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Deafness as an Identity in Relation to Future Educational and Occupational Plans among Deaf High School Students

Robert Greg Emerton
Western Michigan University

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DEAFNESS AS AN IDENTITY IN RELATION TO FUTURE EDUCATIONAL AND OCCUPATIONAL PLANS AMONG DEAF HIGH SCHOOL STUDENTS

by

Robert Greg Emerton

A Dissertation Submitted to the Faculty of The Graduate College in partial fulfillment of the Degree of Doctor of Philosophy

Western Michigan University Kalamazoo, Michigan August 1973

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ACKNOWLEDGEMENTS

Being simultaneously supportive and stimulating is a difficult enterprise. I would like to open these remarks by publically recognizing the members of my doctoral committee, Edsel Erickson, Charles Keely, and Donald Sellin for such a task extremely well done.

To the faculty of the Western Michigan University Sociology Department, I would like to convey my sincere appreciation for their open-door policy which permits free-flowing interaction between students and professors. In addition to my committee members who were always very indulgent in this regard, I would like especially to thank Drs. Leonard Kercher, Jerome Manis, Ellen Robin, Stanley Robin and Morton Wagenfeld for their time and consideration.

At this time, I also wish to thank Lee Joiner and Edsel Erickson along with all of the other people who participated in U.S.O.E. Cooperative Research Project No. 6-8720 for making the data available for this investigation.

Finally, I want to express my deepest feelings of appreciation to my wife, Karen, and my family without whom not any of this would have come to past.

Robert Greg Emerton
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CHAPTER I

PROBLEMS AND OBJECTIVES

Overview of the Research

Educators of the deaf have long recognized the importance of self conceptions of competency in career development. "Rehabilitation people have seen over and over again that what the (deaf) client feels he can do is a better index of his future performance than the best estimate of any professional (Hobert and Walker, 1970)." Unfortunately, the utility of information about these self-conceptions of deaf adolescents and adults in predicting career development has not been established in social research. This is due, perhaps, to a number of methodological and theoretical limitations of the past which recently have been overcome.

Among these limitations is the fact that self-concept measures and constructs have been rather vague in terms of those categories of self reference most relevant to the prediction of particular behavior. A second problem has been the lack of scales for assessing social psychological attributes in deaf populations with known reliability, validity and correspondence to scales used with non-deaf populations. The present study, building upon research sponsored by the U.S. Office of Education (Cooperative Research Projects
Nos. 845, 1636, 2831, and 6-8720), has measures of specific self-concepts of abilities available which have been demonstrated to be valid and highly reliable as predictors of performance among the deaf and which have been cross validated to other populations (across deaf populations, deaf to blind, and deaf to hearing populations).

Another serious limitation of much past research on the deaf has been the tendency to employ simple, non-interactive, linear types of analyses which fail to examine the interactive effects of multiple conditions. In this study, multiple regression and automatic interaction detection techniques will allow a more thorough treatment of the combined effects of social and social psychological conditions than was possible a few years ago.

Other criticisms directed toward past studies of factors influencing the career development of the deaf focus on the lack of theoretical perspectives on social and social psychological variables that may influence career development. This investigation will attempt to overcome this deficiency by incorporating a social psychological approach developed in the tradition of George Herbert Mead, Alfred N. Whitehead and others which has been successfully used in prior research to account for career behaviors.

The purpose of this investigation is to study some of the social and social psychological variables which might influence deaf youth in plans affecting their careers. The major objective of the research
is to explore the relationship between deafness as an identity in terms of one's self-concept of ability as a student and variations in the level of future educational and occupational plans among deaf high school students. We will begin by looking at this relationship from the perspective of symbolic interactionism out of which much of the relevant theoretical literature has developed.

Theoretical Background and Review of the Literature

The notion of self, sometimes taken for granted in everyday life, is one of the basic concepts to which social scientists direct attention. A considerable amount of theory and research has indicated that one's conception of himself is established in social situations. People are not only aware of their identities in the eyes of others but they tend to see themselves as they perceive others to see them (Rose, 1969). If an individual is seen by other people as belonging to particular social categories, his own self-concepts may reflect the common assessments of the attributes associated with these categories.

This thought is especially significant to handicapped people. According to Goffman (1963), a person possessing an attribute which is deeply discrediting in ordinary social relationships is stigmatized. By definition, he is disqualified from full social acceptance. A brief review of the literature reveals that the handicapped are often
stigmatized (Barker, 1953; Davis, 1961; Wright, 1960; Safilios-Rothchild, 1970). The principle stigmatizing feature of impairment seems to lie in the expectation that all people should behave in common ways and have commonly desired attributes. To whatever extent a handicap interferes with these expectations, the individual may find himself discredited in social relationships.

The situation of the deaf within many segments of our society can be an acute example of stigmatization. Commonly, a person who is deaf, looking just like anyone else, is expected to act just like anyone else. A non-deaf person expects him to be able to communicate (speak and listen) but may discover that he cannot. Depending upon his social psychological position with respect to the disability situation, the non-deaf person may revise his expectations downward (Wright, 1966). Severe loss of hearing can render a person incapable of effecting meaningful and substantial auditory contact with his environment (Rainer, 1969). Unfortunately for the deaf, most social relationships are primarily based upon auditory communication. This means that the deaf person may often be excluded from social situations or accepted in a devalued role based upon a stigmatized deaf identity.

The effects of such a stigmatized identity might be expected to have a marked influence on anyone. But in other studies of individuals who have been disqualified from full social acceptance, the
pivotal fact has been that the stigmatized person tends to hold the same beliefs about himself that others do about themselves (Goffman, 1963; Davis, 1961). The apparent "normal" life style of many deaf adults and families in the community at large lends support to this contention. Such observations suggest possible contradiction to the effects of a stigmatized self-identity which might be anticipated on the basis of the theoretical views above. In order to understand why this is not the case, it is helpful to consider the interactionist perspectives of self in greater detail.

Concept of Self in Symbolic Interactionism

Gensis of the self as a scientific concept is frequently attributed to William James' idea of the "social self (Viney, 1969; Wylie, 1961)." James defined it in the following manner:

Properly speaking, a man has as many social selves as there are individuals who recognize him and carry an image of him in their mind. . . . as the individuals who carry the images fall naturally into classes, we may practically say that he has as many different social selves as there are distinct groups of people about whose opinion he cares. He generally shows a different side of himself to each of these different groups (James, 1890).
The innovative and significant aspect of this conceptualization is
that the self has been removed from its previously assumed meta-
physical locus and made a focal point for understanding the empirical
relationship between the individual and his groups (Petras, 1966).

Charles Horton Cooley, John Dewey, W. L. Thomas, George
Herbert Mead and others followed this lead and tried to develop full-
scale theoretical explanations of this relationship between the individ­
ual and society. Briefly, we note that their works shared the follow­
ing generalizations:

1. The individual and society are viewed as inseparable
   and interdependent units. Individuals living in society
   are reflective interacting beings possessing selves.

2. The term "impulse" is used to refer to innate bio-
   logical tendencies that can be satisfied only within
   the social group.

3. Men are influenced by their communication, not by
   how they communicate. The fabric of society develops
   out of shared meanings and here the significance of
   the symbolic element rests.

4. Individuals cannot be understood apart from the social
   situations in which they participate. Knowing the
   individual's own interpretation of the situational
   characteristics is indispensable for understanding
his behavior (Meltzer and Petras, 1969).

Collectively, this work represents the basis from which symbolic interactionism later developed. To further explicate the early interactionist view of the self, we turn to the ideas of George Herbert Mead.

For Mead, the self is a result of the ability of man to become "...an object to himself just as other individuals are objects to him..." (Mead, 1934)." Such a self theoretically involves a process of communication within the individual between two analytically distinguishable elements: the "I" and the "Me."

The "I" is the impulsive tendency of the individual. It is the initial, spontaneous, unorganized aspect of human experience. Thus it represents the undirected tendencies of the individual.

The "Me" represents the incorporated other within the individual. Thus, it comprises the organized set of attitudes and definitions, understandings and expectations—or simply meanings—common to the group (Meltzer, 1964).

Through interplay between the "I" and the "Me," the self is continually in a process of development. This relationship may be seen in part as a theoretical reflection of the second and third generalizations mentioned above.
Median theory suggests further that:

The individual experiences himself, not directly, but only indirectly, from the particular standpoints of other individuals of the same social group, or from the generalized standpoint of the social group as a whole to which he belongs (Mead, 1934:138).

Being able to see himself as well as others as social objects and continually re-evaluating himself in the light of his experiences which derive from his interpretations of social situations enables an individual to imaginatively forecast his existence. Mead called this "the symbolic completion of the act." In this way man is seen to be constantly planning the occurrence of a state of existence for himself.

In short, it seems clear from the viewpoint of the early interactionists that understanding the individual in society rests on a conceptualization of the self as developing through communication within the social group. They felt that the key to comprehending society in relation to its members is understanding the ongoing individual and group processes which are strongly associated with this development.

Contemporary symbolic interactionism is frequently treated by sociologists as if it were one theoretical framework (but see Vaughan and Reynolds, 1968). This may be due to the belief that the self, a central concept within this orientation, is subject to uniform
interpretation by proponents of the interactionists perspective (Reynolds, 1970). However, it may be pointed out that within this body of literature there are several distinct approaches to the concept of self. Of particular interest for this discussion are the theoretical positions of Herbert Blumer of the "Chicago school," and Erving Goffman representing the "dramaturgical approach."

Herbert Blumer is probably best known as an expositor of George Herbert Mead's social psychology. Blumer views human beings as:

active organisms that guide and construct their line of action while continuously coming to terms with the demands of an ever changing world as they interpret it. Of particular import is the object each person forms of himself, for the capacity of man to interact with himself makes some measure of self control possible (Shibutani, 1970).

In his own recent work Blumer posits that . . . symbolic interactionism rests . . . on three simple premises. The first premise is that human beings act toward things on the basis of the meanings that things have for them. . . The second premise is that the meanings of such things is derived from, or arises out of, the social inter-
action that one has with one's fellows. The third premise is that these meanings are handled in and modified through an interpretive process used by the person in dealing with the things he encountered (1969:2).

Taken together, we can see that like the earlier interactionists, Blumer views the self as a meaningful object which arises out of social interaction and is modified through interpretation by the individual. If we are to understand the self from this viewpoint, we must acquire an intimate familiarity with the individual's definitions of himself and of his view of the world about him.

Contrary to Blumer's emphasis of the individual's interpretation of himself, the "dramaturgical approach" is largely concerned with society's collective definitions of the individual. Social interaction is likened "... to a theatrical production or play-in-progress consisting of individual and team performances in a complex patterning of intersecting roles and settings (Truzzi, 1968:7)." Within this framework, Erving Goffman argues that:

The self... as a performed character, is not an organic thing that has a specific location...; it is a dramatic effect arising diffusely from a scene that is presented, and the characteristic issue, the crucial concern, is whether it will be credited or discredited.
In analyzing the self, then, we are drawn from its possessor, from the person who will profit or lose most by it, for he and his body merely provide the peg on which something of collaborative manufacture will be hung for a time. And the means for producing and maintaining selves do not reside inside the peg; in fact these means are often bolted down in social establishments (Goffman, 1959:252-253).

Thus in viewing "life as theater," the investigator does not focus upon his subject's view of the world. Instead, he invokes the theatrical model as a tool...

To permit him to focus attention on the consequences of the actor's activities for others' perceptions of the actor... the actor's perspective, that is the actor's view of what he is doing is not relevant to the dramaturgic analyst (Messinger, 1962:110).

While this approach clearly points out the importance that the social group has in providing meaning for the self as a social object, it neglects "...the relationship between the actor's model of the world and the dramaturgic analyst's model (Messinger, 1962:110)."

With this reversal of emphasis from an individual centered approach to a societal orientation, the self becomes multiple in character.

"There is a lack of continuity in the self-identity of individuals over
time... and... a man truly has as many social selves as there are distinct groups of persons about whose opinion he cares (Petras, 1966)."

Looking at the etiological development of the concept as well as the two contemporary viewpoints, we find that symbolic interactionists tend to view the self as a process which emerges out of social interaction and as having both an internal or subjective component and an external or objective component. These components theoretically interact to produce a self which may seem unitary to the individual but likely to appear multi-faceted to the variety of individuals and groups with whom the person comes in contact. But it is also clear that symbolic interaction theory is not united by a uniform interpretation of the self. Instead, sub-theories tend to emphasize those aspects of the concept which best reflect the theoretical and methodological interests of its proponents (See Reynolds, 1969). One result is that the definition of the self, like many other key concepts in sociology is vague and problematic.

To some social scientists such vagueness may be considered useful (See Strauss, 1959:9). But it has been noted that:

Empirical meaning is not given by a definition that merely serves the purpose of discourse; it exists instead in a specification that allows one to go to the empirical world and to say securely in the case of
any empirical things that this is a case of the concept and that is not (Blumer, 1969:45).

The self is a theoretical concept containing ideas which often frustrate empirical definition. Such specification appears to be hindered particularly at those points where two or more equally relevant positions emerge in opposition such as two of the above (See also Gordon and Gergen, 1968:1-8). If we try to account for both sides of each issue within a universal definition, the concept is likely to remain ambiguous and essentially unserviceable for empirical research. On the other hand, special definitions which select positions primarily to meet the contingencies of specific investigations, not only add to the turmoil surrounding the elucidation of the concept, but often lack power to generalize to a larger body of theory. A third alternative suggests that the self may be viewed as an explanatory concept which has certain empirical properties. The use of the concept in this manner does not require that all properties be operationalized within the same project. Selecting this alternative permits one to view all the theoretical aspects of the concept, thereby guiding the inquiry, while at the same time narrowing the scope of his research to specific empirical problems (See Merton, 1967:39).

Identity: An Empirical Property of the Self

Self-identity as an empirical referent. Among the properties suggested
by the concept of the self, the object each person forms of himself is perhaps most prominent. Since man experiences himself only indirectly, it seems reasonable that conceptualization of this object will tend to reflect the perspectives of his social groups. Shared expression of this self-conceptualization is most often found in the names and labels which for one reason or another are connected with certain individuals.

The term identity covers much of what has been called self-conception (Erikson, 1968). Although one's identity is not a substitute for "self," it becomes a meaning of the self when others place a person as a social object by assigning him the same words of identity that he appropriates for himself (Stone, 1962:21).

Commitment to particular identities arises through a limiting and discovering process of acquiring conceptions, which are confirmed, revised or elaborated partly by instruction from significant others and partly through direct experience (Foote, 1951:21).

Inasmuch as men act toward each other on the basis of shared meanings associated with these names and labels, identity can be taken to be a symbolic representation of self-conception.

**Social and personal self-identification.** In recent years, students of human behavior have come to recognize the term identity as referring chiefly to the question of what a person is and where he
belongs (Stone, 1962:93). When a person has identity, he is established as a social object; he is perceived as a member of particular social categories, and assumed to possess the attributes which correspond to those categories.

From the viewpoint of society, such placement is mandatory in order to facilitate successful interaction between diverse groups of individuals. In the words of Nelson Foote:

Every man must categorize his fellows in order to interact with them. We never approach another person purely as a human being or purely as an individual . . . . The regularities in our behavior toward him are necessarily based upon our expectation of regularities in his behavior. The regularities in his behavior toward us are in turn based in the same way upon his sharing our conception of his identity and his expectation that we share his conception of our identity (1951:17).

Social identification occurs here in the sense that those making the assignment have at least tentatively concluded that this individual is an instance of a more generalized category. "Thus it is said that someone 'is a juvenile delinquent,' 'is mentally ill,' 'is an alcoholic,' 'is a prostitute' (Lofland, 1969:129)."

Yet successful social identity requires that the individual place
himself as a social object appropriating the same words of identity assigned to him by others. Such personal self-identification is usually accomplished in the process of socialization. "As the individual is socialized, these identities are 'internalized'. They are then not only taken for granted as constituents of objective reality 'out there' but as the inevitable structures of the individual's own consciousness (Berger, 1966:375)."

But knowledge and agreement as to individuals' identities may not always be complete. Meanings associated with social objects, including one's identity, are handled in and modified by the individual through an interpretative process. Therefore, "... establishment of one's own identity to one's self is as important in interaction as to establish it for the other (Foote, 1951:18)."

**Stigmatized social identity and personal self-identification.** The issue of congruence between social and personal self-identity is particularly important in the study of stigmatized people. Here we are concerned with the person who is disqualified from full social acceptance. He possesses an attribute (also called a failing, a shortcoming, or a handicap) that is deeply discrediting in ordinary social relationships (Goffman, 1963:3).

In all of these various instances of stigma ... the same sociological features are found; an individual
who might have been received easily in ordinary social intercourse possesses a trait that can obtrude itself upon attention and turn those of us whom he meets away from him, breaking the claim that his other attributes have on us. He possesses a stigma, an undesired differentness... (Goffman, 1963:7).

Thus, the presence of stigma creates special conditions for social interaction. In all situations, the possibility is open for intrusion by the stigma which makes the person different from others. Not only different but of a less desirable kind, by definition, the stigmatized individual cannot be accorded the status of a normal individual and must been seen as lacking in some essentially human characteristics (Goffman, 1963:5).

Stigmatized identity and deafness. A great deal of attention has been devoted recently in sociology to studying stigmatization and identity (e.g., Becker, 1963; Clinard, 1966; Rubington and Weinberg, 1969; Dynes and Clark, 1969). Developments in the theory of deviance and labeling have been of crucial importance in reviving the popularity of interactionist and similar perspectives on man and society (Douglas, 1970; Schur, 1971). Much of this attention, however, has focused upon "normative deviants" such as juvenile delinquents, prostitutes, homosexuals, suicides and others whose behavior deviates from and in doing so overtly threatens values of
society. Very little has been done to study the case of the handi-
capped person who has done nothing "wrong" but has a physical dis-
ability which could happen to anyone regardless of socioeconomic
status, race, religion or national ancestry (See Sussman, 1965;

Nevertheless, it is readily apparent that deafness is a stig-
matized social identity. The deaf because of their communication
handicap have often been excluded from ordinary society. Categori-
cally, they are referred to by stigmatizing terms such as "deaf-mute"
or "deaf and dumb" and are frequently the butt of vulgar humor. In
fact, society in general has traditionally considered the deaf to be on
a sub-human level, incapable of education or culture, bereft of
human intelligence (Furth, 1966: 7; see also Bender, 1970; Horowitz
and Rees, 1962).

The effects of such a stigmatizing social identity, one which
could intrude in any social situation, might be expected to have a
marked influence on any individual. This, of course, would agree
with the perspective that people are not only aware of their identities
in others' eyes, but that they see their own identities as they per-
ceive others to see them. Yet, theory also suggests that social
identities are handled in and modified through an interpretive pro-
cess by the individual in the same manner as any other social object.

Little is known, however, about personal self-identity among
the deaf. Previous interest in this area has been limited. Prior studies most often center on variables such as the I.Q., educational achievement, social maturity, etc., of deaf children (See Kirk and Weiner, 1963; Mykebust, 1964; Hess, 1969). Studies which have dealt with self-conception among deaf people tend to focus upon general overall self-image rather than specific identities (Levine, 1956; Altshuler, 1962; Craig, 1965; Meadow, 1968, 1969; Mindel and Vernon, 1971). But it is known that many deaf adults and families have apparently "normal" life styles. Hearing and deaf people are motivated by similar values, show interest in similar questions, and engage in similar recreational and professional activities (Furth, 1966:1-3). Hence, there is some question of congruence between social and personal self-identification.

Many theorists have stressed the conceptual importance of this question, but few researchers have attempted to explore it. One of the key reasons for this is the difficulty of assessing the saliency of an identity in self-conception (See McCall and Simmons, 1966; Stryker, 1968; Swartz and Stryker, 1970). Simply knowing that a person is a member of a socially stigmatized category may not be sufficient for understanding his behavior. One should also consider the importance of that identity as perceived by the individual relevant to particular roles. An identity which is perceived as important and acted upon in one role may not even be considered in another.
But a stigmatized identity is one which by definition has the propensity to intrude in any social interaction and to "break the claims" other identities may have in the situation. If a stigmatized identity influences the perception an individual has of himself in one role, is it not reasonable that it may also effect his plans for future roles? It is to such a question of personal self-identification and future plans that we now direct attention.

Deafness as an Identity and Future Occupational and Educational Plans

To those concerned with understanding career development among the deaf, the kinds of occupations entered is a major problem. It is commonly recognized in the field that a markedly high proportion of deaf people are concentrated in occupations below their capabilities. In 1968, Burroughs and Hammermeister documented the fact that the deaf were not taking advantage of the extensive opportunities and variety of jobs available in the United States, despite the fact that only about 14 to 15 percent included hearing and speaking skills as requisites for job performance.

More recently, Earl Klein (1970) and other authorities (Carney, 1972; Williams, 1972; and Switzer, 1969) have urged professionals to find "new vistas for competitive employment for deaf persons." Rapidly accelerating changes in industry show "a clear
trend toward a rising demand for workers with higher levels of education and skill, and away from unskilled and lesser skilled occupations . . . A much greater increase in employment in white collar occupations than in blue collar jobs is almost a certainty (Klein, 1970)." Since the deaf have traditionally been employed largely in blue collar occupations, it seems imperative to develop additional tools for helping a greater number of young deaf people to avail themselves of a broader spectrum of career opportunity. As stated by Edward C. Carney (1972) in testimony before the U.S. Senate "... the overwhelming majority of deaf people are being stifled in unskilled and semi-skilled manual labor."

The fact that deaf people tend to seek employment in manual occupations is undoubtedly due to a variety of factors. Among those frequently mentioned is the notion of a cultural condition which "imposes too low a ceiling on what the deaf can do and too narrow a room in which they can do anything (Hoemann, 1965)."

If embodied in the everyday conventions of society, such a condition is certain to have far reaching effects upon employers, teachers, family, friends, and subsequently upon the deaf themselves. In this situation, deafness may become an identity which is stigmatizing. If a young deaf person accepts his deafness as stigmatizing, it is quite likely that he will have a conception of himself as inferior in ability as compared to others and these self-conceptions can limit
the range of his plans for employment.

Education for the deaf in the United States is usually confined to special residential or day schools. According to research reported by Kenneth Altshuler and George Baroff (1969:116-120), almost all deaf persons receive at least some formal schooling. However, they also report that over 40% of their respondents did not graduate from high school, about 50% did graduate but went no further, and only 6% received any higher education. These findings are consistent with the general notion that academic subjects are quite difficult for deaf students. One reason could be that education is essentially grounded in one's ability to develop and to effectively communicate in symbolic environs.

Post-secondary education for the deaf in the United States was a rarity until the second half of this century. Higher education for deaf persons was traditionally provided by Gallaudet College. Until about 1950, however, it was primarily a school for the preparation of deaf teachers. Since then, Gallaudet has expanded to become an accredited four year liberal arts institution. But only during the last decade have other opportunities for higher education begun to develop for the deaf. In 1965, the Congress of the United States established the National Technical Institute for the Deaf as a "technical counterpart" to Gallaudet College. In recent years, community colleges and regional vocational centers have developed programs to
advance deaf education. Nevertheless, there are still only twenty-seven post-secondary (college) programs for deaf students across the country (Struckless and Delgato, 1973). Outside of these alternatives, the deaf student is left only the choice of competing in regular colleges and universities. Without special help, which is rarely available, his chances of success are very slight (Quigley, Jenne', and Phillips, 1968). Deafness in the role of the student can indeed be a stigmatizing identity.

One of the ways, then, to examine the relationship between personal self-identification and future plans among people who possess a stigmatized social identity is to consider the relationship between deafness as an identity in a deaf high school student's self-concept of academic ability and his future career plans. The theoretical reason for this suggestion is fairly straight forward. Earlier, we said that being able to see oneself as well as others as social objects, and continually re-evaluating oneself in the light one's experiences as derived from personal interpretations of social situations, enable an individual to imaginatively forecast his existence. Career goals are crucial to the life style a person and his family are able to attain and planning is an essential part of achieving these goals.

Career plans and self-concept of ability. The development of self-concept of ability as a useful construct is due largely to the efforts of Wilber Brookover and his associates (Brookover, et. al., 1962;
Brookover, et al., 1965; Brookover, et al., 1967). Self-concept of ability refers essentially to an individual's characterizations of his capacity to complete given role tasks. Before an individual will decide to pursue a certain course of action, it is assumed that he believes that there is some possibility of accomplishing his objective. Unless individuals conceive a reasonable probability of success, they are not likely to decide to attempt the task. Theoretically, then, self-concept of ability is a necessary but not sufficient condition for the emergence of decisions or plans to pursue activities (Brookover, Erickson, and Joiner, 1969).

In efforts to determine how self-concepts of ability develop, Brookover and associates have studied the evaluations others make of an individual's ability, the individual's perceptions of those evaluations, and self-conception. They suggest that in evaluating his own abilities, an individual utilizes the judgments that others are perceived to make of him. Viewed in this manner, "self-concept of ability" and Mead's "symbolic completion of the act" are obviously the same kind of notion (See Bilby, 1972).

Most of the empirical work done in regard to self-concept of ability has concerned the student role. The self-concept of academic ability as it has been specifically referred to in these researches, theoretically functions to set limits on what students decide or plan to do. Brookover, et al., (1962) developed and validated an
instrument designed to measure self-concept of academic ability. This instrument was later modified and cross-validated by Joiner and Erickson (1967) for visually impaired and hearing impaired students (See Appendix A).

In subsequent research, self-concept of ability has been shown to be a functionally limiting factor in career development in non-deaf populations. Bryan (1969) found that "students who have high self-concept of ability were much more likely to have high educational plans than were those who received a low self-concept of ability score." Likewise, Wamhoff (1969) found that a positive or high self-concept of ability is a necessary but not sufficient condition for a corresponding behavioral level in vocational development.

The deaf, however, have more than one major reference group to whom they must compare when appraising their abilities. Not only will they consider themselves in relation to other deaf people but also in relation to those who were not deaf. This results in at least two types of assessment: (1) self-concept of ability in relation to other deaf, and (2) self-concept of ability in relation to non-deaf. For ease of clarification, if we dichotomize each self-concept referent and then take them in combination these assessments have four possible outcomes in a profile of self-concept of ability: (1) high self-concept in relation to both deaf and non-deaf people, (2) high self-concept in relation to other deaf people but low in relation
to non-deaf, (3) low self-concept in relation to deaf people but high in relation to non-deaf, and (4) low self-concept in relation to both deaf and non-deaf people.

**FIGURE 1.1**

SELF-CONCEPT OF ABILITY PROFILE

<table>
<thead>
<tr>
<th>Categories</th>
<th>Self-Concept Profile</th>
<th>Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In reference to other deaf</td>
<td>In reference to non-deaf</td>
</tr>
<tr>
<td>1</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>2</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>3&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>4</td>
<td>Low</td>
<td>Low</td>
</tr>
</tbody>
</table>

<sup>a</sup>It is expected that this category may have to be excluded because of too few cases.

As in non-deaf populations, these self-concepts of ability should be closely related to the career patterns of the deaf. In terms of the job and educational conditions outlined earlier and in the table (Figure 1.1) above, people with high self-concept of ability in relation to both deaf and non-deaf reference groups are most likely to go on to higher education and to pursue innovative careers in open competitive occupations. Similarly, people having low self-concepts in these areas are more likely to have plans for less education and lower occupational levels.

In this study, we propose to determine whether a profile of self-concept of ability in school has predictive utility in forecasting...
career development (educational and occupational) plans among deaf high school students. The major assumption is that feelings of stigma and false feelings of inability to learn contribute to entry into traditional manual occupations and sheltered workshop conditions (Lunde and Bigman, 1959).

If this is the case, a profile of self-concept of ability which takes into account references to both deaf and non-deaf, when combined with more traditional predictors of career development (e.g., impairment level, age at onset of deafness, mode of communication, I.Q., socio-economic status) will add significantly to our efficiency in forecasting types of entry into the job market. Such information should also yield valuable clues for developing techniques to help young deaf people achieve a wider range of occupational opportunity.

Significant others and deaf high school students. From our discussion of the symbolic interactionist perspective, the reader should recall that self-identity is presumably established in social interaction. That is, people are not only aware of their identity in others' eyes, but they also see their own identities as they perceive others to see them. Theoretically, these "others" are represented in the concept of the "generalized other" which consists of an organized, internal "set of attitudes and definitions, understandings and expectations--or simply meanings--common to the group" (Meltzer, 1964). Common attitudes and beliefs are central to the notion of social
identification. When a person is established as a social object, he is perceived as a member of certain social categories (including those which may be stigmatizing) and perceived to possess the attributes which correspond to those categories.

An individual, however, does not interact with society as a whole but rather with a limited number of people. Exactly which "others" are important to self-identification is assumed to vary from role to role. For a high school student, members of his family, his friends, and his teachers are usually considered to predominate in his interaction. It is likely that the student's perceptions of their attitudes toward and expectations of him will strongly influence the way in which he perceives his identities and plans his behavior.

Among non-impaired populations, the impact of peer groups upon students' values and behavior has been given considerable attention (Coleman, 1961; Herriott, 1963). The importance of teacher expectations has also been the subject of well-known research and journalistic writing (Rosenthal and Jacobson, 1968; Kozel, 1967). But parental influence has shown to be of primary importance in self-conception of academic ability (Brookover, et. al., 1965; Brookover, et. al., 1967). In this study, we propose to augment this research by exploring the influence of these three sets of significant others upon deaf high school students. We intend to analyze the relationship between these others and (1) self-concept of academic ability, (2)
saliency of deafness as an identity, and (3) future educational and occupational plans.

Saliency of deafness and future plans. Parents, teachers and friends are thought to be the others most significant in high school students' self-concept of ability. Student perceptions of the evaluations made by these people have been used to account for some of the variation in high school students' future educational and occupational plans. However, these people may not represent all of the societal evaluations taken into account by deaf students as self-concept of ability is established. Since deafness as a stigmatizing social identity has the potential to disrupt any social situation, the saliency of this identity may also account for a significant amount of variation in plans made by deaf students for further education and future occupations.

The importance of investigating this suggestion lies in the possibility that we may be able to determine if the saliency of an identity such as deafness has substantial bearing upon plans for future roles. In this study, we will explore the question first by asking whether or not consideration of deafness as an identity in self-concept of academic ability is related to plans for future education or occupations among deaf high school students. Secondly, since identity is based upon personal perception of general societal evaluations plus the perceived evaluations of significant others, we also entertain the possibility that saliency of this identity may account for still
larger amounts of variation in these future plans than the influence of parents, teachers, and friends alone.

General Research Objectives

The purpose of this study, then, is to test a series of hypotheses derived from symbolic interactionism which are relevant to career development among the deaf. Theoretically, our concern is with the relationship between self-identification and plans for future roles. Our general research objectives can be outlined as follows:

1. Career Plans and Self-Concept of Academic Ability
   a. To determine whether a profile of deaf youth self-conceptions in school has predictive utility in forecasting the levels of future educational and occupational career plans.
   b. To determine if such a profile adds to our efficiency in prediction over that obtained from traditional variables such as hearing impairment level, age at the onset of deafness, primary mode of communication, I.Q., socio-economical background, and sex.

2. Significant Others and Deaf High School Students
   To determine the relationship between deaf students' perceptions of the evaluations made of them as students by their parents, teachers, and friends, and:
a. Self-concept of academic ability.
b. Saliency of deafness as an identity.
c. Future educational and occupational plans.

3. Saliency of Deafness and Future Plans

a. To determine the relationship between saliency of deafness as a personal identity and future plans among deaf youth.
b. To determine if knowledge of this general indicator of societal evaluation adds to our predictive efficiency over that obtained from knowing deaf students' perceptions of the evaluations made by their significant others; namely, parents, teachers, and friends.

4. To employ the capabilities of automatic interaction detection techniques

To generate a model of social and social psychological characteristics associated with the self-concept of academic ability profile, saliency of deafness as a personal identity, and future educational and occupational plans among deaf high school students.
CHAPTER II

METHODS

Population

The deaf population in this study includes all those who attended the Michigan School for the Deaf on whom variable information is currently available from U.S. Office of Education Cooperative Research Project No. 6-8720 (N=100). This includes sixty one males and thirty nine females, twelve to nineteen years of age at the time of testing, and enrolled in grades eight through twelve.

Data Collection Procedures

In September, 1966, residential students in the academic high school program at the Michigan School for the Deaf were tested en masse. The subjects were seated in groups of two and three at tables facing forward toward the principal test administrator. Two proctors, positioned on either side of the room, were provided to help students follow the directions and to interpret or repeat statements and instructions given by the principal test administrator. The proctors were members of the school staff where the testing was conducted and able to communicate with students through signs and finger spelling.
Testing began with a brief explanation of who the strangers were and of what was to take place. It was emphasized that there were no right or wrong answers to the questions and that everyone might have different ideas. These were questions about how the students saw themselves and others in their lives and the answers were expected to differ. Attention was directed to the appropriate page of the questionnaire by flicking the lights and then holding up the page. Color coding of the pages was also used. The principle test administrator employed total communication (Simultaneous "saying" and "signing") with the students following the written text if they so desired. Complete testing took approximately one hour (Joiner and Erickson, 1967).

Instrumentation

In 1965, Lee Joiner, Edsel Erickson, and Wilber Brookover developed, with the assistance of Jerry Crittenden, Vivian Stevenson, Burt Rodee and Lulu Alanso, scales for the social psychological study of the hearing impaired, the visually impaired, and the educable mentally retarded. These scales and questions were alternate forms of the Michigan General Self-Concept of Academic Ability Scale and other items developed by Brookover and associates under U. S. O. E. Cooperative Research Project Nos. 845, 1636, and 2831 (1962; 1965; 1967) for use with students in junior and senior high schools who were
not known to be accoustically, visually, or mentally impaired. In 1966, these original instruments were modified to use manual signs and printed instructions, and transcribed into braille and large type so that they could be given in a group setting as part of the U.S.O.E. Cooperative Research Project No. 6-8720, Scales and Procedures for Assessing Social Psychological Characteristics of Visually Impaired and Hearing Impaired Students (Joiner and Erickson, 1967).

The questionnaires included in this battery elicit responses for the following variables:

Major Variables, Questionnaire Data

1. General Self-Concept of Academic Ability
   a. SCA-D Self-concept of academic ability, revised edition for use with hearing impaired populations.
   b. SCA-I Self-concept of academic ability, asks students to compare self with similarly impaired students.
   c. SCA-NI Self-concept of academic ability, asks students to compare self with non-impaired students.

2. Student perceptions of the evaluations of their academic ability made by others.
   a. PPEv Perceived Parents' Evaluations of students'
academic ability.

b. PFEv Perceived Friends' Evaluations of students' academic ability.

c. PTEv Perceived Teachers' Evaluations of students' academic ability.

3. Student perceptions of how far in school, parents, friends and teachers expect them to go.

4. Student perceptions of the academic achievement expectations held for them by their parents, friends and teachers.

5. Whom the students indicate as being important in their lives.

6. Whom the students indicate as being concerned about how well they do in school.

7. Occupational aspirations (i.e., level of occupational desires).

8. Occupational plans (i.e., level of occupation, students expect to attain).

9. Educational aspirations (i.e., how far in school the students would like to go).

10. Educational plans (i.e., how far in school the student intends to go).

11. Student perceptions of the extent of surveillance of their

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academic performance by parents, teachers and friends.

12. SES Socio-economic status*

In addition to this data, school records provide the following information:

1. Ability (as assessed by a standard "intelligence" test (WISC) used with the population).

2. Academic achievement (overall grade point average in academic subjects).

3. Degree of hearing loss.**

4. Age at onset of impairment.

5. Methods of communication (e.g., oral, manual, etc.).**

6. Grade level.

7. Sex.

The primary purpose of the U.S.O.E. Cooperative Research Project No. 6-8720 was to determine the reliability and validity of the scales modified from the instruments previously used with non-impaired students in assessing social psychological characteristics

* Coded according to Duncan's Socio-Economic Status Index. See A. Reiss, Jr., et. al., Occupation and Social Status, Glencoe, Illinois: The Free Press, 1961.

** See Appendix A for a more complete description of the assignment of values.
of hearing-impaired and visually-impaired adolescents. The results of this inquiry led Joiner and Erickson (1967) to a number of conclusions concerning these scales in relation to impaired populations. The following are especially relevant to the present study:

1. The results obtained when using the modified Self-Concept of Academic Ability scale (SCA-D) with hearing impaired students may be compared to the results obtained from non-impaired subjects.

2. The data obtained with self-concept of academic ability instruments (SCA-D, SCA-I, SCA-NI) and perceived evaluation instruments (PPEv, PFEv, PTEv) are highly reliable for behavioral research. Very little difference is shown in the reliabilities calculated using impaired student responses and non-impaired student responses.

3. Self-concept of academic ability is highly associated with the perception students have of others' evaluations of their academic ability.

4. Scale analysis disclosed that all self-concept of academic ability scales are uni-dimensional, representative of a homogeneous universe of content.

In sum, these instruments are designed to obtain self-concept of academic ability data and other information on the variables noted above. The scales have been demonstrated to be valid and reliable
in use with hearing impaired adolescents. Re-examination and analysis of these data offer an excellent opportunity for preliminary exploration of the theoretical questions raised in the last chapter.

Analysis

The major variables of this study are: future educational and occupational plans; self-concept of academic ability; student perceptions of the evaluations made by significant others (parents, teachers, friends) of their academic ability; and the saliency of deafness in personal self-identification. Other variables mentioned earlier in the general research objectives include: SES, I.Q., degree of hearing loss, age at the onset of impairment, methods of communication, grade level, and sex. Operationalization of these variables and hypotheses expressing the theoretical relationship between them will now be considered.

Career plans and self-concept of academic ability. Our first objective is to determine whether a profile of deaf youth self-conceptions in school has predictive utility in forecasting the levels of future educational and occupational career plans. The "L" test (Page, 1963) will be employed to test hypothesized ranking in Self-Concept of Ability Profile and the rank order of educational and occupational plans.
Rank order of levels in educational plans attend the ordinal relationship between categories of response to the following item from the questionnaire:

Sometimes what you expect to do isn't the same as what you'd like to do. How far in school will you really go?

a. quit now
b. go to high school for a while
c. graduate from high school
d. go to school to be a secretary or learn a trade
e. go to college for a little while
f. graduate from college
g. more than 4 years of college

For occupational plans expressed in response to a similarly worded item of an open-end variety (See Appendix A), rank order is determined by using Duncan's Scale of Socio-Economic Status (Reiss, 1961). Rankings on the self-concept of ability profile are realized following the guidelines set forth in Chapter I. The SCA-NI scale asks deaf students to compare themselves in academic ability with non-impaired students. The SCA-I scale asks deaf students to compare themselves in academic ability with similarly impaired students. Both scales are composed of the eight items used in the SCA-D scale with the only difference noted above (See Appendix A). Total scores on each scale range in value from 8 to 24. The median value for the population

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on each scale is taken as a cutting point for dividing the population into categories of high and low. This procedure when utilized for both scales results in the four categories (High-High, High-Low, Low-High, Low-Low) prescribed earlier.

The "L" is a ranking statistic developed by E. B. Page (1963) for testing monotonic relationships in analysis of variance. It is a relatively powerful non-parametric statistic, requiring data of only ordinal strength, designed to test the null hypothesis against an ordered hypothesis:

\[ H_0: \ m_1 = m_2 = \ldots = m_k \]
\[ H_1: \ m_1 < m_2 < \ldots < m_k \]

In this study, the ordered hypothesis suggests that deaf people with high self-concept of ability in relation to both deaf and non-deaf groups are most likely to go on to higher education and to pursue innovative careers in open competitive occupations while deaf people having lower self-concept in these areas are more likely to have plans for less education and lower occupational levels.

<table>
<thead>
<tr>
<th>Self-Concept of Ability Profile</th>
<th>Predicted Plans</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Occupational Level</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

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An "L" test of this relationship will determine whether the Profile of Self-Concept of Ability has predictive utility in forecasting career development (education and occupation) plans among deaf high school students.

The efficiency in forecasting career plans added to traditional predictors by the Self-Concept of Ability Profile is evaluated using multiple regression statistics. Multiple regression analysis is a correlational procedure allowing the use of more than one predictor or independent variable. One feature is that it provides the researcher with a coefficient of determination ($R^2$) which indicates the amount of explained variation in the dependent variable accounted for by the predictor variables. The predictive efficiency of the profile is determined by comparing the coefficient of determination for the "restricted" model ($R^2_1$) based on traditional indicators with the same coefficient for the "full" model ($R^2_2$) which has in addition the profile of self-concept of ability. Any increase in the amount of variation obtained between these models is assessed using the "F-test" formula provided for this purpose by Melichar (1965) at the .05 level of significance.

Restricted Model: Impairment level + Mode of Communication + Age at Onset + I.Q. + SES + Sex = $R^2_1$
Full Model: \((\text{Restricted Model above}) + \text{Self-Concept of Ability Profile} = R^2\)

\[ H_2: R^2_2 > R^2_1 \]

Significant others and deaf high school students. On the basis of theoretical considerations and previous research, we proposed as our second research objective to explore, in part, the influence of parents, friends, and teachers upon deaf high school students. Specifically, we are to analyze the relationship between these significant others and (1) self-concept of academic ability, (2) saliency of deafness as an identity, and (3) future educational and occupational plans. Simple correlation and automatic interaction detection techniques will be employed to meet this objective.

Educational and occupational plans have already been described as variables. Likewise, the self-concept of ability profile (SCA-P) has been discussed. For this part of the investigation we will need to add general self-concept of academic ability (SCA-D), saliency of deafness as an identity (ID), and the perceived evaluations of parents (PPEv), friends (PFEv), and teachers (PTEv) as major variables.

General self-concept of academic ability is measured in this study using a version of the Michigan General Self-Concept of Academic Ability Scale modified for use with hearing impaired students (SCA-D). Earlier in this chapter, we reported that the SCA-D scale has been cross-validated to non-impaired populations and found to be
comparable (Joiner and Erickson, 1967). Like the SCA-NI and the SCA-I scales presented in the previous section, the SCA-D scale is composed of eight items with a scoring range of eight to twenty four. Unlike the two previous scales, the SCA-D scale makes no request for self-comparisons with particular reference groups. Since the SCA-D scale appears first in the testing battery, it is not contaminated by the suggestion of particular reference groups made by subsequent questions (See Appendix A).

The position of the SCA-D scale is a critical part of our attempt to assess deafness in personal self-identification as a major variable. This variable is measured by comparing the responses to the SCA-D scale with those made to the SCA-NI scale which follows shortly in the testing situation. The comparison is made using a statistic known as Robinson's "A" (1957) which was developed as a coefficient of agreement between two or more sources making the same evaluation. As we have already noted, these scales are virtually identical with one important difference, the SCA-NI scale asks the deaf respondent to evaluate his academic ability in comparison with non-impaired students. The response set between these scales should act as a conservative factor encouraging agreement. Any differences which are noted will be due in large part to the influence of deafness as an identity in personal self-identification. The magnitude of these differences as measured by Robinson's "A" will
be incorporated as a variable indicating the saliency of deafness as a personal identity.

Data on the perceived evaluations of parents (PPE\textsubscript{v}), friends (PFE\textsubscript{v}), and teachers (PTE\textsubscript{v}) of students' academic ability are collected using three scales composed of five items each (See Appendix A). Items on these scales ask the student what he feels his parents, teachers, or friends think he can do in school both now and in the future. Each scale yields scores ranging in value from five to fifteen which are used as measures of the perceived evaluations of these significant others.

The relationships among these significant others and self-concept of ability, saliency of deafness as an identity, and future educational and occupational plans will be explored in two ways. First, on the basis of our theoretical considerations, we expect to find a strong relationship between these perceived evaluations and each of the other variables. These relationships may be expressed more precisely as follows:

1. Perceived Evaluations and General Self-Concept of Academic Ability.
   a. PPE\textsubscript{v} is directly related to SCA-D.
   b. PFE\textsubscript{v} is directly related to SCA-D.
   c. PTE\textsubscript{v} is directly related to SCA-D.

2. Perceived Evaluations and Self-Concept of Academic Ability Profile.
a. PPEv is directly related to SCA-P.

b. PFEv is directly related to SCA-P.

c. PTEv is directly related to SCA-P.

3. Perceived Evaluations and Saliency of Deafness as a Personal Identity

a. PPEv is inversely related to ID.

b. PFEv is inversely related to ID.

c. PTEv is inversely related to ID.

4. Perceived Evaluations and Educational Plan

a. PPEv is directly related to educational plans.

b. PFEv is directly related to educational plans.

c. PTEv is directly related to educational plans.

5. Perceived Evaluations and Occupational Plans

a. PPEv is directly related to occupational plans.

b. PFEv is directly related to occupational plans.

c. PTEv is directly related to occupational plans.

These relationships will be assessed using zero-order correlation measures of association. This will provide an answer to the question of whether or not the variables are related and give us an indication of the strength of the association (Blalock, 1960). But the question of how these three types of perceived evaluations by significant others are collectively related to the other variables still remains.

Automatic Interaction Detection (AID) as first suggested by
Sonquist and Morgan (1964) is a technique intended to provide answers to this kind of question. In this study, we used the Brookings Institute version of AID which is written for the PDP-10 computer. It has the ability to handle up to thirty eight (38) variables in one set without the assumptions of additivity and linearity. Basically, AID examines the interaction of a set of predictor variables and one dependent variable by successive applications of one-way analysis of variance. Given the units of analysis under consideration, the AID program asks what single predictor variable will provide the greatest improvement in our ability to predict values of the dependent variable. Employing a nonsymmetrical branching process to subdivide the sample into a succession of subgroups which maximize this ability to predict will produce a tree-type model of binary splits clearly showing the relationships between the variables under examination. At this point, the total reduction in unexplained variation by the entire tree or any part of it can be assessed.

Saliency of deafness and future plans. Among the basic concerns of this investigation are the possible consequences of considering deafness as an identity in personal self-identification. In this section, we will explore the relationship between saliency of deafness as an identity in self-concept of academic ability and future educational and occupational plans of deaf high school students. Particulars for the variables and the techniques to be used in this section have already been detailed.
We will begin the analysis with zero-order correlation measures of association between I.D. and educational and occupational plans. On the basis of theoretical considerations, we believe a relationship does exist and may be expressed as follows:

1. Saliency of deafness in self-concept of academic ability is inversely related to future educational plans.

2. Saliency of deafness in self-concept of academic ability is inversely related to future occupational plans.

Since future educational plans are closely akin to the role of high school student, the following difference in the strength of these relationships based upon similarity of role content is also expected:

3. The inverse relationship between saliency of deafness and educational plans will be greater than the inverse relationship between saliency of deafness and occupational plans.

By exploring these questions, we hope to establish whether possession of a stigmatized social identity if salient in personal self-identification for one role may be related to plans for subsequent roles.

The second goal of this section of the study is based on the notion that identity is composed of personal perception of general societal evaluations as well as the perceived evaluations of significant others (parents, friends, teachers). We are to examine the efficiency added by I.D. to the prediction made in forecasting career plans by PPEv, PFEv, and PTEv. As noted earlier, this can be done using

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multiple regression analysis by comparing the coefficient of determination for a "restricted model" ($R^2_1$) with the same coefficient for a "full" model ($R^2_2$) which also has I.D. Any increase in the amount of variation obtained between these models is assessed using the "F-test" formula provided by Melichar (1965) at the .05 level of significance.

\[
\text{Restricted Model: } \text{PPE}_v + \text{PFE}_v + \text{PTE}_v = R^2_1 \\
\text{Full Model: } \text{PPE}_v + \text{PFE}_v + \text{PTE}_v + \text{I.D.} = R^2_2 \\
\]

\[H_3: \ R^2_2 - R^2_1\]

AID: In Search of Characteristics

The final objective of this investigation calls for the use of automatic interaction detection (AID) techniques. Discussed earlier, the AID program can be employed as a search strategy for inductive multivariate model building (Sonquist, 1970). Using this program and variables for which data has been collected, we are going to generate models of social and social psychological characteristics associated with the self-concept of ability profile, saliency of deafness as an identity, and future educational and occupational plans among deaf youth.

Perhaps the easiest way to convey this procedure is to describe the operation of the basic algorithm in the AID program. To begin, the total sample is included in group one (i.e., the dependent
variable). For this group, a grand mean and total sum of squares is computed. From this unsplit sample, the group (i.e., one of the predictor variables) which has the largest sum of squares (around its own mean) is selected, provided that this quantity is larger than a specified fraction (1%) of the original total sum of squares (around the grand mean) and that this group contains more than some arbitrary minimum number (30) of cases. The minimum of 30 ensures that any further splits will be credible and have some sampling stability as well as reducing the error variance in the sample.

Next, the computer will find the division of the classes in any single predictor, such that combining classes to form a partition of this group into two nonoverlapping subgroups will provide the largest reduction in the unexplained sum of squares. This maximizes the between sum of squares over all possible binary splits on all predictors, with the following restrictions: (1) the classes of each predictors (except where monotonic) are ordered into descending sequence, using their means as a key and (2) observations belonging to classes which are not contiguous (after sorting) are not placed together in one of the new groups to be formed. Further partition of this group is possible if the between sum of squares is equal to or greater than some arbitrary parameter (1%) of the original total sum of squares. Otherwise, this group is not capable of being split by the program, that is no variable is "useful" in reducing the predictive error in this group.
The next most promising group is then selected in accordance with the procedures just outlined. If there are no more unsplit groups meeting the program requirements, the process terminates (Sonquist and Morgan, 1964:5-6).

Inspection of the output produced by this program permits rapid construction of a tree-type model. Starting with the dependent variable, each binary split is represented by the difference of the means of the partitioned groups. There are several possible ways to doing this. We have chosen the commonly used "trunk-branch" method, placing the newly formed group with the highest mean slightly above the recently split group and the other new group somewhat below. (If the reader will turn to one of the models included in Chapter III, this procedure will become readily apparent.) Along with these means, we also include in the model information regarding the number of observations and the classes within the predictor variable which characterize each group. The result is a graphic illustration of the relationships between the variables considered. At this point, we can also assess the total reduction in unexplained variation by the entire tree or any part of it. Thus we will have determined which of the variables for which data were collected are related to the dependent variable, under what circumstances and through what intervening processes.
CHAPTER III
FINDINGS

This chapter will present the results of an exploratory investigation into the relationship between self-identification and plans for further education and future occupations among deaf high school students. The four major research objectives outlined in Chapter I and elaborated in Chapter II serve as the basis for organizing the presentation of these findings.

Career Plans and Self-Concept of Academic Ability

The first objective of this investigation was to determine whether a profile of self-concept of ability in school has predictive utility in forecasting career development (educational and occupational) plans among deaf youth. This profile uses the SCA-I and SCA-NI versions of the SCA-D scale, respectively, to take both deaf and non-deaf reference groups into account when measuring self-concept of academic ability. It was predicted that the levels of these plans are ordinally related to the responses made to the SCA-I and SCA-NI scales. For example, plans made by people who rank high on both scales (HH) were expected to be of a higher level than those plans made by people who rank high on the first measure but low on the second (HL) and so forth. More concisely, we have hypothesized
that the levels of these plans will be ranked in the following order:

\[ HH > HL > LH > LL \]

The null hypothesis is:

\[ HH = HL = LH = LL \]

The "L" statistic (Page, 1963) was used to test the hypothesized rank-order of educational and occupational plans. Students in the population were divided into groups (HH, HL, LH, LL) according to their responses to the SCA-I and SCA-NI. The subjects were then further separated by random assignment to five subgroups. (This second division is simply to facilitate usage of the "L" test.) The result is an array of cells, four X five, for each type of plan.

At the top of the columns in Table 3.1 is the order predicted for the level of plans according to SCA Profile categories. The cells contain a mean for the level of plans disclosed by students within that set, and the observed rank ordering of these values in each row. The "L" computed for the observed ranking of educational plan levels relative to the predicted order is 140.5. The same statistic for occupational plan levels is 137. Both values of "L" show that the observed rank order is in the predicted direction and significant at the .05 level. The null hypothesis is therefore rejected.

From the results of the "L" tests we have a good indication that the SCA Profile has predictive utility for educational and occupation plans among deaf youth. At this point we were to determine

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<table>
<thead>
<tr>
<th>Random Subgroups</th>
<th>Educational Plans</th>
<th>Occupational Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SCA Profile</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HH 1</td>
<td>HL 2</td>
</tr>
<tr>
<td>I</td>
<td>X R</td>
<td>X R</td>
</tr>
<tr>
<td></td>
<td>3.86 2</td>
<td>4.50 1</td>
</tr>
<tr>
<td>II</td>
<td>X R</td>
<td>X R</td>
</tr>
<tr>
<td></td>
<td>4.71 2</td>
<td>3.50 3</td>
</tr>
<tr>
<td>III</td>
<td>X R</td>
<td>X R</td>
</tr>
<tr>
<td></td>
<td>3.86 1</td>
<td>3.00 3</td>
</tr>
<tr>
<td>IV</td>
<td>X R</td>
<td>X R</td>
</tr>
<tr>
<td></td>
<td>4.71 1</td>
<td>3.75 3</td>
</tr>
<tr>
<td>V</td>
<td>X R</td>
<td>X R</td>
</tr>
<tr>
<td></td>
<td>4.00 1</td>
<td>3.25 3</td>
</tr>
<tr>
<td>( \Sigma \bar{x}_i )</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>( \sum \bar{y}_i )</td>
<td>7</td>
<td>26</td>
</tr>
</tbody>
</table>

\( L = 140.5 \)
\( \alpha = .05 \)
\( L = 137 \)
\( \alpha = .05 \)
whether the SCA Profile adds significantly to our efficiency in forecasting these kinds of plans over that obtained from more traditional predictors such as impairment level, age at the onset of deafness, mode of communication, I.Q., sex, and socio-economic status.

Comparison of the coefficient of determination for the "restricted" model \( R^2 \) based on the traditional indicators and the same coefficient for the "full" model which has in addition the SCA Profile is shown in Table 3.2 for educational plans and in Table 3.3 for occupational plans.

Addition of the SCA Profile to the restricted model of traditional indicators (Table 3.2) increased the amount of explained variation in educational plans from 5% to 13%. In the corresponding case for occupational plans (Table 3.3) the increase was from 8% to 15%. The amount of increase seems dramatic in both cases. However, application of the Melichar (1965) formula for assessing the significance of difference in explained variance obtained using two multiple regression (i.e., restricted and full) models suggests otherwise. The F value in Table 3.2 for educational plans was 1.14. In Table 3.3, the F value was 1.03. Neither figure is significant at the .05 level. Therefore, the null hypothesis of no difference is not rejected and hypothesis \( H_2: R^2_2 \geq R^2_1 \) cannot be accepted.

The Melichar formula used in this study is a test for statistical significance of the net contribution made by introducing a factor into
### TABLE 3.2
ASSESSING THE EFFICIENCY OF THE SCA PROFILE OVER TRADITIONAL INDICATORS IN PREDICTING LEVELS OF EDUCATIONAL PLANS

<table>
<thead>
<tr>
<th>Model and Variables</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Significance of Difference in Obtained Explained Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impairment level + Mode of Communication + Age at Onset + I.Q. + SES + Sex</td>
<td>.22</td>
<td>.05</td>
<td>$F = 1.14$ (N.S.)</td>
</tr>
<tr>
<td>Full Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted Model above + SCA Profile</td>
<td>.36</td>
<td>.13</td>
<td></td>
</tr>
<tr>
<td>df = 7/86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE 3.3
ASSESSING THE EFFICIENCY OF THE SCA PROFILE OVER TRADITIONAL INDICATORS IN PREDICTING LEVELS OF OCCUPATIONAL PLANS

<table>
<thead>
<tr>
<th>Model and Variables</th>
<th>$R$</th>
<th>$R^2$</th>
<th>Significance of Difference in Obtained Explained Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impairment level + Mode of Communication + Age at Onset + I.Q. + SES + Sex</td>
<td>.28</td>
<td>.08</td>
<td>$F = 1.03$ (N.S.)</td>
</tr>
<tr>
<td>Full Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted Model above + SCA Profile</td>
<td>.39</td>
<td>.15</td>
<td></td>
</tr>
<tr>
<td>df = 7/86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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a multiple regression model. Its conservative nature and specificity of purpose were the major reasons for including this procedure in the analysis. Like all F ratios, however, the formula depends heavily upon the number of observations and on the number of variables used (Melichar, 1965:9). In the present case, for example, had the number of observations been 200 rather than 100 (all other things being the same), the tests would have been significant in both instances. Hence, the relationship will be subject to further exploratory analysis as part of general research objective number four.

Significant Others and Deaf High School Students

Exploring the relationship between the major variables under investigation (SCA-P, SCA-D, ID, Educational Plans, Occupational Plans) and deaf high school students' perceptions of the evaluations made of them by their parents, teachers and friends (PPEv, PTEv, PFEv) was the second major research objective of this study. On the basis of theoretical considerations, we anticipated a strong relationship existing between these variables. Table 3.4 shows the Pearson product-moment correlations between the perceived evaluations by these significant others and each of the other variables.

General self-concept of academic ability (SCA-D) and the self-concept of ability profile (SCA-P) made the strongest appearance among the major variables in Table 3.4 in relation to students'
preception of evaluations by significant others (PPEv, PFEv, PTEv). The correlations with SCA-D were all above the +.50 level of association with minor differences evident between parents (r = .55), teachers (r = .53), and friends (r = .51). Slightly less positive was the relationship between the self-concept of ability profile (SCA-P) and these significant others. Besides the amount of association there was also a change here in the descending order of correlation. Parents and friends are tied with r = .45 while teachers evidently dropped in relative importance to third place (r = .39). But it is very clear in both cases that the perception of evaluations made by parents, friends and teachers have strong positive relation with self-concept of ability (SCA-D and SCA-P) among the deaf high school students in this population.

TABLE 3.4

PERCEPTION OF EVALUATION BY SIGNIFICANT OTHERS AND SCA-P, SCA-D, ID, EDUCATIONAL PLANS, OCCUPATIONAL PLANS

<table>
<thead>
<tr>
<th>Significant Others</th>
<th>Major Variables</th>
<th>SCA-P</th>
<th>SCA-D</th>
<th>ID</th>
<th>Educational Plans</th>
<th>Occupational Plans</th>
</tr>
</thead>
<tbody>
<tr>
<td>PPEv</td>
<td></td>
<td>.45</td>
<td>.55</td>
<td>.15</td>
<td>.38</td>
<td>.29</td>
</tr>
<tr>
<td>PFEv</td>
<td></td>
<td>.45</td>
<td>.51</td>
<td>.07</td>
<td>.36</td>
<td>.32</td>
</tr>
<tr>
<td>PTEv</td>
<td></td>
<td>.39</td>
<td>.53</td>
<td>.08</td>
<td>.31</td>
<td>.30</td>
</tr>
</tbody>
</table>
Saliency of deafness as an identity in self-concept of ability (ID) was the only one of the major variables expected to have an inverse relation to PPEv, PFEv, and PTEv. Examination of Table 3.4 reveals that the data did not sustain this hypothesis. The observed association between these variables was very slight and in a positive direction.

Career development (educational and occupational) plans were related to perceived evaluations made by parents (PPEv), friends (PFEv), and teachers (PTEv) though not as closely as were SCA-D and SCA-P. Looking at the correlations in Table 3.4, it seems that parents among the three significant others have the strongest relationship with educational plans (\( r = .38 \)) and the weakest relationship with occupational plans (\( r = .29 \)). The largest correlation with occupational plans is held by PFEv (\( r = .32 \)) which is in the median (\( r = .36 \)) with regard to educational plans. PTEv had almost equal measures of association with both educational plans (\( r = .31 \)) and occupational plans (\( r = .30 \)). Curiously, these correlations place the perceived evaluations by teachers in the middle with respect to occupational plans and last in the order among these significant others with respect to educational plans. Further comment on the importance of these developments will be temporarily deferred. For now simply note that we have found a reasonable measure of positive association between these variables and that it
it appears that PPEv, PFEv, and PTEv are all directly related to educational and occupational plans among the deaf high school students.

The correlations in Table 3.4 lend support to the supposition of relationships between PPEv, PFEv, PTEv and each of the major variables except ID. The question remaining is how are these three types of perceived evaluations by significant others collectively related to the other variables? In this regard, AID will allow a thorough analysis of the interactions and the relative importance of these three kinds of evaluations. The resulting tree-type model as described in Chapter II will furnish a graphic illustration of the relationships between the variables considered.

SCA-D was previously found to be the major variable most highly correlated to the perceived evaluations of significant others. The correlation with PPEv was strongest but followed closely by PTEv and PFEv. Using AID to evaluate these others collectively in relation to SCA-D, we found that PTEv was the best overall predictor. In the first split of the AID tree-type model (Figure 3.1), PTEv was dichotomized between points six and seven (Range 1-15). This split accounted for 38.56% of the total variation in SCA-D and forms groups P_2 and P_3. Group P_2 was composed of forty four deaf students who perceived their teachers' evaluations of them to be fairly low. This group had a mean SCA-D score of 14.9. Members of group P_3 on the other hand perceived their teachers' evaluations of
FIGURE 3.1
PERCEIVED PARENT'S, TEACHER'S AND FRIENDS' EVALUATIONS
AND GENERAL SELF-CONCEPT OF ACADEMIC ABILITY

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 60.71%
them to be relatively high. This group had a mean SCA-D score of 18.3. A t-test of the difference between the means of these two groups indicated that this split was significant at the .05 level. *

Secondary splits in the model in Figure 3.1 continued to use PTEv as the best predictor of SCA-D. Students having low PTEv scores of one to four (P_8) had a mean SCA-D score of 13.4. The highest PTEv group (P_5) had a mean SCA-D score of 20.5. Subjects with PTEv scores of five or six (P_9) had a mean SCA-D score of 15.7, and those with PTEv scores of seven to nine (P_4) had a mean SCA-D score of 17.7. To this point in the model, the higher the PTEv score, the higher the SCA-D mean for the group. In all, the perceived teachers' evaluations account for 55.59% of the total variation in general self-concept of academic ability among the deaf youth in this study.

Only among students with middle-range PTEv scores (P_9 and P_4) did the perceived evaluations of parents and friends interact with PTEv to explain further variation in SCA-D. Looking at the model in Figure 3.1, we see the mean of SCA-D rise and fall in direct relation

*Students' t-test is used in the AID program to assess the significance of binary splits in the tree-type model. Requirements of the program specify a minimum of thirty (30) observations in subsequent groups in order for a split to occur when using this feature. Accordingly in this population (N = 100) such tests are generally not feasible beyond the first split.
to PPEv scores among those students with upper middle PTEv scores (P^9). In the lower middle of the continuum, P^9, the same relationship holds for PFEv. With PPEv contributing 3.51% explained variation and PFEv contributing 1.61% in this manner, the AID model is able to account for a total 60.71% of the variation in SCA-D among the members of this population.

The amount of variation in the self-concept of ability profile (SCA-P) explained using the perceived evaluation of significant others is considerably less than was the case for general self-concept of academic ability (SCA-D). The tree-type model produced using these variables in AID for SCA-P (Figure 3.2) shows a total of 35.35% explained variation. However, the patterns of interaction among the predictor variables in Figure 3.1 and in Figure 3.2 are similar.

Dividing the total group, P_1, of the model in Figure 3.2 into subgroups P_3 and P_2 is done once again between points six and seven of the PTEv scale. This time the first split accounts for 26.80% of the variation in SCA-P and is again significant at the .05 level. Students who perceive themselves as being highly evaluated by their teachers (P_3) have a mean SCA-P score of 3.19. Those who reported themselves as being less highly evaluated by their teachers (P_2) have a mean SCA-P of 1.93. Group P_2 is divided a second time using PTEv as the predictor variable forming groups P_7 and P_6. P_7 has a PTEv value of six and a mean SCA-P score of 2.16. PTEv
FIGURE 3.2
PERCEIVED PARENTS', TEACHERS' AND FRIENDS' EVALUATIONS AND THE SELF-CONCEPT OF ABILITY PROFILE

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 35.35%

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values one through five are found in group P₆ and these persons have a mean SCA-P score of 1.76. This secondary split of P₂ raises the total variation explained by predicting variable PTEv in this model to 27.96%.

Among those who see themselves as being highly evaluated by their teachers (P₃) the perceived evaluation by parents (PPEv) operates to separate them into two groups (P₄ and P₅). Group P₅ represents those who see themselves as highly evaluated by their parents (PPEv = 8+) and they have a mean SCA-P score of 3.49. Those in P₄ indicate that they are less highly evaluated by their parents (PPEv = 1-7) and have a mean SCA-P score of 2.53. In other words, low perceived parental evaluations appear to modify the high SCA-P scores predicted by high PTEv scores while high perceived parental evaluations seem to heighten them. Information from this split contributes 7.39% to the explained variation of the overall model in Figure 3.2.

In brief, general self-concept of academic ability (SCA-D) and the self-concept of ability profile (SCA-P) are both measures of personal self-identification. According to analysis using AID techniques, perceived teachers' evaluation is the best among the significant others on which data was collected for predicting these kinds of self-conceptions. Using PTEv in the first split of the tree-type models accounts for a large and significant amount of explained vari-

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ance in both SCA-D and SCA-P among deaf adolescents. But since we are dealing with self-identification in the role of students within a residential school, this result is not surprising.

Beyond this point, it seems that the influence of perceived teachers' evaluations may be modified by those of others. Among deaf youth who perceive themselves being rated fairly high by their teachers, PPEv is the second most important predictor. For those who see themselves as being evaluated less highly by teachers, PFEv seems to play a nominal role. In both categories, the mean self-concept is apparently modified in direct relation to either PPEv or PFEv. Due to sample size and other methodological restrictions, however, these findings are considered tentative and to be used primarily as hypotheses for further investigation.

In Table 3.3, the correlations between perceived parents', teachers', and friends' evaluations and the saliency of deafness as identity indicated that the association between these variables was very slight. The tree-type model produced using AID (Figure 3.3) confirms this finding. Of these three predictor variables only PFEv has a relationship to ID which explains any variation in the dependent variable. The total proportion of explained variance is 9.59%. However, none of the branches in this tree are significant at the .05 level and this result is not due to program restrictions.

Using AID to explore the relationship between perceived
TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 9.59%
evaluations made by significant others and future educational plans among deaf youth (Figure 3.4), we find that PPEv accounts for all of the explained variation (22.98% of the total) in model A without interacting with either PTEv or PFEv. This is consistent with our earlier finding (Table 3.4) that PPEv had the strongest correlation with educational plans of these three significant others.

The first split of model A (Figure 3.4) explains 13.61% of the total variation and divides the total group $P_1$ high and low into sub-groups $P_3$ and $P_2$. Group $P_3$ is composed of fourteen students who generally plan to acquire a post-secondary education ($\bar{X} = 5.14$) and parental evaluations are perceived by these students to be quite high (10+). Members of the larger group $P_2 (N = 84)$ generally plan to graduate from high school ($\bar{X} = 3.46$) and have a PPEv score of one to nine. The later group can be split again. People in this group having PPEv scores six through nine ($N = 67$) will comprise subgroup $P_5$ while those with PPEv scores one through five will fall into group $P_4 (N = 17)$. At this point in the model it looks like our dependent variable is directly related to PPEv. Group $P_4$ has a mean of 2.53, group $P_5$ has a mean of 3.70, and group $P_3$ has a mean of 5.14 for educational plans. This accounts for 21.11% of the variation present in the dependent variable. However, a tertiary split of $P_5$ reveals that there is an anomaly in category six of the PPEv scale. This category contains fourteen people and has a mean of 4.21 for

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FIGURE 3.4
PERCEIVED PARENTS', TEACHERS' AND FRIENDS' EVALUATIONS AND EDUCATIONAL PLANS

**Model A**

- **P1**
  - Value: 3.70
  - N = 98

**P2**

- Value: 3.46
- N = 84

**P3**

- Value: 5.14
- N = 14

**P4**

- Value: 2.53
- N = 17

**P5**

- Value: 3.70
- N = 67

**P6**

- Value: 4.21
- N = 14

**P7**

- Value: 3.57
- N = 53

**Model B**

- **P1**
  - Value: 3.70
  - N = 98

**P2**

- Value: 3.39
- N = 64

**P3**

- Value: 4.29
- N = 34

**TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE**

(BSS/TSS) = 22.98%

(BSS/TSS) = 7.30%

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educational plans. But close examination reveals nothing atypical about this group in regard to the other variables on which data has been collected. The high mean for this group is believed to be spurious or perhaps fostered by factors outside the scope of the study. In any case, the split contributes only 1.87% to the amount of variation explained in the tree and will not be considered further.

Looking at model A (Figure 3.4) as a whole, we note in the branching process that subsequent groups tend to be numerically asymmetrical. With a small number of subjects in this situation, a t-test for the significance of the difference between the means is not appropriate. Employing this test in the AID analysis of these variables results in a drastic change in the tree as shown in model B (Figure 3.4). Comparing model A and model B, we find that PFEv replaces PPEv as the predictor variable thereby reducing the total proportion of variance explained by the tree to 7.30%. But further investigation shows that the first split in model A accounts for 13.61% of the total variation which is substantially greater than the total amount explained in model B. On the basis of these results, we conclude that PPEv does not interact with PFEv or PTEv and is superior among these significant others in predicting the future educational plans of the subjects in this study.

The AID analysis of significant others and occupational plans produces unexpected results. Model A of Figure 3.5 shows PPEv
FIGURE 3.5
PERCEIVED PARENTS', TEACHERS' AND FRIENDS' EVALUATIONS AND OCCUPATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE (BSS/TSS) 15.04%

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE (BSS/TSS) = 9.99%

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to be the best predictor among the significant others accounting for 15.04% of the total variation in occupational plans. Employing the t-test with its program restrictions, Model B (Figure 3.5) shows PTEv accounts for 9.99% of the total variation. But the correlations from Table 3.4 had suggested that PFEv, PTEv, and PPEv would be the descending order of the degree of association. The results are therefore inconclusive and somewhat contradictory. The exact nature of the relationship between significant others and occupational plans cannot be determined by the analysis of this data and should be subject to further investigation.

Saliency of Deafness and Future Plans

In the previous section, we found that saliency of deafness as a personal identity (ID) was not associated with the students' perceptions of the evaluations made of them as students by their parents, teachers, and friends. In this portion of the chapter we are to determine the relationship between ID and future plans. Our theoretical expectations, discussed earlier, are as follows:

1. Saliency of deafness in self-concept of academic ability is inversely related to future educational plans.
2. Saliency of deafness in self-concept of academic ability is inversely related to future occupational plans.
3. The inverse relationship between saliency of deafness
and educational plans will be greater than the inverse relationship between saliency of deafness and occupational plans.

The second objective in this section is to examine the efficiency added by ID to the predictions made in forecasting career plans by PPEv, PTEv, and PFEv. This is done using multiple regression analysis by comparing the coefficient of determination for a "restricted" model containing these three significant others with the same coefficient for a "full" model which also has ID. The procedures are the same as those used in the first part of this chapter for career plans and self-concept of academic ability.

In zero-order correlation between ID and educational plans $r = -0.07$. Between ID and occupational plans $r = +0.09$. Although there is a slightly negative relationship between ID and educational plans, and a trend in the direction predicted in statement three of this section, the amount is so weak in both cases that we must conclude there is little or no association between these variables.

As a result of these findings, we do not believe that ID will contribute to the utility of the restricted model containing PPEv, PTEv, and PFEv in predicting further educational and future occupational plans. The findings presented in Tables 3.5 and 3.6 sustain this expectation. Saliency of deafness as an identity increases the amount of variation explained by the restricted model ($R^2$) barely
TABLE 3.5
ASSESSING THE ADDITION OF SALIENCY OF IDENTITY TO SIGNIFICANT OTHERS IN PREDICTING LEVELS OF EDUCATIONAL PLANS

<table>
<thead>
<tr>
<th>Model and Variables</th>
<th>R</th>
<th>R²</th>
<th>Significance of Difference in Obtained Explained Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPEv + PTEv + PFEv</td>
<td>.40</td>
<td>.16</td>
<td></td>
</tr>
<tr>
<td>Full Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted model above + ID</td>
<td>.42</td>
<td>.18</td>
<td>F = 0.45 (N.S.)</td>
</tr>
<tr>
<td>df = 4/95</td>
<td></td>
<td></td>
<td>α = .05</td>
</tr>
</tbody>
</table>

TABLE 3.6
ASSESSING THE ADDITION OF SALIENCY OF IDENTITY TO SIGNIFICANT OTHERS IN PREDICTING LEVELS OF OCCUPATIONAL PLANS

<table>
<thead>
<tr>
<th>Model and Variables</th>
<th>R</th>
<th>R²</th>
<th>Significance of Difference in Obtained Explained Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPEv + PTEv + PFEv</td>
<td>.34</td>
<td>.118</td>
<td></td>
</tr>
<tr>
<td>Full Model:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restricted model above + ID</td>
<td>.35</td>
<td>.122</td>
<td>F = 0.10 (N.S.)</td>
</tr>
<tr>
<td>df = 4/95</td>
<td></td>
<td></td>
<td>α = .05</td>
</tr>
</tbody>
</table>
2% in the case of educational plans (Table 3.5) and less than 1% for occupational plans in Table 3.6. Neither increase, of course, is significant. Therefore, the null hypotheses of no difference are not rejected in either case and hypotheses $H_3$: $R_2^2 > R_1^2$ and $H_4$: $R_2^2 > R_1^2$ cannot be accepted. We conclude that ID as measured herein contributes little or nothing to the explanation of either educational or occupational plans made by the deaf students in this study.

AID: In Search of Characteristics

The fourth and final goal of this investigation was to employ the capabilities of AID procedures to generate models of the social and social psychological characteristics associated with the self-concept of ability profile, saliency of deafness as an identity, and future educational and occupational plans among deaf youth. In addition, the findings previously presented from the Melichar tests of the net contributions made by SCA-P and ID—in research objectives one and two, respectively—to models predicting educational and occupational plans suggested supplementary analysis of these relationships using the AID techniques applied to the investigation of significant others and deaf high school students in research objective number two. The results of these efforts are given in two parts beginning with the supplementary analysis of SCA-P and ID.

The traditional predictors, impairment level, age at onset
of deafness, mode of communication, IQ, socio-economic status, and sex which make up the restricted model of educational plans in Table 3.2 were used to produce the tree-type model presented in Figure 3.6. As this part of the inquiry is exploratory, school grade level was also included as a possible background variable. And, to further aid the search process, the t-test was omitted from the AID procedure.

The first split of the tree in Figure 3.6 was executed selecting mode of communication as the best predictor. Students using oral techniques or gestures (P3) had a mean of 3.92 for educational plans, while those using manual or combined techniques (P2) had an average of 3.29. Those in the higher group P3 were born deaf or became deaf during their first year. Their average of 4.13, indicates that they generally had plans to go on for post-secondary education. This was especially true among the boys (P7) in the group who had a mean of 4.31 for educational plans. The girls in this group (P6), however, were slightly below the overall mean of 3.70 for the population with an average of 3.60 for educational plans. Those who were not born deaf and became deafened after two years of age (P5) had a mean for educational plans of 3.60. Within the later group it seemed that those with low socio-economic backgrounds had a higher level of plans (4.28) than other members of group P5 coming from higher socio-economic backgrounds. The total variation in educational plans accounted for using these variables was 11.08%.
FIGURE 3.6

BACKGROUND CHARACTERISTICS AND EDUCATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE (BSS/TSS) = 11.08%
The model in Figure 3.7 had SCA-P in addition to the variables above. This model accounted for a total of 21.73% of the variation in educational plans. The first branch in the model utilized SCA-P to dichotomize educational plans and accounted for 7.41% of the total variation. Deaf students whose profile showed that they scored high in self-concept of academic ability with respect to both deaf and non-deaf reference groups (P3) had a mean of 4.29 for educational plans. For these students, the results indicated that further differentiation was dependent upon SES; the higher the socio-economic background, the higher the level of educational plans. For students whose profile showed they had low scores on the SCA-NI, the SCA-I, or both, the average level of educational plans was 3.38. This group (P2) was divided again using mode of communication as the predictor. Young people who used oral techniques or gestures to communicate (P5) had a mean of 3.60 for educational plans while those who were classified as using manual communication (P4) had a mean of 3.00. This last result was consistent with the finding for mode of communication in the previous model (Figure 3.6). Branches beyond this point used SES as the best predictor. The results are contradictory to the trend in the upper fork of this tree model (see P6). But, finding that students in groups P4 and P5 with higher socio-economic backgrounds tend to have lower levels of educational plans is consistent with the findings for SES in Figure 3.6.
FIGURE 3.7

BACKGROUND CHARACTERISTICS, SELF-CONCEPT OF ABILITY
PROFILE, AND EDUCATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
\[(BSS/TSS) = 21.73\%\]
Reviewing the tree models in Figures 3.6 and 3.7 has indicated that SCA-P was an important predictor of educational plans among the deaf youth in this study and that it contributed a considerable amount of explanatory power in addition to that available from traditional background variables. Inquiry has further suggested that among the traditional variables for which data was collected, mode of communication and socio-economic status were the most important in studying these kinds of plans. Final comments and interpretations of the results will be deferred until later.

The supplementary investigation of traditional variables and SCA-P with regard to occupational plans was done in the same manner already reported for these variables and educational plans. Figure 3.8 shows that traditional variables from the "restricted" model account for 18.21% of the total variation in occupational plans. The most important variable in this tree was socio-economic status. Over one half (9.14%) of the variation explained in the model was accounted for using SES. The higher the socio-economic background, the higher the level of occupational plans.

Following the first binary split, two other traditional variables entered the model. To begin, the onset of deafness seemed very important to students having low SES ($P_2$). Those born deaf or deafened before age one had a lower level of occupational plans ($\bar{X} = 21.6$) than did those deafened after two years of age ($\bar{X} = 36.4$).
This finding, however, was contrary to the behavior of "onset of deafness" as a variable in the previous tree-type model predicting educational plans (Figure 3.6).

In the upper branch of the tree (Figure 3.8), students with high SES in the initial split (P_3) were divided according to grade levels. Youngsters in grades eight through ten (P_4) had a mean of 41.3 for occupational plans and those in grades eleven and twelve (P_5) had an average of 35.6. Both groups P_4 and P_5 were subsequently divided using SES a second time. The general trend for SES in this model was again maintained.

The final branch of this tree indicated that young people in grades eight through ten, of middle range (6-11) socio-economic status, could be separated on the basis of sex. Girls (P_11) had a mean of 45.5 and the boys (P_10) averaged 27.9 for occupational plans. This was the only case in this study where the mean for career development plans was higher among girls than it was for boys.

The addition of SCA-P to the variables above completing the "full" model (Figure 3.9) increased the variation explained by the tree to 26.05%. SCA-P was selected as the best predictor for the first branch of this model. Students with high SCA-P (P_3) had a mean of 41.0 for occupational plans while those with lower SCA-P scores (P_2) had a mean of 27.8. This split accounted for 9.36% of the total variation in occupational plans.
FIGURE 3.8
BACKGROUND CHARACTERISTICS AND OCCUPATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 18.21%

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Secondary branches of the tree used SES, dichotomizing high and low according to levels of socio-economic background. This development continued a trend indicating a positive relationship between socio-economic background and occupational plans and was present in both the full and restricted models (Figures 3.8 and 3.9).

Mode of communication was the variable responsible for the tertiary splits in Figure 3.9. This variable operated in the highest ($P_5$) and the lowest branches ($P_{10}$) distinguishing students who used manual techniques as having a lower average for occupational plans than their counterparts who used other communication techniques (See $P_{12}$ and $P_6$).

The last split of this model indicated that young people who have high self-concept of ability with respect to both deaf and non-deaf reference groups, who come from higher socio-economic backgrounds, and are not dependent upon manual techniques for communication have the highest average level of occupational plans ($\bar{X} = 57.3$) among the deaf high school students in this population.

The final portion of this supplement to our earlier analysis is concerned with the role that saliency of identity plays in combination with significant others to explain educational and occupational plans. In the case of educational plans, the answer is--none. AID analysis of significant others plus ID predicting educational plans results in the same tree shown previously in Figure 3.4 - Model A, which
FIGURE 3.9
BACKGROUND CHARACTERISTICS, SELF-CONCEPT OF ABILITY PROFILE AND OCCUPATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE (BSS/TSS) = 26.05%
presents PPEv, PTEv, and PFEv alone.

For occupational plans, however, there was a slight increase in the amount of explained variation for the tree in Figure 3.10 (17.91%) over the original model in Figure 3.5 (15.04%). The difference was that students with low PPEv scores (1-8) who had high saliency scores (six to seventeen) also had higher occupational plans ($\bar{X} = 36.5$) than the other people in group $P_2$ with low ID scores ($\bar{X} = 27.5$).

In summary, the supplementary analysis considered in this section generally sustained our earlier findings. SCA-P was found to be an important and valuable predictor of future plans whereas ID was not. In addition, the AID analysis of these relationships indicated that SES, mode of communication, and age at onset were the most important predictors of these kinds of plans among the traditional variables selected for the restricted models. Less frequently, age (i.e., grade level) and sex were found to be important background variables. Those variables remaining in this group were not selected by the AID search procedure for use in explaining variation in education and occupational plans among deaf youth.

The remainder of this section is devoted to the search for social and social psychological characteristics associated with the self-concept of ability profile, saliency of deafness as an identity, and future educational and occupational plans. We have employed the AID program as a strategy for inductive, multivariate model
FIGURE 3.10

SIGNIFICANT OTHERS, SALIENCE OF IDENTITY AND OCCUPATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 17.91%

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building using the variables for which data has been collected. The results will be incorporated in the following chapter with suggestions for future research.

SCA-P was the first major dependent variable explored. As a result, we found that mode of communication, and saliency of identity increased the total proportion of variance explained by the tree in Figure 3.11 to 43.86% over the amount explained by a similar model in Figure 3.2 (35.35%). In both models, PTEv was responsible for the first split. Students who perceived their teachers as having low evaluations of them, had a mean SCA-P of 1.93. Those who perceived the opposite had a mean of 3.19. In the latter group ($P_3$) PPEv scores continued to differentiate students in relation to SCA-P. Those with high PPEv scores ($8^+$) had a mean of 3.49, while those with low PPEv scores (1-7) had an average of 2.53.

The uppermost branch of this tree contained students with high PPEv and PTEv scores who were low on saliency of deafness as an identity. Their average for SCA-P was 3.72. Young people with high saliency of deafness as an identity ($7^+$) declined in average SCA-P to 2.80 even though they were high in the two previous categories.

Deaf students with low PTEv ($P_2$) split secondarily using mode of communication as the predictor variable. This was a departure from the earlier tree (Figure 3.2) in which group $P_2$ split a second time using PTEv. Mode of communication in the later model (Figure
FIGURE 3.11

BACKGROUND CHARACTERISTICS, SIGNIFICANT OTHERS, SALIENCE OF IDENTITY, AND SELF-CONCEPT OF ABILITY PROFILE

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE (BSS/TSS) = 43.86%

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3.11) divided the students from group $P_2$ into group $P_7$ which was composed of oral and manual communicators and group $P_6$ in which everyone used gestures of combined communication techniques. However, this division was not entirely logical nor was it consistent with earlier results obtained with this variable (See Figures 3.6, 3.7, and 3.9). The lower group $P_6$ was dichotomized high and low for the last time according to PPEv values. Those with low PPEv scores had a mean of 1.30, while those with higher values had an average of 1.80 for SCA-P.

The relatively disjointed relationship of ID to the other variables in the study was demonstrated in previous findings. The predictive characteristics selected by the AID program for this dependent variable offered us an indication of its distinct nature. Examination of the results in Figure 3.12 shows that the age of onset of deafness and the degree of the impairment were prime predictors of saliency of deafness as an identity. These background characteristics were relatively important to our previous models but account for 18.73 out of 25.70% of the total explained variation in ID. This was considerably better than the explained variation afforded by perceptions of significant others alone (Figure 3.3). Students born deaf or who became deafened during their first year ($P_2$) had a lower ID ($\bar{X} = 3.91$) than the people who were deafened after two years of age ($\bar{X} = 5.72$). Somewhat surprisingly, this result was entirely due to those who were
FIGURE 3.12

BACKGROUND CHARACTERISTICS, SIGNIFICANT OTHERS
AND SALIENCE OF IDENTITY

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS = 25.70%)

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deafened at age two \( (N = 14) \). This group \( (P_8) \) had the highest value for saliency of deafness \( (\overline{X} = 7.21) \) in the population. The rest of the group \( (P_7) \) reverted to the overall mean of 4.56.

The young people whose hearing became impaired at birth or shortly thereafter \( (P_2) \) were distinguished according to the degree of their loss. Upper classmen in this hearing loss category had high or low saliency according to their socio-economic background. Low SES in group \( P_7 \) led to a high ID \( (\overline{X} = 5.00) \) as compared with higher SES members averaging 2.70.

The results of this tree suggest that loss of hearing in early childhood (two years) and profound impairment may be critical to the saliency of deafness as an identity in self-concept of ability. Grade level, socio-economic background and PTEv seem only to modify trends set by these factors.

The final objective of this inductive search is to generate models for educational and occupational plans among deaf high school students which have the greatest explanatory power given the social and social psychological variables on which data has been collected. Figure 3.13 contains the resulting tree-type model for educational plans. The total proportion of variance explained by the tree is 28.30%. The first two binary splits of this model are identical to model A in Figure 3.4 until group \( P_5 \) appears. At this point, PPEv in Figure 3.4 is replaced by ID. Students in this group who were low

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FIGURE 3.13

SOCIAL AND SOCIAL PSYCHOLOGICAL CHARACTERISTICS ASSOCIATED WITH EDUCATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
(BSS/TSS) = 28.30%
in saliency had a higher average (4.07) for educational plans than those who manifested high saliency for deafness as an identity ($\bar{X} = 3.45$). The boys in group $P_6$ reported higher levels of plans ($\bar{X} = 4.44$) than the girls ($\bar{X} = 3.55$) placing second in educational plans to group $P_3$ which had very high PPEv scores. Students for whom deafness is highly salient ($P_7$) had a mean of 3.45 for educational plans. This average was modified by SCA-P. Those who scored high or low on both SCA-NI and SCA-1 (i.e., the extremes of SCA-P) had a higher level of plans ($\bar{X} = 3.85$) than those who were inconsistent in their self-concept of academic ability on these scales ($P_8$).

The final model in this study, one for occupational plans, followed a pattern of development similar to the model just discussed. The tree presented in Figure 3.14 incorporates the model given earlier in Figure 3.5. In both models, PPEv was the primary predictor variable accounting for 15.04% of the total variation explained. This represented all of the explained variation among students with high PPEv. However, variation in occupational plans among young people who reported low PPEv ($P_2$) can be further explained.

First, those with low socio-economic backgrounds ($P_4$) had lower levels of occupational plans ($\bar{X} = 27.6$) than those with high SES ($P_5$). This group ($P_4$) was further differentiated by the age of onset of deafness. Those born deaf or who became deafened during their first year, had a lower mean ($\bar{X} = 22.9$) for occupational plans than
FIGURE 3.14

SOCIAL AND SOCIAL PSYCHOLOGICAL CHARACTERISTICS ASSOCIATED WITH OCCUPATIONAL PLANS

TOTAL PROPORTION OF VARIANCE EXPLAINED BY TREE
\[(BSS/TSS) = 27.38\%\]
those who were deafened after two years of age ($\bar{X} = 34.3$). The latter group ($P_7$) was further differentiated by ID. High saliency of deafness ($P_{11}$) was associated with higher levels of occupational plans ($\bar{X} = 42.8$) than was the case for low ID ($\bar{X} = 25.8$). The students who were deaf at birth or shortly thereafter ($P_6$) were further distinguished by their mode of communication. Manual or combined forms of communication were more often associated with higher levels of occupational plans ($X = 29.0$) than were gestures or oral techniques.

In short, for this tree, high parental evaluations and high socio-economic background were the primary predictors of high occupational plans. Persons without high PPEv or high SES were primarily influenced by their etiology, the saliency of deafness as an identity and by their principle mode of communication. The implications of these and other findings in this chapter for theory and future research will be discussed more fully in Chapter IV.
CHAPTER IV

CONCLUSIONS

The primary purpose of this research was to study the relationship between deafness as an identity in self-concept of academic ability and future educational and occupational plans among deaf adolescents. Secondary objectives were aimed at exploring some of the related social and social psychological variables which could influence self-concept and career development plans. With a brief review of the framework of the investigation, this chapter will offer a discussion of the implications stemming from our findings and will conclude with suggestions for future research.

Summary and Discussion of the Investigation

From the review of the literature, it was clear very early in the study that a high proportion of deaf people were concentrated in occupations below their capabilities. During the past decade, the demand was frequently made for information and tools to help resolve this situation. A high priority was given to self-conceptions of competency by rehabilitation people and educators of the deaf who frequently stressed its importance in career development. Unfortunately, the utility of such information had not been established in social research.

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Prior studies were frequently hampered by inappropriate instrumentation, limited analytic techniques and/or the absence of theory which focused specifically upon the problem. This investigation has attempted to remedy these limitations in a number of ways. One, we employed scales and procedures developed and validated by Joiner and Erickson (1967) for assessing social psychological characteristics of hearing impaired students. Secondly, we utilized multiple regression and automatic interaction detection techniques to examine the interactive effects of multiple conditions in the analysis of our data. Finally, and most importantly, we began the inquiry by formulating our research questions from symbolic interaction theory which had been previously used to successfully account for career behaviors. This resulted in four major objectives.

Research Objective One

The first objective was to determine whether a profile of self-concept of ability in school had predictive utility in forecasting career development plans among deaf high school students. Prior research had indicated that self-concepts of ability were functionally limiting to career plans and that a positive or high self-concept was a necessary but not sufficient condition for a corresponding behavior in career development.

Theoretically, if an individual is seen by other people as belonging to particular social categories, his own self-concept may
reflect the common assessments of the attributes associated with these categories. This suggested that deaf students would compare themselves to more than one reference group when appraising their ability. Not only would they consider themselves in relation to other deaf people, but also in relation to those who were not deaf. Two scales developed by Joiner and Erickson (1967) were used to measure these comparisons. The only difference between the scales was the reference group being considered.

The result was a profile with four possible outcomes: high-high, high-low, low-high, and low-low, respectively comparing self-concept of ability to other deaf and non-deaf students. Our hypothesis was that educational and occupational plans would be ranked in the order of the outcomes above. That is the highest plans would be associated with "high-high" from the profile, etc. The "L" test of this rank order showed the findings were significant with alpha set at .05 and the null hypothesis was rejected.

The basic underlying theoretical assumptions in this study were that men act toward things on the basis of the meanings these things have for them; meanings for such things are derived from social interaction; and these meanings are handled in and modified through interpretation by the individual. Knowing the individual's interpretation of the situation is indispensable for understanding his behavior. The results of the "L" test support the theoretical contention

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that the self is a social object with meanings to be considered like any other social object. The SCA-P was found to be a good predictor of future educational and occupational plans among deaf youth and showed a strong potential for use as a tool in forecasting career development.

However, we were unable to conclude that SCA-P adds to our efficiency in predicting educational and occupational plans over that obtained from traditional variables. Although the increases due to SCA-P in the explained variance of these plans appeared dramatic, use of the Melichar formula to test the net contribution by the profile indicated no increase of statistical significance within the limits (.05) set by the study. Because of the small sample (N = 100) and its effects upon the test, and in view of the earlier findings, it is suggested that these results be verified before adopting or discarding the profile as a tool in forecasting career development among young deaf adults.

**Research Objective Two**

In addition to the basic theoretical assumptions discussed in the previous objective, the symbolic interactionist orientation also contends that an individual experiences himself, not directly, but only indirectly from the particular viewpoints of other individuals of the same social group or from the generalized standpoint of the social group as a whole to which he belongs. Our second objective
was to explore the relationship between significant others and deaf high school students. Specifically, we were to determine the relationship between deaf students' perceptions of the evaluations made of them as students by their parents, teachers, and friends, and self-concept of academic ability, saliency of deafness as an identity, and future educational and occupational plans. The principal methods of analyzing these relationships were zero-order correlations between the individual variables and AID analysis of the combined influence of these significant others upon each of the other four variables.

Self-concept of ability was measured in two ways: the general self-concept of academic ability scale adapted and cross-validated for use with hearing impaired populations (SCA-D) and the self-concept of ability profile (SCA-P) discussed earlier. These two scales had positive correlations with student perceived evaluations made by parents, teachers, and friends. The magnitude of the correlations and the results of the AID analysis indicated that a reasonably large amount of variation in the dependent variable was accounted for using PPEv, PTEv, and PFEv as predictor variables. This finding was consistent with the theoretical proposition that self-identification is dependent in large part upon interpretations of the viewpoints of other individuals of the same social group.

SCA-D and SCA-P also had the highest zero-order correlations of the major variables considered in relation to students'
perceptions of evaluations made by significant others. The findings here suggested that parents, teachers and friends was the order of importance for significant others relative to SCA-D. For SCA-P, the suggested order was PPEv, PFEv, and PTEv. However, in both cases, all three correlations were relatively similar with no differences of substantial margin between them.

AID analysis of the combined influence of these three variables indicated that PTEv was the most determinative. For both SCA-D and SCA-P, the higher the teacher's evaluation perceived by the student, the higher self-concept of ability was found to be. Inasmuch as the teacher's role is complementary and superior to that of the students, this result was not surprising. It was theoretically consistent for self-identification in a residential school and expected from prior research. However, this relationship was modified by the influence of PPEv and PFEv. Among deaf students who perceived themselves being rated fairly high by their teachers, parents were the second most important influence. For those who saw themselves less highly evaluated, friends seemed to play a nominal role. In both cases, the self-concept was modified in direct relation to either PPEv or PFEv. Due to sample size and other methodological restrictions, noted earlier, these last findings are tentative and intended primarily as sources of hypotheses for future research.

Saliency of deafness as an identity was not closely associated with student perceptions of evaluations by significant others. Zero-
order correlations between these variables showed a very slight, positive association. AID analysis confirmed this observation. As a result, we can safely conclude that ID was independent of these other three predictor variables.

The perceived evaluations of significant others were found to be directly related to educational and occupational plans. Students' perceptions of evaluations made by parents was determined to be the most important of the three significant other variables in predicting career development plans among the deaf youth in this study. Zero-order correlations between these predictor variables and educational plans showed PPEv to be the strongest, followed closely by PFEv and then PTEv. Even though the students apparently considered teachers' evaluations most important in self-concept of academic ability, it seems that PTEv was the least important of the three significant others in planning further education. AID analysis of these relationships confirmed this finding.

In terms of occupational plans, the results were not as conclusive. The zero-order correlations between the variables indicated that friends had the most influence followed by teachers and parents. Once again the correlations were quite close in magnitude. But, AID analysis of the combined effects suggested the reverse order of importance among these three variables in predicting occupational plans. The results were somewhat contradictory and there-
fore inconclusive. We found that the exact nature of this relationship cannot be determined by the analysis of this data and should be subject to further research.

In short, research objective two was concerned with exploring some of the relationships between significant others and deaf high school students. Our findings have generally supported the theoretical proposition that perceived evaluations made by parents, teachers and friends play an important part in the manner in which a person identifies himself. The major findings from this part of the inquiry may be summarized as follows:

1. Self-concept of ability and career development (educational and occupational) plans as measured in this research were directly related to the evaluations of significant others perceived by deaf youth in this study.

2. Self-concept of ability was influenced most strongly by the perceived evaluations of teachers. It was evident that parents could exert an important influence upon those students who were evaluated relatively high by teachers and that friends played a role in modifying the effects of PTEv upon self-concept of ability among students less highly evaluated by teachers. This last observation, however, was tentative and is subject to further specification in future research.
3. Perceived parental evaluations were clearly the most important of the three significant others in this study in predicting educational plans. However, the evidence concerning the nature of the relationship between significant others and occupational plans was inconclusive.

4. As a variable, saliency of deafness in self-concept of ability was found to be independent of PPEv, PTEv, and PFEv.

Research Objective Three

Returning to a theoretical point, we have previously noted that the symbolic interactionist perspective maintains that an individual experiences himself, not directly, but only indirectly from the particular standpoints of other individuals of the same social group or from the generalized standpoint of the social group as a whole to which he belongs. Deafness was posited on the basis of literature reviewed in the first chapter to be a stigmatizing social identity. That is, stigmatizing in the sense that it is considered an undesirable differentness by society as a whole. Our investigation into the relationships of PPEv, PTEv, and PFEv assessed the influence of three significant others upon future educational and occupational plans. We included saliency of deafness as an identity (ID) in the study to measure the general influence of the larger social group.

Results of the previous research objective indicated that ID
was independent of the perceived evaluations of parents, teachers, and friends. The aim of the third research objective was to assess the relationship of this variable to future plans and to determine whether or not it added to the efficiency of PPEv, PTEv, and PFEv in predicting career development plans among deaf adolescents. This inquiry employed zero-order correlations and the Melichar formula as methods to respectively answer these two questions.

The results of the investigation were that ID had little association with the future educational and occupational plans of this population and did not add significantly to the prediction of these plans over that made by variables measuring the influence of perceived significant others' evaluations. On this basis, we concluded that the saliency of deafness in self-concept of ability plays no measurably significant role in forecasting career development plans among the deaf youth in this study. This finding enhances the view that deaf people may be influenced by comparing themselves to similarly impaired people and non-impaired people, and the inherent limitations of their impairment, but they are not necessarily inhibited in their educational and occupational plans by the saliency of deafness as an identity in personal self-identification.

Research Objective Four

The final objective of this study had an inductive rather than a deductive purpose. The first two parts were to corroborate the
findings of objectives one and three concerning the predictive utility of SCA-P and ID, respectively. The AID models of traditional background variables with and without SCA-P showed that the profile was an important predictor contributing a substantial amount of predictive efficiency over traditional variables alone in forecasting educational and occupational plans in this population. The AID analysis of ID on the other hand, indicated that saliency of deafness in self-concept of ability added little to the variation explained by the perceived evaluations of parents, teachers, and friends.

Our principle aim in this section of the investigation, however, was to use AID techniques to generate models of the social and social psychological characteristics associated with the self-concept of ability profile, saliency of deafness as an identity, and educational and occupational plans among the deaf youth in this study. To do this, we entered into the AID program each of these four as dependent variables and all other appropriate variables on which data had been collected as possible independent predictors. The final tree-type models produced of these relationships will now be reviewed.

Socio-economic background, sex, age at the onset of deafness, degree of impairment, method of communications, grade level, I.Q., and the perceived evaluations of parents, teachers, and friends were the independent variables entered into the AID program as possible predictors of saliency of deafness as an identity in self-concept of
ability. The tree-type model resulting suggested that loss of hearing in early childhood (two years) and profound impairment were the critical factors in high saliency. Grade level, socio-economic background, and perceived teacher evaluations seemed only to modify these trends.

Realization that one became deafened while learning language skills which are so difficult for deaf students could reasonably account for part of this result. Similarly, it is not surprising that saliency of deafness is directly associated with the degree of impairment or that lower levels of saliency tend to be found in the upper grades. These findings of course would require further specification but could serve as the bases for hypotheses in future research.

What is surprising is to find that age two is critical in saliency of deafness, that high socio-economic background is associated with lower levels of saliency among upper classmen, and that low teacher evaluations are associated with low saliency of deafness as an identity. Are upper classmen from low socio-economic backgrounds penalized more for this identity than their counterparts from higher socio-economic backgrounds? Certainly it is incongruent with our theoretical perspective to find that perceived high teacher evaluations are associated with high saliency of deafness in self-concept of academic ability. And why should age two years be more highly associated with ID than ages one or three? These findings are puzzling and
without immediate reasons for existence. The next logical step in the inductive design would be to verify these relationships using a different population before venturing new theoretical explanations.

Saliency of deafness as an identity was added as a predictor to the variables above in the AID program to produce a model for SCA-P. The resulting tree explained 43.86% of the variance in the self-concept of ability profile. According to this model, perceived high teacher and parental evaluations and low saliency of identity were directly related to a high self-concept of ability profile. These findings were consistent with our theoretical expectations that a person tends to view himself as he thinks others view him, and that saliency of deafness as an identity would be an inhibiting factor in high self-concept of ability.

The implications of the other feature (mode of communication) in the model were not clear. The results suggested that oral and manual communicators among students who perceived low teacher evaluations had higher SCA-P scores than did those who used gestures or combined techniques for communication. Finding that students using manual communication techniques had higher scores than did those using any of the other techniques was not consistent with the pattern established earlier by this variable in predicting educational and occupational plans. But, it is certain that this variable can be an important source of explanation and should be investigated further.
All of the background variables in the previous two models plus ID and SCA-P were available as predictors in the AID program to fashion the final model of educational and occupational plans. The key variable in both of these models was perceived parental evaluations. The higher the PPEv score, the higher the level of plans reported. Deaf youth with the lower PPEv scores were further differentiated by other factors.

Looking first at educational plans, we found that students having PPEv scores in the middle-range were differentiated by the saliency of deafness as an identity. Those in this category, especially boys, with low saliency of deafness as an identity were found to have higher level educational plans than students in the group with high saliency of deafness as an identity. This last group (i.e., middle range PPEv and high ID) were further differentiated by the self-concept of ability profile. Students who were either high-high or low-low on the profile had above average educational plans while those who were inconsistent in their self-comparisons were below average. This last result was the only finding in the study which was inconsistent with our theoretical expectations for SCA-P. All of the other models reported the profile operation in a monotonic fashion. The other features of this model were as anticipated.

The final model for occupational plans was similar to that of educational plans in that the principle predictor was again PPEv.
For those who reported lower PPEv values, the variables distinguishing them with regard to occupational plans were different from the variables which were associated with educational plans. The first distinction was in terms of socio-economic status. Persons in the group from higher socio-economic backgrounds tended to have higher occupational plans than those from low socio-economic backgrounds. Among the latter, there were three major factors further differentiating one from another: age at onset of deafness, saliency of deafness as an identity, and mode of communication.

Examining these three in order, it appeared that adolescents who were deafened in early childhood had higher occupational plans than those who were deaf at birth or shortly thereafter. In the upper group, the key seems to be whether a person has a high saliency of deafness as an identity. Students in this group with low saliency of deafness as an identity had educational plans more in line with the other members of the group who were born deaf or were deafened by age one. This finding suggested that deaf adolescents with perceptions of low parental evaluation, who came from low socio-economic background, who were deafened after two years of age and were highly conscious of deafness as an identity may be experiencing some form of reaction formation. That is, they seemed to feel that they could attain the same level of occupation (or higher) as any other member of their group. Whether their plans are realistically attainable is
perhaps a moot question as only the passage of time will tell.

The implications of the other feature (mode of communication) in the model were not clear. The results suggested that perhaps oral only and manual only students who perceive low teacher evaluations have higher self-concepts of ability profiles than those who used combined techniques, a number of techniques, or gestures only for communication. Our findings at least were in accord with such a generalization. However, this was not an initial concern in the study, it was a serendipitous outcome and the investigation should be expanded before this result is given any considered weight. As pointed out in subsequent discussion, certain methodological limitations will be removed in the next phase of this research. For the present, our findings relative to these dimensions are purely descriptive.

Summary

Encapsulating the entire study, we arrive at the following conclusions:

1. The results of the inquiry generally support the theoretical propositions suggested by the symbolic interactionist perspective.

2. Significant others clearly played an important part in self-conceptions of the deaf adolescents in this population.
   a. PTEv was the most important of the three significant others tested in self-concept of ability.
b. PPEv was the most important of the three significant others tested in predicting future educational and occupational plans.

3. Saliency of deafness as an identity in self-concept of academic ability does not add significantly to the efficiency of PPEv, PTEv, and PFEv in predicting educational and occupational plans.

4. The self-concept of ability profile (SCA-P) developed in this study for predicting educational and occupational plans among deaf adolescents shows promise as a tool in forecasting career development.

5. In addition, the inductive procedures of the AID techniques used to search out social and social psychological characteristics associated with the self-concept of ability profile, saliency of deafness as an identity, and educational and occupational plans among deaf high school students has produced the following observations:

a. Being deafened in early childhood is related to high saliency of deafness as an identity in self-concept of ability.

b. Profound impairment is likewise related to high saliency of deafness as an identity in self-concept of ability.
c. High PTEv is related to high SCA-P.
d. High PPEv is related to high SCA-P.
e. Saliency of deafness as an identity is an inhibiting factor in SCA-P.
f. High PPEv is related to high educational and occupational plans.
g. Saliency of deafness as an identity is a factor in educational and occupational plans among students with middle-range PPEv scores.
h. SES, mode of communication, and age at the onset of deafness were the principle background variables selected as important predictors by the AID program. Sex, grade level, degree of impairment, and I.Q. were judged less important.

Recommendations

As it stands, this investigation is subject to several limitations. Some of the restrictions were pointed out as part of the text. For example, the multiple regression and AID analysis were hampered by the relatively small number of subjects in the population. In addition, these subjects were drawn from a single residential high school program. The respondents were therefore apt to be relatively homogeneous in characteristics such as mode of communication, level of
impairment, etc., and not necessarily representative of the national population. Moreover, this inquiry was *post hoc*, a secondary analysis of data collected for another purpose.

The exploratory features of this investigation have opened several lines of possible inquiry. Definitive portions of the study were envisioned as part of a larger, nation-wide, longitudinal project in which the limitations of this inquiry are overcome. Proposals for the larger study have received widespread support from professionals in the field and have been submitted to three federal agencies where funding is currently pending. Therefore, our major suggestion for future research is quite specific. We will outline the strategy of the overall project and try to place the present study into the larger perspective.

The research problem and theoretical issues of the proposed project are essentially the same as the ones presented in this investigation. The major difference is emphasis on outcomes rather than plans. The purpose of the study is to test a series of hypotheses relevant to forecasting career development among the deaf. Theoretical concern is focused on the relationship between self-identification and occupational outcomes. The primary objective is to determine whether the profile of self-concept of ability (based on high school data) has predictive utility in forecasting the career development of deaf adults, and whether this profile adds significant effi-
ciency to forecasting types of entry into the job market when combined with more traditional predictors of occupational development.

The present study has developed this profile and used it to predict the level of career development (educational and occupational) plans of deaf students who participated in U.S. Office of Education Cooperative Research Project No. 6-8720. In order to verify the utility of such predictions, it is necessary to collect data on the same subjects while they are in high school and again in subsequent years. The longitudinal nature of such a study would ordinarily require a great deal of time and money. It can be done in the proposed study at relatively low cost because of the data and analysis employed in this investigation. The availability of these materials permit a time lapse of three to six years between high school graduation and career status at the time of the proposed follow-up by project investigators.

Deaf adults who participated in the previous research will be contacted and interviewed concerning these additional variables:

2. Perceptions of the evaluations of their occupational ability held by family, co-workers and employers.
4. Perceived stigmatization associated with deafness.
5. Career development.
   a. skill level
b. employment record
c. source of placement
d. current occupation
e. length of service

Investigators will also interview employers, co-workers, and others in reciprocal occupational roles concerning their perceptions of deafness in relation to the job. Analysis of this data and comparison with earlier information should permit an in-depth look at the career development of approximately 100 deaf adults who were formerly in a state school for the deaf.

Our project design, however, goes beyond these formerly institutionalized deaf adults. If it were restricted to studying only these people, it would not allow us the breadth to measure the influence of a number of important large scale variables. Nor would it permit investigation of social psychological variables for which data was not initially collected, or differences in the patterns of self-conception which may be present in high schools today.

We would like to include three antecedent variables which could be important to this research. First, whether or not a deaf child's parents are themselves deaf could readily make a difference. Although deafness is often congenital, the number of families having one or more deaf parents is clearly a minority when compared with the number of hearing families with deaf children. Nevertheless,
studies by Meadow (1968, 1969) and Brill (1970) among others indicate that children of deaf parents are better adjusted in school than their deaf peers with hearing parents. Reasons for this could lie with the empathy afforded the child in his home situation. The important implication for us is the fact that deaf parents are members of the adult deaf community.

A second major source of socialization for the student is the school (Quigley and Frisina, 1961). Inasmuch as few public schools have been staffed or equipped to deal with hearing-impaired students, deaf students are usually sent to a residential school, or if one is located nearby, to a day school for the deaf. Although the literature is not definitive on this point, some surmise that the residence schools afford greater insulation of the student from the rest of society. Perhaps, such insulation effects parental and teacher influence on students' perceptions of themselves in future occupational roles.

Further, we note that judicial rulings and legislation have recently brought to the foreground a long standing debate concerning the relative merits of the various structures (residential vs. day programs vs. integrated classrooms) of educational facilities for deaf children (For example see Giangreco, 1966; Kent, 1966; O'Connor, 1960). In Michigan, for example, local boards of education are now required to provide equal educational opportunities for
all children regardless of types or levels of impairment. As we are trying to develop an empirical base for using knowledge of self-concept peculiar to these environments, it seems quite essential that we also take these conditions into account in our research design as an emerging variable.

We have previously seen that the type of communication skills may be of considerable importance in this kind of inquiry. Historically, a veritable battle has raged over the relative merits of oral versus manual communication. Briefly, the oralist position considers learning to communicate orally (speak and read lips) crucial to successful communication in a normal environment (Stone, 1968; Miller, 1970; Fellendorf, 1970; Owsley, 1971; Blevins, 1972). On the other hand, those who support manual or total communication argue that lip-reading is an art mastered by only a very few. To these people, the crucial concern is providing a symbol which can serve as a bridge to mastering the written language (Meadow, 1968). Our purpose here is not to become embroiled in this hotly contested issue regarding the education of deaf children and youth. Rather, we are simply asking whether or not differences in these communication skills account for any variation in self-concept of ability either in school or on the job and their utility in forecasting career development patterns.

In consideration of these additional, often large scale variables, we propose in our total research design to collect a second set of data.
on current high school students and to follow the development of their careers for a shorter (one year) period of time. In other words, our design calls for two overlapping phases of research. The first utilizes information already available and the second extends the study to test and explore more explicitly those concepts developed in the first phase. Among other things, we will be able to compare the long and short term effectiveness of student and adult conditions (particularly emerging self-concepts) as predictors of career conditions among the deaf. This study will also provide an empirical basis for comparing past and present trends in career development among the deaf.

In addition to the primary research objective previously discussed, the two phase design of the proposed project will also permit the investigation of the following secondary research objectives:

1. To determine the importance to self-concepts of ability and entry into various occupation of: (a) the institutional structure with reference to assimilation into non-deaf oriented school, (b) the different types of communications training, and (c) familiarity with the deaf community through family and friends.

2. To determine the various roles of others (e.g., school staff, community agents, deaf organizations, etc.) in the occupational placements of young deaf adults and the
concepts these others may have about the relevance of deafness to the job.

3. To determine the saliency with which young deaf adults attach their deafness to their occupation in relation to the type of occupational placement and time in occupation, and conditions associated with the development of such salience.

4. To determine whether feelings of stigma are currently associated with types of occupation among young deaf adults (19 to 24 years old) and the origins of their perceptions of stigma.

5. To determine the degree of congruence between self-conceptions of deafness as an identity with perceptions held by non-deaf persons engaged in reciprocal occupational roles (i.e., supervisors, and fellow-workers).

6. To employ the abilities of automatic interaction detection techniques and generate a model of social and social psychological characteristics associated with the various possibilities on the self-concept of ability profile and later career developments. Further to test this model with multiple regression statistics using a second set of data collected during the investigation.

7. To develop an index of occupational skills using criterial
from the Dictionary of Occupations (Department of Labor, 1965). Further to determine the relationship of various levels on this scale with occupational conditions and the profile of self-concept of ability among young deaf adults.

The population for the second phase of this proposed study will be drawn from residential, day and integrated academic high school programs located in several regions of the country. This number is estimated to be approximately 400 deaf persons and 800 non-deaf persons. The 400 deaf people will be included in both the initial school testing and in subsequent career development interviews. The 800 non-deaf persons will be others engaged in reciprocal occupational roles with the deaf on leaving school.

Data collection in deaf high school programs will be conducted in accordance with the procedures outlined for the Michigan Scales for Assessing Social Psychological Characteristics of Hearing Impaired Students (U.S.O.E. Project #6-8720). Since the questionnaires and procedures in this part of the study will be the same as those used previously to collect high school data, the variables and data from each will be comparable. We will have, in addition, knowledge concerning variations in region, school program structure, and communications training. We will further collect information in the students' familiarity with the deaf community through their family and friends.

As the second group of students leave school and enter the job
market, we will track them and attempt to detail the various roles of others (e.g., school staff, community agents, deaf organizations, etc.) in their occupational placement. Later, we will interview these others regarding their conceptions about the relevance of deafness to the job.

Finally, after about a one year lapse, we will once again contact and interview this group of young deaf adults. The procedures followed will approximate those used with the older group in the first phase but allow for addition which may emerge for our earlier experience.

The procedures outlined in the present study for analyzing hypotheses formulated as part of the primary research objectives will again be followed using the larger population. Appropriate statistics will be used to compare the findings of these two tests. For the secondary research objectives, the following methods will be used:

1. An analysis comparing the magnitudes of association between the major variables will be done using Chi Square, the Kendall-Tau rank order correlation method and other suitable measures of association. Hypotheses generated in the first part of the study regarding these objectives will be tested here using appropriate parametric and non-parametric techniques.
2. Models generated in the first phase by AID will be tested on data from the second group using multiple and step-wise regression techniques. If deemed appropriate, path and dummy variable analysis will also be employed. Following this, we expect to use the AID program again to generate an expanded model (of social and psychological characteristics associated with self-concept of ability and later career development among the deaf) using the additional variables available in phase two. Hopefully, this will provide a basis for further research along these lines.

3. Interview data collected will be subject to content analysis for the generation of new hypotheses.

Closing Statement

The present study has demonstrated the applicability of a number of ideas which are of importance to social scientists and others interested in the career development of deaf adolescents. We have shown that the relationships between deafness as a personal identity in self-concept of ability and future educational and occupational plans correspond to the basic theoretical propositions of the symbolic interactionist perspective. We have also seen that deafness as a social identity measured in terms of its salience in self-concept
did not play a significant part in the overall level of plans made by the students in this population. This suggests that social and personal identity need not be congruent in self-conception, and supports the notion that deaf people in the community can lead their lives in much the same manner as "normals" do.

In addition, we found that a profile of self-concepts of ability with reference to other deaf and non-deaf youth has utility in predicting the career development (educational and occupational) plans of deaf high school students. Further development and testing of this instrument may result in a tool which can assist educators and rehabilitation workers to help young deaf people achieve a wider range of career opportunities.

Finally, the inductive AID search strategy employed in this study has produced suggestions as to which background variables among those on which data were collected were most important in this research. This technique also uncovered a number of relationships present in the data which were not hypothesized in the original proposal thus offering other possible lines of inquiry for further investigation.

The proposed project will enable us to extend the application of the theoretical propositions presented in this study over a wider range of conditions and a larger number of people. It is unfortunate that most theories of human behavior, particularly theories of career
development, do not include research with deaf and other impaired populations. Hopefully, this study and the one to follow will help to fill a major gap in the literature on conditions which are modifiable and may have an important bearing on the career outcomes of deaf persons.

Another potentially valuable contribution made by this study was the descriptive information and lines of inquiry suggested by the AID technique which can be added to the research literature of the deaf population. There is an additional need for longitudinal and multi-variate studies to serve as research models in studies of the deaf, blind and other impaired populations. The rationale and power of such approaches has been poorly disseminated in the literature. Perhaps the outcomes of this investigation and its sequel can be cross validated to groups other than the deaf.

In future research, we plan to refine the self-concept of ability profile and to test its utility in predicting behavioral career outcomes as well as attitudinal career development plans. It is our fervent hope that one of the contributions of this effort is that it will permit others to design experimental programs for educators and rehabilitation counselors of the deaf which are more prescriptive and based on a more definitive research foundation than is currently available in the literature.
INTRODUCTION: (to be read aloud)

Some people at Western Michigan University are trying to find out what students think about some questions. This is not a test. Just tell me what you think or feel. Everyone has different feelings. This is O.K. If you do not understand, ask me to explain. No one will see your answers but me.

Answer these questions. Do not turn the page until I tell you.

PLEASE PRINT

Name: __________________________ (Last name)  (First name)  (Middle name)

Birthdate: ________  _______  _______  Sex: M____  F____

Name of present school: ___________________________________________

What school did you attend last year? _________________________________

STOP

DO NOT TURN THE PAGE YET
Pick one. Circle the letter for your answer.

1. Think of your friends. Do you think you can do school work better, the same, or poorer than your friends?
   a. better
   b. the same
   c. poorer

2. Think of the students in your class. Do you think you can do school work better, the same, or poorer than the students in your class?
   a. better
   b. the same
   c. poorer

3. When you graduate from high school, do you think you will be with the best students, average students, or below average students?
   a. the best
   b. average
   c. below average

4. Do you think you could graduate from college?
   a. yes
   b. maybe
   c. no

5. If you went to college, do you think you would be one of the best, average, or poorest students?
   a. the best
   b. average
   c. poorest

6. If you want to be a doctor or a teacher, you need more than 4 years of college. Do you think you could do that?
   a. yes
   b. maybe
   c. no
7. Forget how your teachers mark your work. How good do you think your own work is?
   a. excellent
   b. average
   c. below average

8. What marks do you think you really can get if you try?
   a. A's and B's
   b. B's and C's
   c. D's and E's

Pretend you are your mother or father. Answer like they would. Pick one. Circle their answer.

1. Think of your mother and father. Do your mother and father say you can do school work better, the same, or poorer than your friends?
   a. better
   b. the same
   c. poorer

2. Would your mother and father say you would be with the best, average or below average students when you graduate from high school?
   a. the best
   b. average
   c. below average

3. Do they think you could graduate from college?
   a. yes
   b. maybe
   c. no

4. Remember, you need more than four years of college to be a teacher or doctor. Do your mother and father think you could do that?
   a. yes
   b. maybe
   c. no
5. What grades do your mother and father think you can get?
   a. A's and B's
   b. B's and C's
   c. D's and E's

Pretend you are your best friend. Answer like he or she would. Pick one. Circle their answer.

1. Think of your best friend. Would your best friend say you can do school work better, the same, or poorer than other people your age?
   a. better
   b. the same
   c. poorer

2. Would your best friend say you would be with the best, average, or below average students when you graduate from high school?
   a. the best
   b. average
   c. below average

3. Does your best friend think you could graduate from college?
   a. yes
   b. maybe
   c. no

4. Remember you need more than four years of college to be a teacher or doctor. Does your best friend think you could do that?
   a. yes
   b. maybe
   c. no

5. What grades does your best friend think you can get?
   a. A's and B's
   b. B's and C's
   c. D's and E's

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Pretend you are your teacher, the one you like the best. Answer like he or she would. Pick one. Circle their answer.

1. Think of your teacher. Would your teacher say you can do school work better, the same, or poorer than other people your age?
   a. better
   b. the same
   c. poorer

2. Would your teacher say you would be with the best, average or below average students when you graduate from high school?
   a. the best
   b. average
   c. below average

3. Does your teacher think you could graduate from college?
   a. yes
   b. maybe
   c. no

4. Remember you need more than four years of college to be a teacher or doctor. Does your teacher think you could do that?
   a. yes
   b. maybe
   c. no

5. What grades does your teacher think you can get?
   a. A's and B's
   b. B's and C's
   c. D's and E's

1. Think of your hearing friends. Do you think you can do school work better, the same, or poorer than they can?
   a. better
   b. the same
   c. poorer
2. Think of hearing boys and girls in your grade in another school. Do you think you can do school work better, the same, or poorer than public school students.
   a. better  
   b. the same  
   c. poorer  

3. If you did graduate from another high school, do you think you would be with the best students, average students, or below average students?
   a. the best  
   b. average  
   c. below average  

4. Do you think you could graduate from a college for hearing students?
   a. yes  
   b. maybe  
   c. no  

5. If you went to a college for hearing students, do you think you would be one of the best, average, or poorest students?
   a. the best  
   b. average  
   c. poorest  

6. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you would be as able to do this as hearing students?
   a. yes  
   b. maybe  
   c. no  

7. Forget how your teachers mark your work. How do you think your schoolwork compares with the work of hearing public school students?
   a. excellent  
   b. average  
   c. below average
8. If you were in a class for hearing students, what marks do you think you could get if you really tried?

   a. A's and B's  
   b. B's and C's  
   c. D's and E's

1. Think of your deaf or hard of hearing friends. Do you think you can do school work better, the same, or poorer than they can?

   a. better  
   b. the same  
   c. poorer

2. Think of the deaf boys and girls in your class. Do you think you can do school work better, the same, or poorer than these students?

   a. better  
   b. the same  
   c. poorer

3. If you graduate from a high school for the deaf, do you think you will be with the best students, average students, or below average students?

   a. the best  
   b. average  
   c. below average

4. If there were a college just for deaf students, do you think you could graduate?

   a. yes  
   b. maybe  
   c. no

5. If you went to a college just for deaf students, do you think you would be one of the best, average, or poorest students?

   a. the best  
   b. average  
   c. below average

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6. If you want to be a doctor or a teacher, you need more than four years of college. Do you think you would be as able to do this as well as other deaf students?
   a. yes
   b. maybe
   c. no

7. Forget how your teachers grade your work. How do you think your schoolwork compares with the work of other deaf students?
   a. excellent
   b. average
   c. below average

8. In a class for deaf students, what marks do you think you could get if you really tried?
   a. A's and B's
   b. B's and C's
   c. D's and E's

Pick one. Circle the letter for your answer.

1. Which marks would you have to get to make your mother and father happy?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. my mother and father don't care what marks I get in school

2. Do your parents know how you are doing in school? Pick one.
   a. They know everything I do in school.
   b. They know almost everything about my school work.
   c. They know some things about my school work.
   d. They only know a little bit about my school work.
   e. They know nothing about my school work.

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3. What would be the lowest marks you could get in school and still satisfy your mother and father?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. My mother and father don't care what marks I get in school.

4. How far in school do your mother and father think you will go?
   a. quit now
   b. go to high school for a while
   c. graduate from high school
   d. go to school to be a secretary or learn a trade
   e. go to college for a little while
   f. graduate from college
   g. more than four years of college

Pick one. Circle the letter for your answer.

1. Which marks would you have to get to make your best friend happy?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. My best friend doesn't care what marks I get in school.

2. Does your best friend know how you are doing in school? Pick one.
   a. He knows everything I do in school.
   b. He knows almost everything about my school work.
   c. He knows some things about my school work.
   d. He only knows a little bit about my school work.
   e. He knows nothing about my school work.
3. What would be the lowest marks you could get in school and still satisfy your best friend?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. My best friend doesn't care what marks I get in school.

4. How far in school does your best friend think you will go?
   a. quit now
   b. go to high school for a while
   c. graduate from high school
   d. go to school to be a secretary or learn a trade
   e. go to college for a little while
   f. graduate from college
   g. more than four years of college

Pick one. Circle the letter for your answer.

1. What marks would you have to get to make your favorite teacher happy?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. My favorite teacher doesn't care what marks I get in school.

2. Does your favorite teacher know how you are doing in school?
   Pick one.
   a. She knows everything I do in school.
   b. She knows almost everything about my school work.
   c. She knows some things about my school work.
   d. She only knows a little bit about my school work.
   e. She knows nothing about my school work.
3. What would be the lowest marks you could get in school and still satisfy your favorite teacher?
   a. A's
   b. B's
   c. C's
   d. D's
   e. E's
   f. My favorite teacher doesn't care what marks I get in school.

4. How far in school does your favorite teacher think you will go?
   a. quit now
   b. go to high school for a while
   c. graduate from high school
   d. go to a school to be a secretary or learn a trade
   e. go to college for a little while
   f. graduate from college
   g. more than four years of college

Pick one. Circle the letter for your answer.

1. How far would you like to go in school?
   a. quit now
   b. go to high school for a while
   c. graduate from high school
   d. go to a school to be a secretary or learn a trade
   e. go to college for a little while
   f. graduate from college
   g. more than four years of college

2. Sometimes what you expect to do isn't the same as what you'd like to do. How far in school will you really go?
   a. quit now
   b. go to high school for a while
   c. graduate from high school
   d. go to a school to be a secretary or learn a trade
   e. go to college for a little while
   f. graduate from college
   g. more than four years of college
Please write your answers to these questions.

1. If you could have any job, which one would you like to have after you finish school?

2. Sometimes the job you get is not the job you wish for. What kind of job do you think you will get after you finish school?

What does your father do for a living? (or who ever supports your family)

Tell about what he does on his job.

There are many people who are important in our lives. List the names of people who you feel are important in YOUR life. Tell me who each person is.

NAMES

WHO IS THIS PERSON?

There are many people who wonder about children's school work. List the NAMES of the people you feel are wondering about your school work. Please tell me who each person is.

NAMES

WHO IS THIS PERSON?
SCHOOL RECORDS DATA:

1. Achievement Level
   Reading: Grade (year) (month)
   Math: (year) (month)
   Social Studies (year) (month)

2. IQ

3. Academic Grades (June '66)
   English A = 4
   Math B = 3
   Social Studies C = 2
   Science D = 1
   Other E = 0

4. GPA

5. Method of Written Communication
   Oral = 4 Manual = 6
   Gestures = 5 Combined = 7

6. If both above, method primarily used by student
   Oral = 4
   Sign = 5

7. Age at onset of impairment (years)

8. Single or multiple impairment
   1. Hearing impairment only
   2. Multiple impairment only

9. Degree of Hearing Impairment
   OU
   OS Not punched on data sheets
   OD

10. Or best ear with correction
    Normal = 4 Moderate Severe = 7
    Mild = 5 Severe = 8
    Moderate = 6 Profound = 9

11. In general, has the student's health record been good, medium or poor?
    Good = 1 Poor = 3
    Medium = 2 Don't know = 4
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