Social networks and perceived self-esteem of rural and urban Vermont fourth graders.

Colin K. Ducolon
University of Massachusetts Amherst

Follow this and additional works at: https://scholarworks.umass.edu/dissertations_1

Recommended Citation
https://scholarworks.umass.edu/dissertations_1/4171

This Open Access Dissertation is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations 1896 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.
SOCIAL NETWORKS AND
PERCEIVED SELF-ESTEEM OF
RURAL AND URBAN VERMONT FOURTH GRADERS

A Dissertation Presented
by
Colin K. Ducolon

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of
Doctor of Education
February, 1986
School of Education
SOCIAL NETWORKS AND
PERCEIVED SELF-ESTEEM OF
RURAL AND URBAN VERMONT FOURTH GRADERS

A Dissertation Presented
by
Colin K. Ducolon

Approved as to Style and Content by:

Grace Craig, Chairperson of Committee
Carolyn Edwards, Member
Lawrence Klar, Member
Mario D. Fantini, Dean, School of Education
ABSTRACT

Social Networks and Perceived Self-Esteem of Rural And Urban Vermont Fourth Graders.

February, 1986

Colin K. Ducolon, B.S., University of Vermont
M.Ed., University of Maryland, Ed.D. University of Massachusetts,

Directed by: Grace Craig, Chairperson

This dissertation measures and describes attributes of forty rural and forty urban Vermont fourth graders' social networks and their perceived self-esteem. Two measures were used: (a) a social network interview was done to measure the nature (composition, frequency of contact, and duration of relationship) and quality (succorance and achievement/recognition) of children's relationships beyond the family, and (b) Susan Harter's (1979) Perceived Competence Scale for Children provided self-esteem scores in four areas; cognitive competence, social competence, physical competence, and a general feeling of self worth.

Results from the Social Networks Interview and the Harter Scale (1979) indicated significant differences between the rural and urban populations. The rural subjects had larger networks, more children in their networks, more network members from school contacts, more network members they saw "every day", and more they had known "most of their lives" than did the urban subjects. No significant
differences were found between the quality of the social network relationships for the rural and urban populations. Rural subjects had significantly more peers than adults in their networks. All eighty subjects indicated more frequent contact with peers than adults and more frequent contact with same-sex versus opposite-sex network members.

Results from the Harter Scale (1979) indicated that the rural subjects scored significantly higher than the urban subjects in all four self-esteem areas. Frequency of contact and duration of relationship correlated significantly with cognitive and social self-esteem. A significant relationship was also found between the quality network measures (succorance and achievement/recognition) and cognitive self-esteem.

The study suggests differences in the nature and quality of rural and urban children's social networks, differences in their self-esteem values, and a relationship between network attributes and self-esteem.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF TABLES</td>
<td>v</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
<tr>
<td>PREFACE</td>
<td>ix</td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background of study</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of study</td>
<td>7</td>
</tr>
<tr>
<td>Definition of terms</td>
<td>10</td>
</tr>
<tr>
<td>Delimitation of study</td>
<td>12</td>
</tr>
<tr>
<td>Significance of study</td>
<td>13</td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>16</td>
</tr>
<tr>
<td>Social Networks</td>
<td>16</td>
</tr>
<tr>
<td>Social Networks and Self-Esteem</td>
<td>35</td>
</tr>
<tr>
<td>III. METHODOLOGY</td>
<td>52</td>
</tr>
<tr>
<td>Hypotheses</td>
<td>52</td>
</tr>
<tr>
<td>Social Network Measures</td>
<td>55</td>
</tr>
<tr>
<td>Self-Esteem Measures</td>
<td>62</td>
</tr>
<tr>
<td>Sample</td>
<td>65</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>70</td>
</tr>
<tr>
<td>IV. RESULTS</td>
<td>72</td>
</tr>
<tr>
<td>Social Network Characteristics</td>
<td>73</td>
</tr>
<tr>
<td>Self-Esteem Profiles</td>
<td>90</td>
</tr>
<tr>
<td>Social Networks and Self-Esteem</td>
<td>97</td>
</tr>
</tbody>
</table>
# TABLE OF CONTENTS

## V. DISCUSSION

| Social Network Characteristics (Rural/Urban) | 117 |
| Social Network Characteristics (Four Schools) | 126 |
| Social Networks and Self-Esteem (Rural/Urban) | 130 |
| Social Networks and Self-Esteem (Four Schools) | 135 |

## VI. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

| Social Network Characteristics | 140 |
| Self-Esteem Profiles | 144 |
| Social Networks and Self-Esteem | 146 |
| REFERENCES | 150 |

## APPENDICES

| A. Perceived Competence Scale for Children | 165 |
| B. Social Networks Interview | 169 |
| C. Percentage Tables | 180 |
# LIST OF TABLES

1. Structural Dimension - Total Network Membership by Location (Rural/Urban and Four Schools) ........................................... 74
2. Structural Dimension - Means of Network Membership by Location (Rural/Urban and Four Schools) ........................................... 75
3. Structural Dimension - Differences in Network Attributes by Location (Rural/Urban) ................................................................. 77
4. Structural Dimension - Differences in Network Attributes by Location (Four Schools) ................................................................. 79
5. Spatio/Temporal Dimension - Total Network Membership by Location (Rural/Urban and Four Schools) ........................................... 84
6. Spatio/Temporal Dimension - Means of Network Membership by Location (Rural/Urban and Four Schools) ........................................... 85
7. Spatio/Temporal Dimension - Differences in Network Attributes by Location (Rural/Urban) ................................................................. 86
8. Spatio/Temporal Dimension - Differences in Network Attributes by Location (Four Schools) ................................................................. 87
9. Relational Dimension - Differences in Network Attributes by Location (Rural/Urban) ................................................................. 91
10. Relational Dimension - Differences in Network Attributes by Location (Four Schools) ................................................................. 92
11. Differences in Self-Esteem Scores by Location (Rural/Urban) ........................................................................................................... 94
12. Differences in Self-Esteem Scores by Sex (Rural/Urban) ........................................................................................................... 95
13. Differences in Self-Esteem Scores by Location (Four Schools) ........................................................................................................... 96
14. Means and Intercorrelations of Self-Esteem with Frequency of Contact for Total Population ............................................... 104
15. Means and Intercorrelations of Self-Esteem with Frequency of Contact for Rural Population ............................................... 105
LIST OF TABLES
(cont.)

<table>
<thead>
<tr>
<th>Table Number</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>Means and Intercorrelations of Self-Esteem with Frequency of Contact for Urban Population</td>
<td>106</td>
</tr>
<tr>
<td>17</td>
<td>Means and Intercorrelations of Self-Esteem with Duration of Contact for Total Population</td>
<td>108</td>
</tr>
<tr>
<td>18</td>
<td>Means and Intercorrelations of Self-Esteem with Duration of Contact for Rural Population</td>
<td>109</td>
</tr>
<tr>
<td>19</td>
<td>Means and Intercorrelations of Self-Esteem with Duration of Contact for Urban Population</td>
<td>110</td>
</tr>
<tr>
<td>20</td>
<td>Means and Intercorrelations of Succorance and Achievement/Recognition with Frequency of Contact</td>
<td>113</td>
</tr>
<tr>
<td>21</td>
<td>Means and Intercorrelations of Succorance and Achievement/Recognition for Total Population</td>
<td>115</td>
</tr>
<tr>
<td>22</td>
<td>Structural Dimension - Comparison of Percentages by Location (Rural/Urban)</td>
<td>181</td>
</tr>
<tr>
<td>23</td>
<td>Structural Dimension - Comparison of Percentages by Location (Four Schools)</td>
<td>183</td>
</tr>
<tr>
<td>24</td>
<td>Spatio/Temporal Dimension - Comparison of Percentages by Location (Rural/Urban)</td>
<td>184</td>
</tr>
<tr>
<td>25</td>
<td>Spatio/Temporal Dimension - Comparison of Percentages by Location (Four Schools)</td>
<td>185</td>
</tr>
</tbody>
</table>
The purpose of this study was to examine the relationship between the social networks of Vermont rural and urban fourth graders and their perceived self-esteem.

The study grew out of the author's own experiences of growing up in a small village in northern Vermont. A supportive, reciprocating neighborhood is a clear memory of my early years in that small community of only 1,200 members. Beyond my immediate family of father, mother and three brothers were concerned relatives, teachers, and neighbors who were important in my life. Vivid, clear recollections are of the people with whom I regularly interacted. My daily walks to school in the morning, home for lunch, back to school at 1:00, and then home again in the afternoon provided me with regular, continuing contact with the people in my town. Did these interactions and those people make a difference? I believe they did! Do such interactions continue to exist in the 1980s? This study was my attempt to go back to my origin, examine the networks of groups of young children, and determine if such networking relationships were related to behavior and/or development.

While the origin of the research grew out of my own early years, it was the work of Bronfenbrenner that clearly focused me on the study of one's environmental interactions as strong influences on behavior and development. His (Bronfenbrenner, 1979) approach to the study of human development provided the framework for this
research with four groups of Vermont fourth graders. It was his descriptions of a "series of nested structures" affecting one's development that directed me to examine the nature and quality of young Vermonters' social networks toward a better understanding of such networks and their relationship to behavior and development. Bronfenbrenner (1979) and Garbarino (1982) build their ecological positions on descriptions of interacting levels from "microsystems" to "exosystems." They strongly suggest that children will experience a healthy environment (microsystem) when it is one that has a sufficient number of members, has sufficient reciprocal interactions, and has psychologically positive patterns of interactions. This study was an attempt to examine these very conditions in two rural and two urban settings.

I had grown up affecting and being affected by this series of nested structures or systems Bronfenbrenner and Garbarino describe. The rural, small town had provided me with a setting that supported my drive for effectance. The naturally-occurring networks around me allowed and encouraged me to become all that I wished to be. As I tried and found support, I tried again and again. It is this kind of supportive environment which Harter (1978) describes in her extension of White's (1959) effectance motivation model. An environment that allows for and encourages exploration and practice to gain mastery is one which encourages further exploration and mastery (Harter 1978). It seemed most appropriate to focus this study in environmental settings that had once provided such
exploration and mystery. Including both rural and urban neighborhoods provided comparative information for the research.

While no single piece of research can dispel all the myths or "old wives' tales" about a particular issue, this study was to be one of very few to look at some of the myths about small-town life. Do neighbors really care for neighbors in rural settings? Does the phenomenon of "knowing everyone's business" provide support? Are there large extended families supporting their members? Is "Main Street" the center of life for small town daily interactions? While such broad questions could not be answered completely by this study, it was hoped that some of the myths about the quality of life in small towns would be more carefully examined in this research.

The choice of self-esteem as a measure of the "so what" relationship between social networks and development also grew out my own experiences in rural Vermont. My evaluations of self were clearly linked to my daily interactions with significant others. White's (1959) "effectance motivation" position provided the background for the idea that the drive for competence was innate and that when this drive was met a feeling of efficacy resulted. Harter (1978) extends White's position by encouraging us to examine the role that the environment can play in affecting this innate drive. My feelings of efficacy are vivid due to my innate drive to be effective and also due to the nature and quality of my contingent, reciprocating environment. My environment allowed for and encouraged effective exchanges. This study was to see if such exchanges still exist in rural Vermont and whether such exchanges
relate to one's view of self. The two broad settings, rural and urban and the four specific schools enabled the researcher to compare findings.
CHAPTER I
INTRODUCTION

Background of Study

Bronfenbrenner (1977) defines the ecology of human development as the "scientific study of the progressive, mutual accommodation, throughout the life span, between a growing human organism and the changing immediate environments in which it lives, as this process is affected by relations within and between these immediate settings, as well as the larger social contexts, both formal and informal, in which the settings are embedded."

Guided by Bronfenbrenner's approach to the study of human development this research sought to examine the relationship between the social networks of Vermont rural and urban fourth graders and their perceived self-esteem. Cochran and Brassard (1979) noted that although we have known that families have always been embedded in a network of relatives, neighbors, and friends little research has been directed toward the effects of such network relationships on the development of the young child.

Mead (1934) theorized that a child's self-concept arises as a result of social experience. According to him, children take on the attitudes toward themselves that significant others direct to them. Mead referred to the social group (social network) that gives individuals their unity of self and against which they evaluate
themselves as the "generalized other." His position was that the
groups to which an individual belongs serve as significant frames of
reference. The influence of these significant frames of reference,
the nature and quality of the relationship, and the connection to
one's perceived self-esteem was the focus of this study.

It is these frames of reference or social networks toward which
Bronfenbrenner (1979) directs us as he develops his ecological
approach to the study of human development. He provides a clear
framework for understanding the relationship between the developing
individual and the environment in which he/she lives. In describing
his ecological model, he argues that an understanding of human
development "requires examination of multi-person systems of
interaction not limited to a single setting and must take into
account aspects of the environment beyond the immediate situation
containing the subject.

Bronfenbrenner (1977) conceives of the environment as a series
of nested structures, with events and conditions in each impinging
upon events and conditions in others. The level most immediate to
the developing individual is the microsystem, the actual settings in
which the person experiences and creates day-to-day reality
(Bronfenbrenner, 1977; Garbarino, 1982). Children's microsystems
are the places where they play, the people with whom they interact,
and the things which they do.

Bronfenbrenner (1979) speaks of the microsystem as a pattern
experienced by the young child. Garbarino (1982) suggests that the
child influences and is influenced by the microsystem. By his or
her participation, the child has a say in the character of the microsystem, while at the same time the setting provides the child with ongoing norms, regularities, and experiences that come to be known as normal to the child (Garbarino, 1982). A child experiences a healthy microsystem when it is one that has a sufficient number of members, has sufficient reciprocal interactions and has psychologically positive patterns of interaction (Bronfenbrenner, 1979, Garbarino, 1982). A child in such a microsystem learns to have self-respect, self-confidence, and a positive sense of self-worth.

In the research herein, we have attempted to operationalize subjects' microsystems through the development of a Social Networks Interview. It was assumed that responses from these interviews would provide information on the nature and quality of subjects' microsystems. It was expected that those microsystems, as reported by the Vermont fourth graders, would differ in number and quality of interaction. It was further expected that such differences would be related to these children's perceived self-esteem in the four specific areas of cognitive, social, physical, and general feelings of self-worth.

The relationships among these immediate settings or microsystems are termed mesosystems by Bronfenbrenner (1977). It was the relationships among these immediate settings or microsystems that formed the core of this research. It was assumed that the stronger the links between settings (school, home or neighborhood, relative and special activities) the more powerful the resulting
mesosystem would be as an influence on the child's development (Garbarino, 1982). It was suggested that the richness of one's mesosystem, or the power of one's reciprocal, interacting exchanges could be partially measured by the number and the quality of connections within one's mesosystem.

The richness or the power of the subject's mesosystems was measured in this study through an analysis of the composition, the frequency, the duration, and the quality of the network interactions for fourth graders in four Vermont settings. It was expected that a richer mesosystem would be ones which provided continuous, frequent and quality interactions that contained similar or harmonious feedback. The influence of this feedback or series of interactions was measured through self-esteem inventories providing data in four developmental areas; cognitive self-esteem, social self-esteem, physical self-esteem, and general feelings of self-worth.

The quality of children's mesosystems is affected not only by the child's direct and immediate actions and interactions but also by a broader set of situations potentially affecting the young child but in which he/she does not actually play a part. Bronfenbrenner (1977) terms the next level of his ecology of human development the exosystem. He suggests that it is social structures, both formal and informal, that do not themselves contain the developing child but impinge upon the immediate settings in which the child is found that can indirectly influence what goes on there. Exosystems were examined in this study through a comparison of data from two general (rural and urban) and four specific (Enosburg, Poultney, Lawrence
Barnes School, John J. Flynn School) settings. It was assumed that the indirect influences from the broad rural/urban settings and from the specific school or neighborhood settings would be reflected in the nature and quality of the social networks.

Bronfenbrenner's (1977) approach to the study of human development encouraged this researcher to examine a number of factors directly and indirectly influencing the development of the young child. In this study the composition of the social network, the frequency of contact with the network members, the duration of the network relationship, and the quality of the relationship were studied for both individual and interactional effects. It was assumed that the nature and quality of the network relationship would significantly effect the child. The measurement of that effect was the child's perceived self-esteem.

The early works of Cooley (1902), Mead (1934), and Sullivan (1953) suggest that the nature and characteristics of social networks have potential for directly and indirectly influencing human behavior. It was the work of these early scholars and the contemporary writings of Cochran and Brassard (1979) and Bronfenbrenner (1977, 1979) that directed further study of research done on social networks and their influence on human development.

Research by Tietjen (1981) with seventy-two Swedish eight to eleven year olds indicated the power of neighborhood type (rural, urban, and suburban) to influence the character of social networks. A study by Garbarino, et al. (1978) also found neighborhood type (rural, urban, and suburban) to influence the nature and quality of
social networks. While these two studies clearly indicated the power of neighborhood type to influence the character of social networks, neither examined the possible relationship of such network characteristics and human behavior. This Vermont study was to extend the work of Tietjen and Garbarino into this area.

Research by Blyth et al. (1977) focused on age-segregation as an issue in the makeup of children's social networks. Their study of three thousand middle school youngsters in a Midwestern suburban school district indicated that age-segregation was not extreme and that their method of eliciting significant others (using their Social Relations Questionnaire) provided a useful description of the young adolescent's social world. The Social Networks Interview (Appendix B) as developed for the Vermont study followed the format of the Blyth Questionnaire but went beyond the Blyth procedure by attempting to determine the quality of the network relationships. An adaptation of Gardner and Thompson's (1959) Syracuse Scale of Social Relations was developed to gather information on this important aspect of social networks. The Social Networks Interview (Appendix B) also was developed such that the age-segregation issue would clearly be addressed in two general (rural and urban) and four specific populations.

Robert White's (1959) theory of "effectance motivation" suggests that a child's motive for achievement is intrinsic. Susan Harter's (1978) expansion of White's theory indicates the power of environmental conditions to influence this motive or drive for effectance. Their positions suggested the possible connections
between one's social networks and one's view of self. They suggest that the interaction pattern between a child and his/her significant others has potential for influencing one's view of self. It was their work and the work of Bronfenbrenner that provided the foundation for this study on Vermont fourth graders' social networks and their perceived self-esteem.

Purpose of Study

The study was designed to add to our understanding of the nature and quality of social networks in different environmental settings and the relationship of such networks to perceived self-esteem. This dissertation describes and measures the attributes of Vermont fourth graders' social networks and their perceived self-esteem. It attempts to study the relationships of these networks and children's self-esteem in four specific areas: cognitive, social, physical, and general feelings of self-worth. Earlier studies had indicated the influence of neighborhood type on social network characteristics so two general (rural and urban) and four specific settings were included in this study.

It was the assumption of the researcher that the nature (composition, frequency of contact, and duration of relationship) and the quality (succorance and achievement/recognition) of the social network would be significantly different for rural children than for urban children and such difference would impact upon children's perceived self-esteem. Such an assumption was clearly beyond the work of earlier researchers and was an attempt to measure
both the nature and quality of one's relationships with significant others in a broader "systems" approach.

Data on the composition of the network (age, sex, location of relationship), frequency of contact with network member, and duration of relationship were gathered through personal interviews with the fourth graders. The quality of the relationship was measured through subjects' ranking of network members in two psychological need areas--succorance and achievement/recognition. This quality measure was designed to determine the value of these social network relationships; an area that had not been included in most of the earlier research on social networks.

Information on the self-esteem of these Vermont fourth graders was collected through the administration of Harter's (1979) Perceived Competence Scale for Children. The group-administered Scale measured self-esteem in four areas: cognitive self-esteem, social self-esteem, physical self-esteem, and general feelings of self-worth based on children's rankings of themselves.

Specific hypotheses studied:

Composition of Network

--subjects will report larger peer social networks than adult social networks

--subjects will report larger social networks of the same sex than of the opposite sex

--female subjects will report larger social networks than will male subjects
--rural subjects will report larger social networks than will urban subjects

--rural subjects will report larger extended family social networks than will urban subjects

**Frequency of Contact with Network**

--subjects will report more frequent contact with peers than with adults

--subjects will report more frequent contact with same sex than with opposite sex

--rural subjects will report social network members they see more often than will urban subjects

--frequency of contact with social network will correlate positively with self-esteem scores

**Duration of Relationship with Network**

--rural subjects will report larger social networks they have known longer than will urban subjects

--duration of contact with social network will correlate positively with self-esteem scores

**Quality of Relationship with Network**

--succorance and achievement/recognition scores will be higher for rural subjects than for urban subjects

--succorance and achievement/recognition scores will correlate positively with the frequency of contact within the social network

--succorance and achievement/recognition scores will correlate
positively with the duration of the relationship within the
social network
--succorance and achievement/recognition scores will correlate
positively with self-esteem scores

Definition of Terms:
In this Vermont study on social networks important terms were
operationally defined as follows:
(a) self-esteem: child's view of self in four competence
areas; cognitive, social and physical skills and general feelings of
self-worth as measured by the Harter Scale
(b) cognitive self-esteem: one's perceived competence in
school or academic areas
(c) social self-esteem: one's perceived competence in the
area of popularity with one's peers
(d) physical self-esteem: one's perceived competence in the
area of sports and outdoor games
(e) general self-esteem: one's overall feeling of self-worth
(f) social network: those peers and adults beyond the
immediate family that the subject perceives of value to him/her as
determined by the structured personal interviews
(g) immediate family: living in the same home as subject
(h) peers: those listed by subjects in answer to question,
"Who are the kids you know really well?"
(i) adults: those listed by subjects in answer to questions,
"Who are the adults you know really well?"
(j) significant other: those persons listed by subjects when asked to answer, "Who are the kids you know really well?" and "Who are the adults you know really well?"

(k) composition of social network: Sex (male/female) age (peer/adult) and location (school, home, relative, or special activity) will be designated for each significant other listed

(l) frequency of contact with social network: subjects' responses to the question, "How often do you see this person?" Four choices available--every day (4 points) almost every day (3 points) about once a week (2 points) and now and then (1 point)

(m) duration of relationship: subjects' responses to the question, "How long have you know this person?" Four choices available--most of my life (4 points) since I started school (3 points) since I started fourth grade (2 points) and only a few weeks (1 point)

(n) quality of relationship: measured by subjects' responses to two situations (succorance and achievement/recognition) where they will rate each of the significant others on a ten-point scale ranging from a low of 5 (least liked) to a high of 85 (most liked)

(o) succorance: psychological need measured by subjects responses to a situation where each is asked to rate his/her significant others as possible sources of aid when he/she is troubled by some personal problem

(p) achievement/recognition: psychological need measured by subjects responses to a situation where each is asked to rate his/her significant others as possible sources of support in his/her
effort to attain personal goals whose attainment will bring social approval and commendation

(q) urban: areas of the country which meet the U.S. Bureau of the Census requirements for a Standard Metropolitan Statistical Area (SMSA); includes a city or city and contiguous communities that utilize the central city for social and economic purposes with at least a total metropolitan population of 75,000

(r) rural: areas of the country outside Standard Metropolitan Statistical Areas

Delimitation of Study

The study was limited to the communities in Vermont meeting the following criteria.

Urban:

- designated by the U.S. Bureau of the Census as a Standard Metropolitan Statistical Area (SMSA)
- greater Burlington area is only SMSA in Vermont

Rural:

- the 20 villages in Vermont with a population of from 1,000 to 3,000 and a public school within the village units

It was further limited to the fourth graders in the urban and rural communities.

Urban:

- two fourth grade classes were selected from the seven schools within Burlington
- approximately 20 subjects from each class

Rural:

- two schools were selected from the 20 rural communities
- approximately 20 subjects from each of the two schools

While attempts were made to objectively select the four schools participating in the study the eighty fourth graders may or may not be representative of rural and urban populations throughout the country.

The study was further limited through the methods and procedures used. The self-reporting format is a limitation. The fourth graders themselves determined whom they considered significant others thus applying their own definition of the term. Perhaps different children used different criteria for inclusion in their list of significant others.

All interviews were conducted by the author. Every attempt was made to conduct each interview in a similar manner (see Interview, Appendix B). However, the fact that the author conducted these interviews, knowing the hypotheses was a limitation of the study.

Conclusions on the quality of the network relationships and the correlations of such quality measures with self-esteem were limited to the particular scales selected (Syracuse Scale of Social Relations and Perceived Competence Scale for Children).

Significance of Study

The study examined the relationship of perceived self-esteem and the social networks of fourth graders in two types of Vermont
communities. The effect of social networks beyond the immediate family on young children has received little research attention. This study adds to the limited information available on the power of network interactions or social support systems on the young, developing child.

Researchers have become increasingly aware of the importance of children's relationships with people of various ages and roles (Tietjen, 1981). Cochran and Brassard (1979) have applied the concept of social networks to the study of child development and have suggested means by which adults and children outside the family may influence development.

Research has indicated the power of social relationships. Children model the behavior of other children as well as adults (Bandura, 1969; Hartup et al., 1967; Piaget, 1962). Relationships outside the family as well as within it provide children with opportunities for learning and practicing social skills (Rubin, 1980). Peer relationships provide feedback that is necessary for self-evaluation and the opportunity for social comparisons that is needed for the development of identity (Sullivan, 1953).

While evidence clearly suggests the influence of social relations on development, most studies focus on only one type of relationship at a time, i.e., peer relationships, or mother-child relationships, or father-child relationships. Only a few (Garbarino et al. 1978; Tietjen, 1981) have considered relationships with children and adults at the same time. One purpose of this Vermont study was to gather data on children's social networks in a broad
setting. Bronfenbrenner (1977) has clearly provided the framework for such a study. He indicates that an understanding of human development "requires examination of multiperson systems of interaction not limited to a single setting and must take into account aspects of the environment beyond the immediate situation containing the child."

This study, involving eighty Vermont fourth graders, was an attempt to gather information on the nature and quality of children's relationships with significant others. It was an attempt to study these social relationships within a "systems" approach as suggested by Bronfenbrenner (1977). His conception of the child's environment as a series of nested structures, with events and conditions in each impinging upon events and conditions in the others provided the framework for this research. This study was an attempt to specify the links between these structures and to operationalize the concepts.

A major contribution of the research was to encourage us to view the young child as a functioning individual within a total community of family, peers, and significant others. Such a view may alter our view of the family and school as the major influences on a child's view of self.
CHAPTER II
REVIEW OF THE LITERATURE

Social Networks

Families are embedded in a network of relatives, neighbors, and friends which has potential for affecting children's development. While the role played by parents in that development has received much research attention, fewer attempts have been made to place the family within a social context and to study the direct and indirect influences of such interactions on the family members. This research was to examine the influences of significant others beyond the immediate family on the young, developing child.

Bronfenbrenner's (1977) ecological approach to the study of human development provides the framework for examining the relationship between the developing child and the environment in which he/she lives. His "systems approach" suggests both individual and interactional effects of these multi-level relationships. This study, based on Bronfenbrenner's (1977) approach, was an attempt to study both the nature and the quality of the social networking relationships and to determine if such nature and quality were related to perceived self-esteem.

Social network characteristics have often been defined along three general dimensions: relational, structural, and spatio/temporal (Cochran and Brassard, 1979; Mitchell and Trickett, 1980; Stohl, 1982). The relational characteristics include those aspects of the personal network which either evolve out of or
directly affect the interactions between the child and a particular network member (Cochran and Brassard, 1979; Fischer, 1977; Mitchell and Trickett, 1980; Stohl, 1982). The structural properties transcend individual relationships and are affected by the beliefs, attitudes and expectations shared by network members (Cochran and Brassard, 1979; Mitchell and Trickett, 1980; Shulman, 1976; Stohl, 1982). The spatio/temporal dimension includes these properties of the network which form and regulate social interaction (Boissevain, 1974; Cochran and Brassard, 1979; Stohl, 1982).

In this study selected aspects of the relational, structural, and spatio/temporal dimensions are defined as follows:

**Relational Dimension**

*Quality of Relationship:* refers to the degree to which the child would seek the network member for support and/or assistance.

a. **Succorance:** refers to the psychological need for assistance in time of trouble or when faced with a problem.

b. **Achievement/Recognition:** refers to the psychological need for support in the attainment of personal goals.

**Structural Dimension**

*Composition of Network:* refers to the sex and age of the designated network member, size of the network, and the location of the network relationship.
a. **Size**: refers to the number of persons reported as of value to subject.

b. **Diversity**: refers to the variation in the sex, age, and role relationship of network members.
   1. **Sex**: refers to the sex of the child or adult reported as of value to subject.
   2. **Age**: refers to the grouped categories of adults and peers reported as of value to subject.
   3. **Location**: refers to the space wherein subject knows or interacts with named others--school, home or neighborhood, relative, or special activity.

**Spatio/Temporal Dimension**

**Frequency of Interaction**: refers to how often the subject interacts with each network member.

**Duration of Relationship**: refers to how long the subject has known and interacted with network member.

The relational dimension focuses our attention on the micro-system and mesosystems directly influencing the interactions between the young child and his/her environment. Stohl (1982) suggests that it is the relational or interactional attributes of role multiplexity, content multiplexity, and satisfaction that regulate the overall strength and influence of the network relationship. Cochran and Brassard (1979) refer to similar attributes as the content of the relationship, the direction of the relationship, and the intensity of the relationship. They suggest that the variation
in number and kinds of activities individuals share may impact on the influence of network members.

In this study the relational dimension was analyzed through subject's responses to situations requiring the placement of network members on a continuum of most helpful to least helpful. This was a direct measure of the intensity (Cochran and Brassard, 1979) and/or the satisfaction (Stohl, 1982) of the network relationship, reflecting overall quality.

Satisfaction and intensity refer to the degree to which an individual is satisfied with the relationships that make up the network (Stohl, 1982). Research has indicated that an individual's behavior may be affected by the degree of attraction that is felt for another. The more attractive a person is felt to be, the more the other person will (a) spend time with the attractive person (Levinger, 1974; Stohl, 1982), (b) put a greater weight on the reinforcement given by the attractive person (Lott and Lott, 1974; Stohl, 1982), (c) pay closer attention to the person (Bates, 1976; Stohl, 1982), and (d) use the attractive person's behavior as a standard (Wheeler, 1974; Stohl, 1982).

The degree of satisfaction or the intensity of the relationship as measured by the two quality indicators was expected to be positively related to both the spatio/temporal dimensions of the network (frequency of contact and duration of relationship) and to self-esteem in the four specific areas.

The structural dimensions of network size, personal characteristics and diversity transcend specific relationships.
Epstein (1961) in referring to network size suggests that there are both "extended" and "effective" network relationships. The former are built upon interactions in a variety of contexts and the latter are more likely to be restricted to a single context (Epstein, 1961; Cochran and Brassard, 1979). The number of persons outside the immediate family that a child knows well, values as important, and is in regular contact with determines the overall size of the personal network. Network size is of importance in that it determines the number of possibilities a child has for interaction. It is suggested that people with larger social networks report more positive perceptions of themselves (Weiss, Henderson, Campbell and Cochran, 1980).

Garbarino (1982) suggests that one of the most important aspects of the microsystem as a force in development is the existence of relationships beyond the family. Bronfenbrenner (1979) strongly suggests that increased numbers in a child's microsystem and the development of more enduring reciprocal relationships will be reflected in enhanced development. The richness of one's microsystem and mesosystem is reflected in the number and quality of interactions.

Size of network system or adult-child relations alone may not fully explain the differences in interactional patterns, however. This study of Vermont fourth graders and their social networks included data on the relative size of their networks, but also provided quality measures on the network members indicated by the children themselves. These quality measures for succorance and
achievement/recognition provide more complete information on the power of certain network groups (home or neighborhood, school, relative, or special activity) to provide for reciprocal interactions that enhance feelings of self-worth.

While number alone is of importance, more is not necessarily better. Research on school and family size has indicated that where lower ratios are found between teachers and students and/or between parents and children there are more opportunities for reciprocal interactions (Garbarino, 1982; Lieberman, 1970; Barker and Gump, 1964). Such indicators were explored in this study through an analysis of data from both rural and urban settings wherein one would expect some differences in the size of the networks.

Number or size alone provides limited information on the structural dimension of the network relationships. Diversity adds to this dimension by including data on the personal characteristics of network members (age and sex) and on the social characteristics of the network members (school, home or neighborhood, relative or special activity). Bronfenbrenner (1979) suggests that diversity is the key to positive developmental outcomes. He posits that involvement in joint activities in a range of settings requires the child adapt to a variety of people, tasks, and situations thus increasing the scope and flexibility of his/her cognitive and social skills (Bronfenbrenner, 1979). Bronfenbrenner is joined in his arguments for diverse relationships by Boissevain's (1974) research on friendship networks, Garbarino's (1982) text on children and families in a social environment, and most significantly by Piaget's
22

(1962) extensive work on discrepant information and the development of cognitive competence.

The spectrum of roles in the immediate social environment of the child contributes to his or her development. Aldrich (1979) suggest that children do best when they are set within a community environment that offers stable opportunities to observe and practice basic human roles. A dense setting with respect to roles may be developmentally enhancing, as when the neighborhood contains shopkeepers, retired persons, and a variety of kinship and friendship relations. Garbarino (1982) suggests that it is typically small towns or neighborhoods nested within communities that are the best vehicles for providing these experiences. Aldrich (1979) speculates that "a complete community of around 5,000 people allows a child to get a rather good idea of what community relations are all about."

Investigators have reported that children in a small town have more knowledge of people and roles than do urban children living in an area without a well-developed neighborhood, while those in a well-functioning urban neighborhood stand somewhere between the town and city in this respect (Gump & Adelberg, 1978). The small town tends to be underpeopled in that it has a low ratio of people to roles needing to be filled. As a community, it has the full range of community activities to maintain and, thus, is very "dense" or heterogeneous with respect to roles and mesosystems. The less well-developed urban neighborhood is not a complete community; it must rely on the larger city for many functions, including the
provision of jobs. Because adults are drawn away from such a neighborhood, children see less of life's basic social function in it. It is less socially dense. The well-developed urban neighborhood, while not a complete community, may approximate the small town in its social density. The socially undeveloped urban neighborhood may have so little going on that it impoverishes the social experience and knowledge of its children. Even further, what is going on may not enrich their lives (Garbarino, 1982).

A good neighborhood in Kromkowski's (1976) terms enhances development by providing the kind of multiple connections and multiple situations that permit children to make the best use of their intellectual and social equipment. It also gives them a sense of familiarity and belonging, a territorial base. What Bronfenbrenner (1979) calls "cross-contextual dyads" (relationships that exist in more than one situation) flourish in a healthy, well-developed neighborhood.

These analyses of neighborhood characteristics suggest that size and diversity are extremely important variables in examining and analyzing the social networking system. Hartup (1979) urges us to examine the diversity existing within one's social network. Diversity of network membership was examined in this study through an analysis of data on sex, age, and the role relationship expressed in the composition or structural dimension of the relationship. Because of Bronfenbrenner's (1979) urgings in the direction of network diversity and enhanced development, a relationship among these network variables and self-esteem was expected.
Garbarino (1982) suggests that the neighborhood is the natural "ecological niche" of families, and can serve as either a source of support or risk for the child. The child acts as part of the neighborhood. It is a microsystem. The neighborhood and family together create a mesosystem. The neighborhood is also the place where the parent interacts independently of the child and the quality of support given by the neighborhood networking system has an effect on the child's development. A strong, healthy neighborhood enhances development by providing the kind of multiple situations for children that permit them to make the best use of their intellectual and social resources (Garbarino, 1982).

Such a neighborhood with multiple situations for child interactions is the type White (1959) writes of in his theory of effectance motivation. He speculated that there is an inherent drive in each of us to master the environment and a natural "incongruity mechanism." We thrive on "optimal discrepancy" of a balance of the familiar and the unfamiliar, the known and the unknown. Neighborhoods that provide children with this optimal discrepancy serve to stimulate and enhance development. In comparing four neighborhoods in this study of Vermont fourth graders' social networks, this issue was addressed. We began to answer the question, "Do some neighborhoods and school situations provide opportunities for different interactional patterns than do others?"

The spatio/temporal dimension includes the characteristics of frequency of interaction and duration of relationship. Duration of
relationship refers to how long the child has known and interacted with the network member (Mitchell and Trickett, 1980; Stohl, 1982; Cochran and Brassard, 1979). Research indicates that relationships that have existed over some time have potential to be more stable (Hirsch, 1979; Stohl, 1982) and more intense (Perrucci and Targ, 1982; Stohl, 1982). It was expected that subjects who name important others whom they have known for the longest period of time ("most of my life") as opposed to the shortest period of time ("only a few weeks") would have more intense relationships with these others as measured by the relational dimension. It was expected that a more stable, positive relationship, as measured by the duration factor, would have a higher quality than a less stable one and therefore have potential for positively influencing self-esteem.

Frequency of contact with network relationship refers to how often network members interact with the child. In studying the motivational pattern within small and large organizations, Roberts and O'Reilly (1978) found that people who have low levels of interactions with network members are poor performers, are less satisfied, and report less motivation than those who have greater amounts of interaction. Robert White's (1959) theory of effectance motivation followed by Susan Harter's (1978) extension of his theory into an examination of the role the environment plays in one's reinforcement pattern suggest the importance of both the duration and the continuity of interactions within a networking system. In this study a positive relationship was expected between the
frequency of contact between subject and network members and the quality of that network relationship.

Among others, Hartup (1979) argues for more research on the interdependencies existing between experiences in the social world of the family and the experiences in the child's other social worlds such as peer group, school and neighborhood. Studies by Garbarino et al. (1978), Tietjen (1981) and Blyth et al. (1977), Stohl (1982), and Sherman and Garbarino (1980) provide us with information on these interdependencies or networking systems.

Garbarino et al. (1978) considered the effects of different types of settings on children's social networks. Sixth graders from three settings around a small Northeastern city (one rural, one urban and one suburban) were asked to list the ten most significant others in their social worlds. Non-parental adults comprised from 19.1% to 33.3% of sixth graders' lists. Daily contacts with adults were limited, however, with 60% of the suburban children reporting no daily interaction with adults. Such findings suggest that adults beyond the family are found within the networks of such children and that the setting may play some part in the degree of that interaction. This study examined this issue by collecting data on the composition and frequency of contact with network members as well as including groups from both urban and rural schools for comparative purposes.

Garbarino et al. (1978) also found that children from the rural school listed more people as part of their network (16.8) than did the urban children (12.2) or the suburban children (11.1). They
also found that urban children reported less "interconnectedness" within their network. The mean number of people within the "top ten" known to each person was lower for urban children (3.5) than for the suburban (4.2) or the rural children (5.6). Such findings urge one to speculate on the possible meaning and influence of such differences.

Findings from the Garbarino study also indicated that rural children listed more people (2.5) that they would "go to for help with a problem" than would urban children (1.6) or suburban children (2.4). Such findings suggest further research into the quality of the network relationship. This study included a measure of this important variable. Subjects are asked to identify network members to whom they would go to discuss a problem (succorance) and to whom they would go to for help on a task (achievement/recognition). Findings on these two need areas provide us with further data on the possible influences of different types of settings (rural and urban) on both the composition of the network relationships and the influence of these networks on the child development.

Tietjen (1981) examined the influence of personal and environmental factors on the composition of children's networks and the relative amounts of time spent with people of various ages, sex, and roles. Seventy-two Swedish children between the ages of eight and eleven replied to interview questions about their family members, relatives, friends, and the non-relative adults they knew. Analysis was done to assess the influence of the child's sex, school grade, the presence or absence of a father in the child's home and
the type of neighborhood the child lived in (rural or urban) on social network patterns.

Findings from her study (Tietjen, 1981) indicated that the greatest proportion of non-school time was spent by most children with their families, but that peers were preferred over siblings as companions and were the most likely participants in children's favorite activities. Relatively small roles were occupied by opposite sex children, relatives and non-relative adults. This study also examined the composition of Vermont children's social networks (sex, age, and location of interaction) in two settings (rural and urban). Responses enable us to compare findings for two different cultural settings—Vermont and Sweden.

The type of neighborhood children lived in for the Tietjen study affected only one aspect of the networks she studied. Children living in the most urban areas reported knowing more adults (1.82) than did the children living in the rural areas (1.03). She suggests that the greater number of services in the urban neighborhood seemed to increase the likelihood of contact with adults. This research also examined this issue by including both an urban and a rural population of fourth graders. Findings from each of these studies (Tietjen and Ducolon) give us further information on the influence of setting on the nature and quality of the social network relationship.

Tietjen's 1981 study does encourage us to look at several of the children's social worlds and the interfaces among them. Her attention to the relationship between personal and environmental
factors and the composition of children's social networks provides us with valuable information. This Vermont research takes us one step beyond her descriptive study of networks to include an examination of the possible relationship between the nature and quality of one's network and one's view of self. This method enables the researcher to identify multiple influences (sex, age, source of relationship, frequency of content, and duration of relationship) and to study the interactions among these influences. Including a measure of one's self-esteem also provides the researcher with a possible answer to the "So what?" question.

Blyth, Hill and Thiel (1977) developed a Social Relations Questionnaire to describe the network relationships of significant others. Their administration of this questionnaire to almost three thousand seventh through tenth graders in a Midwest suburban school district indicated that age-segregation of networks was not extreme (over 40% of the significant others were adults). Their study did include the immediate family as part of the social network so that parents were included in this forty percent. Results indicated that parents and siblings are almost always listed as significant others by the adolescent. This study, designed to include only significant others beyond the immediate family, provided us with information on this age-segregation issue within a slightly broader context.

The Blyth study did find that the majority of adolescents listed at least one extended family adult and at least one non-related adult who were important in their lives. Findings also indicated that the non-related adults living closer to the
adolescents were seen more frequently and in more contexts than extended family members. It would appear that for these suburban adolescents the location of the network interaction (close by or far away) was an influence on the network relationship. This study's inclusion of these two areas (source of relationship and frequency of contact) for two different populations (rural and urban) adds further information on this issue.

Stohl's (1982) interviews with fifty-five mothers and teachers of their preschool children focused on the attributes of young children's social networks and how these attributes relate to communicative competence. In analyzing the structure of the preschoolers' networks, she found that it contained twelve different attributes—size, frequency of interaction, degree of interconnectedness, percentage of kind, percentage of household members, multiplexity, the number of people involved in communication activities, in education activities, in physical activities, in play activities, in creative activities, and in special outings with the child.

Following Stohl's (1982) lead this research on the social networks of Vermont fourth graders and their perceived self-esteem included some of her twelve attributes but also added others appropriate for older children. Size, same sex-opposite sex, adult, peer, school relationships, home/neighborhood relationships, relative relationships, special activity relationships, frequency of interaction, duration of relationship, and two quality indicators for succorance and achievement/recognition were the attributes for
this Vermont study. It was believed that these two quality measures would add to the descriptive data generated through the Stohl study.

Stohl's (1982) analysis of the relationships among her twelve attributes found positive correlations among size, frequency of interaction, multiplexity (variation in the number and kinds of activities), the number of people involved in the five activity areas (communication, education, physical, play and creative), and the number of people involved in special outings with the child. Her findings further indicated a positive relationship between interconnectedness, the percentage of relatives within the network, and the percentage of network members who lived in the child's household.

In this research on the social networks of Vermont fourth graders, it was assumed that there would be positive correlations among some of the thirteen attributes listed above. It was assumed that there would be positive relationships among size, same sex, peer group, frequency of interaction, duration of relationship, and one or both of the quality measures of succorance and achievement/recognition.

Along with data on the attributes of preschoolers' social networks and the relationships among these attributes, Stohl (1982) also collected data on the communicative competencies of these young children. Her study was an attempt to determine if relationships existed among her network attributes and the communicative skills of these children. Stohl's (1982) research indicated that size of network, communication activities with network members, special
outings with network members, and frequency of interaction with network members were positively related to children's perceived communicative competence. Results of her research suggested that children who see more people more often and have a large number of people participate in communication activities and special outings with them will be perceived as more competent.

This research, included descriptive data on the social networks of Vermont fourth graders and an analysis of this relationship. It gathered information on the self-esteem of these fourth graders to determine if a relationship existed between the social network attributes and the children's self-esteem in four specific areas.

Stohl's (1982) study focused on the relationship between network characteristics as reported by preschooler's mothers and these children's communication competence as perceived by their day care teachers. This study focused on the relationship between network characteristics as reported by the fourth graders themselves and their own perceived self-esteem. Stohl's (1982) findings showing positive correlations between specific network characteristics and a specific developmental skill, namely communicative competence, encourages researchers to examine network variables and their relationship to specific areas of child development.

The focus of this research was on the relationship between the social networks of Vermont fourth graders and their perceived self-esteem. This study included areas beyond the 1982 Stohl study as it involved sex of network members, two age groupings of network
members, specific relationship variables appropriate for fourth graders, duration of relationship, and two quality measures of the relationship—sucorance and achievement/recognition. Significant relationships among these variables and perceived self-esteem as measured by the Harter Scale would add further to our understanding of the relationship between one's network of interactions beyond the immediate family and human development.

Research by Sherman and Garbarino (1980) focused on the feedback function of family support systems and linked child maltreatment to the overall balance of stresses and supports in the neighborhood context of families. Two neighborhoods, matched in socioeconomic level and demographic character, differed significantly in rates of child maltreatment. One neighborhood with a child maltreatment rate greatly exceeding what was predicted by its socioeconomic and demographic profile was termed "high risk," while another neighborhood in which the actual rate was much less than the predicted rate was termed "low risk." Both neighborhoods had 72 percent of their families in the low income category, but the first had a rate of child maltreatment eight times that of the second; 130 per 1,000 versus 16 per 1,000 families.

Interviews with community members, ranging from elementary school principals to mail carriers, were used to develop profiles of the two neighborhoods. Samples of families were interviewed from each neighborhood to identify stresses and supports with specific emphasis on sources of help, social networks, evaluations of neighborhood, and use of formal family support systems.
Analysis of interview data identified different patterns of stresses and supports, different patterns in use and source of help, differences in the size and quality of family social networks, differences in the use of formal support systems, and differences in parental evaluation of the neighborhood as a setting in which to raise children. The following represent actual comparisons of the two neighborhoods:

<table>
<thead>
<tr>
<th></th>
<th>&quot;Low Risk&quot; (21 families)</th>
<th>&quot;High Risk&quot; (20 families)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Percentage of school-age children cared for by parents in after-school hours.</td>
<td>86%</td>
<td>25%</td>
</tr>
<tr>
<td>2. Percent of those interviewed who never engage in neighborhood exchanges.</td>
<td>8%</td>
<td>32%</td>
</tr>
<tr>
<td>3. Percent of children for whom neighborhood children regularly serve as playmates.</td>
<td>86%</td>
<td>40%</td>
</tr>
<tr>
<td>4. Average number of people mothers name as taking an interest in their children.</td>
<td>5.3</td>
<td>4.1</td>
</tr>
<tr>
<td>5. Average rating by mothers of neighborhood as a place to raise children (from -4 to +4)</td>
<td>1.66</td>
<td>.09</td>
</tr>
</tbody>
</table>

These findings indicate that high-risk neighborhoods, those with high levels of child maltreatment, are areas in which neighbors do not help each other, where they may be suspicion about contact between parents and children, and in which norms and behaviors may increase family weakness.

One of the major reasons for including two general types of communities (rural and urban) and four specific schools in the study
of Vermont fourth graders' social networks was to determine if Sherman and Garbarino's 1980 findings about urban neighborhoods would be similar to those found in Vermont. Garbarino (1982) suggests that urban changes work against neighborhoods with mobility as a threat, motorized transportation to and from work places outside the neighborhoods as a threat, rezoning to remove commercial activities from neighborhoods as a threat, and the erosion of "neighbor helping neighbor" as a threat. Garbarino (1982) further suggests that strong neighborhoods, within cities, resemble strong small towns. This study, including two rural Vermont small towns and two urban neighborhood schools (one in inner city Burlington and the other in a newer section of Burlington) provided relevant data on the differences in social network patterns for youngsters residing in each neighborhood.

These five studies suggest that there may be significant differences in the nature and quality of the social networks for the two groups of Vermont children. The inclusion of the self-esteem measure enabled us to determine if such differences in these social networks were related to a specific aspect of children's growth and development.

Social Networks and Self-Esteem

Robert White's (1959) theory of "effectance motivation" suggests that a child's motive for achievement is intrinsic and is closely tied to his/her developing sense of self. This position reflects a basic need to interact effectively with the environment
and that such interaction provides one with a way to evaluate self. White believed that this drive toward "competence" was innate and that when this drive was mastered a feeling of efficacy resulted. This feeling of efficacy is similar to one's evaluative measure of self--self-esteem.

This drive for competence comes from within the individual but can be affected by the environment within which one grows and develops. If the environment allows and encourages exploration and practice to gain mastery, then the individual continues to pursue further interactions. The drive for mastery is broadened and extended. The individual grows in his/her sense of competency and thereby grows in his/her evaluation of self. The close association between one's environment and one's sense of competence offers support for a study that examines the relationship between children's social networks and their perceived self-esteem.

Harter's (1978) research on the perceived competence of young children is based on the internal drive of the individual to effect his/her environment and thereby grow through a feeling of competence or efficacy. She suggests three aspects to this competence motivation: (a) the organism's desire to produce an effect on the environment, (b) the goal of dealing effectively or competently with the environment, and (c) the resulting feeling of efficacy. She argues that one's reinforcement history will have implication not only for one's motivational orientation but for one's self-esteem or perceived competence as well as one's sense of control over one's life. It is assumed that an environment that allows for and
encourages effective exchanges will be an environment that is evidenced in both the quality and nature of the social interactions. Including both rural and urban populations allowed us to compare two settings and to determine if such settings and the existing networks were related to self-esteem.

Harter's (1978) developmental perspective acknowledges the dependency of the very young child on the significant adults or caretakers in his or her life. While dependency is typically viewed in terms of the child's need for care, nurturance, and love she (Harter, 1978) suggests that the child also depends upon the adult for a source of information and feedback on the child's performance. Her major assumption is that the young child requires a sufficient degree of positive reinforcement for his or her mastery attempts, where sufficient implies that the balance of positive to negative is extremely high in favor of positive feedback. Harter's (1978) position encourages one to examine self-esteem within the context of one's social relationships or social networks. This study included the measurement of young children's self-esteem in relation to their social networks. It was believed that an environment that provides for such positive feedback and information is one that also evidences positive social network relationships. Including both urban and rural settings in the study enabled us to determine if such conditions are reflected in the social networks of young children in different environments.

It is evident that the reinforcement pattern Harter speaks of is often established with the home setting between mother and child.
Research has indicated that parents and the home environment play a major role in forming a child's self-esteem (Wylie, 1974). From Wylie's review of the literature on the relationship between sociometric status and self-esteem, it seems most apparent that the variations in children's view of themselves (their self-concept) and their evaluations of this view (their self-esteem) may be accounted for by either parental or environmental factors.

As children grow and develop their social skills, their interactional patterns involve individuals beyond the immediate family. Stone and Church (1968) suggest that it is the period of middle childhood when children may turn their backs on parents and unite in a society of children. Friendships can become as important to the child as relationships with parents, and sometimes, even more important. Peers offer the opportunity to interact with persons of equal status. Through these interactions children may gain status and recognition for their skills and abilities and may have the opportunity to learn many of the social skills they will need as adults (Grummon, 1982). The peer group may also act as a determinant of acceptance and stability in social relations, as a contributor to the child's developing sense of self, and as one of the factors operating to form the child's attitudes and values concerning the world around him or her (Campbell, 1974).

Bronfenbrenner's (1979) position that to understand human development we must examine "multi-person systems" of interactions suggests that persons beyond the immediate family have potential for affecting development; in this case, self-esteem. This study
examined the relationship between one's perceived self-esteem and one's multi-person system of interactions (social networks). One mechanism by which social networks may directly affect self-esteem is through reflected appraisals (Mead, 1934). The attitudes which significant others hold toward a child and their expressions of those attitudes constitute a set of reflected appraisals. Mead (1934) has stated that "we are more or less unconsciously seeing ourselves as others see us." If a child sees him or herself as others see him or her, then the level of approval should have an affect on self-esteem.

William James (1893) initiated the social-psychological concept of self. He referred to the "I" as the knower and the "Me" as the known. He divided this known or empirical self into the spiritual self, the material self, the social self, and the bodily self. His emphasis on the direct link of the social self to social interaction is most appropriate for this study. He theorized that there must be not one, but many social selves, and that the social me grows out of the recognition that we received from others. This recognition we receive from others Cooley (1902) termed the "looking glass self" and stated that the self is a reflection of what individuals think others' judgements are of them. Rosenberg (1979) defines self-esteem as the positive or negative orientation toward the self which involves the evaluative judgmental or affective aspect of a person's self-conception.

When these positions are integrated with Mead's (self concept arises as a result of social experiences) and Sullivan's (social
relationships provide one with a means of knowing and evaluating self) it seems most appropriate to examine self-esteem within a broad social milieu. The focus of this research was to study children's relationships beyond their immediate families as evidenced by their social networks and the connections of such networks to perceived self-esteem. The formation of this perceived self-esteem is a result of the interactive process between elements of the environment and the child. While the first source comes from interactions with parents, the child soon moves out into the community of significant others.

It was the intent of the researcher to focus on the composition of children's networks in two areas—peers and adults beyond the immediate family. Self-esteem was chosen as the developmental variable potentially related to social networks because research indicates the power of others, within and beyond the family to provide feedback that is necessary for self-evaluation and for the opportunities of social comparison that is necessary for positive identity (Sullivan, 1953; Rubin, 1980; Harter, 1978, 1979, 1981; Mead, 1934; Rohner, 1973; Piers and Harris, 1969).

Rosenberg (1979) identified four principles which focus on the intrapersonal and social variables in the child's development of self-esteem. These are (1) reflected appraisals, (2) social comparisons, (3) self-attributions, and (4) psychological centrality. The principle of reflected appraisals refers to the effect that others' appraisals or attitudes towards us have on our self-esteem. Mead (1934) originally suggested the idea that others'
evaluation of us will affect our self-evaluations and that the individual experiences himself or herself as such not directly, but only indirectly, from the particular standpoints of other individual members of the same social group or from the generalized standpoint of the social group as a whole to which he or she belongs.

The principle of social comparisons refers to the tendency of humans to learn about themselves by comparing themselves to others. Comparisons are based on either the idea of being better or worse than a standard, or they are based on comparison to a norm which implies conformity or deviance (Rosenberg, 1979).

Self-attribution involves learning about the self by observing our actions and their outcomes and making inferences from them which affect self-esteem. The process of self-attribution is particularly important in determining how our skills and abilities will affect our self-esteem. Our self-attributions about our skills and abilities are based on how we see ourselves behaving in the world and the results of those behaviors (Rosenberg, 1979).

Psychological centrality states that some abilities, skills, appraisals, or comparisons will be more important to the person than others and that those which have greater value to the individual will have a greater effect on self-esteem (Rosenberg, 1979).

Each of Rosenberg's (1979) principles seemed most relevant to the Vermont study of social networks and perceived self-esteem. Harter's (1978) extensive work on the development of perceived self-esteem indicates that children evaluate their self-concept differently for different areas. Some children may feel quite
confident and capable in academic areas while feeling quite inept in physical areas. Rosenberg's (1979) principles clearly support the idea that children may have different perspectives on their abilities and social relationships. The use of the Harter Scale to measure the self-esteem of the forty rural and forty urban fourth graders enabled us to determine such differences and also to correlate such differences with characteristics of these children's social networks.

Coopersmith (1967) has written that the amount of respectful, accepting, and concerned treatment a person receives from significant others will be meaningful factors in one's self-esteem. The fourth grade subjects in this research selected their significant others from all the people they had ever known. It was assumed that those others selected would be those who had provided some type of respectful, accepting treatment for the child. The inclusion of the self-esteem measure was to help us determine if a connection exists between these relationships and the child's perceived self-esteem. The inclusion of the quality measure of the network relationship was to enable us to compare the relative strengths of relationships and self-esteem.

Research by Hess, Shipman, Brophy, and Bear (1979); Bronfenbrenner and Cochran (1976); Taylor (1976); Harter (1978, 1979, 1981); Backman and Secord (1962); and Ozurumba (1978) suggest the connection between social networks and self-esteem.

In an examination of the impact of parent's social networks upon child development and behavior Hess, Shipman, Brophy, and Bear
(1979) reported that mothers who remained integrated within formal network systems were more likely to engage their preschool children in goal-oriented tasks than mothers who were isolated from such systems. Subsequently the children of the network-integrated mothers performed better than the children of network-isolated mothers not only in the structured task situations but also in school. One explanation for such findings offered by Hess et al. is that opportunities to engage in social activities with other adults may enhance individual feelings of self-esteem and provide stimulating ideas which are then translated into specific parent-child interaction patterns and manifested in child developmental skills. Bronfenbrenner and Cochran (1976) suggest that parent's ability to engage in meaningful, sustained interactions with children is determined in part by the support the social networks offers for the parental role.

For these researchers (Hess et al., 1979; Bronfenbrenner and Cochran, 1976) it appears that the social network may play a significant role in both the parent's feelings of self worth and the subsequent child's behavior. When this idea is integrated with White and Harter's positions on competence as a motivating force it seemed likely that this Vermont study would show relationships among the nature and quality of one's social network and one's perceived self-esteem.

Taylor's (1976) study of the self-esteem of black children found that poverty, low racial stereotypes, poor school performance, broken homes, and the like were not crucial in the development of
self-esteem for black children. Rather, he found that the self-esteem of black children was shaped by the attitudes of significant others in day-to-day contacts; parents, siblings, friends, and teachers. Such findings encourage us to further study the relationship of contact with significant others and self-esteem.

Harter's (1978, 1979, 1981) research and White's (1959) effectance motivation position suggests two sources for the intrinsic drive to effect one's environment. One source is from within the individual—the drive to interact competently with the environment and experience a feeling of efficacy or positive self-esteem. The motivational system is biologically built into the organism (Harter, 1978). The second source has experiential roots to the extent that (a) the particular mastery goals which the child internalizes are determined in large part by the values of his/her socializing agents, and (b) that the nature and strength of the self-reward system the child develops are a function of the amount and type of social reinforcement he/she receives (Harter, 1978). It seems most appropriate that this study would include both a measure of the child's social network through personal interviews and a measure of the child's self-esteem through the completion of Harter's Perceived Competence Scale for Children (1979). When such data was collected and compared it was felt that relationships would be seen between the nature and quality of children's social networks and their perceived self-esteem.

Backman and Secord (1962) used thirty college sorority members to test their hypothesis that reflected appraisals from significant
others (their social networks) affect self-esteem and that the frequency of interaction between the sorority members and significant others will affect their self-esteem. Each of their subjects completed a self-rating scale consisting of sixteen pairs of adjectives. Five of the sixteen adjectives were chosen by the subject to be most characteristic of herself and those five were ranked from most to least characteristic. Each subject then predicted which five adjectives she thought that each of the other sorority members would assign to her and how they would rank her on those five. The subjects then actually ranked each of the members on the adjectives and provided information on who they liked the most, liked the least, with whom they interacted the most and with whom they interacted the least. Such data provided the quality measures of these college students' social networks similar to the quality measures of succorance and achievement/recognition in this Vermont study.

Results from the Backman and Secord (1962) study found a significant relationship between how students ranked themselves and how they were ranked by others. This relationship was significantly stronger for high-interaction others (higher frequency rate) than for low-interaction others. These findings not only support that how we view ourselves (self-esteem) reflects the views of others, but also that those we interact with more often (a higher frequency rate) show a stronger relationship to our self-esteem than those we interact with less often. Including the frequency of interaction with social network members in the Vermont study enabled us to
determine if such interaction rates are connected to one's level of self-esteem in specific areas. It was hypothesized that frequency of contact with social networks members would correlate positively with self-esteem scores.

Ozurumba's (1978) study was to investigate the factors that were responsible for the differences in the self-esteem scores of rural and urban fifth graders in various public schools throughout the state of Pennsylvania. The study utilized data gathered in a state-wide evaluation process of all public elementary and secondary schools in Pennsylvania in 1975. It focused on the first of the goals in the Educational Quality Assessment (EQA) program exercise. This goal was to "help every child acquire the greatest possible understanding of himself or herself and appreciation of his or her worthiness as a member of society."

Ozurumba's (1978) sample consisted of 2,935 fifth graders with 1,632 from rural communities up to 10,000 population and 1,303 from urban centers of from 100,000 to 500,000 population. All students completed a forty-item self-esteem scale and a general information data sheet about themselves, their families, and their schools.

While Ozurumba's (1978) study was on a much larger population with wider differences in the sizes of rural and urban communities, the focus was clearly linked to this Vermont study. The 1978 Pennsylvania study directs the researcher toward the characteristics of home and family as strong indicators of the quality of children's self-esteem. The 1984 Vermont study was more focused on
characteristics beyond the home and immediate family—on the social networking system of the neighborhood.

Overall analysis of the results on the evaluation of the ten goals in the EQA showed lower scores for the rural youngsters than for the urban youngsters. For this reason, Ozurumba (1978) chose to focus attention on the possible causes of such lower scores in the one area of self-esteem. The first area of concern was to determine the effect of selected variables on the rural students' self-esteem scores. Nine variables were analyzed including home climate, father's occupation, mother's education (both socio-economic indicators), sex of child, grade of child, parents' attitude toward school, stability of home, race of child, and access to school library. Through partial correlations and multiple regression analysis, Ozurumba found that home climate followed by parental attitude toward school, mother's education and father's occupation were the highest predictors of positive self-esteem scores for the rural fifth graders. These results are in agreement with several other studies showing the strong relationships between family characteristics or interactions and self-esteem (Coopersmith, 1967; Rosenberg, 1979; Washburn, 1962; Bernard, 1975; Thomas, 1971; Wooster and Harris, 1972).

While Ozurumba's (1978) findings are supportive of other research linking family conditions and self-esteem, it was unfortunate that the study did not compare such relationships for urban and rural youngsters. The Vermont study, while not focusing directly on these same family variables, provides comparative data
on rural and urban Vermont youngsters and takes us beyond family conditions to include neighborhood and school characteristics as possible predictors of self-esteem. The Vermont study focused on the variables of composition of network, frequency of interaction with network members, duration of relationship with network members, and the quality of the network relationship as predictors of self-esteem scores.

The second area of concern for Ozurumba (1978) was a comparison of urban and rural fifth graders on the subscales and total self-esteem scores. The Pennsylvania study included four components to self-esteem:

a. self-confidence: feelings of success in tasks, self-determination, attractiveness and self-worth

b. control over environment: belief that success in school and work depends on effort, not luck

c. relationship with others: perceived ease in making and keeping friends and feelings of acceptance by others

d. self-image in school: feelings of success in school work, class recitations, and relationships with teachers

Results of the Pennsylvania study (Ozurumba, 1978) found significant differences between urban and rural students for self-confidence scores, control over environment scores, and the total scores, with urban students scoring higher than the rural students.

No significant differences were found between scores for relationships with others or self-image in school and location of residence (urban or rural). Fifty-two percent of the urban students
were in the upper quarter of the total self-esteem scores while forty-eight percent of the rural students were in the same division.

It would appear from Ozurumba's (1978) findings that the urban fifth graders felt more self-confident and internally in control of their own lives than did the rural youngsters. The scores in these two areas were such that the overall total scores were higher for urban than for rural youngsters. While the Harter Scale does not use the same categories of self-esteem measures, her (Harter, 1978) components of cognitive self-esteem and physical self-esteem are similar to the areas of self-confidence and self-image in school in the Pennsylvania study. Findings from the Vermont study will enable us to compare results with this 1978 study by Ozurumba. It is most interesting that no significant differences were found between scores for relationships with others for the urban and rural Pennsylvania children. The focus of the Vermont study was clearly intended to study this very issue with the assumption that such scores would be higher for the rural youngsters.

The choice of the Harter Scale to measure self-esteem was due to Harter's extensive work on White's (1959) position and her emphasis on separate domains of self-esteem. She (Harter, 1978) argues that children differentiate between mastery attempts in separate domains that are reflected in their perceived competence in separate areas. She designates four areas (cognitive, social, physical and a general feeling of self-worth) in the development of her self-esteem scale. Harter strongly suggests that the variation across these competence areas may be a direct result of one's
socialization history. Perhaps one child feels more positively about his/her physical skills because of his/her abilities and also because of the rewards received for such abilities. Harter (1978) suggests that such a "particular" feeling may not be translated into a high total self-esteem score, and therefore indicates that correlations between areas may not be high. From her perspective it appears that a child will perceive himself/ herself as more competent in some domains than in others. Her research indicates that the conceptual structure of the scale closely parallels the actual structure of the child's perceived competence in separate domains (Harter, 1978).

When the research by Hess, Shipman, Brophy, and Bear (1979); Bronfenbrenner and Cochran (1976); Taylor (1976); Harter (1978, 1979, 1981); Backman and Secord (1962); and Ozurumba (1978) is combined with the literature review on the relationship between sociometric status and self-esteem by Wylie (1974) it seems evident that there may be connections between characteristics of one's social network and one's self-esteem.

Of the thirty-four studies reviewed by Wylie (1974), twenty-three showed significant positive associations between sociometric or social networking conditions and self-esteem. He (Wylie, 1974) found two major differences between the studies that reported significant relationships (23 studies) and those (11 studies) that he did not. First, of the twenty-three studies which found a significant relationship between the variables, twenty measured self-esteem which a relatively well-known instrument, while
only two out of the eleven studies with insignificant results used such instruments. While the Harter Scale is relatively new (1978), it has high reliability and validity value and is experiencing wider use in the evaluation of children's self-esteem. Secondly, Wylie (1974) reported that there was marked difference between these two sets of studies in the age of subjects used. The studies reporting significant relationships were more likely to use normal children in the fourth to eighth grades, while those reporting insignificant findings tended to use adults or disturbed children. The Vermont study involved 80 fourth graders from four elementary schools.

From Mead (1934) to Bronfembenrenner (1977) and from White (1959) to Harter (1978) research indicates the power of social networks for effecting self-esteem. The attributes of social networks and their relationship to self-esteem within two broad settings (urban and rural) and four specific settings (Enosburg, Poultney, John J. Flynn School, and Lawrence Barnes School) provided the focus for this research. Composition of network, frequency of contact with network, duration of relationship with network, and the quality of the network relationship make up the attributes of the Vermont fourth graders' social systems. Cognitive self-esteem, social self-esteem, physical self-esteem, and a general feeling of self-worth constitute the components of the self-esteem measure. The research as reviewed encourages one to speculate on the relationship between those two (social networks and self-esteem) variables.
CHAPTER III

METHODOLOGY

This study was designed to compare the social networks and perceived self-esteem of forty rural and forty urban Vermont fourth graders. Data on social networks was gathered through individual personal interviews while self-esteem measures were gained through the group administered Perceived Competence Scale for Children (Harter, 1979).

Individual interviews using the Social Networks Interview (Appendix B) were held at the subjects' schools. Questions on the composition, the frequency of contact, and the duration of the relation were asked of each subject. A quality measure was obtained using an adapted form of the Syracuse Scale of Social Relations (Gardner and Thompson, 1959). This quality measure included data on the value of each network member in the areas of succorance and achievement/recognition. Harter's (1979) Perceived Competence Scale for Children was group administered at each of the schools. This Scale provided self-esteem scores in four areas of competence: cognitive, social, physical and general self-worth.

Hypotheses

The review of the relevant literature in Chapter II suggested that relationships exist among characteristics of children's social networks and their perceived self-esteem. In examining this literature and research findings from such studies, several areas of focus were developed.
Due to an interest in the educational and socialization process for Vermont youngsters, the decision to focus research on children in the villages and cities of Vermont was made. Four schools (two rural and two urban) were selected to participate in this study on the social networks of Vermont fourth graders and perceived self-esteem. Secondly, the characteristics of the rural and urban Vermont children's social networks were examined. Thirdly, the self-esteem levels of these same children were examined. Finally, the relationships among such variables were explored. To organize and complete such examinations the following hypotheses were generated:

**Composition of Network**

1. Subjects will report larger peer social networks than adult social networks.
2. Subjects will report larger social networks of the same sex than of the opposite sex.
3. For both rural and urban subjects, females will report larger social networks than will male subjects.
4. Rural subjects will report larger social networks than will urban subjects.
5. Rural subjects will report larger extended family social networks than will urban subjects.

**Frequency of Contact with Network**

6. Both rural and urban subjects will report more frequent
contact with the peers in their social network than with adults.

7. Both rural and urban subjects will report more frequent contact with same sex members of their social network than with opposite sex.

8. Rural subjects will report social network members they see more often than will urban subjects.

9. For both rural and urban subjects, frequency of contact with social network members will correlate positively with one or more of the four areas of perceived self-esteem.

Duration of Relationships with Network

10. Rural subjects will report more social network members they have known longer than will urban subjects.

11. For both rural and urban subjects, duration of relationships with social network members will correlate positively with one or more of the four areas of perceived self-esteem.

Quality of Relationships with Network

12. Succorance and achievement/recognition values will be higher for rural subjects than for urban subjects.

13. Succorance and achievement/recognition values will correlate positively with the frequency of contact within the social network.
14. Succorance and achievement/recognition values will correlate positively with the duration of the relationship within the social network.

15. Succorance and achievement/recognition values will correlate positively with one or more of the four areas of perceived self-esteem.

Social Network Measures

Describing and analyzing the social networks of children is a difficult task (Garbarino et al., 1978). Bronfenbrenner (1977) has argued for a revival of Lewin's orientation (1935) towards the psychology of "social mapping" or the individual's representation of his/her environment. To gain an understanding of children's social maps or social networks the researcher must select a method for gathering such descriptive data.

Several types of data gathering surveys have collected such information (Laumann, 1973; Wellman, 1979; Erikson and Yancey, 1976; Kleiner and Parker, 1976; Garbarino et al., 1978; and Tietjen, 1981) through the subject's own descriptions of his/her network members. The list of important or significant others is developed through responses to, "Who are your best friends?" (Laumann, 1973) or, "Who are the people you feel close to?" (Wellman, 1979) or to "name people in selective roles" (Kleiner and Parker, 1976).

McCallister and Fischer (1978) suggest that the critical issue in social network surveying is "the technique used to elicit names as that determines what kinds of people are included in the network.
membership and, therefore, the operational definition of network used in the analysis." While no method is devoid of problems and difficulties, a technique which elicits a broad spectrum of individuals that are significant to the subject seemed most appropriate for this study on the social networks of selected Vermont fourth graders.

As this Vermont study was interested in the subjects' own descriptions of their social networks and the relationships of such networks to their perceived self-esteem, it seemed most appropriate to select an open-ended technique of eliciting the names of significant others. The Social Network Interview (Appendix B) was developed by the author to gather first-hand information on the personal networks of forty rural and forty urban fourth graders. The results of these interviews provided data that could be used to describe the nature and quality of the personal social networks of these eighty children.

All interviews were done by the researcher in a room away from other students. In Enosburg Falls the nurse's office was used. In Poultney a secluded corner of the learning center was used. At Lawrence Barnes School the interviews were conducted in a small area set aside for use by a foster grandparent. The interviews at John J. Flynn School were all completed in a room set aside for special work with gifted and talented youngsters. In all cases the interviewer and the subject were away from other adults and children and were not interrupted during the interview. Each individual interview took approximately forty minutes to complete.
As the operational definition of social network in this study was "the significant other the subject knew really well," the interview began with that focus. On a 3 x 11 inch strip of paper with forty lines, subjects were asked to "write down the names of the kids you know really well." After allowing some time for thinking of names and writing them down the following probes were used:

Did you think of kids at school?

What about kids from your street or around where you live?

Kids from special activities you do after school or on weekends like sports, or clubs, or church?

Did you think of any kids who are related to you, like your cousins?

Ok, now look at your whole list. Are there any kids you know really well that you have forgotten?

When this list was completed the subjects were asked "to write down the names of the adults you know really well." After allowing time for thinking of names and writing them down the same probes were used substituting adults for kids in the above series of questions.

The approach of first eliciting names of kids followed by names of adults (as those subject knew really well) was alternated for each of the two urban and two rural schools.

Once the list of social network members was complete the subject was asked to answer some questions about these people. The subject was asked to "put your list next to this chart so that we can answer these questions together." Each of the three charts had forty lines corresponding to the lines on the subject's list so that
responses could be recorded as a checkmark in the appropriate column for each network member listed.

The first chart included space for data on the composition of the subject's social network. First, the subject was asked to "tell me if each of these people is a girl or boy (or a man or woman) by putting a check on the line under the heading male or female." This process provided information on the sex of the network members. Secondly, the subject was asked "to tell me how you know these people--from school, from your home or around where you live, as a relative, or from some special activity." Interviewer pointed to each column heading as the question was stated. Subject was then given time to check appropriate lines and columns with one choice for each network member. When a network member might fall into more than one category the subject was asked to check the column which indicated the location where the network member was best known. This process provided information on the location of the network relationship.

The second chart included space for data on the frequency of contact with the subject's social network. Subject was asked to "tell me how often you see these people--every day, almost every day, about once a week, or now and then." Subject was then given time to check appropriate lines and columns with one choice for each network member. This process provided information on the frequency of contact with the network members.

The third chart included space for data on the duration of the network relationship. Subject was asked to "tell me how long you
have known these people--most of your life, since you started school, since you started fourth grade, or for only a few weeks."

Subject was then given time to check appropriate lines and columns with one choice for each network member. This process provided information on the duration of contact with the network members.

These first three charts provided descriptive information on the nature of the urban and rural subjects' social networks. These charts took approximately ten minutes to complete and were developed for ease of administering and scoring. While the data from these charts was of value in describing basic characteristics of the network (sex, age, location, frequency, and duration) the importance or value of the relationship was needed in order to determine the quality of the networking system.

An adaptation of the Syracuse Scale of Social Relations (Gardner and Thompson, 1959) was made to identify this quality measure. Gardner and Thompson (1959) described four characteristics as important in the development of their Scale:

1. Situations are based on important human needs which require social interaction for their satisfaction (succorance and achievement/recognition for the elementary population).

2. Subjects use a reference population that is of personal value to the subject.

3. Scores provide a quality measure on each member of the network.

4. Scores furnish a substantially reliable index (about .75) of the way an individual evaluates every other member of his/her social group.
To complete the quality aspect of the Social Networks Interview each subject was asked to rate the members of his/her social network as "helpers when you do certain things" (Gardner and Thomson, 1959). In the first situation for succorance the subject was asked to rate his/her network member as possible sources of aid when he/she is troubled by a personal problem. The specific situation was:

"Sometimes you get into trouble and you feel unhappy. It might be that you have been blamed for something you didn't do. Think about some time you were unhappy and would have liked to talk over your troubles with some kind, sympathetic person."

This part of the Social Networks Interview required more elaborate instructions so the reader is urged to review the actual sequence of statements as shown in Appendix B. The first step in the process was to place names of important others in five boxes for each of the two areas (succorance and achievement/recognition). This was done by reading the first situation and asking subjects to "think of all the people you have ever known in your whole life; of all these people which one would you most like to have help you if you were in trouble; place that name in the box with the five stars." This process was followed for least, for those medium or half way between the most and the least, for those half way between medium and most, and for those half way between medium and least. Each time the subject would place a name in the appropriate boxes. This provided names of five persons who had been ranked qualitatively for the psychological need of succorance.

Once this reference population was identified, subjects were asked to place their 3 x 11 inch list on this Syracuse Scale and to
compare each network member with the names in the five boxes. This was done in two steps. In step one, subjects were asked to look at the network member's name and his/her list and decide who it was most like in being of help in time of trouble. Subjects were encouraged to place their pencil on this name in one of the boxes. In step two, the subjects were asked to decide if the network member was "less good," "equal to" (the diamond), or "better than" the name in the box at the top of the column. Once a decision was made subjects were to circle one of the choices under the name. This was done for all social network members on the 3 x 11 inch lists. This process was followed for both the succorance situation and the achievement/recognition situation.

The results of this quality measure of each network member ranged from a low of five to a high of 85 with the range as follows (Gardner and Thompson, 1959):

<table>
<thead>
<tr>
<th>Least</th>
<th>5 (equal to)</th>
<th>10 (better)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>20 (less good)</td>
<td>25 (equal to)</td>
</tr>
<tr>
<td>Medium</td>
<td>40 (less good)</td>
<td>45 (equal to)</td>
</tr>
<tr>
<td>Between</td>
<td>60 (less good)</td>
<td>65 (equal to)</td>
</tr>
<tr>
<td>Most</td>
<td>80 (less good)</td>
<td>85 (equal to)</td>
</tr>
</tbody>
</table>

Such a scoring process enabled the researcher to determine both individual and group ratings of the subjects' social network members. Individual ratings provided data on the value of a particular social network member that when combined with other descriptive information (sex, age, location, frequency, and duration) more completely described network members of value to the
subject. When these individual ratings were combined and averages determined, an assessment of the quality of the relationship between the subject and his/her networking group was provided. Such grouping and averaging of quality scores allowed us to determine the quality of the relationship between subject and network members for rural, urban, and specific school populations. Such process enabled us to compare the quality values for the two general and four specific populations under study.

The Social Network Interview, as designed by the researcher, and an adaptation of the Syracuse Scale of Social Relations provided a comprehensive picture of these eighty Vermont fourth graders' social networks.

Self-Esteem Measures

Susan Harter's Perceived Competence Scale for Children (1979) was selected to measure the self-esteem of the rural and urban fourth graders for several reasons. Harter, as a student of White's (1959) effectance motivation model, argues strongly for a research tool that clearly measures a child's perceived levels of competence in separate developmental areas. Harter (1978, 1979, 1981) suggests two sources for this effectance motivation. One is from within the individual—the internal drive to interact effectively or competently with the environment and experience a positive feeling of efficacy. The second source is from outside the individual—the drive to interact effectively comes from the mastery goals the child has internalized as a result of the values of his/her socializing
agents (the significant others in one's social networks). She (Harter, 1978; 1979; 1981) further suggests that the nature and strength of the child's self-esteem are a function of the amount and type of social reinforcement the child receives. Such a theoretical position fits very well into a study of the relationships between social networks and perceived self-esteem for different environmental areas.

Harter's Perceived Competence Scale for Children (1979) was developed to provide separate scores in three specific skill domains. Her approach is based on the premise that children do not view themselves as equally competent in each of these areas. Three specific competence areas were developed; (a) cognitive competence, which reflects school and/or academic performance; (b) social competence, where the emphasis is on popularity with one's peers or friends; (c) physical competence, where the focus is on one's ability in sports and/or games. A fourth subscale, general self-esteem, assesses the child's general feeling of worth or self-esteem independent of any particular domain. This fourth area was developed in order to determine if a relationship exists between a child's feeling of competence and his/her feelings of personal esteem or worth. These subscales enable the researcher to examine the profile of a child's perceived competence across the three specific areas, as well as to compare each of these scores to the child's general feelings of self-esteem.

The Harter Scale (1979) includes twenty-eight items (seven for each of the four subscales) arranged in a "structured alternative
format." In each case, the child is presented with the following type of statement:

<table>
<thead>
<tr>
<th>Some kids often forget what they learn</th>
<th>BUT</th>
<th>Other kids can remember things easily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Really for me</td>
<td>Sort of True for me</td>
<td>Really True for me</td>
</tr>
<tr>
<td>True for me</td>
<td>True for me</td>
<td></td>
</tr>
</tbody>
</table>

The child is first asked to decide which kind of kid is most like him or her, and then asked whether this is only sort of true or really true for him or her. The structured alternative format legitimizes either choice suggesting that either side of the statement is an acceptable choice. Harter's (1978, 1979, 1981) studies of children's elaborations on the reasons for their choices indicate that the children are giving accurate self-perceptions rather than socially desirable responses.

The general procedure for scoring the Scale is to score each item on a range from 1 to 4, where a score of 1 indicates low perceived competence and a score of 4 reflects high perceived competence. Among the 28 items fourteen, or half, are worded such that the first part of the statement reflects high perceived competence and the remaining half of the items place the low perceived competence aspect of the statement first. Within each subscale three are keyed in one direction and four in the other. In regards to the order of statements, no two consecutive items are from the same subscale, and no more than two consecutive items are keyed in the same direction.
Administration of the Perceived Competence Scale for Children (Harter, 1979) was done in groups with the fourth graders in each class completing the Scale at one sitting. After completing the information at the top of the Scale, directions were given by this researcher. It was emphasized that for each statement, two decisions needed to be made. First, the subjects needed to decide what kind of kid they were most like, the one on the left or the one on the right. Then the subjects had to decide how true the statement was for them. It was also emphasized that this was not a test; that there were no right or wrong answers. For a complete set of directions and the twenty-eight items, see Appendix A. It took approximately thirty minutes to group administer this Scale. Once items had been scored they were transferred to a subscale to which they belonged. After this was completed, average or mean scores for each subject on each subscale was obtained by adding the seven scores and then dividing by seven. This provided four scores for each subject; his or her mean score for cognitive, social, physical and general self-esteem. These means enabled us to compare such scores for the urban and rural populations as well as to correlate these scores with other characteristics of the subject's social networks.

Sample

Vermont children enrolled as fourth graders during the 1983-84 school year were eligible for this study. This period in a child's life represents a time of relative stability in cognitive and
socioemotional development (Ausbel, et al., 1980). This seems to be a period of development when peer relationships have an effect on children's self-esteem. The authors of several self-esteem measures (Piers-Harris, 1969; Rosenberg, 1979; Coopersmith, 1967; and Harter, 1979) recommend that their self-esteem measures are most reliable on subjects above the third grade level.

Grumman (1982) suggests that fourth through sixth graders have begun to use their peer group as a source of approval. They have reached a stage of development where they believe that their actions produce both desired and undesired results. While some dimensions of self-concept change during adolescence, Grumman (1982) indicates that self-esteem appears to stay relatively stable. It was for these reasons that the fourth grade population was selected for this study.

The specific population for this study was drawn from the 260 elementary schools in the state of Vermont. The first step in the selection process was to develop a list of those rural schools located in Vermont villages with a criterion population of from 1,000 to 3,000 residents. Twenty villages comprised this list which was developed from the 1980 U. S. Census data. The twenty villages and their populations were as follows:

- Barton 1,062
- Bristol 1,793
- Dorset 1,648
- Enosburg Falls 1,207
- Hardwick 1,476
- Jericho 1,340
- Johnson 1,393
- Ludlow 1,352
From this list of twenty Vermont villages two were randomly selected—Enosburg Falls and Poultney.

Enosburg Falls has a population of 1,207 according to the 1980 Census and is located in northwestern Vermont in Franklin County. The Enosburg Falls Elementary School includes classes for grades kindergarten through grade six with a total of 245 students. There were twenty-eight fourth graders enrolled at the Enosburg Falls School with twenty in a fourth grade and eight in a combined fourth and fifth grade classroom. Subjects completed the Social Networks Interview in the privacy of the nurse’s office while the group administered Self-Esteem Scale was completed in the fourth grade classroom.

Poultney has a population of 1,554 according to the 1980 Census and is located in southwestern Vermont in Rutland County. The Poultney Elementary School includes classes for grades kindergarten through grade six with a total of 280 students. There were thirty-six fourth graders enrolled at Poultney with fifteen in a combined third and fourth grade class and twenty-one in a fourth grade class. Subjects completed the individual Social Networks
Interview in the school's learning center while the group administered Self-Esteem Scale was completed in one of the fourth grade classrooms.

For both Enosburg Falls and Poultney more than 20 fourth graders participated in the process. In order not to discriminate among children, all fourth graders were allowed to participate. The students were sent to the interview at the direction of the classroom teacher and the first ten males' and first ten females' interviews were those actually used in the data analysis. These same twenty students' self-esteem scores were used for data analysis.

The urban population was from the one Standard Metropolitan Statistical Area (SMSA) in the state, the city of Burlington. Burlington is the only area in Vermont meeting the census criteria of a "city or a city and contiguous communities that utilize the central city for social and economic purposes with at least a total metropolitan population of 75,000." While the city of Burlington has a population of 37,712 according to the 1980 Census, the SMSA has a total population slightly in excess of 80,000.

The city of Burlington has seven elementary schools serving the city with each including kindergarten through six grade classes. Four of these schools; Lawrence Barnes, Champlain, Edmunds, an H. O. Wheeler are located in the older, downtown sections of the city. The other three elementary schools; C. P. Smith, Thayer, and Flynn are located in the newer, more suburban, northern section of the city. Because of the major differences in these two groups of
schools, it was decided to randomly select one school from each
group for comparative purposes.

Lawrence Barnes School with 250 students was selected to
represent one of the downtown urban schools. It was located in one
of the oldest sections of Burlington. John J. Flynn School with 325
students was selected to represent one of the newer urban schools.
It was located in one of the newer sections of suburban Burlington.
These two schools represented two rather distinct urban
populations—-one older in the inner city and one newer from a
somewhat suburban neighborhood.

At Lawrence Barnes School the twenty-six fourth graders were
evenly divided between a third-fourth combination class and
fourth-fifth combination class. Subjects completed the Social
Networks Interview in an area set aside for use by a foster
grandparent while the group administered Self-Esteem Scale was done
in one of the classrooms.

At the John J. Flynn School, the twenty-five fourth graders
were all in one fourth grade class. Subjects completed the Social
Networks Interview in an area for the gifted and talented program
while the group administered Self-Esteem Scale was done in the
classroom.

The process used to select ten males and ten females to
represent the two urban samples was similar to the process used for
the rural schools.

Interviews and self-esteem measures were all completed during
the months of May and June, 1984 in the following order; Enosburg
Falls, John J. Flynn School, Poultney, and Lawrence Barnes Schools. All measures were completed during the regular school hours taking approximately six days at each of the four schools. All subjects' parents or guardians were sent a letter outlining the project in early May and completed a permission slip before the data collection process began.

Data Analysis

Data analysis was completed in three parts. First, the information from the Social Networks Interview was gathered and analyzed along three dimensions.

Analysis of the structural dimensions of network size, diversity and location was done comparing the two general settings (rural and urban) and the four specific schools. Two-tailed t-tests were done comparing the means of the two general populations. Comparisons of means for the four schools was done using the analysis of variance method followed by Duncan's multiple range test. These same procedures were followed for analyzing data for the two attributes (frequency of contact and duration of relationship) of the spatio/temporal dimension.

Further analysis of these two attributes of the spatio/temporal dimension was done comparing average frequency of contact and average duration of relationship. Rank ordering of the four choices for each of these attributes created an ordinal scale requiring the use of the nonparametric statistical method of either
the Wilcoxon Matched Pairs Signed-Ranks Test or the Mann-Whitney U Test.

The third dimension (relational) was analyzed using data from the adapted Syracuse Scale of Social Relations (Gardner and Thompson, 1959). It provided average scores in two need areas, succorance and achievement/recognition. Two-tailed t-tests were done comparing the rural and urban populations in these two areas followed by ANOVA's and Duncan's multiple range tests for comparing the four schools.

Analysis of the social network characteristics along three dimensions (structural, spatio/temporal, and relational) was followed by data analysis of the results from the group administered Perceived Competence Scale for Children (Harter, 1979). Two-tailed t-tests comparing the urban and rural subjects' average self-esteem scores in each of the four competence areas were followed by ANOVA's and Duncan's multiple range tests comparing results for the four schools.

The third step in data analysis was studying the relationship between social network characteristics and perceived self-esteem. Spearman's rank correlation coefficient (Spearman r) was used to test the relationship of the four areas of perceived self-esteem and average frequency and average duration.
CHAPTER IV
RESULTS

The purpose of this study was to examine the relationship between the social networks of Vermont rural and urban fourth graders and their perceived self-esteem.

Through a review of the relevant literature on social networks, several hypotheses were generated to examine the composition, the frequency of contact, the duration of contact, and the overall quality of the network relationship. In order to test these hypotheses subject-generated descriptions of their own social networks were gathered through personal interviews.

Through a review of the relevant literature on self-esteem, hypotheses were generated to examine the perceived self-esteem of these same Vermont fourth graders. Data were gathered on these youngsters' self-esteem through the completion of Harter's Perceived Competence Scale for Children which provided scores in the areas of cognitive competence, social competence, physical competence, and a general feeling of self-worth.

A total of eighty fourth graders were involved in the research; forty rural (twenty from Enosburg Falls Elementary School and twenty from Poultney Elementary School) and forty urban (twenty from Lawrence Barnes Elementary School and twenty from John J. Flynn Elementary School, both in the city of Burlington).

Three stages of data analysis were necessary to test the hypotheses: (a) an identification of social network
characteristics, (b) an identification of self-esteem profiles, and (c) an examination of the relationship among certain characteristics of the social networks and the four areas of perceived self-esteem for the rural and urban fourth graders. The program used for analysis was the Statistical Package for the Social Sciences (SPSS).

**Social Network Characteristics**

A total of 2,098 network relationships were identified by the eighty subjects. Table 1 presents the structural dimensions of these social networks for the attributes of size, sex, age, sex and age combined, and location of contact. This Table shows the totals for all subjects, for rural and urban subjects, and for each of the four elementary schools. Table 2 shows the means and standard deviations for these same structural dimensions of size, sex, age, sex and age combined, and location of contact.

Two-tailed t-tests were computed to determine if significant differences existed between the rural and urban populations on the structural, spatio/temporal and relational dimensions.

In analyzing the five attributes of the structural dimension (Tables 1, 2, and 3) it was found that rural subjects listed more network members than did urban subjects in all areas except for the location attributes of "home" and "special activity." Significant differences between rural and urban subjects were found for average size (rural, 28.08 members; urban, 24.38 members, p<.017), average number of children in network (rural, 15.13 members; urban, 12.28
<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total n = 80</th>
<th>Rural n = 40</th>
<th>Urban n = 40</th>
<th>Rural Enosburg n = 20</th>
<th>Urban Poultney n = 20</th>
<th>Rural Barnes n = 20</th>
<th>Urban Flynn n = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2,098</td>
<td>1,123</td>
<td>975</td>
<td>588</td>
<td>535</td>
<td>430</td>
<td>545</td>
</tr>
<tr>
<td><strong>Diversity:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>970</td>
<td>527</td>
<td>443</td>
<td>270</td>
<td>257</td>
<td>172</td>
<td>271</td>
</tr>
<tr>
<td>Females</td>
<td>1,128</td>
<td>596</td>
<td>532</td>
<td>318</td>
<td>278</td>
<td>258</td>
<td>274</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>1,096</td>
<td>605</td>
<td>491</td>
<td>329</td>
<td>276</td>
<td>225</td>
<td>266</td>
</tr>
<tr>
<td>Adults</td>
<td>1,002</td>
<td>518</td>
<td>484</td>
<td>259</td>
<td>259</td>
<td>205</td>
<td>279</td>
</tr>
<tr>
<td><strong>Sex &amp; Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>552</td>
<td>313</td>
<td>239</td>
<td>158</td>
<td>155</td>
<td>93</td>
<td>146</td>
</tr>
<tr>
<td>Girls</td>
<td>544</td>
<td>292</td>
<td>252</td>
<td>171</td>
<td>121</td>
<td>132</td>
<td>120</td>
</tr>
<tr>
<td>Men</td>
<td>418</td>
<td>214</td>
<td>204</td>
<td>112</td>
<td>102</td>
<td>79</td>
<td>125</td>
</tr>
<tr>
<td>Women</td>
<td>584</td>
<td>304</td>
<td>280</td>
<td>147</td>
<td>157</td>
<td>126</td>
<td>154</td>
</tr>
<tr>
<td><strong>Location:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>730</td>
<td>422</td>
<td>308</td>
<td>219</td>
<td>203</td>
<td>116</td>
<td>192</td>
</tr>
<tr>
<td>Home</td>
<td>537</td>
<td>268</td>
<td>269</td>
<td>150</td>
<td>118</td>
<td>128</td>
<td>141</td>
</tr>
<tr>
<td>Relative</td>
<td>706</td>
<td>377</td>
<td>329</td>
<td>193</td>
<td>184</td>
<td>159</td>
<td>170</td>
</tr>
<tr>
<td>Special Activity</td>
<td>125</td>
<td>56</td>
<td>69</td>
<td>26</td>
<td>30</td>
<td>27</td>
<td>42</td>
</tr>
</tbody>
</table>
TABLE 2
Structural Dimension
Network Membership by Location (Rural/Urban and Four Schools)
Means and Standard Deviations

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
<th>Enosburg</th>
<th>Poultney</th>
<th>Barnes</th>
<th>Flynn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 80</td>
<td>n = 40</td>
<td>n = 40</td>
<td>n = 20</td>
<td>n = 20</td>
<td>n = 20</td>
<td>n = 20</td>
</tr>
</tbody>
</table>

Size:
Average
- Total: 26.23 (7.02)
- Rural: 28.08 (5.95)
- Urban: 24.38 (5.02)
- Enosburg: 29.40 (6.62)
- Poultney: 21.50 (6.01)
- Barnes: 26.75 (8.01)
- Flynn: 21.50 (8.01)

Diversity:

Sex:
Males
- 12.10 (6.31)
- 13.18 (6.73)
- 11.08 (5.75)
- 13.50 (6.29)
- 12.85 (7.29)
- 8.60 (4.97)
- 13.55 (5.50)

Females
- 14.10 (6.09)
- 14.90 (6.38)
- 13.30 (5.75)
- 15.90 (7.20)
- 13.90 (5.45)
- 12.90 (5.51)
- 13.70 (6.11)

Age:
Children
- 13.70 (4.41)
- 15.13 (4.38)
- 12.28 (4.01)
- 16.45 (4.65)
- 13.80 (3.75)
- 11.25 (3.95)
- 13.30 (3.91)

Adults
- (12.53 (4.26)
- 12.95 (3.55)
- 12.10 (4.88)
- 12.95 (2.78)
- 12.95 (4.27)
- 10.25 (3.65)
- 13.95 (5.32)

Sex & Age:
Boys
- 6.90 (4.70)
- 7.83 (5.30)
- 5.98 (3.87)
- 7.90 (5.14)
- 7.75 (5.57)
- 4.65 (3.56)
- 7.30 (3.79)

Girls
- 6.80 (4.99)
- 7.30 (5.63)
- 6.30 (4.27)
- 8.55 (6.73)
- 6.05 (4.07)
- 6.60 (4.47)
- 6.00 (4.17)

Men
- 5.23 (2.47)
- 5.35 (2.04)
- 5.10 (2.86)
- 5.60 (1.87)
- 5.10 (2.22)
- 3.95 (2.48)
- 6.25 (2.80)

Women
- 7.30 (2.95)
- 7.60 (2.91)
- 7.00 (3.00)
- 7.35 (2.34)
- 7.85 (3.44)
- 6.30 (2.45)
- 7.70 (3.39)
### TABLE 2 (cont.)

**Structural Dimension**

**Means and Standard Deviations**

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total n = 80</th>
<th>Rural n = 40</th>
<th>Urban n = 40</th>
<th>Enosburg n = 20</th>
<th>Poulney n = 20</th>
<th>Barnes n = 20</th>
<th>Flynn n = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>9.13</td>
<td>10.55</td>
<td>7.70</td>
<td>10.95</td>
<td>10.15</td>
<td>5.80</td>
<td>9.60</td>
</tr>
<tr>
<td></td>
<td>(4.46)</td>
<td>(4.29)</td>
<td>(4.20)</td>
<td>(4.03)</td>
<td>(4.61)</td>
<td>(3.13)</td>
<td>(4.34)</td>
</tr>
<tr>
<td>Home</td>
<td>6.71</td>
<td>6.70</td>
<td>6.73</td>
<td>7.50</td>
<td>5.90</td>
<td>6.40</td>
<td>7.05</td>
</tr>
<tr>
<td></td>
<td>(3.94)</td>
<td>(3.96)</td>
<td>(3.96)</td>
<td>(4.69)</td>
<td>(2.97)</td>
<td>(2.89)</td>
<td>(4.87)</td>
</tr>
<tr>
<td>Relative</td>
<td>8.83</td>
<td>9.93</td>
<td>8.23</td>
<td>9.65</td>
<td>9.20</td>
<td>7.95</td>
<td>8.50</td>
</tr>
<tr>
<td></td>
<td>(4.66)</td>
<td>(4.31)</td>
<td>(4.97)</td>
<td>(4.74)</td>
<td>(3.94)</td>
<td>(3.66)</td>
<td>(6.10)</td>
</tr>
<tr>
<td>Special Activity</td>
<td>1.56</td>
<td>1.40</td>
<td>1.73</td>
<td>1.30</td>
<td>1.50</td>
<td>1.35</td>
<td>2.10</td>
</tr>
<tr>
<td></td>
<td>(2.27)</td>
<td>(1.93)</td>
<td>(2.58)</td>
<td>(1.59)</td>
<td>(2.25)</td>
<td>(2.34)</td>
<td>(2.80)</td>
</tr>
<tr>
<td>Attribute</td>
<td>Total n = 80</td>
<td>Rural n = 40</td>
<td>Urban n = 40</td>
<td>t</td>
<td>p</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>--------------</td>
<td>--------------</td>
<td>--------------</td>
<td>-------</td>
<td>-----</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Size:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26.23</td>
<td>28.08</td>
<td>24.38</td>
<td>2.429</td>
<td>.017</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Diversity:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>12.13</td>
<td>13.18</td>
<td>11.08</td>
<td>1.500</td>
<td>.138</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>14.10</td>
<td>14.90</td>
<td>13.30</td>
<td>1.177</td>
<td>.243</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>13.70</td>
<td>15.13</td>
<td>12.28</td>
<td>3.034</td>
<td>.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults</td>
<td>12.53</td>
<td>12.95</td>
<td>12.10</td>
<td>.282</td>
<td>.376</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex &amp; Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>6.90</td>
<td>7.83</td>
<td>5.98</td>
<td>1.784</td>
<td>.078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>6.80</td>
<td>7.30</td>
<td>6.30</td>
<td>.894</td>
<td>.374</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>5.23</td>
<td>5.35</td>
<td>5.10</td>
<td>.449</td>
<td>.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>7.30</td>
<td>7.60</td>
<td>7.00</td>
<td>.907</td>
<td>.368</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Location:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>9.13</td>
<td>10.55</td>
<td>7.70</td>
<td>2.997</td>
<td>.004</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>6.71</td>
<td>6.70</td>
<td>6.73</td>
<td>.032</td>
<td>.978</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative</td>
<td>8.83</td>
<td>9.43</td>
<td>8.23</td>
<td>1.152</td>
<td>.253</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Activity</td>
<td>1.56</td>
<td>1.40</td>
<td>1.73</td>
<td>.637</td>
<td>.526</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
members, p<.003), and for average number from school contacts (rural, 10.55 members; urban, 7.70 members, p<.004).

One-way analysis of variance was done to test the differences in means for the four schools on the structural, spatio/temporal, and relational dimensions.

Table 4 shows the means for each of the two rural schools (Enosburg and Poultney) and for each of the urban schools (Barnes and Flynn) and the comparisons of the means for the five attributes of the structural dimension. ANOVA's on each of the five structural dimensions were followed by Duncan's multiple range test to establish whether or not the differences among the means were significant at the .05 level.

Significant differences were found among the four schools on average overall membership, average number of males in network, average number of children in network, average number of adults, average number of men, and the average number of school contacts. Duncan's multiple range test indicated that Barnes School was significantly smaller than the other three schools in overall average ($\bar{x} = 21.50$, p<.002), average number of males ($\bar{x} = 8.60$, p<.034), average number of adults ($\bar{x} = 10.25$, p<.036), and average number from school contacts ($\bar{x} = 5.80$, p<.001). For average number of men in the network, Barnes was significantly smaller than Flynn and Enosburg (Barnes $\bar{x} = 3.95$, Flynn $\bar{x} = 6.25$, Enosburg $\bar{x} = 5.60$, p<.023). For average number of children in the network, Enosburg was significantly larger than the other three schools (Enosburg...
TABLE 4

Structural Dimension

Differences in Network Attributes By Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 80</td>
<td>n = 20</td>
<td>n = 20</td>
</tr>
<tr>
<td>Size: Total</td>
<td>26.33</td>
<td>29.40</td>
<td>26.25</td>
</tr>
<tr>
<td>Diversity:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex: Males</td>
<td>12.13</td>
<td>13.50</td>
<td>12.85</td>
</tr>
<tr>
<td>Females</td>
<td>14.10</td>
<td>15.90</td>
<td>13.90</td>
</tr>
<tr>
<td>Age: Children</td>
<td>13.70</td>
<td>16.45</td>
<td>13.80</td>
</tr>
<tr>
<td>Adults</td>
<td>12.53</td>
<td>12.95</td>
<td>12.95</td>
</tr>
<tr>
<td>Sex &amp; Age: Boys</td>
<td>6.90</td>
<td>7.90</td>
<td>7.75</td>
</tr>
<tr>
<td>Girls</td>
<td>6.80</td>
<td>8.55</td>
<td>6.05</td>
</tr>
<tr>
<td>Men</td>
<td>5.23</td>
<td>5.60</td>
<td>5.10</td>
</tr>
<tr>
<td>Women</td>
<td>7.30</td>
<td>7.35</td>
<td>7.85</td>
</tr>
<tr>
<td>Location:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>9.13</td>
<td>10.95</td>
<td>10.15</td>
</tr>
<tr>
<td>Home</td>
<td>6.71</td>
<td>7.50</td>
<td>5.90</td>
</tr>
<tr>
<td>Relative</td>
<td>8.83</td>
<td>9.65</td>
<td>9.20</td>
</tr>
<tr>
<td>Special Activity</td>
<td>1.56</td>
<td>1.30</td>
<td>1.50</td>
</tr>
</tbody>
</table>
TABLE 4 (cont.)

Structural Dimension

Differences in Network Attributes By Location (Four Schools)

(a) Duncan's multiple range test indicates that Barnes is significantly smaller than other three schools at p<.002 level.

(b) Barnes is significantly smaller than other three schools at p<.034 level.

(c) Enosburg is significantly larger than other three schools at p<.002 level.

(d) Barnes is significantly smaller than other three schools at p<.036 level.

(e) Barnes is significantly smaller than Flynn and Enosburg schools at p<.023 level.

(f) Barnes is significantly smaller than other three schools at p<.001 level.
The results of the t-tests on the structural dimension indicate significant differences between rural and urban populations for overall size, average number of children, and average number from school contacts. T-tests results indicate that these forty rural subjects had larger networks, had more children in their networks, and had more contacts at school than did the forty urban subjects.

Results of the one-way ANOVA's and Duncan's multiple range tests indicate that the twenty Barnes subjects had significantly fewer members in their overall network, fewer males, fewer adults, and fewer school contacts than did subjects from the other three schools. In these areas the other three schools were similar in size. Enosburg's twenty subjects had significantly more children in their network than did the other three schools. For average number of men in network, Barnes was significantly smaller than either Flynn or Enosburg. These results indicate that for three of the four areas of significant differences for rural and urban populations (overall, children, school) one school was accounting for the differences. Barnes was significantly smaller than its urban counterpart, Flynn, on overall size of network, and number from school contacts. Enosburg was significantly larger than its rural counterpart, Poultney, for number of children.

Table 22 in Appendix C shows a comparison of the percentages for each of the attributes of the structural dimension. Similar percentages for the rural and urban subjects are evidenced for sex,
sex and age, and location indicating similar social network patterns (although different in size) for these two populations. For the attribute of age, however, a difference is shown in the percentages of children and adults for the rural and urban populations. Overall, there is a significant difference in favor of number of children in the network (see Hypothesis One following) as opposed to number of adults (children $\bar{x} = 13.70$, adults $\bar{x} = 12.53$ p<.043).

Fifty-two percent of the total network were children and 48% were adults (Table 22, Appendix C). It is noted that the two populations (rural and urban) differ in the proportions of their networks for these two age attributes. While the rural subjects show 54% of their network as children and 46% of their network as adults, the urban subjects show 50% for each age attribute.

Table 23 in Appendix C shows a comparison of percentages for the structural dimension attributes for each of the four schools. Differences are noted in several areas. For sex the Flynn subjects were evenly divided between male and female network members. Children represented higher proportions of network memberships for all schools except for Flynn which indicated more adults (51%) than children in its network (49%). For sex and age the four schools have similar distributions except for the higher percentage of girls for the Barnes subjects (31%). For location Barnes again was somewhat different than the other three schools showing a lower percentage from school contacts (27%), a higher percentage from home contacts (30%), and a somewhat higher percentage from contacts with
relatives (37%). It is noted that these Tables showing percentages indicate trends and suggest areas for further study.

Results of two-tailed t-tests on the two attributes of the spatio/temporal dimension (frequency of contact and duration of contact) indicated significant differences in two areas. Tables 5, 6, and 7 show that rural subjects reported more network members they saw every day than did the urban subjects (rural subjects $\bar{x} = 10.78$, urban subjects $\bar{x} = 7.20$, $p<.006$). Rural subjects also reported more network numbers they had known most of their lives than did the urban subjects (rural $\bar{x} = 16.05$, urban $\bar{x} = 11.85$, $p<.002$). It was evident that the rural subjects saw more network members more often and had known them longer than had the urban subjects.

Results of the ANOVA's and Duncan's multiple range tests show (Table 8) that significant differences were found among the four schools for the frequency attribute of "every day" and the duration attribute of "most of my life." Barnes' twenty subjects saw significantly fewer network members every day ($\bar{x} = 5.25$, $p<.005$) than did the subjects from the other three schools (Enosburg $\bar{x} = 12.70$, Poultney $\bar{x} = 8.85$, Flynn $\bar{x} = 9.15$). Enosburg's twenty subjects saw significantly more network members every day ($\bar{x} = 12.70$, $p<.005$) than did the subjects from the other three schools (Poultney $\bar{x} = 8.85$, Barnes $\bar{x} = 5.25$, Flynn $\bar{x} = 9.15$). Barnes' twenty subjects reported knowing fewer network members "most of their lives" ($\bar{x} = 10.05$, $p<.003$) than did subjects from Enosburg ($\bar{x} = 16.95$) or Poultney ($\bar{x} = 15.15$).
TABLE 5
Spatio/Temporal Dimension

Total Network Membership By Location (Rural/Urban and Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total n = 80</th>
<th>Rural n = 40</th>
<th>Urban n = 40</th>
<th>Rural Enosburg n = 20</th>
<th>Rural Poultney n = 20</th>
<th>Urban Barnes n = 20</th>
<th>Urban Flynn n = 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>719</td>
<td>431</td>
<td>288</td>
<td>254</td>
<td>177</td>
<td>105</td>
<td>183</td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>501</td>
<td>236</td>
<td>265</td>
<td>115</td>
<td>121</td>
<td>119</td>
<td>146</td>
</tr>
<tr>
<td>Once A Week</td>
<td>240</td>
<td>122</td>
<td>118</td>
<td>44</td>
<td>78</td>
<td>59</td>
<td>59</td>
</tr>
<tr>
<td>Now and Then</td>
<td>638</td>
<td>334</td>
<td>304</td>
<td>175</td>
<td>159</td>
<td>147</td>
<td>157</td>
</tr>
<tr>
<td>Duration:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>1116</td>
<td>642</td>
<td>474</td>
<td>339</td>
<td>303</td>
<td>201</td>
<td>273</td>
</tr>
<tr>
<td>Since Starting School</td>
<td>569</td>
<td>304</td>
<td>256</td>
<td>151</td>
<td>153</td>
<td>114</td>
<td>142</td>
</tr>
<tr>
<td>Since Starting 4th Grade</td>
<td>352</td>
<td>151</td>
<td>201</td>
<td>85</td>
<td>66</td>
<td>87</td>
<td>114</td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>70</td>
<td>26</td>
<td>44</td>
<td>13</td>
<td>13</td>
<td>28</td>
<td>16</td>
</tr>
</tbody>
</table>
### TABLE 6
Spatio/Temporal Dimension

Network Membership by Location (Rural/Urban and Four Schools)

Means and Standard Deviations

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
<th>Enosburg</th>
<th>Poultney</th>
<th>Barnes</th>
<th>Flynn</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n = 80</td>
<td>n = 40</td>
<td>n = 40</td>
<td>n = 20</td>
<td>n = 20</td>
<td>n = 20</td>
<td>n = 20</td>
</tr>
<tr>
<td><strong>Frequency:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>8.99</td>
<td>10.78</td>
<td>7.20</td>
<td>12.70</td>
<td>8.85</td>
<td>5.25</td>
<td>9.15</td>
</tr>
<tr>
<td></td>
<td>(5.85)</td>
<td>(4.95)</td>
<td>(6.19)</td>
<td>(4.73)</td>
<td>(4.49)</td>
<td>(4.75)</td>
<td>(6.93)</td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>6.26</td>
<td>5.90</td>
<td>6.63</td>
<td>5.75</td>
<td>6.05</td>
<td>5.95</td>
<td>7.30</td>
</tr>
<tr>
<td></td>
<td>(4.41)</td>
<td>(4.49)</td>
<td>(4.36)</td>
<td>(4.21)</td>
<td>(4.87)</td>
<td>(3.83)</td>
<td>(4.83)</td>
</tr>
<tr>
<td>Once A Week</td>
<td>3.00</td>
<td>3.05</td>
<td>2.95</td>
<td>2.20</td>
<td>3.90</td>
<td>2.95</td>
<td>2.95</td>
</tr>
<tr>
<td></td>
<td>(2.69)</td>
<td>(2.80)</td>
<td>(2.61)</td>
<td>(2.11)</td>
<td>(3.17)</td>
<td>(1.76)</td>
<td>(3.30)</td>
</tr>
<tr>
<td>Now and Then</td>
<td>7.98</td>
<td>8.35</td>
<td>7.60</td>
<td>8.75</td>
<td>7.95</td>
<td>7.35</td>
<td>7.85</td>
</tr>
<tr>
<td></td>
<td>(4.86)</td>
<td>(5.00)</td>
<td>(4.75)</td>
<td>(5.23)</td>
<td>(4.86)</td>
<td>(4.30)</td>
<td>(5.27)</td>
</tr>
<tr>
<td><strong>Duration:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>13.95</td>
<td>16.05</td>
<td>11.85</td>
<td>16.95</td>
<td>15.15</td>
<td>10.05</td>
<td>13.65</td>
</tr>
<tr>
<td></td>
<td>(6.22)</td>
<td>(6.22)</td>
<td>(5.54)</td>
<td>(6.32)</td>
<td>(6.15)</td>
<td>(5.02)</td>
<td>(5.57)</td>
</tr>
<tr>
<td>Since Starting School</td>
<td>7.00</td>
<td>7.60</td>
<td>6.40</td>
<td>7.55</td>
<td>7.65</td>
<td>5.70</td>
<td>7.10</td>
</tr>
<tr>
<td></td>
<td>(4.69)</td>
<td>(4.72)</td>
<td>(4.64)</td>
<td>(4.35)</td>
<td>(5.18)</td>
<td>(3.74)</td>
<td>(5.40)</td>
</tr>
<tr>
<td>Since Starting 4th Grade</td>
<td>4.40</td>
<td>3.78</td>
<td>5.02</td>
<td>4.25</td>
<td>3.30</td>
<td>4.35</td>
<td>5.70</td>
</tr>
<tr>
<td></td>
<td>(4.36)</td>
<td>(3.81)</td>
<td>(4.82)</td>
<td>(3.72)</td>
<td>(3.94)</td>
<td>(3.80)</td>
<td>(5.68)</td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>.88</td>
<td>.65</td>
<td>1.10</td>
<td>.65</td>
<td>.65</td>
<td>1.40</td>
<td>.80</td>
</tr>
<tr>
<td></td>
<td>(1.28)</td>
<td>(1.14)</td>
<td>(1.39)</td>
<td>(.93)</td>
<td>(1.34)</td>
<td>(1.50)</td>
<td>(1.23)</td>
</tr>
</tbody>
</table>
### TABLE 7

**Spatio/Temporal Dimension**

Differences in Network Attributes by Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total ( n = 80 )</th>
<th>Rural ( n = 40 )</th>
<th>Urban ( n = 40 )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>8.99</td>
<td>10.78</td>
<td>7.20</td>
<td>2.851</td>
<td>.006</td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>6.26</td>
<td>5.90</td>
<td>6.63</td>
<td>.732</td>
<td>.467</td>
</tr>
<tr>
<td>Once A Week</td>
<td>3.00</td>
<td>3.05</td>
<td>2.95</td>
<td>.164</td>
<td>.869</td>
</tr>
<tr>
<td>Now and Then</td>
<td>7.98</td>
<td>8.35</td>
<td>7.60</td>
<td>.687</td>
<td>.494</td>
</tr>
<tr>
<td><strong>Duration:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>13.95</td>
<td>16.05</td>
<td>11.85</td>
<td>3.186</td>
<td>.002</td>
</tr>
<tr>
<td>Since Starting School</td>
<td>7.00</td>
<td>7.60</td>
<td>6.40</td>
<td>1.145</td>
<td>.256</td>
</tr>
<tr>
<td>Since Starting 4th Grade</td>
<td>4.40</td>
<td>3.78</td>
<td>5.03</td>
<td>1.285</td>
<td>.203</td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>.88</td>
<td>.65</td>
<td>1.10</td>
<td>1.579</td>
<td>.118</td>
</tr>
</tbody>
</table>
TABLE 8
Spatio/Temporal Dimension
Differences in Network Attributes By Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total</th>
<th>Enosburg n = 80</th>
<th>Poultney n = 20</th>
<th>Barnes n = 20</th>
<th>Flynn n = 20</th>
<th>Rural</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>8.99</td>
<td>12.70</td>
<td>8.85</td>
<td>5.25</td>
<td>9.15</td>
<td>6.541</td>
<td>.005(a)</td>
<td></td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>6.26</td>
<td>5.75</td>
<td>6.05</td>
<td>5.95</td>
<td>7.30</td>
<td>.497</td>
<td>.686</td>
<td></td>
</tr>
<tr>
<td>Once A Week</td>
<td>3.00</td>
<td>2.20</td>
<td>3.90</td>
<td>2.95</td>
<td>2.95</td>
<td>1.358</td>
<td>.262</td>
<td></td>
</tr>
<tr>
<td>Now and Then</td>
<td>7.98</td>
<td>8.75</td>
<td>7.95</td>
<td>7.35</td>
<td>7.85</td>
<td>.276</td>
<td>.843</td>
<td></td>
</tr>
<tr>
<td>Duration:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>13.95</td>
<td>16.95</td>
<td>15.15</td>
<td>10.05</td>
<td>13.65</td>
<td>5.116</td>
<td>.003(b)</td>
<td></td>
</tr>
<tr>
<td>Since Starting</td>
<td>7.00</td>
<td>7.55</td>
<td>7.65</td>
<td>5.70</td>
<td>7.10</td>
<td>.726</td>
<td>.540</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since Starting</td>
<td>4.40</td>
<td>4.25</td>
<td>3.30</td>
<td>4.35</td>
<td>5.70</td>
<td>1.023</td>
<td>.387</td>
<td></td>
</tr>
<tr>
<td>4th Grade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>.88</td>
<td>.65</td>
<td>.65</td>
<td>1.40</td>
<td>.80</td>
<td>1.574</td>
<td>.203</td>
<td></td>
</tr>
</tbody>
</table>

(a) Duncan's multiple range test indicates that Barnes is significantly smaller than other three schools at p<.005 level and that Enosburg is significantly larger than other three schools at p<.005 level.

(b) Barnes is significantly smaller than Enosburg or Poultney schools at p<.003 level.
Table 24 in Appendix C reports a comparison of percentages for the attributes of frequency of contact and duration of contact. Rural subjects indicated that they saw 38% of their network members every day while urban subjects saw 30% of their network members every day. Six of the eight percentage point difference is found in the second frequency attribute, "almost every day." In the spatio/temporal frequency attributes for "once a week" and "now and then" the rural and urban populations were quite similar. Rural subjects indicated that they had known 57% of their network members most of their lives while urban subjects reported they had known 49% most of their lives. Most of this difference (8 percentage points) is in the category "since starting fourth grade." In the spatio/temporal duration attributes for "since starting school" and "a few weeks" the rural and urban populations are quite similar.

Table 25 in Appendix C shows a comparison of percentages for the spatio/temporal dimensions for each of the four schools. The frequency percentages suggest that Enosburg saw more of its network members every day (43%) than did the other three schools and that Barnes saw fewer of its network members every day (24%) than did the other three schools. When the two most frequent attributes and the two least frequent attributes are combined, Enosburg (63% most frequent, 37% least frequent) and Flynn (61% most frequent, 39% least frequent) were quite similar. Poultney shows 56% as most frequent with 44% least frequent and Barnes with nearly half (48%) in the least frequent categories and 52% in the most frequent.
Percentages for duration showed similar patterns for Enosburg and Poultney. Barnes subjects, however, had known 46% of their memberships most of their lives with Flynn knowing 50%. When the longest durations (most of life and since starting school) were combined and the shortest durations (since starting fourth grade and a few weeks) were combined, similar results were noted. Enosburg had 84% in the highest two categories and 16% in the lowest two, while Poultney had 86% and 14% in these two areas. Barnes showed 73% in the highest two categories and 27% in the lowest. Poultney showed 76% and 24% in these two areas. Again it is noted that these percentages indicate trends worthy of further study.

The two attributes for the relational dimension were studied and analyzed in a somewhat different manner than the attributes of the structural and spatio/temporal dimensions. An adaptation of the Syracuse Scale of Social Relations (Gardner and Thompson, 1959) was done to identify the quality of the network relationships in two need areas. For the first need area of succorance, subjects were asked to rate network members as possible sources of aid when they were troubled by a personal problem. In the second need area of achievement/recognition, subjects were asked to rate network members as possible sources of help when they were trying to attain a personal goal. Appendix B shows the specific questions for this dimension. Choices along the Social Relations Scale range from a low of 5 (lowest quality) to a high of 85 (highest quality). These scores, when averaged for each subject and averaged for each group (urban and rural and then for each school) provided a basis for
testing the differences in the means. Table 9 shows that the average succorance score for the rural subjects was 38.07 while the urban subjects had a mean score of 38.92 (p<.747) indicating no significant difference. The average achievement/recognition score for the rural subjects was 39.42 and 40.62 for the urban subjects (p<.687) again indicating no significant difference in these two groups. Table 10 shows the mean scores for each of the four schools, showing no significant differences among any of the four schools.

Self-Esteem Profiles

Scoring of Harter's Perceived Competence Scale for Children provided average or mean scores for each subject in the four areas; cognitive competence, social competence, physical competence, and a general feeling of self-worth. Subjects had four choices for each situation ranging from a high value of four to a low value of one. Among the twenty-eight situations, fourteen or half were worded such that the first part of the statement reflected high perceived competence and the remaining half of the items placed the low perceived competence aspect of the statement first. Within each of the four subscales (cognitive, social, physical, and general) three were keyed in one direction and four in the other. A score of four designated highest perceived competence and score of one designated lowest perceived competence. After items were scored, they were transferred to a data coding sheet where average or mean scores for each subscale were calculated. Mean scores for the two populations,
# TABLE 9

Relational Dimension

Differences in Network Attributes by Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total Mean n = 80</th>
<th>Rural Mean n = 40</th>
<th>Urban Mean n = 40</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Succorance</td>
<td>38.50 (11.74)</td>
<td>38.07 (11.25)</td>
<td>38.92 (12.34)</td>
<td>0.325</td>
<td>.747</td>
</tr>
<tr>
<td>Achievement/Recognition</td>
<td>40.02 (13.23)</td>
<td>39.42 (13.12)</td>
<td>40.62 (13.49)</td>
<td>0.405</td>
<td>.687</td>
</tr>
</tbody>
</table>

(Standard Deviation)
TABLE 10
Relational Dimension

Differences in Network Attributes by Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total Mean</th>
<th>Rural Mean</th>
<th>Urban Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enosburg</td>
<td>Poulney</td>
<td>Barnes</td>
</tr>
<tr>
<td>Succorance</td>
<td>38.50</td>
<td>40.18</td>
<td>35.96</td>
</tr>
<tr>
<td>Achievement/</td>
<td>40.02</td>
<td>40.85</td>
<td>37.98</td>
</tr>
<tr>
<td>Recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(No two groups are significantly different at the .05 level.)
rural and urban, as well as each of the four schools were then calculated.

Table 11 presents the means for each of these four competence areas and a comparison of these means between the rural and urban populations. Results from two-tailed t-tests showed that the rural subjects had significantly higher means than did the urban subjects in all four areas; cognitive competence: rural $\bar{x} = 3.02$, urban $\bar{x} = 2.55$ $p<.001$; social competence: rural $\bar{x} = 3.13$, urban $\bar{x} = 2.63$ $p<.001$; physical competence: rural $\bar{x} = 2.96$, urban $\bar{x} = 2.41$ $p<.001$; and general self-worth: rural $\bar{x} = 3.08$, urban $\bar{x} = 2.59$ $p<.001$.

Table 12 shows a comparison of the means for these four self-esteem areas between male and female subjects. In all cases, there were no significant differences between the self-esteem scores for male and female subjects.

One-way analysis of variance was done to test the differences in means for the four schools on each of the four self-esteem subscales. Table 13 shows these comparisons using the ANOVA for testing significant differences and Duncan's multiple range test for determining the location of these differences. For all four subscales Poultney subjects had significantly higher self-esteem scores than Barnes and Flynn subjects. Comparing cognitive self-esteem scores showed Poultney with a mean of 3.11 and Barnes with 2.61 and Flynn with 2.48 ($p<.001$). In the area of social competence, Poultney subjects with a 3.24 mean score were significantly higher than Barnes ($\bar{x} = 2.51$) or Flynn ($\bar{x} = 2.74$; $p<.007$). Poultney subjects' average score for physical competence
TABLE 11

Differences in Self-Esteem Scores by Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total n = 80</th>
<th>Rural n = 40</th>
<th>Urban n = 40</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.78</td>
<td>3.02</td>
<td>2.55</td>
<td>4.013</td>
<td>.001</td>
</tr>
<tr>
<td>Social</td>
<td>2.88</td>
<td>3.13</td>
<td>2.63</td>
<td>3.949</td>
<td>.001</td>
</tr>
<tr>
<td>Physical</td>
<td>2.69</td>
<td>2.96</td>
<td>2.41</td>
<td>3.802</td>
<td>.001</td>
</tr>
<tr>
<td>General</td>
<td>2.83</td>
<td>3.08</td>
<td>2.59</td>
<td>4.520</td>
<td>.001</td>
</tr>
<tr>
<td>Attribute</td>
<td>Total n = 80</td>
<td>Males n = 40</td>
<td>Females n = 40</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------</td>
<td>--------------</td>
<td>----------------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>Area:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.78</td>
<td>2.70</td>
<td>2.87</td>
<td>1.362</td>
<td>.177</td>
</tr>
<tr>
<td>Social</td>
<td>2.88</td>
<td>2.80</td>
<td>2.95</td>
<td>1.071</td>
<td>.287</td>
</tr>
<tr>
<td>Physical</td>
<td>2.69</td>
<td>2.75</td>
<td>2.63</td>
<td>.784</td>
<td>.435</td>
</tr>
<tr>
<td>General</td>
<td>2.83</td>
<td>2.80</td>
<td>2.86</td>
<td>.559</td>
<td>.578</td>
</tr>
</tbody>
</table>
### TABLE 13

Differences in Self-Esteem Scores by Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Enosburg</td>
</tr>
<tr>
<td>Cognitive</td>
<td>2.78</td>
<td>2.94</td>
</tr>
<tr>
<td>Social</td>
<td>2.88</td>
<td>3.01</td>
</tr>
<tr>
<td>Physical</td>
<td>2.69</td>
<td>2.80</td>
</tr>
<tr>
<td>General</td>
<td>2.83</td>
<td>2.98</td>
</tr>
</tbody>
</table>

(a) Duncan's multiple range test indicates that Poultney is significantly higher than Barnes and Flynn and that Enosburg is significantly higher than Flynn at p<.001 level.

(b) Poultney is significantly higher than Barnes and Flynn and Enosburg is significantly higher than Barnes at p<.007 level.

(c) Poultney is significantly higher than Barnes and Flynn at p<.001 level.

(d) Poultney is significantly higher than Barnes and Flynn and Enosburg is significantly higher than Barnes at p<.001 level.
was 3.11 while Barnes had 2.38 and Flynn had 2.45, again showing a significant difference (p<.001). In the general feeling of self-worth, Poultney was significantly higher (x̄ = 3.17) than either Barnes (x̄ = 2.49) or Flynn (2.69, p<.001). There were no significant differences between the two rural schools, Enosburg and Poultney.

Enosburg subjects scored significantly higher than Barnes subjects in social competence (Enosburg, x̄ = 3.01; Barnes, x̄ = 2.51, p<.007). Enosburg subjects also scored significantly higher than Barnes in the area of general self-worth (Enosburg, x̄ = 2.98; Barnes, x̄ = 2.49, p<.001). Enosburg scored significantly higher than Flynn in one area; cognitive competence (Enosburg, x̄ = 2.94; Flynn x̄ = 2.48, p<.001). There was no significant differences between the two urban schools.

Social Networks and Self-Esteem

An examination of the relationship among certain characteristics of the social networks and the four areas of perceived self-esteem was done through data analysis based on each of the research hypotheses.

Hypothesis One: Subjects will report larger peer social networks than adult social networks.

Data from Table 2 shows an average of 13.70 peer or children network relationships and an average of 12.53 adult relationships for the eighty subjects. Data from Table 22 in Appendix C indicates that these 13.70 peer relationships represented 52% of the total and
that the 12.53 adult relationships represented 48% of this same total.

A two-tailed t-test was done to compare the mean number of peers with the mean number of adults. Results indicated a significant difference (p<.043) in favor of the average number of children as opposed to average number of adults. Comparing the mean number of children to adults for the rural population alone also indicated a difference in favor of number of children in the networks as opposed to adults (rural peers, $\bar{x} = 15.13$; rural adults, $\bar{x} = 12.95$, p<.013). In comparing the mean number of children verses adults for the urban population, however, there was no significant difference between children ($\bar{x} = 12.28$) and adults ($\bar{x} = 12.10$, p<.816). Comparing the percentage of child and adult network members for the rural subjects with the percentages of child and adult network members for the urban subjects (Table 22, Appendix C) found the rural subjects with a network composed of 54% children and 46% adults. For the urban subjects, however, there was an even split between children (50%) and adults (50%).

**Hypothesis Two:** Subjects will report larger social networks of the same sex than of the opposite sex.

A two-tailed t-test comparison of the means for same sex and opposite sex network relationships found a highly significant difference between these two groups (p<.001). There were significantly more same sex network relationships ($\bar{x} = 16.98$) than there were opposite sex network relationships ($\bar{x} = 9.95$, p<.001) for the entire population.
In examining data on same sex verses opposite sex for the rural subjects only, again significant differences were found in favor of same sex network relationships (same sex, $\bar{x} = 18.53$; opposite sex, $\bar{x} = 9.55$, $p<.001$). A similar difference was found in the urban subjects' networks as well. Urban subjects had an average of 16.98 same sex network members as opposed to an average of 9.25 opposite sex members ($p<.001$).

Hypothesis Three: For both rural and urban subjects, females will report larger social networks than will male subjects.

A two-tailed t-test comparison of the means for female and male subjects found no significant difference in these two groups. In fact the male subjects had a slightly higher, but insignificant, average number of network members ($\bar{x} = 26.55$) than did the female subjects ($\bar{x} = 25.90$, $t = -0.41$, $p<.682$) in the total population.

There were no significant differences in the number of females versus males in either of the rural or urban populations as well. Rural males reported an average of 28.95 network members while females reported an average of 27.20 members ($t = -0.93$, $p<.360$). Urban males reported an average of 26.55 network members while urban females reported an average of 25.90 ($t = -0.41$, $p<.682$).

Hypothesis Four: Rural subjects will report larger social networks than will urban subjects.

Data from Table 2 show an average of 26.23 network relationships with an average of 28.08 for the forty rural subjects and an average of 24.38 for the forty urban subjects. A two-tailed t-test comparing these two means shows a significant difference in
these two groups (p<.018) with the rural subjects reporting larger social networks than the urban subjects.

Table 4 shows the results of one-way ANOVA's and Duncan's multiple range tests indicating that Barnes subjects had significantly smaller networks ($\bar{x} = 21.50$) than any of the other three schools (Flynn, $\bar{x} = 27.25$; Enosburg, $\bar{x} = 29.40$; Poultney, $\bar{x} = 26.25$, p<.002).

**Hypothesis Five:** Rural subjects will report larger extended family social networks than will urban subjects.

Data from Table 1 show a total of 1,123 rural network relationships and 975 urban networks relationships with a combined total of 2,098. In describing the location of the network relationships ("How do you know these people--from school, from home or around where you live, a relative of yours, or from some special activity you do after school or on weekends?") the rural subjects described 377 as relatives while the urban subjects described 329 as relatives. Data from Table 22 in Appendix C indicate that the 377 rural network relatives represented 34% of the total rural network membership (1,123) and that the 329 urban network relatives also represented 34% of the urban network (975). Data from Table 2 shows that the eighty subjects reported an average of 8.83 relatives with the rural subjects reporting an average of 9.43 relatives and the urban subjects an average of 8.23 relatives. A two-tailed t-test comparing the rural and urban means did not show a significant difference (p<.253) between the rural and urban populations for the average number of relatives listed.
One-way analysis of variance was done to test the differences in means for the four schools in number of related network members (relatives). Duncan's multiple range test was also done to determine the location of such significant differences. Results showed no significant differences among the four schools (Enosburg, $\bar{x} = 9.65$; Poultney, $\bar{x} = 9.20$; Barnes, $\bar{x} = 7.95$; Flynn $\bar{x} = 8.50$, $p < .678$).

Hypothesis Six: Both rural and urban subjects will report more frequent contact with the peers in their social network than with the adults.

In order to compare the frequency of contact between peers and adults it was necessary to rank order the frequency choices. This was done by giving each of the four choices the following values: every day (4), almost every day (3), once a week (2), and now and then (1). This rank ordering of the data, creating an ordinal scale, required the use of the nonparametric statistical method of Wilcoxon Matched Pairs Signed-Ranks Test. This test enables one to test for the significant difference between the frequency of contact for the matched groups of peers and adults. The mean overall rank for adults was 13.62 while it was 45.20 for peers showing a significant (two-tailed, $p < .001$) difference in favor of more frequent overall contact with peers than with adults.

When this hypothesis was tested separately for rural and urban populations significant differences were also realized. For the rural subjects ($n = 40$) the mean rank for adults was a 10.00 while
it was 21.05 for peers \((p < .001)\). For urban subjects \((n = 40)\) the mean rank for adults was 16.08 and 22.63 for peers \((p < .007)\).

**Hypothesis Seven:** Both rural and urban subjects will report more frequent contact with same sex members of their social networks than with opposite sex.

The Wilcoxon Matched Pairs Signed-Ranks Test was used to test the significance of the difference between the two matched groups of same sex and opposite sex network members. The mean rank for same sex members was 42.50 while it was 25.23 for opposite sex members showing a significant \((p < .001)\) difference in favor of more frequent contacts with same sex network members.

**Hypothesis Eight:** Rural subjects will report social network members they see more often than will urban subjects.

Mean frequency of contact was calculated by weighting each of the four choices requiring the use of the nonparametric statistical method for comparing two groups (rural and urban) of Mann-Whitney U Test. In a comparison of mean rank for rural subjects \((44.38)\) to mean rank for urban subjects \((36.63)\) no significant difference was found \((p < .136)\). It is noted that, as reported earlier, the rural subjects did report a significantly higher number of network members they saw every day \((\bar{x} = 10.78)\) than did the urban subjects \((\bar{x} = 7.20, p < .006)\).

**Hypothesis Nine:** For both rural and urban subjects, frequency of contact with social network members will correlate positively with one or more of the four areas of perceived self-esteem.
Means from the Harter Perceived Competency Scale for Children are reported in Tables 11, 12, and 13. Correlations were done on these means with the rank ordering of the four choices for frequency of contact. Spearman's rank correlation coefficient (Spearman r) was used to test the relationship between frequency of contact and the four measures of perceived self-esteem. Correlations between these four self-esteem measures and five categories of frequency of contact were computed (Table 14).

Average frequency of contact for the entire population \( (n = 80) \) correlated significantly with two areas of self-esteem; cognitive \( (r = .2203, p<.05) \) and social \( (r = .2178, p<.05) \). Average frequency of contact (entire population) with female network members correlated significantly with two areas of self-esteem; cognitive \( (r = .2000, p<.05) \) and social \( (r = .2632, p<.05) \). Average frequency of contact with peers or children also correlated significantly with these same two areas; cognitive \( (r = .2871, p<.05) \) and social \( (r = .3486, p<.05) \).

Means and intercorrelations for the rural and urban subjects were also calculated separately and are reported in Tables 15 and 16. Two significant correlations were noted for the forty rural subjects; frequency of contact with adults and cognitive competence \( (r = .2749, p<.05) \) and frequency of contact with children and social competence \( (r = .2698, p<.05) \). Only one significant correlation was found for the forty urban subjects; frequency of contact with females and social competence \( (r = .3230, p<.05) \).
### TABLE 14

Means and Intercorrelations of Self-Esteem with Frequency of Contact for Total Population (n = 80)

<table>
<thead>
<tr>
<th></th>
<th>Cognitive $\bar{x} = 2.78$</th>
<th>Social $\bar{x} = 2.88$</th>
<th>Physical $\bar{x} = 2.69$</th>
<th>General $\bar{x} = 2.83$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Contact (2.61)</td>
<td>.2203*</td>
<td>.2178*</td>
<td>.0747</td>
<td>.1044</td>
</tr>
<tr>
<td>Female Contact (2.56)</td>
<td>.2000*</td>
<td>.2632*</td>
<td>.0590</td>
<td>.0728</td>
</tr>
<tr>
<td>Male Contact (2.49)</td>
<td>.1660</td>
<td>.0789</td>
<td>.0792</td>
<td>.0711</td>
</tr>
<tr>
<td>Adult Contact (2.27)</td>
<td>.1096</td>
<td>.1055</td>
<td>.0268</td>
<td>.0272</td>
</tr>
<tr>
<td>Children Contact (2.94)</td>
<td>.2871*</td>
<td>.3486*</td>
<td>.0864</td>
<td>.1909</td>
</tr>
</tbody>
</table>

* p < .05
<table>
<thead>
<tr>
<th></th>
<th>Cognitive (( \bar{x} = 3.02 ))</th>
<th>Social (( \bar{x} = 3.13 ))</th>
<th>Physical (( \bar{x} = 2.96 ))</th>
<th>General (( \bar{x} = 3.08 ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Contact (2.66)</td>
<td>.2169</td>
<td>.1697</td>
<td>-.0124</td>
<td>-.0480</td>
</tr>
<tr>
<td>Female Contact (2.57)</td>
<td>.1815</td>
<td>.1550</td>
<td>.0592</td>
<td>-.0860</td>
</tr>
<tr>
<td>Male Contact (2.54)</td>
<td>.1393</td>
<td>.0679</td>
<td>-.0611</td>
<td>.0086</td>
</tr>
<tr>
<td>Adult Contact (2.19)</td>
<td>.2749*</td>
<td>.1967</td>
<td>.0188</td>
<td>.0755</td>
</tr>
<tr>
<td>Peer Contact (3.11)</td>
<td>.1946</td>
<td>.2698*</td>
<td>-.0231</td>
<td>-.0745</td>
</tr>
</tbody>
</table>

* \( p < .05 \)
TABLE 16
Means and Intercorrelations of Self-Esteem with Frequency of Contact for Urban Population (n = 40)

<table>
<thead>
<tr>
<th>Contact Type</th>
<th>Cognitive (x̄ = 2.55)</th>
<th>Social (x̄ = 2.63)</th>
<th>Physical (x̄ = 2.41)</th>
<th>General (x̄ = 2.59)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Contact</td>
<td>.0784</td>
<td>.1699</td>
<td>.0226</td>
<td>.0738</td>
</tr>
<tr>
<td>Female Contact</td>
<td>.1228</td>
<td>.3230*</td>
<td>-.0167</td>
<td>-.1222</td>
</tr>
<tr>
<td>Male Contact</td>
<td>.0696</td>
<td>-.0139</td>
<td>.1237</td>
<td>.0487</td>
</tr>
<tr>
<td>Adult Contact</td>
<td>.0171</td>
<td>.0945</td>
<td>-.0915</td>
<td>.0022</td>
</tr>
<tr>
<td>Peer Contact</td>
<td>.0017</td>
<td>.1535</td>
<td>.0335</td>
<td>.0114</td>
</tr>
</tbody>
</table>

* p < .05
Hypothesis Ten: Rural subjects will report more social network members they have known longer than will urban subjects.

In order to compare the average duration of contact for rural and urban subjects it was necessary to rank order the duration choices. This was done by giving each of the four choices the following values: most of my life (4), since starting school (3), since starting fourth grade (2), and only a few weeks (1). The rank ordering of the data, creating an ordinal scale, required the use of the nonparametric statistical method of Mann-Whitney U for comparing the rural and urban populations. In a comparison of mean ranks for rural subjects (46.40) with mean rank for urban subjects (34.60) a significant difference (p<.022) was found in favor of the rural subjects. Rural subjects reported significantly more network members they had known longer than did urban subjects.

Table 7 indicates a significant difference between rural and urban subjects for the number of network members known "most of their lives" (rural $\bar{x} = 16.05$, urban $\bar{x} = 11.85$, p<.002).

Hypothesis Eleven: For both rural and urban subjects, duration of relationship with social network members will correlate positively with one or more of the four areas of perceived self-esteem.

Means from the Harter Perceived Competence Scale for Children are reported in Tables 11, 12, and 13. These means were correlated with average duration of contact using the Spearman $r$. These means and intercorrelations are reported in Tables, 17, 18, and 19.
### TABLE 17

Means and Intercorrelations of Self-Esteem with Duration of Contact for Total Population \((n = 80)\)

<table>
<thead>
<tr>
<th></th>
<th>Cognitive (\bar{x} = 2.78)</th>
<th>Social (\bar{x} = 2.88)</th>
<th>Physical (\bar{x} = 2.69)</th>
<th>General (\bar{x} = 2.83)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Duration (3.29)</td>
<td>0.0842</td>
<td>0.2834(*))</td>
<td>0.0815</td>
<td>0.0898</td>
</tr>
<tr>
<td>Female Duration (3.31)</td>
<td>0.0546</td>
<td>0.2347(*))</td>
<td>0.1859(*))</td>
<td>0.0324</td>
</tr>
<tr>
<td>Male Duration (3.38)</td>
<td>0.1699</td>
<td>0.1942(*))</td>
<td>-0.0782</td>
<td>0.1452</td>
</tr>
<tr>
<td>Adult Duration (3.42)</td>
<td>0.1090</td>
<td>0.2214(*))</td>
<td>0.1388</td>
<td>0.0749</td>
</tr>
<tr>
<td>Children Duration (3.21)</td>
<td>0.0639</td>
<td>0.2576(*))</td>
<td>0.0804</td>
<td>0.0592</td>
</tr>
</tbody>
</table>

\* \(p < 0.05\)
# TABLE 18

Means and Intercorrelations of Self-Esteem with Duration of Contact for Rural Population (n = 40)

<table>
<thead>
<tr>
<th></th>
<th>Cognitive</th>
<th>Social</th>
<th>Physical</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\bar{x} = 3.02$</td>
<td>$\bar{x} = 3.13$</td>
<td>$\bar{x} = 2.96$</td>
<td>$\bar{x} = 3.08$</td>
</tr>
<tr>
<td>Average Duration (3.39)</td>
<td>.1740</td>
<td>.4686*</td>
<td>.1179</td>
<td>-.0569</td>
</tr>
<tr>
<td>Female Duration (3.44)</td>
<td>.0821</td>
<td>.4290*</td>
<td>.1749*</td>
<td>-.1181</td>
</tr>
<tr>
<td>Male Duration (3.46)</td>
<td>.1495</td>
<td>.1995</td>
<td>-.1189</td>
<td>.0693</td>
</tr>
<tr>
<td>Adult Duration (3.48)</td>
<td>-.0028</td>
<td>.2250</td>
<td>.1062</td>
<td>-.2861</td>
</tr>
<tr>
<td>Children Duration (3.27)</td>
<td>.2466</td>
<td>.4361*</td>
<td>.1603</td>
<td>.1167</td>
</tr>
</tbody>
</table>

* $p<.05$
TABLE 19

Means and Intercorrelations of Self-Esteem with Duration of Contact for Urban Population (n = 40)

<table>
<thead>
<tr>
<th></th>
<th>Cognitive $\bar{x} = 2.55$</th>
<th>Social $\bar{x} = 2.63$</th>
<th>Physical $\bar{x} = 2.41$</th>
<th>General $\bar{x} = 2.59$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Duration (3.20)</td>
<td>-.2396*</td>
<td>-.0568</td>
<td>-.1539</td>
<td>-.1156</td>
</tr>
<tr>
<td>Female Duration  (3.17)</td>
<td>-.2540*</td>
<td>-.2028</td>
<td>-.0431</td>
<td>-.2407*</td>
</tr>
<tr>
<td>Male Duration     (3.30)</td>
<td>-.0513</td>
<td>.0923</td>
<td>-.2022</td>
<td>-.0164</td>
</tr>
<tr>
<td>Adult Duration    (3.37)</td>
<td>-.1483</td>
<td>-.0237</td>
<td>-.0687</td>
<td>.0388</td>
</tr>
<tr>
<td>Children Duration (3.15)</td>
<td>-.2249*</td>
<td>.0620</td>
<td>-.0885</td>
<td>-.1250</td>
</tr>
</tbody>
</table>

* near significant inverse correlations with p < .08
Average duration of contact for entire population (n = 80) correlated significantly with social competence (r = .2834, p<.05). In fact, each of the categories of duration correlated significantly with social competence (female duration r = .2347, p<.05; male duration r = .1942, p<.05; adult duration r = .2214, p<.05; children duration r = .2576, p<.05). Average duration of contact with female network members correlated significantly with physical competence (r = .1859, p<.05).

Average duration of contact for the rural population (n = 40) correlated significantly with social competence (r = .4686, p<.05). Average duration of contact with females (r = .4290) and with children (r = .4361) also correlated significantly (p<.05) with social competence for the forty rural subjects.

There were no significant correlations between average duration of contact and the four self-esteem variables for the forty urban subjects (Table 19).

**Hypothesis Twelve:** Succorance and achievement/recognition values will be higher for rural subjects than for urban subjects.

Two-tailed t-tests comparing succorance and achievement/recognition means for rural and urban subjects showed no significant differences in the two groups. Rural mean for succorance was 38.07 and urban mean was 38.92 (p<.569). Rural mean for achievement/recognition was 39.42 and urban mean was 40.62 (p<.862). Both groups of subjects, rural and urban, had similar scores for succorance and achievement/recognition as measured by the adapted Syracuse Scale of Social Relations.
Hypothesis Thirteen: Succorance and achievement/recognition values will correlate positively with the frequency of contact within the social network.

Correlations among the two relational dimensions of succorance and achievement/recognition and the average frequency of contact for total population, for contact with female network members, for contact with male network members, for contact with adult members and for contact with child network members are reported in Table 20. No significant correlations were found among frequency of contact for any of the age or sex groupings of network members and either of the relational dimensions.

Hypothesis Fourteen: Succorance and achievement/recognition values will correlate positively with the duration of the relationship within the social network.

Means for succorance and achievement/recognition were correlated with the average duration of the network relationships using the Spearman r. No significant correlations were found for succorance with average duration (r = -.0435) or for achievement/recognition with average duration (r = -.0237). In fact both comparisons showed inverse, yet insignificant correlations.

Hypothesis Fifteen: Succorance and achievement/recognition values will correlate positively with one or more of the four areas of perceived self-esteem.

Means for the Harter Perceived Competence Scale for Children are reported in Tables 11, 12, and 13. Correlations of these means with succorance and achievement/recognition means using the
### TABLE 20
Means & Intercorrelations of Succorance and Achievement/Recognition with Frequency of Contact for Total Population (n = 80)

<table>
<thead>
<tr>
<th></th>
<th>Mean of Succorance $\bar{x} = 38.50$</th>
<th>Mean of Achievement/Recognition $\bar{x} = 40.02$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Contact</td>
<td>-.0435</td>
<td>-.0237</td>
</tr>
<tr>
<td>Female Contact</td>
<td>.0191</td>
<td>.0482</td>
</tr>
<tr>
<td>Male Contact</td>
<td>-.0155</td>
<td>-.0532</td>
</tr>
<tr>
<td>Adult Contact</td>
<td>.0083</td>
<td>-.0196</td>
</tr>
<tr>
<td>Children Contact</td>
<td>-.0133</td>
<td>.0248</td>
</tr>
</tbody>
</table>
Spearman \( r \) are reported in Table 21. Succorance and achievement/recognition values correlated positively with cognitive mean for the overall population (succorance and cognitive \( r = .1867, p<.05 \); achievement/recognition and cognitive \( r = .2035, p<.051 \)). No significant correlations were found between succorance or achievement/recognition and the other three areas of self-esteem.
TABLE 21

Means and Intercorrelations of Self-Esteem with Succorance and Achievement/Recognition for Total Population (n = 80)

<table>
<thead>
<tr>
<th></th>
<th>Cognitive</th>
<th>Social</th>
<th>Physical</th>
<th>General</th>
</tr>
</thead>
<tbody>
<tr>
<td>x = 2.78</td>
<td>x = 2.88</td>
<td>x = 2.69</td>
<td>x = 2.83</td>
<td></td>
</tr>
<tr>
<td>Succorance</td>
<td>.1867*</td>
<td>.0081</td>
<td>.0222</td>
<td>-.0734</td>
</tr>
<tr>
<td>x = 38.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement/</td>
<td>.2035*</td>
<td>.1033</td>
<td>.0934</td>
<td>.0544</td>
</tr>
<tr>
<td>Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>x = 40.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05
The purpose of this study was to examine the relationship between the social networks of Vermont rural and urban fourth graders and their perceived self-esteem.

Bronfenbrenner (1979) provided the framework for this study on social networks. The study was an attempt to gather and analyze data on the "multi-person systems" Bronfenbrenner (1979) describes in his ecology of human development. The systems in this research were represented by the children and adults whom the eighty subjects considered of value to them. An attempt was made to determine both the nature and the quality of these relationships.

Mead's (1934) position that one's self-concept arises as a result of social experience provided the framework for including a measure of self-esteem as a variable related to children's social networks. His (Mead, 1934) focus on the groups to which one belongs as "significant frames of reference" provided a link between Bronfenbrenner's (1979) position and the works of White (1959) and Harter (1978) on self-esteem. While White's (1959) "effectance motivation" clearly focuses on the intrinsic drive of the individual to achieve, Harter's (1978) expansion of his model to include the power of environmental conditions to influence this motive or drive encouraged research on the relationship of social networks' characteristics and self-esteem.
One of the major purposes of the research was to gather data on the nature of the social networking system. Analysis of network composition (structural dimension) included size of network, sex and age of network members and location of network relationships.

The forty rural subjects reported significantly more network members on the average, than did the forty urban subjects (rural \( \bar{x} = 28.08 \); urban \( \bar{x} = 24.38 \) \( p < .017 \)). This was similar to Garbarino's (1977) study which found that sixth graders from rural areas listed more people as part of their network than did urban or suburban sixth graders. While number alone may have limited value, it has been suggested that people with larger social networks report more positive perceptions of themselves (Weiss, Henderson, Campbell, and Cochran, 1980). Bronfenbrenner (1979), too, suggests that increased numbers in a child's microsystem will be reflected in enhanced development. Garbarino (1982) writes that one of the most important aspects of the microsystem as a force in development is the existence of relationships beyond the family.

Why would rural fourth graders have larger social networks than urban fourth graders? Perhaps children in small towns view those around them as more similar to themselves (Tietjen, 1981). Perhaps rural children see others as more a part of their own social worlds (Garbarino, 1982) with more interconnectedness between themselves and those around them. Perhaps the smaller space of a rural community increases the possibilities of relationships among significant others. Perhaps these rural youngsters have more
continuous, daily contact with more people because of the stability of their communities. Certainly larger numbers of significant others do allow for a larger number of significant interactions. Of course, it must be noted that the urban subjects may have more people with whom they interact because of the size of their communities. These interactions, however, may not be with people they know "really well"; significant others.

Further analysis of network composition (structural dimension) found that rural subjects listed more network members than did urban subjects in all but two areas (location attributes of "home" and "special activity"). Significant differences were found in three areas: overall size, average number of children, and average number from school contacts. Perhaps the nature of the rural community encourages a focus on the school as the center for significant interactions. This might account for the increased number of children and school contacts for the rural subjects. Perhaps the school is a place where rural youngsters form their meaningful relationships with other children. While data were not collected on how subjects "got to school" it was obvious that several of the rural children rode a bus to and from school each day while all the urban children were within walking distance of their neighborhood school. Perhaps the school is a central "meeting place" of significant interactions for these rural children. The urban school may not be the only or even primary center of the urban children's interactions.
The slightly larger number of network members listed by urban subjects for "special activity" may be due to the number of planned after-school and weekend events for city children. Schools and organizations in larger neighborhoods may be more apt to plan activities for children while rural children may plan their own after school and weekend events. We might expect more planned activities in settings where services and organizations are more prevalent. The urban setting may provide such opportunities. Such speculation would encourage further research in this area.

Diversity in network relationships is an important variable in the composition of one's networking system. In this study diversity included personal characteristics (sex and age) and social characteristics (school, home or neighborhood, relative, or special activity.) Bronfenbrenner (1979) suggests that size and diversity are the keys to positive developmental outcomes. He suggests that involvement in activities in a range of settings increases the scope and flexibility of the child's cognitive and social skills.

Data analysis of age characteristics found a significantly higher average number of peer network members (13.70) than adult (12.53) network members for the population as a whole. This finding was also true for the rural population ($\bar{x} = 15.13$ children, $\bar{x} = 12.95$ adults). However, there was no significant difference between adults ($\bar{x} = 12.10$) and peers ($\bar{x} = 12.28$) for the urban population. Earlier research has indicated the age segregation of pre-adolescents toward selecting more peers than adults as significant others (Tietjen, 1981; Blyth, Hill and Thiel, 1977;
Montemayor and Van Komen, 1980; Bronfenbrenner, 1979; and Musgrove, 1964). The study by Garbarino et al. (1978), however, found that his urban subjects (sixth graders) while not listing more adults than peers as significant others, did list marginally significant (p<.10) more adults in their networks than did his rural subjects. Garbarino et al. (1978) also found that their urban subjects indicated significantly (p<.03) more adults they saw at least once a month (2.3) than did their rural subjects (1.5) or their suburban subjects (1.0). While this was only one study with 44 rural, 19 urban, and 48 suburban children, it does suggest a difference in the degree of contact with significant adults for their urban population. Perhaps the rural children are more peer-centered and age segregation is more common for them. Perhaps the prevalence of adult-planned activities and events in urban areas makes significant contact with adults more possible. Perhaps the multi-family homes and apartments in more urban areas affect the potential for adult interaction.

In analyzing data on sex characteristics, significant differences were found in favor of increased same sex network relationships for the rural subjects, the urban subjects and for the population as a whole. This is in agreement with earlier research by Jacklin and Maccoby (1978) and Tietjen (1981) who indicated similar findings. It is suggested by Garbarino et al. (1978) that as one matures beyond the preadolescent stage that same sex relationships will have less importance and that opposite sex relationships will become more important. One might speculate that
the somewhat faster pace of urban life may increase this movement from same sex relationships to opposite sex ones. For these fourth graders, however, there did not seem to be a trend in that direction.

Findings indicated no significant differences in size of social networks by sex for the urban subjects, the rural subjects or for the population as a whole. Research findings have been mixed on this area. Tietjen (1981) found that boys in her Sweden study had more friends than girls (p<.05). This is in agreement with Waldrop and Halverson's (1975) and Lever's (1976) findings that the friendship of boys tends to be extensive, while those of girls tend to be intensive. Findings from the Blyth, Hill and Thiel (1977) study, however, showed males with significantly fewer network members (14.05) than did the females (17.19). Results from the Garbarino et al. (1978) study, however, showed no significant difference in network size by sex. In support of increased numbers of network members for females, Douvan and Adelson (1966) suggest that females list more extended family and non-related peers since these are categories of people with whom females may choose (and males may choose not) to feel close to and share confidences with. Broderick (1966) has suggested that opposite sex, non-related adults, who may be teachers, neighbors, or family friends, may be objects of adolescent girl crushes. In the case of these eighty fourth graders, there did not seem to be support for this assumption.
Size and diversity were two important structural characteristics in describing these Vermont fourth graders' personal networks. The spatio/temporal dimensions of frequency and duration of relationship were included to expand the descriptions of rural and urban social networks. White (1959), Roberts and O'Reilly (1979) and Harter (1978) indicate the importance of one's reinforcement pattern in affecting one's drive for competence. Findings from the Vermont study indicated that rural subjects reported more network members, on the average, they saw "every day" (10.78) and that they had known "most of their lives" (16.05) than did the urban subjects (frequency $\bar{x} = 7.20$ $p<.006$, duration $\bar{x} = 11.85$ $p<.002$). Aldrich (1979) suggests that stable opportunities to observe and practice roles are most important. Garbarino (1982) suggests that it is typically small towns or functional neighborhoods that provide these opportunities. Gump and Adelberg (1978) suggest that children in a small town have more knowledge of people and roles than do urban children living in an area without a well-developed neighborhood. The less well-developed urban neighborhood may not be a complete community and may have to rely on the larger city for many of its functions. Perhaps these rural children with more network members had more opportunities for daily contact with significant others they had known most of their lives. The size of the overall community, the stability of the neighborhood and the daily interaction patterns may each support such opportunities.
Rank ordering the frequency choices resulted in significant differences for the total population and for the rural and for urban groups in favor of more frequent contact with peers. This finding is in agreement with Blyth, Hill and Thiel's (1977) research on seventh through tenth graders in a Midwest suburban school district. They found that non-related young persons were seen the most frequently with over sixty percent of non-related young persons seen daily in some context.

It appears that the preadolescent fourth graders from these four neighborhoods were having more frequent contact with peers than adults. Peers have long been recognized as influential significant others for the preadolescent (Blyth, Hill and Thiel, 1977). It has been suggested that this age segregation may be a function of pubertal status or residence (Bronfenbrenner, 1979; Musgrove, 1964; Garbarino et al. 1978), whereby older children report less contact with significant adults than do younger children and that suburban children have limited contact with significant adults.

Rank ordering the frequency choices also resulted in a significant difference in favor of more frequent contact with same sex network members. This is in agreement with earlier research by Tietjen (1981), Garbarino et al. (1978) and Blyth, Hill and Thiel (1977).

Rank ordering the frequency choices to compare mean frequency for the two groups (rural and urban) found no significant differences between the two populations. It appears that when the frequency choices are ranked, averaged and the less powerful
non-parametric method is used, no significant differences are found. When number of network members are used alone, however, significant differences are realized. Clearly the rural subjects were reporting more daily contact with their network members than were the urban subjects. Stability of community, daily interaction patterns and proximity to network members may each play a part in this difference.

Rank ordering the duration choices resulted in significant differences in favor of the rural subjects. Results also indicated that rural subjects listed more network members they had known "most of their lives" (16.05) than did the urban subjects (11.85 p<.002).

While duration of relationship does not appear to be an attribute studied directly by the social network researchers previously cited, the characteristic is an important one. Aldrich (1979) suggests that it is stable relationships that offer the best opportunities to develop positive interactions. Hirsch (1979) and Stohl (1982) indicate that relationships that exist for some time have potential for being more stable and more intense. It appears that it is the rural communities (Poultney and Enosburg) that may be providing for these longer-term, more stable interactions. At least the subjects from these communities are indicating a greater proportion of significant others they have known longer than are their urban counterparts.

Relationships that have existed over a long period of time have an increased likelihood to be complex (Wellman, 1979), more stable (Hirsch, 1979), more intense (Perrucci and Targ, 1982), and more
predictable (Stohl, 1982). It would appear that these longer-term rural relationships have such potential over the shorter-term urban ones.

Satisfaction with network relationships (relational dimension) was measured using an adaptation of the Syracuse Scale of Social Relations (Gardner & Thompson, 1959). The rating of each network member in the two need areas of succorance and achievement/recognition provided information on the values of each relationship. Results showed no significant differences between the urban and rural populations or among any of the four schools. No significant correlations were found among these two quality measures and frequency of contact for the total population, contact with males, contact with females, contact with adults, or contact with children.

It appeared that frequency of contact had little relationship to the value given to the network member for support and/or encouragement. Perhaps the nature of the Syracuse Scale was affecting the subjects' choices such that discriminations among network members were not clear. Perhaps the nature of selecting the original list of significant others affected the results. When only the significant others are included, as opposed to using the Scale with elementary classrooms where all others are included, the value of each member may be higher. For both the rural and urban groups, the network members being rated were already selected as significant. Perhaps this process affected the results such that quality of relationships was not differentiated. For each group, the network members were of value and finer discrimination were not
made. Perhaps, too, some of the children were not able to adequately discriminate the value of their social network members due to the timing of the scale at the end of the interview process.

Results from analyzing characteristics of the rural and urban subjects' social networks indicated that rural subjects had larger networks, more children in their networks, more network members from school contacts, more network members they saw "every day," and more they had known "most of their lives" than did the urban subjects.

Social Network Characteristics (Four Schools)

Due to observed differences in the two urban schools it seemed important to analyze findings for each of the four groups of subjects. While there were similarities between the two rural villages (population, size of school, community shops and services), there appeared to be major differences in the two urban neighborhoods. One (Barnes) was located in the older, lower-income section of Burlington with many neighborhood services for children and their families. The school, several churches, many shops and stores, apartment buildings, as well as single family homes made up this downtown neighborhood. Subsidized housing was evident in several parts of the neighborhood. Flynn, on the other hand was located in a newer, more suburban neighborhood with only single family houses. No churches, shops or services were in the neighborhood. Children did not have easy access to a "Main Street" as did the children from Barnes or from the two rural schools. Such observations were important and suggest the need for further
research on the relationship of specific environmental conditions and social interactions. Bronfenbrenner (1979) clearly urges us to consider these broad sets of situations potentially affecting the young child. His description of the ecosystem suggests that the social structures of a community, both formal and informal, can indirectly influence what takes place between children and their environment.

Data from Table 4 shows that fourth grade subjects from the Barnes' neighborhood had significantly fewer network members, fewer number of males, fewer number of adults, and fewer number from school contacts. The significantly fewer males (8.60 p<.034) in the Barnes network would be in keeping with the higher percentage of female-dominated families that might be expected in low-income neighborhoods. The percentages from Table 23 in Appendix C show that the Barnes' subjects had more women (29%) than men (18%) in their network and nearly a third more females than males. Perhaps the phenomenon of single-parent families explains some of these differences. Perhaps there are not as many men in the neighborhood with whom these youngsters can interact. Perhaps, too, the daily stress of "making ends meet" does not leave time for positive interactions between children and the adults around them. It may also be that the adults in the Barnes' neighborhood are seen as authority figures and not as supportive friends.

When the percentages for each of the attributes in the structural dimension (Table 23, Appendix C) were examined, they indicated that, while there were significant differences in size of
networks for the four schools; the four neighborhoods were providing a diversity of relationships for these youngsters. While "school" represented the location of the largest percentage of network relationships for three schools, (Enosburg, Poultney, and Flynn), each was followed closely by the "relative" location. The higher proportion of school network relationships would agree with Tietjen's (1981) findings and be supportive of Hartup's (1979) position that the social worlds most important to pre-adolescent children are family, school and peer groups. It is interesting to note that the Barnes' subjects found their greatest percentage of network members from relatives followed by the home or neighborhood category. Perhaps the inner-city Barnes' neighborhood is made up of extended families where "everyone is related to everyone else."

Perhaps the small urban neighborhood with shops and services provide such interaction on a regular basis. Perhaps, too, a neighborhood that is densely populated with multi-family homes and apartment buildings provide more home-based contacts. While "distance from home" was not data collected in these location attributes, it would be interesting to know if proximity was affecting the numbers of relatives listed by the Barnes children.

While there were not significant differences in the size of the "special activity" attribute, there were more relationships there for the Flynn subjects than for the other three groups. Perhaps the nature of a newer, middle-class, suburban-type neighborhood without shops and services would include more planned activities for its children. Suburban families may see the need for and have the time
to plan organized activities for their children. Such may not be the case in downtown, lower-income neighborhoods.

Again the Barnes subjects were significantly different in the spatio/temporal dimension than were the other three groups. Barnes saw significantly fewer network members every day (105 or $\bar{x} = 5.25$) than did subjects from the other three schools (Enosburg $\bar{x} = 12.70$, Poultney $\bar{x} = 8.85$, Flynn $\bar{x} = 9.15$ $p<.005$. Barnes’ subjects also reported knowing significantly fewer network members most of their lives (201 or $\bar{x} = 10.05$) than did subjects from the two rural schools (Enosburg $\bar{x} = 16.95$, Poultney $\bar{x} = 15.15$ $p<.003$). It was somewhat surprising that daily contact was significantly lower for Barnes than for Flynn. It was expected that the small town, intimately-woven environment for the two rural groups would support daily contact. It was also expected that the closely-knit urban neighborhood with shops and services might also support daily contact for the Barnes children. Such was not the case, however. Perhaps the Barnes children do not have as many opportunities for daily contact. School attendance patterns, changing neighborhoods, and the overall lower numbers of significant others may be affecting the frequency distribution.

The average number of network members known by the Barnes’ children "most of their lives" was also significantly smaller ($p<.003$) than it was for the two rural schools. The changing nature of evolving neighborhoods might explain some of this difference. While length of time at present school was not specifically noted for all subjects, it was observed from the interviews that several
of the Barnes' subjects were new to their neighborhood school while many of the rural youngsters had lived in Enosburg or Poultney "all their lives."

The Barnes' subjects clearly evidenced different social network characteristics than did subjects from the other three schools. Barnes' subjects had fewer network members overall, fewer males, fewer adults, fewer school contacts, fewer "every day" contacts, and few contacts "most of their lives."

Social Networks and Self-Esteem (Rural/Urban)

Much research has focused on the climate of the home as a determinant of children's self-esteem (Coopersmith, 1967; Rosenberg, 1979; Washburn, 1962; Piers and Harris, 1969; Wylie, 1974; Bernard, 1975; Thomas, 1971; and Wooster and Harris, 1972.) Research by Rosenberg (1979) and Ozurumba (1978) had gone beyond the home to suggest that information provided the child from his/her social experiences with family (nuclear and extended), neighborhood, social class and ethnic heritage form the basis for one's evaluation of self, self-esteem. The focus of this study was on the social experiences of Vermont fourth graders as measured by the Social Networks Personal Interview and the relationships of these experiences to self-esteem.

The Harter Perceived Competence Scale for Children provided mean scores for each of the eighty subjects in four competence areas; cognitive competence, social competence; physical competence, and a general feeling of self-worth. Results indicated that the
forty rural subjects scored significantly higher than the forty urban subjects in all four areas (Table 11). This is somewhat contrary to Ozurumba's (1978) findings which showed lower self-esteem scores for rural youngsters than for urban youngsters. Specific causes of such differences, however, were related to home climate, parental attitude toward school, mother's occupation and father's occupation (Ozurumba, 1978). Such findings clearly link self-esteem with family conditions. Further analysis of Ozurumba's (1978) data found the urban subjects had higher self-confidence scores and higher control over environmental conditions scores than did the rural subjects. No significant differences, however, were found between scores for relationships with others or self-image in school and location of residence (urban or rural).

Other studies (Edington, 1975; Sherif and Sherif, 1973; and Adams and Bjork, 1975) have indicated support for Ozurumba's (1978) findings showing higher self-esteem measures among urban populations. Careful analysis of these studies, however, finds quite different populations used than in this Vermont study. Edington's (1915) conclusions about a higher emphasis on formal education in urban areas was based on a study of rural and urban Maori children. The work of Sherif and Sherif (1973) compared rural urban children's self-esteem scores for southern blacks while studies by Adams and Bjork (1975) were completed in the Phillipines and Nigeria. The settings for these earlier studies may be such that the differences between rural and urban populations are quite unlike the differences between rural and urban Vermont populations.
In analyzing the differences for the male and female subjects in the four self-esteem areas (Table 12), no significant differences were found. Previous research seems mixed on this point. Jervis (1959) found that the self-descriptions of his sex groups were nearly identical. Piers and Harris (1969) found no consistent sex differences in the self-esteem of school children in grades three and six. Wickersham (1971) and Henderson (1973) reported higher self-esteem in girls than in boys. Strang (1973) and Mason (1970), however, found that boys had more positive self-esteem than girls. Rosenberg (1979) has stated that boys and girls are both concerned with being well-liked by others; girls more than boys give this value top priority. It would appear that the findings from this Vermont study would fit with these other studies showing mixed results.

Average frequency of contact with the entire network, with the females, and with the children each correlated significantly ($p<.05$) with cognitive and social competence aspects of self-esteem. It appears that, on the average, that the more frequent the contact overall, the more frequent the contact with families and/or with children; the higher the feelings of competence in these two specific self-esteem areas.

Frequency of contact with adults correlated significantly with cognitive competence for the forty rural subjects, while frequency of contact with children correlated significantly with social competence for the forty urban subjects.
Roberts and O'Reilly (1979) suggest that the affects of network isolation include lower satisfaction, lower performance, and less motivation. We might expect that less frequent interaction with significant others might relate to ones view of self. Frequency of contact with adults has been shown to be positively correlated with the language development of young children (Bates, 1976; Nelson, 1973). Frequent opportunity to interact has also been associated with more rapid development in role-taking skills (Hollos and Cowan, 1973; Nahir and Yussen, 1977; West, 1974; Stohl, 1982), and perspective-taking skills (Hartup, 1979; Piaget, 1962; Stohl, 1982).

It is interesting to note that only two areas of self-esteem were positively related to frequency of contact. Stohl (1982) suggests that the more frequently children see other people the more opportunity there is for social interaction and cognitive and social stimulation. Feiring and Lewis (1981) reported that the number of adults and friends seen weekly correlated with cognitive ability. It would seem that the types of activities participated in by the subject and the network member would be important in determining the influence of frequency of contact. Perhaps higher frequency of contact overall does provide greater stimulation for social interaction and thereby positive views of self in this area. It also appears that contact with females and/or children specifically provides such support and stimulation. The school-related activities may be such that they, too, are providing opportunities for positive view of self in the cognitive area. Perhaps the number
of females in the schools provides more regular contact and thereby more opportunities for positive interaction and reflection.

For the eighty subjects average duration of contact with the entire network, with the females, with the males, with the adults, and with the children correlated significantly with social competence. It appears that the length of the relationship was a significant factor in the social interactions of these fourth graders and that these social interactions were related to their perceived competence in this one competence area. It is suggested that relationships that have existed over time have an increased likelihood to be complex (Wellman, 1979), more stable (Hirsch, 1979), more intense (Perrucci and Targ, 1982), and more predictable (Stohl, 1982).

The only other area of significant correlation for the entire population was between average duration of contact with female network members and physical competence. Perhaps the female children and the female adults (classroom teachers, physical education teachers, mothers) are providing support for physical activities.

Table 18 reports the correlations for the rural population alone for average duration of contact and perceived self-esteem. Significant relationships were noted between social competence and average duration with entire network, with female network members, and with the children. Again, it may be the females and children who are providing support and encouragement over time in this one competence area.
Results showed significant correlations (p<.05) between succorance and cognitive self-esteem as well as between achievement/recognition and cognitive self-esteem for the population as a whole. It would appear that those significant others who are valued as "sources of help" may also be providing support in the area of cognitive competence. Perhaps it is the school-related network members that are providing this support and feedback.

While this was clearly an exploratory study into the relationships between such complex variables as social networks and self-esteem, findings did suggest that such connections may exist. Frequency of contact, duration of relationship and quality of relationship each show a significant correlation with self-esteem values.

Social Networks and Self-Esteem (Four Schools)

Results of the Harter Scale for each of the four schools in each of the four competence areas are reported in Table 13. In all areas, the two rural schools had higher self-esteem scores than did the urban schools. Poultney was significantly higher than either of the two urban schools in all four competence areas. In the area of cognitive competence, Enosburg was significantly higher than Flynn. This is an interesting finding which is somewhat contrary to earlier research cited on the relationship of achievement and self-esteem.

Ozurumba (1978) suggests that the socio-economic status of the child may play a part in his or her aspirations. He (Ozurumba, 1978) suggests that when emphasis on formal education is lacking, as
may be the case in rural families, the child may not perceive education as a dominant value and consequently not be educationally motivated.

Fratoe's (1978) review of United States population data indicates that the median number of school years completed by males 25 years and older living in urban areas was 12.5, versus 12.2 for rural nonfarm males, and 11.0 for rural farm males. High school dropout rate is somewhat higher in rural areas as well. The percentage of 16-to-17-year olds not enrolled in school is 9.5 in urban areas and 13.6 in rural areas (Hines, Brown, and Zimmer, 1975). Such information suggests that the rural child may grow up in an environment somewhat less supportive of education. Such environmental conditions could affect the child's view of self in the area of cognitive competence.

As the cognitive competence area in the Harter Scale is clearly linked to school and/or academic performance, we might expect higher results for urban youngsters than rural ones. This was not the case in this Vermont study, however. It is interesting to note that it was not the Barnes subjects who had the lowest (yet insignificantly lower) cognitive competence score, but the Flynn subjects. We might expect the Barnes children from a low-income, less educationally motivated environment to be less supportive of academic success.

In the area of social competence, Poultney was higher than the two urban schools and Enosburg was higher than Barnes. This competence area focused on popularity with one's peers or friends. Research has shown the relationship between sociometric choice and
self-esteem. Wylie's (1974) review of thirty-four studies found significant relationships between these two variables when the studies were (a) done with well-known instruments, and (b) done with normal children in the fourth to eighth grades. It would appear that for the most part, the rural subjects had higher feelings of social competence than did the urban subjects. While it was clear that most subjects, urban and rural, were interacting with a variety of significant others as measured by the diversity attribute, the rural subjects were interacting with a larger number of network members, were seeing more network members every day, and had known more network members most of their lives. These conditions may have influenced their view of themselves as being popular with significant others.

In the area of physical competence, Poultney was significantly higher than the two urban schools. This competence area focused on one's ability in sports and/or games. As no measure was taken of subjects' participation in sports or games, it is unclear what might be affecting this higher score for the one rural school. The fewer number of significant adults and fewer number from school contacts for the Barnes' subjects may account for some of the differences. With fewer adults as significant others the possibility for positive feedback on physical competence through sports may be lessened. The significantly fewer males in the Barnes' network, who might provide support and encouragement for athletic endeavors, may also account for some of these differences. Perhaps the rural village of Poultney is providing more opportunities for children to participate
in both organized and naturally-occurring physical activities that allow for more interactions in this area. This possibility is worthy of further research.

In the area of a general feeling of self-worth, Poultney was significantly higher than the two urban schools and Enosburg was significantly higher than Barnes. This subscale assessed the child's general feeling of worth or self-esteem independent of the other three domains. Harter (1982) has argued vehemently for assessment tools that treat competence in separate domains and to treat self-worth in a general sense as something over and above, or different from the combination of those evaluations. Her (Harter, 1979) strategy is similar to Rosenberg's (1979) in that her Scale asks the subject very general questions concerning the degree to which one wants to stay the same, is happy with the way one is, likes the way one is leading one's life, likes the kind of person one is, etc. Their approaches (Harter, 1979 and Rosenberg, 1979) treat self-worth as a commodity over and above the combination of specific self-evaluation judgments suggesting that the "whole is greater than the sum of the parts."

These findings on the eighty Vermont subjects would suggest that the rural children, especially those from Poultney, valued their general self-worth higher than did the urban youngsters. The lower numbers of network members overall, the fewer numbers of network members who were children, fewer numbers from school contacts, fewer numbers seen every day and fewer numbers known most of one's life may each be impacting on this general sense of
self-worth. As the findings are quite similar for each of the four competence areas, we might conclude that a relationship does exist among one's feelings of competence in these three specific areas and the general sense of worth.

The findings of this Vermont study of social networks and self-esteem clearly suggest areas for further research. Conclusions on a summary of the findings and suggested areas for further research are discussed in the final chapter.
CHAPTER VI

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to examine the relationship between the social networks of Vermont rural and urban fourth graders and their perceived self-esteem. The framework for the study was the earlier research on social networks by Bronfenbrenner (1977, 1979) and on self-esteem by White (1959) and Harter (1978, 1979, 1981). Results indicated significant differences in both the social network characteristics and the self-esteem values of the rural and urban populations. Results from studying the link between certain social network attributes and self-esteem values also indicated significant relationships. No significant differences between the quality of the social networking relationship for the rural and urban subjects were found.

Social Network Characteristics

Data were gathered on the structural, spatio/temporal, and relational dimensions of the social networks. The structural dimension included the attributes of network size and diversity (sex, age, and location of relationship). Results indicated that the forty rural subjects reported significantly more network members, on the average, than did the forty rural subjects. Results from comparing the attributes of age and location also indicated that the rural subjects reported significantly more children in their networks and more relationships from school contacts than did the urban subjects. While size alone may be of
limited value, earlier research (Weiss, Henderson, Campbell, and Cochran, 1980; Bronfenbrenner, 1979; and Garbarino, 1982) indicates the power of significant numbers of relationships beyond the immediate family to influence development.

Results comparing the average number of peer contacts with adults indicated significantly more contacts with peers for the total population and for the rural subjects. Research by Tietjen, 1981; Blyth, Hill and Thiel, 1977; Montemayor and Van Komen, 1980; Bronfenbrenner, 1979; and Musgrove, 1964 indicates the age segregation of pre-adolescents toward selecting peers over adults as significant others. Results for the forty urban subjects indicated a near even split between contact with peers and adults. This is in agreement with the research by Garbarino et al. (1978) that found a significant difference in the degree of contact with adults for urban youngsters above the degree of contact with adults for rural youngsters.

Results from studying the attribute of sex indicated significantly more contact with same sex network members than with opposite sex network members. This is in agreement with research by Jacklin and Maccoby, 1978; Tietjen, 1981; and Garbarino et al. 1978. In comparing the size of social networks between male and female subjects no significant differences were found. Research has been mixed on this issue with some studies indicating larger social networks for males (Tietjen, 1981; Halverson, 1978; and Lever, 1976) and others indicating larger networks for females (Blyth, Hill and Thiel, 1977 and Douvan and Adelson, 1966).
Results from the Garbarino et al. (1978) study showed no significant differences in network size by sex of subjects.

The spatio/temporal dimension included the attributes of frequency of contact and duration of relationship. Results indicated that the forty rural subjects reported significantly more network members, on the average, they saw "every day" than did the forty urban subjects. Research by White, 1959; Roberts and O'Reilly, 1979; Harter, 1978; Aldrich, 1979; Garbarino, 1982; Gump and Adelberg, 1978; and Stohl, 1982 suggests the power of frequent interactions to influence one's pattern of relationships with significant others.

Results from studying the frequency of contact with peers and adults indicated significantly more frequent contact with peers than with adults. These findings agree with earlier work by Blyth, Hill and Thiel, 1977; Bronfenbrenner, 1979; Musgrove, 1964; and Garbarino et al. 1978 that found age segregation a function of pubertal status.

Results indicated significantly more frequent contact with same sex network members than with opposite sex members. This sex segregation pattern is common among pre-adolescents as suggested by Tietjen, 1981; Garbarino et al. 1978; and Blyth, Hill and Thiel, 1977.

Results from studying the duration of the network relationships indicated that the forty rural subjects reported significantly more network members, on the average, they had known "most of their lives" than did the forty urban subjects. Research
by Aldrich, 1979; Hirsch, 1979; Stohl, 1982; Garbarino, 1982; Gump and Adelberg, 1978; Wellman, 1979; and Perrucci and Targ, 1982 indicates that relationships that have existed for some time have potential for being more stable and more intense.

The relational dimension was included in this Vermont study to measure the quality of the social network relationships. Two areas, succorance and achievement/recognition, were analyzed using data from Gardner and Thompson's (1959) Syracuse Scale of Social Relations. Results indicated no significant differences between the rural and urban populations on either of these attributes of the relational dimension. Analyzing the relationship between these relational attributes and of frequency of contact and duration of relationship also indicated no significant correlations. Problems with the timing of the scale within the interview process, the scoring and scaling procedures used, and the nature of selecting the significant others may have impacted on this measure. It is also possible that these eighty subjects valued their network relationships in a similar manner and that the attributes of size, frequency, and duration were not factors related to the quality of the relationships.

Results clearly indicated a difference in the nature of social networks for rural and urban subjects. Data supported the belief that rural subjects would see more network members more often over a longer period of time than would the urban subjects. While no significant differences were found in the quality of network
relationships for rural and urban subjects, the findings do suggest areas for further research.

What is the relationship of economic variables to social network characteristics?

What role does transportation to and from school play in social networking relationships?

What role does proximity play in network relationships?

Do planned activities for children vary with type of neighborhood?

What environmental conditions affect frequency of contact?

How do school attendance patterns relate to frequency of interaction?

How does length of time in a neighborhood vary for rural and urban children?

How does such length of time in a neighborhood relate to duration of relationships?

Self Esteem Profiles

The Harter Perceived Competence Scale for Children (1979) provided mean scores for each of the eighty subjects in four competence areas; cognitive, social, physical and a general feeling of self-worth. Results indicated that the forty rural subjects scored significantly higher than the forty urban subjects in all four competence areas. While studies (Ozurumba, 1978; Rosenberg, 1979) have indicated the power of relationships beyond the home to influence one's view of self, careful analysis of results finds
that family conditions and characteristics continue to be the focus of such research. In this research an attempt was made to examine self-esteem in a broader, more "systems" approach. An attempt was made to go beyond the family, to reach out into the neighborhood and beyond, seeking to determine if certain social network characteristics might be related to self-esteem.

While studies (Ozurumba, 1978; Edington, 1975; Sherif and Sherif, 1973; and Adams and Bjork, 1975) have indicated higher self-esteem among urban children than rural children, the results are somewhat misleading. Sherif and Sherif's (1973) study compared rural and urban self-esteem scores for southern blacks only. Edington's (1975) conclusions were based on comparative studies of rural and urban Maori children while the work of Adams and Bjork (1975) was completed in the Philippines and Nigeria. Ozurumba's (1978) study involved over two thousand fifth graders from Pennsylvania. While his (Ozurumba, 1978) research indicated significantly higher self-esteem scores for urban youngsters than for rural youngsters, characteristics of home and family were the focus of these differences.

While it is not altogether clear what conditions were influencing these self-esteem scores, results do suggest that the rural environments may somehow be related to more positive views of self. These differences do suggest areas for further research.

How does the home climate of rural and urban youngsters differ?
How do family working patterns differ in rural and urban families?

How do educational settings differ for rural and urban youngsters?

Are there specific environmental conditions that might be affecting specific areas of competence?

Are there specific conditions that support children's satisfaction with their general self-worth?

Social Networks and Self-Esteem

Relationships between attributes of the social networks and self-esteem scores were expected in three areas. It was expected that there would be a relationship between the two spatio/temporal dimensions (frequency of contact and duration of relationships) and self-esteem scores. It was also expected that a relationship would be indicated between the two attributes (succorance and achievement/recognition) of the relational dimension and self-esteem.

Results indicated a significant positive relationship between average frequency of contact with the entire network, with the female network members, with the children and with cognitive and social aspects of self-esteem. Research by Roberts and O'Reilly, 1979; Bates, 1976; Nelson, 1973; Holls and Cowan, 1973; Nahir and Yussen, 1977; West, 1974; Stohl, 1982; and Hartup, 1979 has suggested a relationship between frequency of contact with significant others and motivation, language development,
role-taking skills and perspective-taking skills. Research by Stohl, 1982 and Feiring and Lewis, 1981 indicate the relationship between contact frequency and cognitive stimulation and ability.

When results were analyzed for the rural and urban subjects separately; a somewhat different pattern of relationships was observed. Results indicated a significant positive relationship between frequency of contact with adults and cognitive competence for the rural subjects. For the urban subjects alone, a significant positive relationship was indicated between frequency of contact with children and social competence. While there may be little explanation for such differences, it is interesting to note that it is these same two self-esteem areas, cognitive and social, that appear related to social network characteristics.

Results indicated a significant positive relationship between average duration of contact with the entire network, with the females, with the males, with the adults and with the children and social competence. These results suggest that the length of the relationship with significant others was related to one's perceived social competence. While no research was examined that clearly linked duration of relationship with self-esteem, studies by Wellman, 1979; Hirsch, 1979; Perucci and Targ, 1982; and Stohl, 1982 suggest that sustained relationships are more stable, more complex and more intense.

Further analysis of results comparing the relationships of the duration attribute and self-esteem found a significant correlation between average duration of contact with female network members and
physical competence. No research seems to suggest such a relationship but it may be that the number of female adults (parents and teachers) subjects have known over time are effecting their perceived competence in this area.

While no significant relationships were found between the duration attributes and self-esteem for the urban population alone, significant relationships were indicated for the rural population. Results indicated significant positive relationships between social competence and average duration of contact with the entire network, with female network members, and with the children. Again, no research was studied suggesting such a relationship but the work of Wellman, 1979; Hirsch, 1979; Perrucci and Targ, 1982; and Stohl, 1982 would support the idea that long-term relationships may influence one's perceived competence in social interactions.

Results indicated a significant relationship between the two attributes of the relational dimension (succorance and achievement/recognition) and cognitive self-esteem. While it was hypothesized that higher quality relationships would be related to higher self-esteem values, research had not indicated the specifics of such a relationship. Perhaps the seeking of help in time of trouble (succorance) or help in completing a task (achievement/recognition) are related to one's view of self in cognitive or school-related tasks.

These research findings indicating a link between frequency of contact, duration of contact and quality of contact with self-esteem suggest the power of social network characteristics to
influence and/or be influenced by self-esteem. This study was an attempt to begin the difficult process of studying the social networks of young children in two different settings (rural and urban), linking the conditions of these networks with perceived self-esteem. Clearly, the results suggest the differences in social network characteristics for the rural and urban fourth graders. Results also indicate the differences in self-esteem levels for these Vermont fourth graders. Findings on the connection between these two variables (social networks and self-esteem) suggest the power of relationships with significant others beyond the family to relate to one's view of self.
REFERENCES


Brazelton, T. B., Yogman, M.W., Als, H., and Tronick, E., The Infant as a Focus for Family Reciprocity, In M. Lewis and


Levinger, G., "A Three Level Approach to Attraction: Toward an Understanding of Pair Relatedness," In T. Huston (Ed.)


Mitchell, R. E. and Trickett, E. J., Task Force Report: "Social Networks as Mediators of Social Support: An Analysis of


Strang, W. J., "The Self-Concepts of Children in Elementary Schools with Differing Proportions of Negro and White


APPENDIX A
<table>
<thead>
<tr>
<th>Really True</th>
<th>Sort of True</th>
<th>Really True</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some kids feel that they are very good at their school work.</td>
<td>BUT Other kids worry about whether they can do the school work assigned to them.</td>
<td></td>
</tr>
<tr>
<td>Some kids find it hard to make friends.</td>
<td>BUT For other kids it's pretty easy.</td>
<td></td>
</tr>
<tr>
<td>Some kids do very well at all sports.</td>
<td>BUT Others don't feel that they are very good when it comes to sports.</td>
<td></td>
</tr>
<tr>
<td>Some kids feel that there are a lot of things about themselves that they would change if they could.</td>
<td>BUT Other kids would like to stay pretty much the same.</td>
<td></td>
</tr>
<tr>
<td>Some kids feel like they are just as smart as other kids their age.</td>
<td>BUT Other kids aren't so sure and wonder if they are as smart.</td>
<td></td>
</tr>
<tr>
<td>Some kids have a lot of friends. BUT</td>
<td>Other kids don't have very many friends.</td>
<td></td>
</tr>
<tr>
<td>Some kids wish they could be a lot better at sports.</td>
<td>BUT Other kids feel they are good enough.</td>
<td></td>
</tr>
<tr>
<td>Some kids are pretty sure of themselves.</td>
<td>BUT Other kids are not very sure of themselves.</td>
<td></td>
</tr>
<tr>
<td>Some kids are pretty slow in finishing their school work.</td>
<td>BUT Other kids can do their school work quickly.</td>
<td></td>
</tr>
<tr>
<td>Some kids don't think they are very important members of their class.</td>
<td>BUT Other kids think they are pretty important to their classmates.</td>
<td></td>
</tr>
<tr>
<td>Some kids think they could do well at just about any new outdoor activity they haven't tried before.</td>
<td>BUT Other kids are afraid they might not do well at outdoor things they haven't ever tried.</td>
<td></td>
</tr>
</tbody>
</table>
Some kids feel good about the way they act.

Some kids often forget what they learn.

Some kids are always doing things with a lot of kids.

Some kids feel that they are better than others their age at sports.

Some kids think that maybe they are not a very good person.

Some kids like school because they do well in class.

Some kids wish that more kids liked them.

In games and sports, some kids usually watch instead of play.

Some kids are very happy being the way they are.

Some kids wish it was easier to understand what they read.

Some kids are popular with others their age.

Some kids don’t do well at new outdoor games.

Some kids aren’t very happy with the way they do a lot of things.

Some kids have trouble figuring out the answers in school.

BUT Other kids wish they acted differently.

BUT Other kids can remember things easily.

BUT Other kids usually do things by themselves.

BUT Other kids don’t feel they can play as well.

BUT Other kids are pretty sure that they are a good person.

BUT Other kids don’t like school because they aren’t doing very well.

BUT Others feel that most kids do like them.

BUT Other kids usually play rather than just watch.

BUT Other kids wish they were different.

BUT Other kids don’t have any trouble understanding what they read.

BUT Other kids are not very popular.

BUT Other kids are good at new games right away.

BUT Other kids think the way they do things is fine.

BUT Other kids almost always can figure out the answers.
Some kids are really easy to like.

Some kids are among the last to be chosen for games.

Some kids are usually sure that what they are doing is the right thing.

BUT Other kids are kind of hard to like.

BUT Other kids are usually picked first.

BUT Other kids aren't so sure whether or not they are doing the right thing.
SOCIAL NETWORKS INTERVIEW

I've been talking with lots of fourth graders about the people they know. I'm finding that most fourth graders know lots of people (kids and adults). I'm especially interested in those kids and adults that you know really well.

--people you really like
--people you like to do things with
--people who are important to you
--people you know really well

Do you know some people like that?

Well, I'll be asking you to write down the names of these people and then asking you some questions about them. The names of these people and the things you tell me about them will be private. I will not be using any names when I put this all together.

Do you understand what we are going to do?

I'd like to start with having you write down the names of the kids you know really well. I know you know lots of kids but I want you to list only those you know really well.

(After some time for writing, I will ask the following: with time after each question)

--Did you think of kids at school?
--What about kids from your street or around where you live?
--Kids from special activites you do after school or on weekends like sports, clubs, or church?
--Did you think of any kids who are related to you, like your cousins?
--OK, now look at your whole list. Are there any kids you have forgotten?

Now I want you to think of the adults you know really well. I know you know lots of adults, but I want you to list only those you know really well.

(After some time for writing, I will ask the following; with time after each question)

--Did you think of adults at school?

--From your street or around where you live?

--From special activities you do after school or on weekends, like sports, clubs, or church?

--Did you think of any adults who are related to you, like your grandparents?

--Now look at your whole list. Are there any other people you know really well you have forgotten?

Now I want you to use your whole list to answer some questions about these people. You can put your list next to this chart so that we can answer these questions together. (see chart attached)

(a) First I want you to tell me if each of these people is a girl or boy or man or women.

(b) Next I want you to tell me how you know these people--from school, from your home or around where you live, as a relative, or from special activity.

(c) How often do you see these people?

(d) How long have you known these people?

Note: Lists will be generated on slips of paper matching the columns and lines on the charts attached so that subject and interviewer can answer questions quickly and easily.
<table>
<thead>
<tr>
<th>Male</th>
<th>Female</th>
<th>School</th>
<th>Home</th>
<th>Relative</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREQUENCY</td>
<td>Almost</td>
<td>About</td>
<td>Now</td>
<td>and</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>Every Day</td>
<td>Once a Week</td>
<td>Then</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DURATION</td>
<td>Most</td>
<td>Since I</td>
<td>Since I</td>
<td>Only a</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------</td>
<td>---------</td>
<td>---------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>of Life</td>
<td>Started</td>
<td>Started</td>
<td>4th Grade</td>
<td>Few Weeks</td>
<td></td>
</tr>
</tbody>
</table>

...
Administration of Syracuse Scales

Now I want you to do something a little different for me. On this sheet of paper (attached) you will see five boxes with a different number of stars in each box. I am going to ask you to put some names of people you know in each of these boxes. Let's read together the situation that is described at the top of these boxes:

Sometimes you get into trouble and you feel unhappy. It might be that you have been blamed for something you didn't do. Think about some time you were unhappy and would have liked to talk over your troubles with some kind, sympathetic person.

Now I want you to think of all the people you have ever known in your whole life--your mother, father, grandparents, brothers, sisters, aunts, uncles, friends, teachers, neighbors, storekeepers--everyone you have ever known in your whole life. Now of all these people which one would you most like to have help you if you were in trouble. As soon as you make up your mind write that name in the 5-star box. Now of all the people you have ever known which one would you least like to have help you if you were in trouble? Write this person's name in the 1-star box. Now there are probably many people who are about medium, or in the middle, for helping you when you are in trouble. Write the name of one of these medium persons in the 3-star box. Now think of all the people who are about halfway between medium and most liked for helping you when you are in trouble. Write the name of one of these halfway-between persons in the 4-star box. Now think of the
people who are about halfway between medium and least liked for helping you when you are in trouble. Write the name of one of these halfway-between persons in the 2-star box. Now we are going to see how that list of people you told me you know really well will fit on this chart. In order to do this you simply have to match up the lines on your list with the lines on this chart. When you have them matched up I want you to look at each of your names and decide where each would fit. You simply need to compare each name on your list to the names of the people at the top of the chart. Notice that you can choose among "less good", "equal to" (the diamond), or "better" for each of the names on your list. If you think your name is a little less good than the person at the top of the chart then circle less good. If you think your name is the same as the person at the top of the chart then circle the diamond. If you think the name is better than the person at the top of the chart then circle the word better. Do this for all the names on your list remembering that these are people who you are thinking about helping you with a trouble you have.

This process will be repeated using the following situation:
Suppose you have been asked to do something--maybe make something or do something that a large number of people, both adults and children will see. You have been told that you can choose one other person to help you.
APPENDIX C
### TABLE 22

**Structural Dimension**

Comparison of Percentages By Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total (2098)</th>
<th>Rural (1123)</th>
<th>Urban (975)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diversity:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>(970) 46%</td>
<td>(527) 47%</td>
<td>(443) 46%</td>
</tr>
<tr>
<td>Females</td>
<td>(1128) 54%</td>
<td>(596) 53%</td>
<td>(443) 54%</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>(1096) 52%</td>
<td>(605) 54%</td>
<td>(491) 50%</td>
</tr>
<tr>
<td>Adults</td>
<td>(1002) 48%</td>
<td>(518) 46%</td>
<td>(484) 50%</td>
</tr>
<tr>
<td><strong>Sex &amp; Age:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>(552) 26%</td>
<td>(313) 28%</td>
<td>(239) 25%</td>
</tr>
<tr>
<td>Girls</td>
<td>(544) 26%</td>
<td>(292) 26%</td>
<td>(252) 26%</td>
</tr>
<tr>
<td>Men</td>
<td>(418) 20%</td>
<td>(214) 19%</td>
<td>(204) 20%</td>
</tr>
<tr>
<td>Women</td>
<td>(584) 28%</td>
<td>(304) 27%</td>
<td>(280) 29%</td>
</tr>
</tbody>
</table>
### TABLE 22 (cont.)

**Structural Dimension**

Comparison of Percentages By Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total (2098)</th>
<th>Rural (1123)</th>
<th>Urban (975)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>(730) 35%</td>
<td>(422) 38%</td>
<td>(308) 32%</td>
</tr>
<tr>
<td>Home</td>
<td>(537) 26%</td>
<td>(268) 24%</td>
<td>(269) 28%</td>
</tr>
<tr>
<td>Relative</td>
<td>(706) 34%</td>
<td>(377) 34%</td>
<td>(329) 34%</td>
</tr>
<tr>
<td>Special Activity</td>
<td>(125) 5%</td>
<td>(56) 4%</td>
<td>(69) 6%</td>
</tr>
</tbody>
</table>
### TABLE 23

Structural Dimension

Comparison of Percentages by Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Rural Enosburg (588)</th>
<th>Poulteny (535)</th>
<th>Barnes (430)</th>
<th>Urban Flynn (545)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>(588)</td>
<td>(535)</td>
<td>(430)</td>
<td>(545)</td>
</tr>
<tr>
<td><strong>Diversity:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>(270)</td>
<td>(257)</td>
<td>(172)</td>
<td>(271)</td>
</tr>
<tr>
<td></td>
<td>46%</td>
<td>48%</td>
<td>40%</td>
<td>50%</td>
</tr>
<tr>
<td>Females</td>
<td>(318)</td>
<td>(278)</td>
<td>(258)</td>
<td>(274)</td>
</tr>
<tr>
<td></td>
<td>54%</td>
<td>52%</td>
<td>60%</td>
<td>50%</td>
</tr>
<tr>
<td><strong>Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td>(329)</td>
<td>(276)</td>
<td>(225)</td>
<td>(266)</td>
</tr>
<tr>
<td></td>
<td>56%</td>
<td>52%</td>
<td>52%</td>
<td>49%</td>
</tr>
<tr>
<td>Adults</td>
<td>(257)</td>
<td>(259)</td>
<td>(205)</td>
<td>(279)</td>
</tr>
<tr>
<td></td>
<td>44%</td>
<td>48%</td>
<td>48%</td>
<td>51%</td>
</tr>
<tr>
<td><strong>Sex &amp; Age:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>(158)</td>
<td>(155)</td>
<td>(93)</td>
<td>(146)</td>
</tr>
<tr>
<td></td>
<td>27%</td>
<td>29%</td>
<td>22%</td>
<td>27%</td>
</tr>
<tr>
<td>Girls</td>
<td>(171)</td>
<td>(121)</td>
<td>(132)</td>
<td>(120)</td>
</tr>
<tr>
<td></td>
<td>29%</td>
<td>23%</td>
<td>31%</td>
<td>22%</td>
</tr>
<tr>
<td>Men</td>
<td>(112)</td>
<td>(102)</td>
<td>(79)</td>
<td>(125)</td>
</tr>
<tr>
<td></td>
<td>19%</td>
<td>19%</td>
<td>18%</td>
<td>23%</td>
</tr>
<tr>
<td>Women</td>
<td>(147)</td>
<td>(157)</td>
<td>(126)</td>
<td>(154)</td>
</tr>
<tr>
<td></td>
<td>25%</td>
<td>29%</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Location:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>(219)</td>
<td>(203)</td>
<td>(116)</td>
<td>(192)</td>
</tr>
<tr>
<td></td>
<td>37%</td>
<td>38%</td>
<td>27%</td>
<td>35%</td>
</tr>
<tr>
<td>Home</td>
<td>(150)</td>
<td>(118)</td>
<td>(128)</td>
<td>(141)</td>
</tr>
<tr>
<td></td>
<td>26%</td>
<td>22%</td>
<td>30%</td>
<td>26%</td>
</tr>
<tr>
<td>Relative</td>
<td>(193)</td>
<td>(184)</td>
<td>(159)</td>
<td>(170)</td>
</tr>
<tr>
<td></td>
<td>33%</td>
<td>34%</td>
<td>37%</td>
<td>31%</td>
</tr>
<tr>
<td>Special Activity</td>
<td>(26)</td>
<td>(30)</td>
<td>(27)</td>
<td>(42)</td>
</tr>
<tr>
<td></td>
<td>4%</td>
<td>6%</td>
<td>6%</td>
<td>8%</td>
</tr>
</tbody>
</table>
TABLE 24
Spatio/Temporal Dimension
Comparison of Percentages By Location (Rural/Urban)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Total (2098)</th>
<th>Rural (1123)</th>
<th>Urban (975)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>(719)</td>
<td>(431)</td>
<td>(288)</td>
</tr>
<tr>
<td></td>
<td>34%</td>
<td>38%</td>
<td>30%</td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>(501)</td>
<td>(236)</td>
<td>(265)</td>
</tr>
<tr>
<td></td>
<td>24%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>Once A Week</td>
<td>(240)</td>
<td>(122)</td>
<td>(118)</td>
</tr>
<tr>
<td></td>
<td>12%</td>
<td>11%</td>
<td>12%</td>
</tr>
<tr>
<td>Now and Then</td>
<td>(638)</td>
<td>(334)</td>
<td>(304)</td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>30%</td>
<td>31%</td>
</tr>
<tr>
<td><strong>Duration:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>(1116)</td>
<td>(642)</td>
<td>(474)</td>
</tr>
<tr>
<td></td>
<td>53%</td>
<td>57%</td>
<td>49%</td>
</tr>
<tr>
<td>Since Starting</td>
<td>(560)</td>
<td>(304)</td>
<td>(256)</td>
</tr>
<tr>
<td>School</td>
<td>27%</td>
<td>27%</td>
<td>26%</td>
</tr>
<tr>
<td>Since Starting</td>
<td>(352)</td>
<td>(151)</td>
<td>(201)</td>
</tr>
<tr>
<td>4th Grade</td>
<td>17%</td>
<td>13%</td>
<td>21%</td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>(70)</td>
<td>(26)</td>
<td>(44)</td>
</tr>
<tr>
<td></td>
<td>03%</td>
<td>03%</td>
<td>04%</td>
</tr>
</tbody>
</table>
TABLE 25
Spatio/Temporal Dimension
Comparison of Percentages by Location (Four Schools)

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Rural</th>
<th></th>
<th>Urban</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enosburg</td>
<td>Poultney</td>
<td>Barnes</td>
<td>Flynn</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(588)</td>
<td>(535)</td>
<td>(430)</td>
<td>(545)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Every Day</td>
<td>(254)</td>
<td>(177)</td>
<td>(105)</td>
<td>(183)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>43%</td>
<td>33%</td>
<td>24%</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almost Every Day</td>
<td>(115)</td>
<td>(121)</td>
<td>(119)</td>
<td>(146)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20%</td>
<td>23%</td>
<td>28%</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Once A Week</td>
<td>(44)</td>
<td>(78)</td>
<td>(59)</td>
<td>(59)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7%</td>
<td>14%</td>
<td>14%</td>
<td>11%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Now and Then</td>
<td>(175)</td>
<td>(159)</td>
<td>(147)</td>
<td>(157)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td>30%</td>
<td>34%</td>
<td>28%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duration:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of Life</td>
<td>(339)</td>
<td>(303)</td>
<td>(201)</td>
<td>(273)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>58%</td>
<td>57%</td>
<td>46%</td>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since Starting</td>
<td>(151)</td>
<td>(153)</td>
<td>(114)</td>
<td>(142)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>26%</td>
<td>29%</td>
<td>27%</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since Starting</td>
<td>(85)</td>
<td>(66)</td>
<td>(87)</td>
<td>(114)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4th Grade</td>
<td>14%</td>
<td>12%</td>
<td>20%</td>
<td>21%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Few Weeks</td>
<td>(13)</td>
<td>(13)</td>
<td>(28)</td>
<td>(16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>2%</td>
<td>7%</td>
<td>3%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>