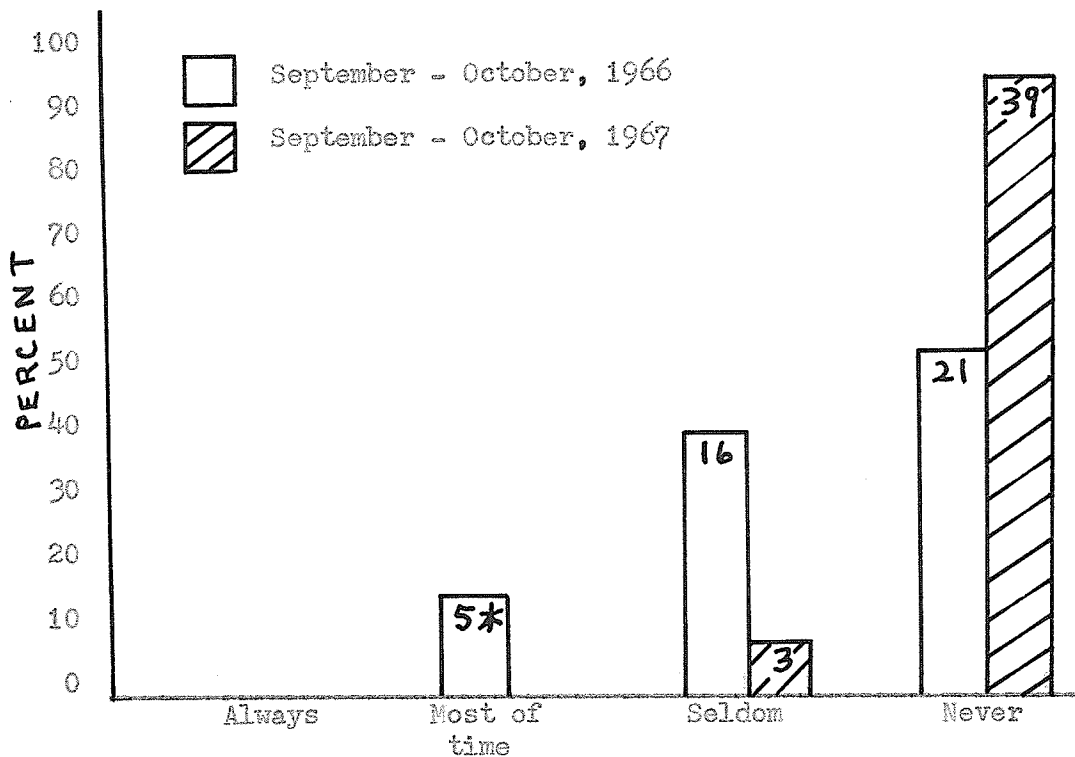


Fig. 5.--Distribution of teachers' evaluation as to students' health problems of lice, scabies, and impetigo.

*Numbers in the bars represent number of students.

In the 1967 period, ninety three percent or thirty nine students are rated as "never" having these health problems, while only fifty percent or twenty one students are so rated in 1966. No student in the

1967 period is evaluated as having these problems "most of time", while five students are in the 1966 period. Over one third of the students are evaluated in 1966 as "seldom" having these health problems, while only seven percent are so rated in 1967. There is a very significant health improvement for the students in the 1967 period as demonstrated by figure 5.

Noticeable, is a small but positive improvement in the children's physical health as shown by Table 22. There is a decrease in the June-October, 1967 period for the measurements of "communicable disease" and "other" in contrast to the period of 1966. There is a combined decrease of eighteen cases in these two categories in 1967.

TABLE 22

DISTRIBUTION SHOWING OUT-PATIENT DIAGNOSIS OF CHILDREN
FOR PERIODS JUNE - OCTOBER, 1966 AND 1967

Diagnosis	1966		1967	
	Number	Percent	Number	Percent
Communicable disease	55	65	42	54
Home accident	9	10	19	25
Other	21	25	16	21
Total	85	100	77	100

A marked difference shows deterioration in the "home accident" measurement. There are twice as many home accidents in 1967 when

compared to the 1966 period. Because of the improvements in the other two areas, the out-patient cases show an overall improvement in 1967. There are a total of eighty five cases in 1966 which decreased to seventy seven cases in 1967.

The total population is eighty six children. Of these, eight are born after June 1, 1966 and are excluded from the health index. Twenty three children never received medical attention during the June-October 1966 and 1967 periods. Fifty five children visited the clinic at least once during one of these periods.

The data in Table 23 regards adult out-patient diagnosis. While the children show slight positive improvement, the adults in the population show slight deterioration.

TABLE 23

OUT-PATIENT DIAGNOSIS OF ADULTS FOR PERIODS
JUNE - OCTOBER, 1966 AND 1967

Diagnosis	1966		1967	
	Number	Percent	Number	Percent
Communicable disease	14	31	17	35
Home accident	4	9	3	6
Other	27	60	29	59
Total	45	100	49	100

There is a total of forty five adult cases at the out-patient

clinic during the period of June-October, 1966, which increases to forty nine in the 1967 period. The only decrease in 1967 was "home accidents", which improved from four in 1966 to three in 1967. This is in contrast to the children's home accidents which doubled in the 1967 period.

Other than the slight deterioration, the information contained in Table 23 indicates no apparent affects from the public housing variable in relation to the number of adult cases receiving treatment at the clinic. In the total of thirty one adults in the population, seven did not receive any treatment at the clinic during either of the two periods, while twenty four adults had at least one clinic visit.

With the combined population of adults and children, Table 24 indicates a slight but insignificant decrease in out-patient cases between the compared periods of June-October, 1966 and 1967.

TABLE 24

OUT-PATIENT DIAGNOSIS OF POPULATION FOR PERIODS
JUNE - OCTOBER, 1966 AND 1967

Diagnosis	1966		1967	
	Number	Percent	Number	Percent
Communicable Disease	69	53	59	47
Home accident	13	10	22	17
Other	48	37	45	36
Total	130	100	126	100

There is a small improvement in two of the measurements. The improvement appears in "communicable disease" and "other" cases, as there is a combined decrease of thirteen cases in the 1967 period. The measurement of "home accident" shows deterioration as there is almost double the number of accidents in 1967 as compared to the same period in 1966.

There is a slight improvement when considering all three measurements in this index. This is demonstrated by the fact that in 1966 there are a total of 130 out-patient cases, and in the same period in 1967, there are 126 cases.

The total population which meets the criteria for out-patient clinic care is 110 persons. Of this number, seventy four percent or seventy nine individuals received treatment at least on one occasion during the two periods. Thirty individuals, representing twenty six percent, had no clinical visits.

In this study, tables one through twenty four and the five figures all refer statistically to the various populations of each index. Because the index populations are small, it is possible to compare each individual's and family's social functioning and physical health in June-October 1966 with their social functioning and physical health in the identical period in 1967. Usually studies of this nature are unable to compare each individual with his past performance as the sample or population is too large.

Because of the limited period of time these families resided in public housing before the study was undertaken, it is of interest to investigate the effects of the variables on each individual or family

by comparing the two periods of study. Logically, it is recognized that the public housing environment would not benignly affect all the individuals or families. It is believed a greater number would improve in their social functioning, than would deteriorate. In addition, it is felt many individuals and families would remain unchanged. For example, those functioning adequately in dilapidated housing would continue to function adequately in public housing.

Table I, which appears in Appendix A, shows the number of individuals that improved in comparison to those that deteriorated. It also shows the individuals who remained in the unchanged category. In the "improved" columns, there are three outstanding features. First, the only perfect improvement is in the Family Relationship index where 100 percent of the families improved in the 1967 period when compared to their functioning in the 1966 one. Second, in the three measurements of parents attendance at school functions, school grades, and family activities there are improvements of over fifty percent when contrasted with the 1966 period. Third, when comparing all the measurements for the periods of 1966 and 1967, there is an improvement in seventeen of the twenty.

The marked differences in the "deteriorated" column is the fact that while most of the measurements show some individual or family deterioration, three show none. They are Health Problems, Family Activities and Family Relationships. Most of the deterioration is numerically small as sixteen of the twenty measurements indicate a deterioration of nine or less in any one measurement.

In the "no change" columns, as assumed, a large percentage of

individuals and families showed no gains. Yet it is interesting to note that in nine measurements, which is almost fifty percent of them, more individuals and families showed a higher percent of improvement than did those who showed no gain.

The analysis, the highlight for each table and graph has been discussed in this chapter. All of this information has been synthesized in chapter V where it is used for confirming the theoretical hypothesis.

CHAPTER V

CONCLUSIONS

This research was concerned with a group of eighteen Indian families that were studied to discover what possible effects a variable, public housing, has on their social functioning and physical health. In order to learn of the possible effects of this variable, an ex post facto "before" and "after" study was conducted. The before study covered a period of five months, June-October, 1966, which related to the time the eighteen Indian families lived in substandard housing. In 1967, these same families were rehoused in public housing, and the "after" period studied was June-October, 1967.

As explained in Chapter III, the method for the comparison of social functioning and physical health consisted of the systematic gathering of data through the administration of two interview schedules and four questionnaires. The interview schedules were concerned with 1966 housing conditions and the family activities. The four questionnaires were concerned with the fields of education, law and health.

The study contained seven indices to measure the variables of inadequate and public housing, namely: school performance; health; crime and delinquency; family activities; church attendance; family relationships; and community activities. Each of these indices contained various criteria for the purpose of measuring the effects of the variables.

The data related to the school index is displayed in four histograms

and nine tables, and shows an improvement in every area measured. In the 1967 period, school attendance improved as there was an average of only 2.5 days absent compared to 3.5 days per student in the 1966 period. Personal cleanliness of students improved, as 100 percent were rated either "clean" or "very clean". Clothing cleanliness showed a similar improvement. There was also noticeable improvement in 1967 in regard to relationships with teachers and peers and completion of assignments. Regarding the classroom alertness of students, there was a marked gain in favor of the 1967 period, and in parents' attendance at school functions, there was a positive improvement over the 1966 period. There were higher grades for the students in conduct in the 1967 period, and both males and females improved their academic averages in 1967.

The criteria measuring the index of family relationships showed an improvement of 100 percent in the 1967 period in comparison with the period of 1966.

The index of family activities contained fifteen different criteria. In every one there was an increase in the 1967 period in comparison to the 1966 one.

There was no significant change in the church attendance index, but all the changes indicated a slight improvement in the June-October, 1967 period, compared to the same period in 1966.

The community activities schedule measured the families against thirteen criteria. In the 1966 period there were forty individuals participating in various community activities. This increased to fifty five in the 1967 period, indicating a gain of fifteen.

The health index had criteria measuring two populations, students,

and the individuals who composed the population of eighteen families. The two criteria regarding students were diet, and health problems of lice, scabies and impetigo. The data regarding diet showed a consistent improvement in the 1967 period, and the measurement of student health problems showed an outstanding difference as ninety three percent of the students were rated as "never" having those particular health problems; whereas, in 1966 only fifty percent were so rated. While the out-patient clinic visits of the total population were of little significance in confirming the hypothesis, the result is consistent with the other five indices showing some improvement in the 1967 period.

An important aspect of this research points out the need for further study regarding home accidents. The home accident rate centered around the children. The adults had a decrease of one case, from four in the 1966 period to three in the period of 1967. In contrast, the childrens' home accident rate increased significantly, from nine during the period of June-October, 1966, to nineteen during an identical period in 1967. It is important to know if the increased accidents occurred inside or outside the home. If the accidents are occurring indoors, then an examination as to the types of accidents can result in preventive measures to be implemented. If outdoors, remedial action can be taken after the causes are identified. The increase in home accidents outdoors may be attributed to such factors as: (1) the density of children is high in the public housing project. Because the project lacks adequate playground space the children are forced to play in unsafe areas and with dangerous objects, such as, sticks, clubs, stones, bottles, etc.,

(2) there is lack of proper parental supervision over the children's outdoor play activity, (3) the community lacks supervised play activity for the children and, (4) the children play in the car parking lots. These are some suggested causes of the increased home accident rate, but only a study in this area will provide the information necessary to take constructive action to alter the situation.

The only index in the study which showed a negative change was that of crime and delinquency. However, only five families out of the population of eighteen were involved in this social deviancy. The increase in arrests for the period of 1967 in comparison to 1966 was insignificant as the difference was only one. There were eight arrests in 1966 and nine in the 1967 period.

Another method which was used to test the hypothesis was that of comparing each individual's or family's social functioning and physical health in the 1966 period with the 1967 period. The tabulated results are presented in Table I. Here again there is marked improvement.

From this analysis and interpretation of the data it is obvious that the effects of public housing on the Indian families in this study are sufficient to confirm the hypothesis, which stated: "The level of physical health and social functioning of Indians residing in Belcourt Public Housing during the period June-October, 1967 is higher than their level of physical health and social functioning during a similar period in 1966, and prior to their residency in public housing".

Any generalization of the findings must be applied with caution as these are families who have been rehoused after living in extremely substandard conditions. For example, improving living space from a

ratio of five persons to a room to one person per room and from hauling water for a family of ten to providing running hot and cold water. However, the changes are significant enough to permit a conclusion to be drawn, that the differences between these same eighteen families within a time span of one year can be attributed primarily to the housing factor. While this study shows highly significant gains for both individuals and families who have been rehoused in public housing, it is not intended that this be interpreted in the light of a panacea. Recognized is the fact that inferior housing is only one aspect among many other deprivations, each reinforcing the other, to shape the aspirations and hopes of Indian families.

The premise also has been proved which stated, "there is an almost immediate effect on social functioning of Indian families moving from dilapidated to adequate housing". This immediate effect is demonstrated, but as to its permanency only a study undertaken after a longer time span could provide this answer. However, based on other studies regarding public housing, one can anticipate that the immediate changes and benefits attributed to the public housing environment in this study will increase rather than deteriorate over a longer period of time.

In conclusion, this study has shown that public housing has a beneficial effect on the Indian families rehoused and on the community as well. Every improvement in social functioning and physical health means a diminution in suffering and unhappiness. The house not only provides shelter, it is the focus of family life. It is the workshop for the homemaker, a study hall for the school children and also their indoor playground. It is the recreational center for the entire family. The

home is the setting where child socialization occurs. The socialization process is affected adversely by squalor, room crowdedness, and health hazards. For the physical, psychological and social well-being of individuals, a decent house is a minimum requirement.

This research, like all the others studying the effects of public housing, has shown the positive benefits of adequate as compared to poor housing. The implication of this for social work practice is simply this; that the profession of social work, along with others, especially public health, teachers, and law enforcement officials, have the responsibility of exerting their influence on government and community so that policy may be formulated which lessens and ameliorates the effects of inadequate housing. What we as professionals try to do will be ineffective if people live in an environment which creates and aggravates their interpersonal and familial problems.

APPENDIX A

TABLE I

DISTRIBUTION SHOWING RESULTS OF EACH INDIVIDUAL'S OR FAMILY'S
SOCIAL FUNCTIONING AND PHYSICAL HEALTH BY COMPARING
TWO SEPERATE PERIODS IN 1966 AND 1967

Criteria	Pop.	Improved		Deteriorated		No change	
		No.	%	No.	%	No.	%
Clothes - cleanliness	42	10	24	4	10	28	66
Personal - cleanliness	42	16	38	1	2	25	60
Physical alertness	42	20	48	6	14	16	38
School assignment	42	17	41	9	21	16	38
Diet	42	17	41	6	14	19	45
Parents - attendance	42	23	55	9	21	10	24
Student-teacher rel.	42	10	24	6	14	26	62
Student-peer rel.	42	14	33	6	14	22	53
Conduct	42	18	43	8	19	16	38
Health problems	42	19	45	--	--	23	55
Students - attendance	42	19	45	8	19	15	36
Grades	39	25	64	13	33	1	3
Arrests	30	2	7	2	7	26	86
Communicable disease	110	25	23	24	22	61	55
Home accidents	110	10	9	17	15	83	76
Other (health)	110	16	15	17	15	77	70
Family activities	18	12	67	--	--	6	33
Church attendance	18	5	29	1	5	12	66
Family relationships	18	18	100	--	--	--	--
Community activities	18	8	45	4	22	6	33

APPENDIX B

JUNE-OCTOBER, 1966 HOUSING CONDITIONS

Form A

NAME: _____

The following 11 questions are about the condition of the house you lived in one year ago. During the months June-October, 1966.

1. What was the physical condition of the house you lived in last year - during June-October, 1966?

_____ Not repairable

_____ Poor condition

_____ Fair condition

_____ Good condition

2. What was the type of house?

_____ Log

_____ Wood frame

_____ Trailer house

_____ Stucco

3. How many rooms did you have? (Don't count bathrooms or porches).

_____ One room

_____ Two rooms

_____ Three rooms

_____ Four rooms

_____ Five or more, write in the number

4. What was your source of water supply?
- Had running water in the house
- Had own well in yard
- Hauled water by car
5. Did the house have any mice, rats, bedbugs, etc...?
- No
- Yes
6. Did you have a bathroom (toilet) in your house?
- No
- Yes
7. Did you have a bathtub or shower?
- No
- Yes
8. Was the indoor temperature of the house comfortable?
- Yes, it was warm all over
- No, it was a cold house
9. Did the house have electricity?
- No
- Yes
10. Did you have a refrigerator?
- No
- Yes
11. Was this house located on the reservation or government land?
- No
- Yes

TEACHER'S EVALUATION OF STUDENT DURING THE PERIOD OF (Form B)

SEPTEMBER AND OCTOBER, 1966

STUDENT NAME _____ GRADE _____

The above student was a pupil of yours during the 1966-67 academic year. Please place an X before the word or phrase which best described him during the months of September and October, 1966.

1. In regards to cleanliness (not style or condition), his clothes were:

_____ very dirty

_____ dirty

_____ clean

_____ very clean

2. In regards to his own personal cleanliness (hands, face and body), he was:

_____ very dirty

_____ dirty

_____ clean

_____ very clean

3. His physical alertness was best described as:

_____ very tired

_____ tired

_____ alert

_____ very alert

4. His assignments and home work were:

_____ never done

_____ done about half of the time

_____ usually completed

_____ completed all the time

(Form B)

5. From your knowledge of this student and the fact he ate noon lunches at school, you believe:

he had a very poor diet at home

his diet was lacking, in that it had some deficiencies

he had an average diet

his diet was somewhat above average

he had an exceptionally healthy diet

6. What was the attendance of the student's parent or parents at the "teacher-Parent Conferences" or any other school function?

never attended

attended about half of the time

attended most of the time

attended all of them

7. The student-teacher relationship was best described as:

poor

average

good

8. The student-peer relationship was best described as:

poor

average

good

9. What was the student's conduct grade for this period - September-October, 1966?

"F"

"D"

"C"

"B"

"A"

(Form B)

10. In regards to the following health problems - scabies, impetigo and lice, the student:

_____ always had one or the other
 _____ most of the time had one or the other
 _____ very seldom had one or the other
 _____ never had one or the other

11. How many days was this student absent during the months of September and October, 1966? This figure must be taken from the official school attendance record.

_____ days

12. List the student's letter grades for the following subjects. These are the grades he received on his first report card in October, 1966.

Grade School Subjects

_____ Arithmetic
 _____ Art
 _____ Health
 _____ Language
 _____ Music
 _____ Penmanship
 _____ Physical Education
 _____ Reading
 _____ Religion
 _____ Science
 _____ Social Studies
 _____ Spelling

Please add omitted ones

High School Subjects

_____ Biology
 _____ Drivers Training
 _____ English
 _____ Geography
 _____ History
 _____ Home Economics
 _____ Math.
 _____ Physical Ed.
 _____ Physics
 _____ Shop

Please add omitted ones

TEACHERS EVALUATION OF STUDENT DURING THE PERIOD OF (Form C)

SEPTEMBER AND OCTOBER, 1967.

STUDENT NAME: _____ GRADE _____

The above student is a pupil of yours during the current academic year - 1967-68. Please place an X before the word or phrase which best describes him during the first two months of school - September and October, 1967.

1. In regards to cleanliness (not style or condition) his clothes are:

_____very dirty

_____dirty

_____clean

_____very clean

2. In regards to his own personal cleanliness (hands, face and body) he is:

_____very dirty

_____dirty

_____clean

_____very clean

3. His physical alertness is best described as:

_____very tired

_____tired

_____alert

_____very alert

4. His assignments and home work are:

_____never done

_____done about half of the time

_____usually completed

_____completed all the time

(Form C)

5. From your knowledge of this student and the fact he eats noon lunch at school, you believe:

he has a very poor diet at home

his diet was lacking in that it had some deficiencies

he has an average diet

he has an exceptionally healthy diet.

6. What is the attendance of the student's parent or parents at the "Teacher-Parent Conferences", or any other school function?

never attends

attends about half of the time

attends most of the time

attends all of them

7. The student-teacher relationship is best described as:

poor

average

good

8. The student-peer relationship is best described as:

poor

average

good

9. What is the student's conduct grade for the period, September-October, 1967?

"F"

"D"

"C"

"B"

"A"

(Form C)

10. In regards to the following health problems - scabies, impetigo and lice, the student:

- always has one or the other
- most of the time has one or the other
- very seldom has one or the other
- never has one or the other

11. How many days was this student absent during the months of September and October, 1967? This figure must be taken from the official school attendance record.

days

12. List the students letter grades for the following subjects. These are the grades he received on his first report card in October, 1967.

Grade School Subjects

High School Subjects

- Arithmetic
- Art
- Health
- Language
- Music
- Penmanship
- Physical Education
- Reading
- Religion
- Science
- Social Studies
- Spelling

- Biology
- Drivers Training
- English
- Geography
- History
- Home Ec.
- Math.
- Physical Ed.
- Physics
- Shop

Please add omitted ones

Please add omitted ones

GENERAL FAMILY INFORMATION

(Form D)

1. Family Name: (Last Name) _____

Father _____

Mother _____

2. Children:

Name _____ Age _____

Name _____ Age _____

Grade last year _____

Grade last year _____

Teacher last year _____

Teacher last year _____

School attended _____

School attended _____

Grade this year _____

Grade this year _____

Teacher this year _____

Teacher this year _____

School now attending _____

School now attending _____

Name _____ Age _____

Name _____ Age _____

Grade last year _____

Grade last year _____

Teacher last year _____

Teacher last year _____

School attended _____

School attended _____

Grade this year _____

Grade this year _____

Teacher this year _____

Teacher this year _____

School now attending _____

School now attending _____

Name _____ Age _____

Name _____ Age _____

Grade last year _____

Grade last year _____

Teacher last year _____

Teacher last year _____

School attended _____

School attended _____

Grade this year _____

Grade this year _____

Teacher this year _____

Teacher this year _____

School now attending _____

School now attending _____

3. During June-October, 1966, that is last year, approximately what was the frequency of your church attendance?

never
 seldom
 most of time
 always

4. During June-October, 1967, that is this year, approximately what was the frequency of your church attendance?

never
 seldom
 most of time
 always

5. During June-October, 1966, last year, how many of the following community activities did the family members participate in? Each family member is counted seperately.

<input type="checkbox"/> Church circle	<input type="checkbox"/> Knights of Columbus
<input type="checkbox"/> Men's bowling	<input type="checkbox"/> American Legion
<input type="checkbox"/> Women's bowling	<input type="checkbox"/> School sports
<input type="checkbox"/> Boy Scouts	<input type="checkbox"/> Clubs at work
<input type="checkbox"/> Girl's 4-H	<input type="checkbox"/> Homemakers
<input type="checkbox"/> School organizations	<input type="checkbox"/> other community organizations
<input type="checkbox"/> evening classes	<input type="checkbox"/> other

6. During June-October, 1967, this year, how many of the following community activities did the family members participate in? Each family member is counted seperately.

<input type="checkbox"/> Church circle	<input type="checkbox"/> Knights of Columbus
<input type="checkbox"/> Men's bowling	<input type="checkbox"/> American Legion
<input type="checkbox"/> Women's bowling	<input type="checkbox"/> School sports
<input type="checkbox"/> Boy Scouts	<input type="checkbox"/> Clubs at work
<input type="checkbox"/> Girl's 4-H	<input type="checkbox"/> Homemakers

(Form D)

School organizations other community organizations
 evening classes other

7. We would like to compare the family activities last year, during June-October, 1966, with family activities this year, June-October, 1967.

Family activities last year, June-October, 1966.

ate meals together family visited relatives
 viewed T.V. together family went to church functions
 helped children with homework family went to school functions
 played games together family went to community functions
 played cards together family shared chores
 family went to movies family attended athletic events
 family went fishing family went on picnics
 family discusses their problems

Family activities this year, June-October, 1967.

eat meals together family visits relatives
 view T.V. together family goes to church functions
 help children with homework family goes to school functions
 play games together family goes to community functions
 play cards together family shares chores
 family goes to movies family attends athletic events
 family goes fishing family goes on picnics
 family discusses their problems

8. How many bedrooms are there in your public housing apartment?

rooms

(Form D)

9. How has public housing changed the family's relationships?

_____ much happier relationships

_____ no change in relationships

_____ added more strain to family relationships

10. When did you move into public housing?

_____ Day, month, year.

CRIME AND DELINQUENCY

Name of adult _____

Name of student _____

Law and Order official record of arrests, charges and complaints.

Period of June-October, 1966.

Students age _____ Student's grade _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Period of June-October, 1967.

Students age _____ Student's grade _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

Date _____ Nature of arrest or charge _____

(Form F)

HEALTH & DISEASE

Name of Adult _____

Name of Student _____

If Student: 1966 Age ___ and Grade ___

The following requested information pertains to the period of June-October, 1966, regarding the above named individual. We are interested in the total number of clinic visits during those five months.

On the lines write in the number of times the above named patient had this particular diagnosis.

_____ Communicable diseases

_____ Other

_____ Home Accidents

The same information is requested for this individual, except it covers the period of June-October, 1967.

If Student: 1967 Age ___ and Grade ___

_____ Communicable Diseases

_____ Other

_____ Home Accidents

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