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THE WISCONSIN SIGNIFICANT OTHER BATTERY:

Construction, Validation, and Reliability Tests of Questionnaire Instruments to Identify 'Significant Others' and Measure Their Educational and Occupational Expectations for High School Youth

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PREFACE AND ACKNOWLEDGMENTS

The Significant Other Project was conceived out of both practical and theoretical concerns. The United States currently faces several critical problems. Many of these are either caused or exacerbated by an uneven distribution of economic resources. In a climate of rapidly increasing automation, lower-level and unskilled jobs are diminished and higher-level occupations are created. It has traditionally been part of the role of the educational system to educate people to fill these higher-level positions. To a large extent we have not been successful so far. The Wisconsin Significant Other Battery (WISOB) is meant as a short-term, immediate tool which may be used to help motivate more youth to aspire toward higher occupational levels and to the higher-level education needed to attain those levels. But even though some, or even many, individuals may be helped by this tool, it will not solve more than a fraction of the problem.

The theoretical question of how people make decisions is even more important. It is the conviction of the authors that the applied concerns of this research need not detract from sound and important theoretical work. On the contrary, we have tried to clarify the theoretic base of individual decision-making in real life interpersonal contexts, and to use this information in formulating questionnaire instruments which, we hope, may help solve the practical problem.

The task was complicated by the fact that codified, empirically tested theory upon which the WISOB could be constructed was not available. After the theoretical statement (cf. Chapter II) had been drawn up, it turned out that no less than seventeen questionnaire instruments (not counting those tried and rejected) had to be constructed to do an adequate job. Some of these instruments (particularly the instruments for detecting Significant Others) are quite unusual, and required unusual research procedures.

The Department of Rural Sociology, The University of Wisconsin and the granting agencies involved were generous and helpful, but the size of the task made us continually feel the pressure of time and budgetary restrictions. Although we are pleased by the results of the research, signs of haste will no doubt be detected at least in the preparation of this report if not elsewhere. This haste is not meant to imply that we did not do what we did as well as we could, but rather that there are many things we wanted to do that we could not.

We remain deeply in the debt of the staff of the Significant Other Project. Elizabeth M. Schweitzer contributed significantly to the organization, execution and analysis of the large-scale pretest of instruments in Eau Claire, Wisconsin. George W. Ohlendorf directed the large staff during administration and coding of the final reliability

and validity sampling, provided considerable bibliographic assistance, and prepared the tables for the final report.

We are indebted also to Donald P. Cushman, John Woelfel, Linnea Lind, Marcia Valcarcel, Antonio Valcarcel, Mary Louise Woelfel, Sandra Goodkind, Alejandro Portes, Sylvia Marek, Ruth Vetter, Varda Fink, James and Suzanne Converse, James Goldsmith, Thomas H. Clover, Nora Camacho, Paul Lind, Susan Lind, Lylas Brown, Mildred Lloyd, and Audrey Heim. Helcio U. Saraiva's special computer programming was indispensable, and we thank him sincerely.

Besides the Office of Education which provided the main funding, we are indebted to the following agencies for support and assistance: The Department of Rural Sociology, The Graduate School, The Institute for Research on Poverty of the University of Wisconsin (under the U.S. Office of Economic Opportunity), the University's Agricultural Experiment Station and especially North Central Regional Research Committee No. 86, and the University of Wisconsin Computing Center for their kind assistance in computations.

We owe a special debt to the administrations, faculties, students and parents at West Bend High School, Watertown High School, Eau Claire Memorial High School, Milton Union High School, Oregon Central High School, Milwaukee Washington High School, Milwaukee North Division High School, and Edgewood High School in Madison.

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SUMMARY

A theory of attitude formation and structure is used as the basis for developing a way to identify a youth's "significant others" (SOs) in the area of educational and occupational attainment. An object may be defined directly by saying what it is, or indicating through its "filters" by defining the categories of which it is assumed to be a member. The self may be similarly defined. In this study the objects are the educational and occupational prestige hierarchy and the levels of these continua which may be selected by youths or their SOs as most relevant to the youths. Object filters are the common meanings popularly associated with education and occupation (here classified into "intrinsic nature," "intrinsic function," "extrinsic nature," and "extrinsic function," each of which is operationalized in everyday terms). The self is the individual youth's self-conception. His perceived relationships to the above object filters are used as filters for the self in this area of behavior. There are two types of significant others. Definers who in conversation communicate self or object definitions to the youth, and models, who, through their behavior, illustrate a definition of the self or object.

Regarding education and occupation, the basic concern here is with gradient (or "level") aspects--the number of years of school a person may complete or the level of the occupational prestige hierarchy he may attain. Ultimately it is found that there are four types of significant others based upon the combination of what they exhibit if they are models; their own levels of attainment or their own aspiration levels for themselves; and upon the level of the expectations they hold for the youth if they are definers. Definers who are role incumbent models may influence Ego through (A) their levels of expectation for him, (B) their own levels of attainment, and (C) their levels of self-aspiration; Definers who are not role incumbents through (A) and (C); Models who are role incumbents but not definers through (B) and (C); and non-definers who are not role incumbents through (C) only. Of these variables, level of expectations is evidently the most powerful, and that is the main SO variable studied in this report. In all cases "expectations" are what one person holds for another, and "aspirations" are what a person holds for himself.

The Wisconsin Significant Other Battery (WISOB) was devised and tested herein as an instrument (1) to identify any youth's SOs regarding education and occupation; and (2) to measure the variables, primarily expectation levels, by which the SO influences the youth.

Detailed interviews, based on a preliminary SO Identifier Protocol, were held with each of a purposive sample of youth. A sample of the SOs identified in these interviews was then taken,

one for each youth, and they too were interviewed in depth. All such interviews were typed and contents analyzed to provide leads as to how to operationalize the theory. Preliminary WISOB SO Elicitor (SOE) forms were pretested on a sample of 20 high school students in Milton, Wisconsin, and another of 20 high school students in Madison, Wisconsin. The WISOB SOEs were refined and finally tested for wording and administrative problems, as well as to train staff, on a sample of 429 high school juniors at Eau Claire, Wisconsin. This form identifies SOs by name. They are models and definers as indicated in the first paragraph. Because much was already known about how to measure the gradient-level aspects of educational and occupational orientations from previous work on levels of aspiration, these steps were not needed for the influence elicitors. The WISOB SO Expectation Elicitors (SOEE) are forms designed to measure the levels of expectation that SO holds for the youth (where SO is a definer) or that SO thinks appropriate for himself (if SO is only a model).

Test-retest reliability data for the WISOB SOEs were taken two months apart on a sample of 292 Watertown, Wisconsin high school seniors. The data show that the SOEs are fairly reliable but that the phenomena themselves undergo some change during such a period. Used as a screen the SOEs seem quite satisfactory in that they identify most of the most important SOs quite well.

The WISOB SOEEs were tested for validity and reliability (over two months) on a basic subsample of 100 SOs (with high non-response rates for various reasons) drawn from 109 high school seniors in West Bend, Wisconsin. (The total number of SOs of this group was 898). The validity of the WISOB Significant Other Elicitors was also tested on this sample. The test-retest reliability coefficients of the WISOB SOEEs are between +.72 and +.85. Various tests of validity were made of both WISOB batteries (SOE and SOEE). They show both instruments to be quite valid. Correlations between SO levels of expectation (and related variables) and youths' levels of aspiration are presented. These are high and positive. It is concluded that the instruments are reliable, valid, and practicable.

CHAPTER I.

INTRODUCTION

1. The Field of Study:

Sociologists, in their professional interest in the description of societies, have always expressed a particular concern for stratification. In societies where status or class boundaries are not rigidly fixed, considerable sociological attention tends to be focused on vertical mobility. In contemporary America, where technological advancement has tended to create both absolutely and proportionally more positions in the higher levels of the occupational hierarchy more rapidly than it has been able to elevate people to fill them, the practical need for such research has become increasingly felt. The practical search has been for the sources of upward mobility. In an effort to answer this question, sociologists have sought characteristic differences between those individuals who occupy high status positions and those who do not.

One of the clearest of such characteristic differences located was educational attainment.[1] Educational level has clearly and consistently been found to be correlated with occupational attainment--so much so, in fact, that educational and occupational variables often are treated together under the general assumption that both are probably controlled by the same or related set of factors and have parallel consequences for mobility.[2]

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1. Bruce K. Eckland, "Academic Ability, Higher Education and Occupational Mobility," American Sociological Review, 30, 1965, pp. 735-746; Peter M. Blau and Otis Dudley Duncan, The American Occupational Structure, New York, John Wiley & Sons, 1967.

2. Lee G. Burchinal, Career Choices of Rural Youth in a Changing Society, North Central Regional Publication No. 142, Agricultural Experiment Station, University of Minnesota, Minneapolis, St. Paul, 1962; A. O. Haller, "Research Problems on the Occupational Achievement Levels of Farm-Reared People," Rural Sociology, 23, 1958, pp. 355-362; A. O. Haller, C. E. Butterworth, "Peer Influences on Levels of Occupational and Educational Aspirations," Social Forces, 38, 1960, pp. 389-395; A. O. Haller and Wm. H. Sewell, "Farm Residence and Levels of Educational and Occupational Aspirations," American Journal of Sociology, 62, 1957, pp. 407-411; James T. Horner, James G. Buterbaugh, and J. J. Carefoot, Factors Relating to Occupational and Educational Decision Making of Rural Youth, University of Nebraska, Agricultural Experiment Station, Agricultural Education Report #1, p. 27; Wm. H. Sewell, A. O.

Psychological literature leans more toward individual variables, such as psychological causes of behavior[3] and motives impelling achievement.[4] Sociologists, too, have directed a great deal of attention to the question of educational attainment. Much of this material is large-scale in nature, involving regional[5] and demographic variables such as age[6], sex[7], race[8], and residence, both large (rural-urban)[9] and small (neighborhood, local area)[10] in scale.

A third and much smaller current of theory and research directed at the area of vertical mobility, basically social-psychological in focus, has emerged from two separate sources.

Haller and M. A. Straus, "Social Status and Educational and Occupational Aspiration," American Sociological Review, 22, 1957, pp. 57-73; W. L. Slocum, Occupational and Educational Plans of High School Seniors from Farm and Nonfarm Homes, University of Washington, Agricultural Experiment Station Bulletin #564.

3. Henry Borow, "Development of Occupational Motives and Role," in Lois Wladis Hoffman and Martin L. Hoffman, eds., Review of Child Development Research, Vol. 2, New York, Russell Sage Foundation, 1966, pp. 373-422.

4. David C. McClellend, The Achieving Society, Princeton, New Jersey D. Van Nostrand Company, Inc., 1961.

5. James S. Coleman, et. al., Equality of Educational Opportunity, Washington, D. C., Superintendent of Documents, U.S. Government Printing Office, 1966.

6. Lee G. Burchinal, op. cit.

7. Coleman, ibid.

8. Coleman, ibid.

9. Calvin L. Beale, John C. Hudson and Vera J. Banks, Characteristics of the U. S. Population by Farm and Nonfarm Origin, Washington D. C., Agricultural Economic Report No. 66, U. S. Department of Agriculture, December, 1964; and also ibid.

10. Wm. H. Sewell and Michael Armer, "Community of Residence and College Plans," American Sociological Review, 29 February, 1964, pp. 24-38.

(1) The apparent tendency of rural youth to attain lower levels of education and occupational prestige called out the serious concern of rural sociologists. In 1955, Lipset suggested that the lower levels of attainment of rural youth might be due to lower aspirations resulting from a poverty of environmental influences favorable to high attainment.[11] This tended to lead rural sociologists in particular to a greater concern for, on the one hand, the relationship between aspirations and attainments, and, on the other, the variables influencing aspirations. Shortly thereafter, a large body of relevant data consisting of a total enumeration of the graduating seniors of the State of Wisconsin in 1957 was made available to the University of Wisconsin, and provided a spur to this kind of research. Although these were certainly not the only influences operating, the depressed levels of educational and occupational attainment of rural youth, along with the suggestion of low levels of aspiration due to environmental deficiencies in rural areas led to a relatively great concentration of rural sociological interest in the social psychology of mobility.[12]

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11. Seymour M. Lipset, "Social Mobility and Urbanization," Rural Sociology, 20, 1955, pp. 220-338.

12. Anthony J. Diekema, Level of Occupational Aspiration, Performance in College and Facilitation, A Preliminary Test of Certain Postulates Concerning the Relationship Between Attitudes and Behavior, unpublished Ph.D. dissertation, Michigan State University, East Lansing, 1965; A. O. Haller and Irwin Miller, The Occupational Aspiration Scale: Theory, Structure and Correlates, East Lansing, Michigan. Agricultural Experiment Station Technical Bulletin No. 288; Haller, Sewell and Portes, "Educational and Occupational Achievements of Wisconsin Farm Boys," paper presented at the joint sessions of the Rural Sociological Society and the American Sociological Association San Francisco, August, 1967; William Frederick Rushby, Location in Social Structure, Significant Others and Levels of Educational and Occupational Aspirations: An Exploration Analysis, unpublished MA thesis, Michigan State University, East Lansing, 1966; Elizabeth Schweitzer, Exploratory Research Into the Relationship Among Socio-economic Status, Significant Other Influences and Level of Occupational Aspiration, unpublished Master's thesis, University of Wisconsin, Madison, 1968; Wm. H. Sewell and Alan Openstein, "Community of Residence and Occupational Choice," American Journal of Sociology, 70, March, 1965, pp. 551-563; Wm. H. Sewell and Vimal P. Shah, "Social Class, Parental Encouragement and Educational Aspirations," American Journal of Sociology, 70, March, 1965, pp. 551-563; Wm. H. Sewell

(2) The second major current of social-psychological interest in educational and occupational mobility stems largely from Harvard University and a research project initiated by Samuel Stouffer. The combined interest in educational questions and Stouffer's previous concern for reference groups[13] led to a social psychological concern toward educational attainments in particular, as evidenced in the early work of Kahl[14], Cohen[15], Bordua[16], Shae[17], et. al.

The distinguishing characteristic of the social-psychological school has been the two-step analysis of on the one hand the relationship between aspirations and attainments and on the other structural variables and aspirations. Research within this area has generally tended to confirm the relationship between aspirations and attainments. Kuvlesky and Bealer, as of September, 1967, find only six longitudinal researches concerned with the relation between occupational aspirations and occupational attainments, and these, along

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Vimal P. Shah, "Social Class, Parental Encouragement and Educational Aspirations," American Journal of Sociology, 73, 1968, pp. 559-572; Joseph Woelfel, "A Paradigm for Research on Significant Others," unpublished paper presented at joint sessions of the American Sociological Association and the Society for the Study of Social Problems, San Francisco, August, 1967.

13. Samuel Stouffer, et. al., The American Soldier, Vol. I, Princeton, New Jersey, Princeton University Press, 1949, pp. 124-130.

14. Joseph A. Kahl, "Educational and Occupational Aspirations of 'Common Man' Boys," Harvard Educational Review, 23, Summer, 1953, pp. 186-203.

15. Elizabeth G. Cohen, Parental Factors in Educational Mobility, unpublished PhD. thesis, Radcliffe College, 1958.

16. David J. Bordua, "Educational Aspirations and Parental Stress on College, "Social Forces, 38, 1960, pp. 262-269.

17. Paul D. Shea, Parental Influence on College Planning by Boys and Girls of High Ability in the Sixth to the Ninth Grades, unpublished Ed.D. thesis, Harvard University, Graduate School of Education, 1964.

with their own study, provide some support for the relationship[18], albeit moderate.[19]

Similarly, educational aspirations are associated with educational attainments.[20] Educational aspirations and occupational aspirations are themselves intercorrelated, and educational aspirations and occupational attainments as well as occupational aspirations and educational attainments are positively associated,[21] It is safe to say that the evidence of an important relationship between educational and occupational aspirations and educational and occupational attainments is substantial.

The other half of the social-psychological focus has been on the factors upon which educational and occupational aspirations depend. The question of first interest to rural sociologists is that of the hypothesized depression of aspiration level for rural youth. Surprisingly, while (within male samples) generally aspirations of rural youth were lower[22], this depression apparently is attributable to those rural youth planning to farm, and that controlling for this subgroup there is no rural-urban difference in aspiration level.[23] But

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18. William P. Kuvlesky and Robert C. Bealer, "The Relevance of Adolescents: Occupational Aspirations for Subsequent Job Attainments," Rural Sociology, 32, September, 1967, pp. 290-301.

19. Aspirations themselves, though seem to be rather complex structures. Haller and Miller, for example, speak of real and ideal aspirations, long-range and short-range aspirations and the combinations of those. (See A. O. Haller and Irwin Miller, op. cit. Kuvlesky and Bealer limit themselves to idealistic long-range aspirations, and consequently their relationships are depressed accordingly.

20. The aspirations so associated are not early childhood desires, but later ones usually formed in high school. See Lee G. Burchinal, op. cit.

21. Wm. H. Sewell, A. O. Haller and Alejandro Portes, op. cit.

22. A. O. Haller and Wm. H. Sewell, "Farm Residence and Levels of Educational and Occupational Aspirations," op. cit.

23. A. O. Haller and Wm. H. Sewell, ibid.; Lee G. Burchinal, Career Choices of Rural Youth in a Changing Society, op. cit.; A. O. Haller, "The Occupational Achievement Process of Farm-Reared Youth in Urban-Industrial Society," Rural Sociology, 25, 1960, pp. 321-333; Sewell, however, presents different findings. See Wm. H. Sewell, "Community of Residence and College Plans," American Sociological Review, 29, 1964, pp. 24-38.

if aspirations are not related to community of residence when controlling for plans to enter farming, research indicates that they are related to personal ability[24] and Socio-economic status (SES).[25]

It is interesting that of the two most important characteristics associated with high aspirations are SES and ability. Insofar as ability is partly measured by academic achievement (GPA), and since ability is liable to lead to achievement anyway, it would seem that high aspirations come to those who are already in some measure high achievers. But those of higher SES are also by definition members of high achieving families, and thus, by implication are themselves high achievers. This argument suggests that who one wants to be (aspirations) is largely a function of what he thinks he is (or possibly what he thinks he will be). Super[26] was the first to stress this importance of the self conception as an important variable in the educational and occupational attainment process. In an unpublished paper, Sewell, Haller and Portes reaffirm the importance of self conception as another way of looking at aspirations.[27]

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24. See, for example, H. K. Schwarzweller, Socio-cultural Factors and the Career Aspirations and Plans of Rural Kentucky High School Seniors, University of Kentucky, Agricultural Experiment Station Bulletin #664; A. O. Haller, "The Influence of Planning to Enter Farming or Plans to Attend College," Rural Sociology, 22, pp. 127-141.

25. James T. Horner, James G. Buterbaugh and J. J. Carefoot, op. cit.; LaMar Empey, "Social Class and Occupational Aspiration: A Comparison of Absolute and Relative Measurement," American Sociological Review, 21, 1956, pp. 703-709.

26. Donald E. Super, The Psychology of Careers, New York, Harper and Brothers, 1957.

27. Sewell, Haller and Portes, op. cit. This recognition is not pursued; however, little is said about what the self conception is or how, precisely, it affects aspirations or behavior. In fact, in a later version the self conception drops out of the analysis altogether, because no plausible operationalization was available in their data, and because it also makes sense to think of aspirations as a component part of the self conception anyway.

To summarize briefly, at this point a model of the achievement process is beginning to emerge. Apparently, SES, ability and performance influence educational and occupational aspects of the person's self conception, which in turn is manifested in his educational and occupational aspirations and which subsequently exercise some influence over educational and occupational attainments. But the picture is more complicated than this simple model suggests. First of all, the process by which SES, ability and performance variables (like I.Q. and Grade Point Average) influence the self conception is still open. That ability and grade point average influence the self conception is not a hard assumption, and Brookover, et. al., have shown that the self conception is related to school performance, even when controlling intelligence.[28] Grade Point Average can be seen to provide a ranking of students, and in the social comparison process[29] students can estimate their appropriateness relative to their peers for higher education and occupational positions.[30]

It would have been unlikely for the educational researchers working with Stouffer to overlook the implications of reference groups for this process. Bordua[31] explicitly suggested that the relationship between SES and educational aspirations was mediated by the expectations of parents, but he failed to control for I.Q. in his research. Sewell and Shah[32] tested the same hypothesis (that the children of high status parents are more regularly expected to go to college), this time with appropriate controls, and while the correlation between

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28. Wilbur B. Brookover, Ann Paterson, and Shailer Thomas, Self-Concept of Ability and School Achievement, Final Report of Cooperative Research Project No. 834, East Lansing, Michigan, College of Education, Office of Research & Publications, Michigan State University, 1962.

29. Leon Festinger, "A Theory of Social Comparison Process," Human Relations, 1954, 7, pp. 117-140.

30. Walter L. Slocum, "The Influence of Peer Group Culture on the Educational Aspirations of Rural High School Students," paper presented at the annual meetings of the Rural Sociological Society, Chicago, August, 1965.

31. David J. Bordua, op. cit.

32. Sewell and Shah, "Social Class, Parental Encouragement and Educational Aspirations," op. cit.

SES and educational aspirations did not disappear, it was substantially reduced.

Generally the question of interpersonal influences has been considered under two different names in the educational and occupational attainment process literature: reference groups and significant others, with some researchers using the terms interchangeably.[33] Sewell, Haller and Portes, opting for the latter usage, constructed and tested a model incorporating all the variables discussed so far in this chapter.[34] They onsider all major interpersonal influence, such as parents' expectations, comparison with peers, etc., to be one major variable, which they term "significant others' influence" (SOI). Conceptually, at least two basic kinds of such influences are recognized.[35] The first is the kind of influence exercised by people who serve as points of comparison for ego--those against whom ego assesses his own abilities, performances, etc. The second is that exercised by those who hold expectations for ego--those who have hopes, plans, estimates of ego's ability, etc., and communicate these to ego. Operationally, the authors define SOI as parents' pressure toward college, teachers' pressure toward college and friends' plans. All these are simple dichotomous variables based on ego's perception of whether or not his parents and teachers expect him to go to college or not and whether or not his friends plan to go to college or not. The authors then insert this new variable into the analysis and the result is Figure One. Figure One indicates that (1) I.Q. tends to influence grade point average (GPA), (2) conjointly, GPA and SES affect significant others' influence, (3) significant others' influence and GPA affect educational and occupational aspirations, which then (4) have an effect on educational and occupational attainment. The amount of variance in the dependent variables accounted for by the model is particularly impressive when we consider (1) that the linear regression model used for analysis implies a linear relationship between all variables, and this may not be the case, and (2) some measurement error can be expected to intrude on the system at each stage. This is particularly true in the case of

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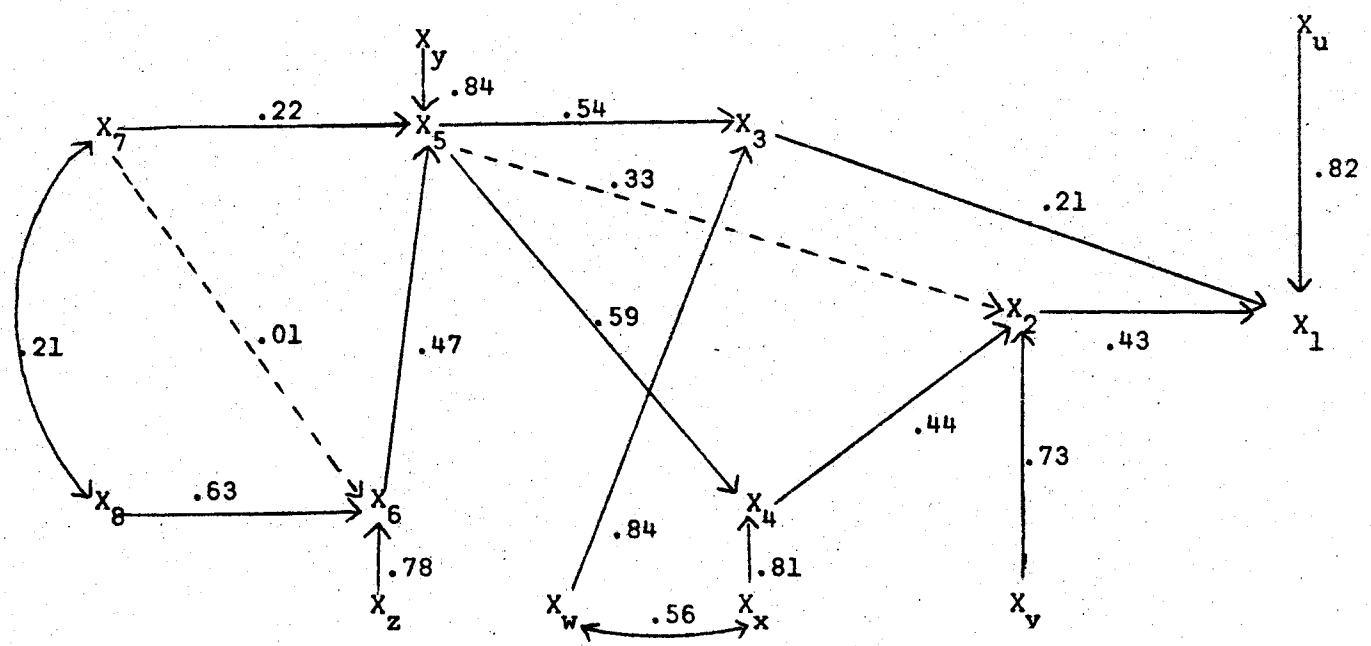
33. Diekema, op. cit., pp. 60 ff.

34. Haller, Sewell and Portes, op. cit.

35. Harold H. Kelly, "Two Functions of Reference Groups," in G. E. Swanson, T. M. Newcomb and E. L. Hartley, eds., Readings in Social Psychology, New York, Holt, 1952, pp. 410-414.

Figure 1

Path Coefficients of Antecedents
of Educational and Occupational Attainment Levels*



X_1 - Occupational Attainment

X_2 - Educational Attainment

X_3 - Level of Occupational Aspiration

X_4 - Level of Educational Aspiration

X_5 - Significant Others' Influence

X_6 - Academic Performance

X_7 - Socioeconomic Status

X_8 - Mental Ability

*Permission to reproduce this diagram which appears in the February 1969 issue of the American Sociological Review has been granted by the American Sociological Association.

significant others' influence, which is a fairly crude measurement. This index suffers from two major problems: (1) the influence of significant others is not directly measured--only ego's perception of it is; (2) the list of persons involved--parents, teachers and friends--may not be an accurate rendering of "significant others." Not all incumbents of these roles may be significant others for each individual, and there may be other significant others for a given ego who do not fit any of these major role relationships.

Even though there are theoretical and operational problems, the injection of an interpersonal influence variable into the analysis has explained a good deal of variation between educational and occupational attainments and SES, I.Q. and GPA. These interpersonal influences, viewed as intermediaries between social structure and personality variables appear to be among the most fruitful of areas for future theory and research on the educational and occupational attainment process. The research reported herein is directed into the area of interpersonal influences on the educational and occupational attainment process.

2. Previous Theory and Research on Interpersonal Influence:

Obviously the literature on interpersonal influence is too wealthy to allow any thorough review here. The literature which has in fact been used most in educational and occupational mobility studies has revolved mainly around the two terms mentioned in Section One, reference group and significant others, and these are the terms that will be dealt with here. Even these two terms, however, defy review in such limited space, and so the major emphasis, apart from a very general discussion, will rest with their uses in the educational and occupational attainment process literature.

A. Reference Group:

While the literature on reference group is much too large to allow a thorough review here, it is also fairly well known.[36] Generally

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36. S. E. Asch, "Effects of Group Pressure upon the Modification and Distortion of Judgments," Readings in Social Psychology, Maccoby, Newcomb, Hartley, eds., New York, Holt, 1958, p. 174; Kurt W. Back, "Influence Through Social Communication," Readings in Social Psychology, Maccoby, Newcomb, Hartley, eds., New York, Holt, 1958, p. 281; W. W. Charters and Theodore M. Newcomb, "Some Attitudinal Effects of Experimentally Increased Salience of a Membership Group," Readings in Social Psychology, Maccoby, Newcomb, Hartley, eds., New York, Holt, 1958, p. 276; Leon Festinger, "A Theory of Social Comparison Processes" in Hare, Borgatta and Bales, Small Groups, pp. 163-187. Also Bobbs-Merrill Reprint, p. 111; Eugene Hartley, "Psychological Problems

attributed to Hyman[37] the term has taken on a wealth of meanings and has been used in a variety of ways. Lindesmith and Strauss define a reference group as "...any group with which a person psychologically identifies himself or in relation to which he thinks of himself.[38] Muzafer Sherif, who has made extensive use of the concept suggests that "...reference groups can be characterized simply as those groups to which the individual relates himself as a part or to which he

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of Multiple Group Memberships," in Social Psychology at the Crossroads, John H. Rohrer and Muzafer Sherif, eds., pp. 371-386; Herbert Hyman, "The Psychology of Status," Archives of Psychology, No. 269, June, 1942; Harold H. Kelly, "Two Functions of Reference Groups," in Readings in Social Psychology, Guy E. Swanson, Theorore M. Newcomb, and Eugene L. Hartley, eds., pp. 410-414; Robert Merton, "Contributions to the Theory of Reference Group Behavior," Social Theory and Social Structure, revised edition, pp. 225-280; Theodore M. Newcomb, "Attitude Development as a Function of Reference Groups" in Readings in Social Psychology, Swanson, et. al., eds., op. cit., p. 265; Theodore M. Newcomb, "Social Psychological Theory," Rohrer and Sherif, eds., op. cit., p. 48; Theodore M. Newcomb, Social Psychology, New York, Holt, 1961, pp. 225-232, 240-243, 260; Theodore M. Newcomb, Ralph H. Turner, Philip E. Converse, Social Psychology, New York, Holt, Rinehart and Winston, 1965, pp. 109-110, 145-147, 253; Muzafer Sherif, An Outline of Social Psychology, New York, Harper, 1948, pp. 105-106, 123; Muzafer Sherif, "Group Influences upon the Formation of Norms and Attitudes," Readings in Social Psychology, Swanson, et. al., eds., op. cit., p. 219; Tamutsu Shibutani, "Reference Groups as Perspectives, American Journal of Sociology, LX, May, 1955, pp. 562-569; Alberta E. Siegel and Sidney Siegel, "Reference Groups, Membership Groups, and Attitude Change," The Journal of Abnormal and Social Psychology, 55, November, 1957; Samuel Stouffer, et. al., The American Soldier, Princeton University Press, 1949, Vol. 1, pp. 410-429; Ralph H. Turner, "Role-Taking, Role Standpoint, and Reference-Group Behavior," American Journal of Sociology, 61, January, 1956.

37. Hyman, op. cit.

38. Alfred R. Lindesmith and Anselm Strauss, Social Psychology, New York, The Dryden Press, 1956, pp. 46-80.

aspires to relate himself psychologically.[39]

Merton and Rossi, while not themselves offering a definition, nonetheless provide examples of typical cases of the use of the term, but note that the content of the concept varies even though the same term is used. They note, for example, that servicemen serving overseas in World War II sometimes compared themselves with members of their own groups to determine their feelings about being in the army. Sometimes, however, individuals would use non-membership groups as standards of reference in defining attitudes. Here they cite the case, for example, of the raw army recruit forming his attitudes toward combat on the basis of judgments supplied by seasoned combat veterans.[40] Both these groups were termed "reference groups." Nor were these by any means the only kinds of situations in which individuals formed attitudes in reference to other groups. Theodore Newcomb further complicates matters by pointing out the existence of what he termed "positive" and "negative" reference groups, the former being a group whose attitudes one adopts, and the latter a group whose attitudes one rejects.[41] Men can form attitudes, then, in reference to groups of which they are members, or in reference to groups of which they are not members. They may form attitudes by accepting the attitudes expressed by a reference group, or by rejecting those attitudes and the attitudes formed may be segmental or pervasive.[42]

This, of course, does not exhaust even the most important uses of the term. There does seem to be a common element, though, prevading all the uses of reference group terminology. Reference groups are always seen as groups which exercise influence over some personal characteristics (e.g., attitude, self-conception) of the individual. There is consensus over what reference groups do, but disagreement as to what they are and how they do it. More specifically, it is probably more accurate to say not that there is disagreement over what reference groups are, but rather that many different sociologists have

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39. Muzafer Sherif, "Reference Groups in Human Relations," Sociological Theory, Lewis A. Coser and Bernard Rosenberg, eds., MacMillan, New York, 1964, p. 273.

40. Robert K. Merton and Alice S. Rossi, "Contributions to the Theory of Reference Group Behavior," Social Theory and Social Structure, R. K. Merton, Glencoe, Illinois, The Free Press, 1956, pp. 225-256.

41 Newcomb, op. cit.

42. Turner, op. cit.

suggested many different ways in which reference groups may operate, and although there are many, they are not necessarily contradictory. Probably the primary distinction among reference groups is that between those which stand as points of comparison for the individual's definition of himself and those whose members hold expectations for ego. Within each type, sociologists have suggested several hypothetical persons for their efficacy. Reference groups may stand as points of comparison, for example, because the individual belongs to them, aspires to belong to them, differentiates himself from them, interacts frequently with them, holds strong positive or negative feelings toward them, etc. An individual may accede to the expectations of those groups whose members hold expectations for him because he likes them, because he sees membership as contingent upon accession, because the group holds power over him, etc. But the essential distinction is between those groups which hold expectations for ego and those which do not.

B. Significant Other:

Much less has been written under the rubric "significant other" than "reference group," but it is fairly clear that the two are at least functional equivalents if we allow that significant others are those who exercise major influence over individuals. The intellectual ancestory of the concept is obscure but probably the greatest impetus toward the area comes from the early pragmatists and symbolic interactionists. Baldwin's two central concepts for the development of personality are imitation and suggestion, which on the face of them imply interpersonal influence with certain key others.[43] Cooley's Looking Glass Self implies the notion strongly, and, of course, the concept of primary group is quite explicitly a designation of significant others of great influence. George Herbert Mead emphasizes interpersonal activity as the key to self-conception formation, arguing strenuously that the self-conception arises only within interactional contexts.[44]

Although the first use of the term has sometimes been attributed

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43. See James Mark Baldwin, Mental Development in the Child and the Race, New York, MacMillan & Co., 1895.

44. George Herbert Mead, Mind, Self and Society, Charles W. Morris, ed., Chicago, University of Chicago Press, 1934, p. 155.

to Mead,[45] it is doubtful that he used it explicitly, even though the meaning is implicit in his term "other." Mead was not especially interested in particular significant others; his concern was over the development of an organized self conception. This, he says, can only come about through the formation of a concept of the "generalized other."[46]

> I have pointed out, then, that there are two general stages in the full development of the self. At the first of these stages, the individual's self is constituted simply by an organization of the particular attitudes of other individuals toward himself and toward one another in the specific social acts in which he participates with them. But at the second stage in the full development of the individual's self, the self is constituted not only by an organization of these particular individual attitudes, but also by an organization of the social attitudes of the generalized other or the social group as a whole to which he belongs. These social or group attitudes are brought within the individual's field of direct experience, and are included as elements in the structure or constitution of his self, in the same way that the attitudes of particular other individuals are; and the individual arrives at them, or succeeds in taking them, by means of further organizing, and then generalizing, the attitudes of particular other individuals in terms of their organized social bearings and implications. So the self reaches its full development by organizing these individual attitudes of others into the organized social or group attitudes, and by thus becoming an individual reflection of the general systematic pattern of social or

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45. Robert K. Merton, Social Theory & Social Structure, Glencoe, Illinois, The Free Press, 1957, p. 215; Arnold M. Rose,"A Systematic Summary of Symbolic Interaction Theory," in Rose, Human Behavior and Social Processes, Boston, Houghton Mifflin Co., 1962, pp. 11, 141.

46. George Herbert Mead, Mind, Self and Society, Charles W. Morris, ed., Chicago, University of Chicago Press, 1934, p. 158. Italics Supplied.

> group behavior in which it and the others are all involved--a pattern which enters as a whole into the individual's experience in terms of these organized group attitudes which, through the mechanism of his central nervous system, he takes toward himself, just as he takes the individual attitudes of others.

The actual term significant other itself almost certainly belongs to Harry Stack Sullivan.[47] After calling Sullivan "...beyond question the most important recent member..." of the series of social self theorists which "...stretches back unbrokenly at least as far as Emerson... through such important names as James, Baldwin, Cooley, Dewey, Mead and Thomas, plus dozens of lesser contributors," Cottrell and Foote suggest a reason for Sullivan's shift of interest from Mead's "Generalized other" to his own "significant other:"[48]

> The correspondence between Mead & Sullivan leaves off at the point of the generalized other. For Mead, whose life span came a generation before Sullivan's, the social world was a fairly wholesome web; the others from whom one took his conception of himself were in substantial agreement. Hence the "generalized other" of Mead's social psychology. In Sullivan's time, and ours, the community has been fractured. The generalized other has broken down into clusters of significant others...

For Sullivan, significant others are those persons who exert major influence on the social self of the individual. The self of the individual rests on "reflected appraisals of others," much in the same tradition as Mead, Cooley and the early symbolic interactionists,[49]

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47. Harry Stack Sullivan, Conceptions of Modern Psychiatry, Washington, D. C., W. A. White Psychiatric Foundation, 1940, pp. 18-22.

48. Leonard S. Cottrell & Nelson N. Foote, "Sullivan's Contribution to Social Psychology," in the Contributions of Harry Stack Sullivan, Patrick Mallahy, ed., New York, Science House, 1952, pp. 190-191.

49. Sullivan, ibid.

and the usage is very close to Mead's usage of "other."[50]

The difference is one of emphasis, and the term itself has come to reflect this difference in emphasis along the lines suggested above by Cottrell & Foote and re-emphasized by Stryker:[51]

> In comparatively recent work, the concept of "significant other" has come into use. This concept represents the recognition that, in a fragmented and differentiated world, not all the persons with whom one interacts have identical or even compatible perspectives; and that, therefore, in order for action to proceed, the individual must give greater weight or priority to the perspectives of certain others. To speak, then, of significant others is to say that given others occupy high rank on an "importance" continuum for a given individual.

Generally, the conceptual development of the term may be summarized this way. From the symbolic interactionist posture arose the idea that people develop and support their self-conceptions through interaction with others. In a segmentalized world, one in which diverse values and attitudes can coexist, the particular shape of any individual's self conception and attitudes depends upon the particular individuals from whom he develops them. These particular persons are, following Sullivan, significant others. The term significant others seems to designate those persons who are particularly influential in the formation, support or modification of the self conception (or attitudes) of an individual.[52]

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50. See Manford Kuhn, "The Reference Group Reconsidered," op. cit., p. 8.

51. Sheldon Stryker, "Symbolic Interaction as an Approach to Family Research, in Symbolic Interaction, A Reader in Social Psychology, Jerome G. Manis and Bernard N. Meltzer, eds., Boston, Allyn & Bacon, 1967, p. 377.

52. See Paul Lazarsfeld, Bernard Berelson and Hazel Gaudet, The People's Choice, 2nd Edition, Columbia, 1948; C. Addison Heckman and Manford Kuhn, Individuals, Groups, and Economic Behavior, New York, The Dryden Press, 1956, pp. 40, 140, 177; Hans Gerth and C. Wright Mills, Character and Social Structure, New York, Harcourt, Brace & Co., 1953, pp. 112-129; and Weber, op. cit., pp. 93-96; H. S. Sullivan loc. cit.; Manford Kuhn, op. cit., "The Reference Group Reconsidered," p. 8; Cottrell and Foote, loc. cit.

But the term significant other, like reference group, enjoys less consensus concerning its attributes than its function. If all agree that significant others influence self conceptions, not all agree on who significant others are or how they influence self conceptions. Significant others are sometimes said to be influential because they reward and punish;[53] because the individual values them highly;[54] because they hold expectations for the individual,[55] or simply because he interacts with them frequently in a differential association sense.[56]

Generally the same distinctions seen in the reference group literature have been made concerning significant others. Here too, significant others have been said to perform their influential function in two basic ways parallel to Kelly's two functions of reference groups: significant others can stand as points of cognitive reference for the individual, and they can set norms for him and reward and punish for compliance and non-compliance.[57] Significant others have been spoken of as influential for the self-conception in general[58] and for specific attitudes.[59]

Although the distinction between positive and negative significant others apparently hasn't been made, there seems no reason why it could not be. Generally, significant others and reference groups are seen to

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53. Joseph E. McGrath, Social Psychology, A Brief Introduction, New York, Holt, Rinehart & Winston, 1964, p. 38; Tomatsu Shibutani, Society & Personality, New Jersey, Prentice Hall, 1961, p. 339; Sullivan, loc. cit.

54. Shibutani, ibid.; Carl Couch & John S. Murray, "Significant Others and Evaluation," Sociometry, 27, 1964, p. 503.

55. Wilbur B. Brookover and David Gottlieb, A Sociology of Education, New York, American Book Company, 1964, p. 472-474.

56. Cottrell & Foote, op. cit., p. 191.

57. See Sullivan, op. cit., pp. 18-22.

58. Sullivan, op. cit.

59. Bordua, op. cit.

perform the same function and to use the same processes to do so. Probably the only basic difference between the two is that the term reference group tends to call one's attention to clusters of persons while significant other has a singular connotation. It is with this singular connotation in mind that this research chooses to use the term significant other in preference to reference group. The assumption behind this judgment is that in many areas of life a person may be more likely to be influenced by specific other persons (e.g., my father, my best friend, my teacher, Mr. X., etc.) than by groups. Reference groups can be recaptured from clusters of significant others; but particular significant others are lost in reference groups.

Previous Measurement Techniques:

There are two distinct problems involved in the measurement of the influence of significant others. One is the identification of the significant other, and the second is the measurement of the influence he has over the individual. Rushby[60] has identified three general techniques for identifying significant others in research: (1) use of categories of significant others pre-selected by the researcher, (2) use of open-ended stimulus questions to identify significant others as the individual perceives them, and (3) use of direct observational techniques for identifying significant others. The first two may be carried out through interview or questionnaire techniques.

(1) Checklist instruments; Checklist instruments are those in which, based on some previous theory, research or insight, categories of potential significant others are proposed to the individual and he is asked to estimate their influence or list his perception of their expectations, etc.[61]

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60. Rushby, op. cit., pp. 25-30.

61. See, for example, Diekema, op. cit., pp. 60-65; also Sewell, Haller and Portes, op. cit.; Slocum uses a Guttman-type checklist instrument which illustrates the best of this type: Think for a minute about your family (father, mother, brothers, and sisters). Some or maybe all of them probably have expressed certain attitudes concerning formal education (high school, college). When you look at the following statements, think of those members of your family whose attitudes you are familiar with and respond to the statements on the basis of your knowledge of the attitudes of those members. Response categories: This describes the attitude of: a--All of them; b--Most of them; c--About

The advantage of this technique is mainly its economy. It has two major disadvantages: first, it assumes that the individual's perception of influence corresponds closely to the facts, which need not be so. Secondly, when ego's perceptions of expectations are taken for preselected others, the research is confounded by the fact that (a) not all categories of people or roles may be significant for all individuals, and (b) some individuals may have significant others not members of the categories on the list. Lengthening the list to avoid the second error increases the risk of the first. Shortening the list to avoid the second increases the risk of the first.

(2) Open-ended instruments: Open-ended instruments simply ask the individual to list significant others in blank spaces following some stimulus item. Typical are the instruments of Couch and Murray:[62] and Robert L. Stewart's Significant Others Test:[63]

> "In the spaces provided below, please list those persons and groups of persons to whom you refer yourself, either directly or in your thinking, when confronted with a problem, or in order to support or justify your actions."

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half of them; d--Only a few of them; e--None of them.

a b c d e

- - - - - They felt that formal education tends to take people away from their home communities and because of this, it is undesirable.
- - - - - They are opposed to formal education beyond high school.
- - - - - They feel that a good education helps a person to lead a better life.
- - - - - They do not think that formal education is really very important.
- - - - - They expect the younger members of the family to get all the formal education they can.
- - - - - They believe that the most important thing in formal education is the diploma or degree.

62. Couch and Murray, op. cit., p. 504.

63. Robert L. Stewart, The Self and Other Objects: Their Measurement and Interrelationship, State University of Iowa Library, Ph.D. Thesis, 1955, microfilm; See also H. L. Mulford, Toward an Instrument to Measure the Self, Significant Others and Alcohol in the Symbolic Environ: an Empirical Study, State University of Iowa Library, Ph.D. Thesis, 1955, microfilm.

While this technique overcomes the problems of forced alternatives which may be inappropriate or incomplete, it still falls victim to the presumptive fact that not all influence may be perceived by the respondent. He may be strongly influenced without his knowledge[64] of the fact that influence is being exerted. Secondly, even influence of which he is aware may be missed because the test instrument fails to cue his thinking about those people. This can largely be overcome in interviews, but interviews are very costly, and generally preclude large-scale samples and the possibility of simultaneous administration of other instruments.

(3). Direct observation: A good example of direct observation is that of Sherif and Sherif's research on adolescent boys.[65] Very briefly, the technique involves the direct observation of interactions in groups. The research was carried out in a summer camp for boys. The researchers instructed each observer to select a locale and "locate a recurrent cluster of boys..." in the area.[66] After careful and unobtrusive groundwork and development of rapport with the group, the observers were given the following instructions:

> The pertinent evidence to establish is whether a group is a reference group for members' concerns, not just whether a group shows up at a particular place at a particular time, but also whether they are associating elsewhere, via one or more members, over the phone, etc. The evidence includes whether they make plans involving some members, whether they know at given times where absent members are, whether they give and take mutual aid in matter of parties, girls...In short, a group may appear in one location and all together only occasionally. But, a group's absence from a place where they have been observed to associate, or a change in their activities, does not necessarily indicate that the

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64. One of the subjects in our initial interviewing insisted that no one had influenced her attitudes or aspirations because she was an "independent thinker." She knew she was an independent thinker, she told us, because her mother told her she was.

65. Sherif and Sherif, loc. cit.

66. Ibid., p. 358.

group has become unimportant to members.[67]

There are clearcut advantages, but there are also major problems. Aside from the theoretical question of the observer's upsetting "natural" patterns by his own presence, such research is enormously expensive and restricted to situations in which small groups of people are severely isolated.

In general, there are serious gaps in our ability to detect significant others. Those techniques which manage to sidestep the most basic problems are generally prohibitively expensive of time, money and personnel. There is a need here for valid, reliable and economical instruments which can identify the significant others of any given individual.

C. Expectations of Significant Others:

There are two fundamental techniques for the measurement of the expectations of significant others, direct and indirect. Direct measures involve actually observing or asking the significant other what his feelings are.[68] This technique is obviously dependent in the successful detection of significant others in the first place. Indirect measures imply the measurement of the individual's perception of the other's expectations or feelings.[69] In many instances, the indirect method which measures the individual's perception of the expectations others hold for him is theoretically appropriate, especially since there are grounds for suggesting that it is ego's perception of alter's expectation which guides ego's behavior. But for any research which intends to test the accuracy of ego's perceptions, or the notion that the actual expectations of alter influence ego in some way, it is obviously necessary to measure alter's expectations directly. In the educational and occupational attainment process research outlined in this chapter, the hypothesis has quite plainly been that the actual expectations of others is the critical variable, and so the present need is for

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67. Ibid., p. 358.

68. See Haller and Butterworth, op. cit.

69. See Sewell, Haller and Portes, op. cit.

instrumentation to measure expectations directly.[70] In either instance, the difficulties of measurement are parallel to those in any kind of attitude research in general, and consequently the techniques of general attitude measurement can apply here quite well.

3. Summary:

The purpose of this chapter has been to chronicle the development of the field of interest in the social psychology of educational and occupational attainment. Throughout that development the focus of attention has sharpened quite clearly on interpersonal influence as the mediating force between social-structural and environmental factors and personality variables, particularly the self conception and aspirations. But there are gaps in our theoretical knowledge and consequently our research instrumentation of these interpersonal processes. The problem has been defined here as threefold: (1) There is a need for a concise, valid and meaningful theory of significant other influence; (2) There is a need for the development of valid, reliable and economical instrumentation to detect specific significant others for specific individuals, and (3) There is a need to develop valid, reliable, economical instruments for the detection of the expectations relevant to ego's behavior that these significant others hold.

Although the initial practical question concerns educational and occupational attainment, the answer is deeply involved in the broader theoretical issue of interpersonal influence. Consequently this research must begin with some quite broad social psychological questions, such as: What is the self conception? How may the self conception be formed and changed? and Under what conditions do other persons operate as sources of influence over individual self conception? The ramifications of the study should extend considerably beyond the area of educational and occupational achievements or even stratification and mobility.

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70. J. B. Edlefson and M. J. Crowe, Teenagers Occupational Aspirations, University of Washington Agricultrral Experiment Station Bulletin #618; Burchinal, op. cit.; Donald R. Kaldor, Eber Eldridge, Lee G. Burchinal and I. W. Arthur, Occupational Plans of Iowa Farm Boys, Iowa State University, Agricultural and Home Economics Experiment Station Bulletin #508; Bordua, op. cit.; Kahl, op. cit.

CHAPTER II.

INFLUENCE ON ATTITUDES AS A BASIS FOR DETERMINING SIGNIFICANT OTHERS

1. Introduction:

In the last chapter the need for an instrument to detect significant others for individual's educational and occupational aspirations was documented and located as a part of the larger question of interpersonal influence in general. The argument does not suggest that nothing about the interpersonal influence process is known or has been written--quite the contrary. In this chapter we present a simple point of view concerning attitudes and influence which serves as a basis for determining who functions as a significant other for a person.

The ideas here rest on three key assumptions, none of which are proposed as original: (1) Attitudes are not indivisible units, but rather are constructed of component parts. Consequently it is possible for a significant other to exercise influence over parts of an attitude as well as the entire attitude; (2) Attitudes and the components of attitudes themselves rest on larger cognitive structures ("filter categories") and consequently may be modified indirectly by modification of these larger structures; and (3) Influence over attitudes, their components or the larger structures on which they depend may be caused both by persons and groups who communicate norms, expectations or other self-object defining information to him or who stand as points of cognitive reference.

2. The Structure of Attitudes:[71]

As we saw in the last chapter, significant other is most broadly defined in this research context as any person who exerts an important influence on the educational and occupational aspirations of an individual. Following this definition, three questions must be answered in order to specify who significant others are: (1) What is an aspiration? (2) What are the conditions under which aspirations are formed and changed? and (3) What people fulfill these conditions?

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71. Aspirations can be seen as a special case of attitudes, and that term will be used here in this general discussion.

To begin with we hold, following Haller and Miller[72] that aspirations are attitudes which take a particular point of a continuum of difficulty as their objects. Hence considerations which apply to attitudes also apply to aspirations; the latter are a special case of the former.

Obviously, it is not possible in this space to do even partial justice to the enormous range of literature on attitude, nor, for the broad purposes here, is that necessary. There are nearly as many definitions of attitude as there are attitude theorists,[73] but of those who consider attitudes to be cognitive phenomena (as opposed to constructs which summarize observed regularities of overt behavior),[74] three major elements seem to recur: (a) the object of the attitude, (b) the person who has the attitude, and (c) the relationship between the two. As the symbolic interactionists have long argued, the confrontation between person and object is always mediated by some symbolic structure.[75] In this sense, it is always a conception which is the object of an attitude. A person does not have an attitude toward a dog, but rather toward his conception of a dog.

But forming a conception of an object, no matter how vague, is a classification procedure; one forms a conception of what an object is by relating it to other objects of his experience, by associating it with some objects and differentiating it from others.[76] This means placing it into a category of objects thought to be in some sense the

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72. A. O. Haller and Irwin W. Miller, The Occupational Aspiration Scale, Theory, Structure & Correlates, East Lansing, Michigan State University, Agricultural Experiment Station, 1963, pp. 9-15.

73. See, for example, Bert F. Green, "Attitude Measurement," in Gardner Lindsey, Handbook of Social Psychology, Addison-Wesley, Cambridge, Massachusetts, 1954, Vol. 1.

74. See Irwin Deutscher, Words & Deeds," Social Problems, 13 (Winter, 1966), pp. 235-254.

75. "Object" is used in the general sense of "...anything that can be designated as referred to." C. F. Herbert Blumer and Robert Bales, "Commentary and Debate," American Journal of Sociology, 71., No. 5, March, 1966, p. 539.

76. Jerome S. Bruner, "Social Psychology and Perception," in Maccaby, Newcomb & Hartley, Readings in Social Psychology, Holt, Rinehart, Winston, New York, 1958, p. 92.

same. These categories we call filter categories, insofar as they "filter" a person's perception of the objects within them. Clearly, the individual's orientation toward the category governs his orientation toward the objects within that category.

A. The Subject of the Attitude:

A conception of an object alone is not enough to form an attitude. Without at least an implicit reference to some relevant quality of the self, a conception of an object alone is not sufficient to construct a relationship between person and object. For example, "Retreat is what any sensible person would do now," although a definition of an object (retreat), does not completely specify the attitude of the military commander who then finishes the statement by saying "...but then I've never been particularly sensible." A definition of self is also a component of attitude.

But insofar as a person can be an object of his own experience, he conceives of himself in the same fashion as he does other objects. He identifies himself by associating himself with and differentiating himself from other persons and objects. This means placing himself into a series of categories, such as "good person," "drug addict," "husband," "sociologist," "music lover," "drop-out" and so forth. Again, insofar as these categories into which a person assigns himself filter his perception of who he is, they are called filter categories.

B. Subject-Object Relationship:

Following from this analysis, the concept attitude used in this research is somewhat more complex than those usually used by sociologists. If an individual identifies objects by placing them into filter categories, and identifies himself by placing himself into filter categories, then his orientation toward objects (his attitude) is determined by his conception of the orientation of the filter categories into which he assigns himself toward the filter categories into which he assigns those objects. Attitude is defined here to mean the individual's conception of the relationship of the filter categories of which he thinks he is a member.

3. Attitude Formation and Change:

The basic components of attitudes as outlined above are filter categories for the person's definition of himself and filter categories for the objects of his experience. It follows that a modification of any of these components will result in a modification of the attitude.

The basic technique of attitude formation or change is formation or modification of filter categories. Significant others, then, are significant insofar as they effect a major influence on the filter categories the individual uses as a basis for his identification of himself and the objects of his experience.

A. Definers

The conditions for the assignment of objects into categories are primarily (if not entirely) informational. The information as to whether or not an object should be assigned to a category or not is usually transmitted from one person to another by language, which is a symbol-system. When one individual tells another "An ax is a tool for cutting down trees," he is defining the object (ax) into a filter category (implement for cutting down trees) symbolically (through the use of language). Significant others who communicate information about objects or the person through the mediation of some symbol system (like language) are called definers.

Definers may exercise their influence either on the filter categories the individual uses to define objects, or on those he uses to define himself, or both. We may speak, then, of Object Definers, Self-Definers, and Total Definers.

The definition of either objects or self may be modified by two general techniques. Either the significant other may define the new object directly by placing it into an existing filter category (e.g., education is a means to success), or by modifying the person's definition of a filter category into which the individual has already assigned the object. For example, suppose that the individual already thinks education belongs in the category "means to success," the significant other can try to affect a person's attitude toward education by redefining the latter's orientation to success--e.g., "you really ought to aim at being a success." In this instance, it is important to see that the significant other can define or affect an attitude toward an object without mentioning or referring directly to that object. Such influence is called filtered.[77]

Definers, then, apparently exercise their major influence by com-

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77. This is particularly important in explaining "hidden" influence. See footnote 64 above.

municating information to the individual via a symbolic medium. This information can be directed either toward the individual's definition of the object of the attitude or the individual's self-conception, or both. It may be direct, in that it places the object or the individual into previously defined filter categories, (it is called direct because it directly mentions the object or the individual) or filtered, in that it offers a definition of a filter category into which the object or the individual has already been located by that individual.

B. Models

Even though most of the information which passes between two individuals may be via a symbolic medium such as language, by no means all of it is so transmitted. If a person can get an individual to define ax into the filter category "implement for cutting down trees" by telling him that it belongs there, he can do so at least equally well by showing him. He can, simply, cut down a tree with an ax while the individual is watching. Such a non-symbolic source of influence is called here a model.

It is fairly simple to see how a person may be a model for an object. A person may form or modify an individual's conception of "doctor" simply by being a doctor where that individual can watch. Again, a person may serve as a model for the object of the attitude itself or as a model for the filter category in which the person has defined that object--object models may be direct or filtered.[78]

The case of models for the self is analytically similar, but intuitively a bit harder to grasp. If an attitude toward an object is a person's conception of the relationship of the filter categories of which he sees himself a member to the filter categories of which he sees that object to be a member, a person must ascribe the same attitude as his own to those other people he sees to be members of the same filter categories of which he sees himself a member. The opposite is true as well, and much more important from our point of view. People that an individual sees belonging to the same filter categories to which he sees himself belonging will serve as models for his attitude toward the object insofar as these filter categories are relevant to the object in question.

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78. Merton's example of combat veterans serving as a reference group for recruits is a good case in point. Recruits are not members of this group, nor is it likely that they aspire to membership; neither is it likely that they are trying to correspond to expectations the veterans have for them. See Merton & Rossi, op. cit., p. 225.

The analysis is really not too difficult. When an individual member of a category acts or otherwise relates himself to an object, he establishes the relationship of that category and all its members to that object. Insofar as ego sees himself as a member of that category, too, that relationship applies to him as well. Since the function of a self-model is to define the relationship of a filter category (into which ego ascribes himself) to an object, all self models are inherently filtered; there are no direct self models.[79] For example, when a student-activist seizes a university building, he defines that behavior as appropriate to all members of the class student-activist. Because that behavior is appropriate to the whole class, it is, indirectly, appropriate to all its members.

Several important considerations should be made here. First of all, we specifically employ the term "category" here, rather than "group," even though it is clear that the members of these classes or categories are always people, since it is categorical membership that is the determining influence here, not group participation. A

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79. Back's study of social communication and influence might have some salience if several of his operations are redefined. One of Back's conclusions was that cohesiveness was an important variable associated with influence; that is, that members of highly cohesive groups were more easily influenced by other members than was the case in low cohesive groups. In operationalizing cohesion, however, it seems likely that Back has created situations in which ego sees himself and alter to be members of the same category. For example, in creating a high cohesion group based on prestige, Back told the subjects: "We try to put together people who should be especially good at this task. We checked on assignments from your lab instructor. From all we could learn, you have all the qualifications which have been set up to be good in this task; you two should be about the best group we have had." If both individuals are particularly well suited for this task at hand, then they must share, at least in part, a certain relationship to the task area and its elements. Insofar as the individuals make the inference that they are in the same relation to the set of objects which constitute the test area, the abilities connected with it, learning skills, etc., then it can be argued that a category based on common relation toward the test area has been formed and the influence of one individual on the other can therefore be explained in terms of model for self and its consequent attitude exchanges. For a clear exposition of the Back experiment, see Kurt W. Back, "Influence through Social Communication," in Maccoby, et. al., op. cit., pp. 183-197.

membership group may be a reference category, but it does not have to be. Thus the term "reference group" tends to confuse rather than clarify when used in this context.

It has force in defining attitudes for the individual insofar as it serves as a membership category--not insofar as it is a group.

Secondly, a reference category serves as a referent only in regard to those objects which are related to the criterion which compose it as a category. We call this a "group referent." The category "democrat," for example, will serve as a referent only for political objects. This follows from the fact that a category is said to exist only when and insofar as all its members stand in the same relationship to the objects which define it as a category. The category "dog-lover" exists insofar as all the members of that class stand in similar relation to dogs and things related to dogs.

Third, when a reference category also comprises a membership group, additonal sources of influences come into play. The members of the group referent serve as attitude models for the individual insofar as they act with regard to the object(s) which comprise that group referent as a category.[80]

By combining all the techniques listed, we find that there are seven modes of influence provided by the theory:

1. Definers for objects, direct.
2. Definers for objects, filtered.
3. Definers for self, direct.
4. Definers for self, filtered.
5. Models for object, direct.
6. Models for object, filtered.
7. Models for self, filtered.[81]

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80. An important extension of this group referent takes place when the objects which comprise it as a category are diffuse. In the extreme case, when the objects which categorize the members of a membership group are extremely diffuse and numerous (as would be the case in a family or childhood friendship) the group referent can be seen to be coextensive with the concept "primary group" since members of the group will serve as attitude models for almost any object. Attitudes will be interchanged on almost every topic. This usage corresponds to the reference group as an object of cognitive comparison. (See Kelly, loc. cit.)

81. There are no direct models for self. See previous page.

This classification may also be used to estimate the level of influence of significant others. For these purposes we assume that the more components of attitude a person modifies the greater is his influence; hence, a simple summation of modes will provide just such a measure, albeit crude. Similarly the number of modes of influence (model, definer or both) ought to be related to the pervasiveness of the influence.

By assigning one point to being a model, one point for being a definer and one point for each of the two parts of the attitude toward which influence may be directed (self or object) we can arrive at a system for roughly estimating the amount of influence any given significant other exercises.

4. Scoring the Significance of the Other

Thus if a person were a model or a definer he would receive one point. If he were both a model and definer, he would receive two points. If he influenced part of an attitude (either self or object) he would receive one point; if he influenced both parts (both self and object, or the total attitude,) he would receive two points. Out of this the following scoring paradigm emerges:[82]

MTDT	= 4	where:	D = Definer
MTDP	= 3		M = Model
MPDT	= 3		T = Influences total attitude.
MPDP	= 2		P = Influences part of an attitude (either self or object but not both)
MT	= 2		
DT	= 2		
MP	= 1		
DP	= 1		

Thus MPDT = Model for part of an attitude (either self or object) and definer for the total attitude (both self and object)

The rationale behind this system is not sophisticated; it is simply based on the assumption that a reference group, for example, which both served as a base for cognitive comparisons and as a normative reference group would be more influential for an individual than a

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82. Filtering is left out of the ranking system for this reason: Some individuals may use more filter categories for defining self or object than other individuals, and it is the relative number of filters influenced to filters used that ought to be related to amount of influence. A more rigorous ranking system would take this into account.

group which performed either but not both, and that a person who influences both components of an attitude is probably more influential than a person who modifies only one. We shall return to this schema in the next chapter.

5. Summary:

Significant others are defined as those people who exert an important influence on the attitudes of an individual. The component structure of attitude consists of the individual's definition of the object of the attitude, his definition of himself, and the consequent relationship between the two. The individual forms his definitions of objects (and himself) by placing them into categories, which, insofar as they "filter" the individual's conception of reality, are called "filter categories."

Significant others exercise their influence by defining objects (or the individual himself) into these filter categories. They do so either by communication through a symbol system (like language) or by example. (The former are called definers, the latter models.) By cross classifying these techniques, four types of influence emerge: models for objects, models for self, definers for objects, definers for self. The more of these an individual exercises, the greater is his proportional influence on the attitude, and the greater his significance as an other.

CHAPTER III

SIGNIFICANT OTHER ELICITORS

1. Strategy:

Chapter One, by outlining the development of scientific work pertaining to the educational and occupational attainment process, documented the need for two new questionnaire instruments: first, a device for identifying the significant others who influenced the educational and occupational aspirations of any given youth, and second, an instrument for measuring the expectations, norms or other subject-object identifying information being transmitted by these significant others to these young people. Chapter Two presented the more salient theoretical considerations involved in the development of such instruments. This chapter is meant to present the underlying research strategy and actual methods employed in the construction of those instruments.

The basic assumption underlying the research strategy, even prior to the origination of the theoretical guides presented in Chapter II, was that (a) significant others could be accurately discovered through depth interviews with individuals, and (b) the expectations, norms or other information which significant others transmitted in some way to the individual could be elicited by depth interviews with the significant others. With this in mind, the original project proposal set forth the following research strategy:

> Phase 1: Exploration Phase. A small group of students in the last year of compulsory education will be interviewed intensively to determine how to identify the persons ("significant others") whom youth believe to be important to them and to gain insight into what youth perceive to be the variables describing the levels of educational and occupational expectation these people have for them. A purposive sample of "significant others" will also be interviewed to determine the way in which "others'" expectations vary from the point of view of the "others" themselves. Depth interviewing techniques will be used because experience has shown that people have difficulty in comprehending exactly how interpersonal influence operates, even though they are usually aware that such influences exist.

Phase 2: Instrumentation Phase. Based on the above and on previous literature, practicable questionnaire instruments will be selected or (where necessary) designed, standardized, and validated (a) to measure the individual's levels of educational and occupational aspirations, (b) to identify the "others" who have educational and occupational significance for him, (c) to measure "others'" educational and occupational expectations for the youth.[83]

These procedures were broken down into five sample waves:

Wave 1. Depth Interviews with Wisconsin youth. This wave will use criteria of classification such as the following to generate cells; one young person will be selected (arbitrarily) to fit each cell. The tentative criteria are a) age-in-grade (over age vs. at age), b) sex (male vs. female), c) race (white vs. negro), d) area of residence (rural vs. urban), e) father's occupation (farm vs. blue-collar vs. professional-executive). This generates 48 cells (2 x 2 x 2 x 2 x 3 = 48), and thus indicates that there will be 48 sample members. The objective of Wave One is to determine who are the "significant others" of the individual, how he views their expectations for him, and what is the range of variation among different categories of youth.

Wave 2. Depth interviews with "significant others". Interviews will then be held with about 50 of the "significant others" identified above. These will be selected purposefully so as to obtain a more or less balanced representation of a) the categories of youth (from Wave One), and b) classes of relationship to the youth (e.g. "best friend": same vs. opposite sex; relatives: mother and father, other; other professionally-competent adult acquaintances: teachers, minister, etc; counsellor).

Wave 3. Pretest of questionnaire instruments for identifying significant others. A new sample, probably similar to the above, will then be selected to try out the questions (determined on the basis of Wave One interviews) proposed as ways of validly, reliably and inexpensively eliciting the individual's "significant others".

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83. From the original project proposal. See appendix A.

Wave 4. Pretest of questionnaire instruments for measuring the variables describing "Significant Others'" Expectations. Questions presumably eliciting appropriate expectation data will be determined from analyzing the Wave Two depth interviews. These will be tried out experimentally on about 100 of the Wave Two "significant others" not previously interviewed.

Waves 4a and b. Further pretesting. If the analysis of Wave Three data indicates that further pretesting is needed, some of the "significant others" from Wave Two who have not yet been interviewed, or those identified in Wave Three, may serve as additional samples.

Wave 5. Standardization sample. After the exact wording has been determined, a new sample of youth will be selected. The exact nature of the sample has yet to be decided, but it will probably consist of a proportionate sampling in high and low income urban and rural areas, attempting roughly to randomize selection of individuals within areas. The sample size of youth is expected to be about 100 and of "significant others" to be from 500-800.[84]

These proposed sample waves were followed rather closely in the research process, as will be seen below. They serve two basic purposes: 1) the construction of the instruments for eliciting significant others and 2) the construction of the instruments for eliciting the expectations of the significant others. It is in the interest of clarity, perhaps, to discuss each set of instruments separately.

2. The Construction of the Significant Other Elicitors (SOEs):

As the preceding section indicated, the SOEs were constructed primarily on the basis of data collected from a series of depth interviews of Wisconsin high school students. The interviews themselves were guided by a protocol based on the theoretical considerations outlined in Chapter II.

A. The Attitudes on Education, Self, and Occupational Protocol (AESOP):

1) Introduction--Theory: Although initially based on a faith that significant others could be elicited in depth interviews, the interview protocols were designed to take account of the three fundamental theoretical assumptions detailed in Chapter II:

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84. ibid.

1) Attitudes are not indivisible units, but rather are constructed of component parts. Consequently it is possible for a significant other to exercise influence over parts of an attitude as well as the entire attitude; 2) attitudes and the components of attitudes themselves rest on larger cognitive structures (filter categories) and consequently may be modified indirectly by modification of these larger structures; and 3) influence over attitudes, their components or the larger structures on which they depend may be caused both by persons and groups that set norms for the individual by holding expectations for him or in some other way communicating with him and by persons or groups which stand as points of cognitive reference.

In addition to these three considerations, a fourth was added. Education, occupation, and the self-concept, although related, are nonetheless conceptually distinct objects, and the possibility that significant others for an individual's attitude toward one might but need not be significant others for his attitude toward the others had to be left open.

2) Sections of the Protocol: In order to account for these four considerations, the protocol was divided into three major sections: occupation, education and self. Section One attempted to elicit the names of those persons who excercised major influence over the individual's definition of occupation. Section Two attempted to elicit the names of those persons who excercised major influence over the individual's definition of education. Section Three attempted to elicit the names of those significant others who excercised influence over the individual's definition of his self conception (or, more accurately, those aspects of his self conception relevant to his educational and occupational behavior).

But the individual's definition of objects (occupation and education) and self is dependent on his definition of the filter categories of which he considers them to be members, and so influence directed toward these filter categories would also affect his definitions of occupation, education and self. Within each major section, (occupation, education and self), therefore, the first step in the interview procedure was to elicit the filter categories upon which the individual based his definitions of the object in question. This was accomplished simply by asking the person to define the object in question (occupation, education or self). The responses to these questions were considered filter categories.

Finally, for each object and each filter category, two basic questions (and variants thereof, at the interviewer's discretion) designed to elicit significant others were asked: 1) A question designed to determine definers (e.g., Who have you talked to about that?)

and 2) Questions designed to elicit models (Who do you know who does that? Who do you know who is like that?)

In general, then, the interview protocol consists of three sections, one for occupation, one for education, and one for the self conception. Each section 1) specifies the object in question, 2) elicits the filter categories the individual uses for defining that object, and 3) elicits the models and definers for a) the object and b) each filter.

a.) The Occupational Section: The two purposes of the occupational section of the Attitudes on Education, Self and Occupation Protocol are 1) to determine the filter categories the individual uses to define occupation as an object, and 2) to elicit the names of those significant others who influence his definition of that object and those filter categories. Although a fairly cumbersome process to describe, it is actually quite simple to do. The interviewers were allowed considerable latitude; even so, several common features were a part of all the interviews performed as a part of this project.

Basically, occupation as an object was broken into several components either previously designated in the literature or on common sense: 1) occupations (or jobs) in general, 2) specific jobs the subject had considered or was considering or had been urged to consider, 3) the ideal jobs he would like to choose if he had no restrictions whatever,[85] and 4) the best jobs he thought he could realistically attain.[86] He was asked a) to define each of these, b) what he liked or disliked about each of them and c) to discuss them generally. (Specific questions were at the interviewer's discretion.) The answers to these questions were considered filter categories. After each filter or set of filters had been elicited, the subject was asked 1) who had spoken with him about that, (a definer item) and 2) who had a job like that, or with an attribute like that (model item). Again, the actual question wording was at the discretion of the interviewer.[87] The interviewer was instructed to leave an area of questioning when no new responses were forthcoming, but he could return later at his discretion. The actual temporal ordering (except that model and definer items must obviously be asked after each filter is elicited) is unimportant and was varied to suit the subject.

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85. Haller and Miller, op. cit., pp. 8-9, 60-61.

86. ibid.

87. The interviewers are described on pp. 39.

b.) The Educational Section: The educational section of Attitudes on Education, Self and Occupation Protocol has two functions parallel to the occupational section: 1) to discover the filter categories the individual uses for defining education as an object, and 2) to elicit the names of those significant others who influence the subject's definition of education and his filter categories for education. The procedure is exactly parallel to that of the occupational section.

First the individual was asked to discuss education (or school) in general, then any specific schools he has thought about or been urged to think about; the education he would ideally like to receive and the education he realistically expected to attain. He was asked what he liked or disliked about each of them as well. His answers were considered filter categories. After each filter or group of filters was elicited, model and definer questions were asked: (e.g., do you know anyone who went to a school like that? Who have you talked to about school, university, college, trade school, etc.?--depending on the filters elicited.) As in the occupational section, the interviewer was left free to enter and leave areas of questioning as circumstances seemed to prescribe.

c.) The Self-conception Section: As in the occupational and educational sections, the self section has two primary purposes: 1) to determine the filter categories the individual uses to define those parts of his self conception relevant to education and occupation, and 2) to determine the names of those significant others who influence his definition of himself or the filter categories he uses to define himself, in reference to education and occupation. Unlike the preceding two sections, it can be seen to divide itself into two subsections: 1) those self-filters relevant to occupation, and 2) those self-filters relevant to education. Although it is separated analytically from the occupational and educational sections and recorded separately (see section two below, Recording) it is at least partially handled simultaneously with those sections. When a specific occupation is elicited in Section One, for example, the interviewer might ask "What qualities are needed for a job like that? Do you have such qualities? What qualities do you have?" etc. These same questions (whose wording, again, is varied by the interviewer to suit the situation) can be asked after each occupational and educational filter is elicited, and alone after both Sections One and Two have been completed. The responses to these questions are, operationally, filter categories for self. After each filter category for self is elicited, model and definer items are asked.

Although this is an accurate broad description of the protocol, in practice each interviewer was allowed a great deal of latitude. The

interviewer may move from item to item both within and across sections as he sees fit. The interview is terminated when no new responses can be elicited. Here the judgment of the interviewee is important because it is possible to put filter categories into the respondent's mouth by leading questions, but, as a general guide, most interviews are terminated after between three-fourths to one and one-half hours have elapsed. As the interviewer's familiarity with the protocol increases, the time required is generally reduced.

3) Recording of Interviews: Although all interviews were tape recorded, each interviewer kept his own set of notes, both for the convenience of those who would later analyze the results as well as for his own assistance in recalling what had been said earlier as the interview progressed.[88]

The note-taking procedure which seemed most useful is quite simple, and is illustrated in Figure Two.

The left-hand column indicates the object under consideration--occupation in general, specific occupations, ideal occupations, realistic occupation, education, specific schools, self conception, etc. The central column indicates the filters mentioned for each of the objects in the left-hand column. To the right of each of these filters, in the right-hand column, the interviewer records the significant others identified for each filter. Generally the interviewer makes three separate sheets for each interview: one for occupational objects, one for education and one for self.

As Figure Two indicates, for work in general, the individual listed "enjoyable," "pleasure," "independence," and "sufficient income" as filter categories. (Theoretically this would mean he evaluates jobs in terms of the degree to which they fulfill each of these functions). The right-hand column indicates that Mary Jones (his cousin), his father, brothers and Bob James (his friend) have spoken to him on those points.

A little further down in the right-hand column the symbols (e) and (-) may be found next to names of significant others. The letter (e),

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88. Each interviewer's notes were later checked against the tapes by another interviewer. All analyses were performed from corrected notes.

89. Figure Two shows an occupational section. Examples of educational and occupational forms may be found in Appendix B.

FIGURE TWO*

SAMPLE INTERVIEW PROTOCOL

1. Occupational Variables:

Object	Filter	Significant Others
Work (General)	Enjoyable, Pleasure	Mary Jones (cousin) Father, Brothers
	Independence	Bob James (friend)
	Sufficient Income	Father, Brothers
Photographer	Meet People	Jeff Douglas
	Likeable	Jeff Douglas
	Exciting	Jeff Douglas (best friend)
	High Paid	(Father) (-)
	Independence	Neil Browder (e) (Acquaintance) Phil Ingram (e) (Co-worker)
Telephone Company	Free Education	Aunt, Uncle
	Easy Access	Uncle (Bill Robertson)
Professional (e.g., Teaching) as Opposed to Trade	For educated people	Brother (Ralph)
	Costly	Art, Neil, Bob, Jeff
	Pays well	Phil, Uncle (-)
	High Status	Phil, Uncle (-)
	Unappealing	
	Hard	
	Requires Patience	Phil
	Requires Cooperation	Phil
	Lack of Independence	Phil

* (e) = example (Model)
(-) = negative influence

standing for "example," model; (-) indicates a negative model; i.e., someone who does not have one of the desired traits.

4) Sample: The basic criterion for sampling revolved around the persons to whom the final questionnaires were meant to apply. A questionnaire based on filter categories used by Whites or females in defining education or occupation would be useless for Negroes or males if Negroes or males used different filter categories for defining education and occupation. These considerations required a sample representing members of different social categories.

Five social categories were chosen: race, sex, residence, (rural vs urban) socio-economic status and age-in-grade.[90] Forty-eight cells are generated by this cross-classification. (See Figure Three. Some, of course, are highly improbable (e.g., urban farm cells) and some occur very seldom in Wisconsin (e.g., rural Negro cells.) Altogether, visits to five Wisconsin high schools[91] yielded 31 cases with one subject per cell. Darkened cells were not available in the sample.

5) Interviewers: The interviews were conducted by the chief project assistant and five graduate research assistants in sociology. Although none of the research assistants had had previous experience as interviewers, each was trained in the use of the protocol by the project assistant and accompanied him on at least one interview before interviewing alone. All interviewers also had the opportunity to listen to tapes of each others' interviews, both on their own initiative and in staff seminars during which tapes of special interest were played and discussed. At best two of the interviewers had had substantial undergraduate training and some graduate classes in sociology.

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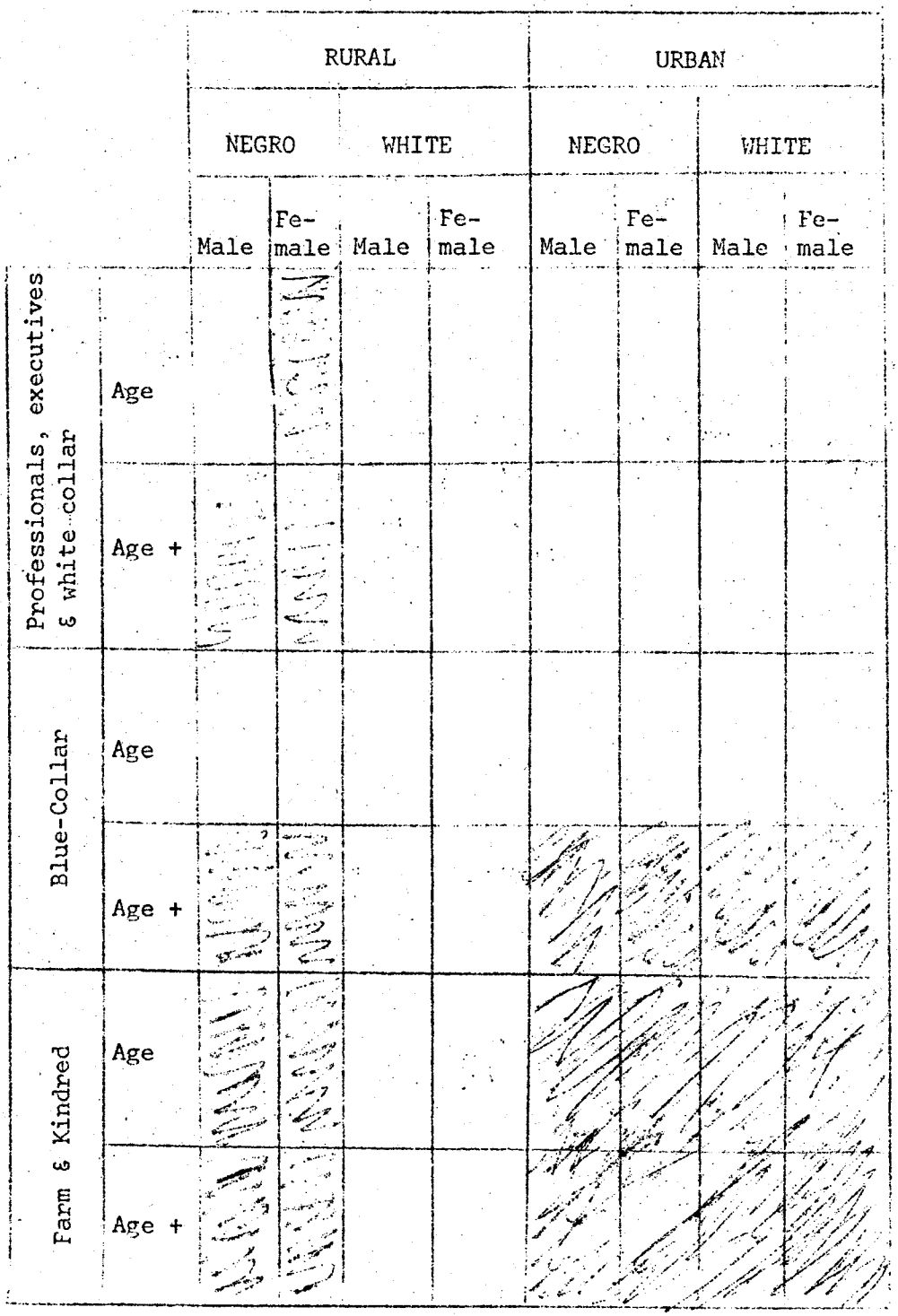
90. Age-in-grade refers to the age of a student compared to his classmates. It is included since being over age-in-grade (as a consequence of being held back, etc.) is related to dropout behavior.

91. We are very grateful to officials of Milwaukee North Division, Milwaukee Washington, Eau Claire Memorial, Oregon Central and Milton Union High Schools for assistance in the collection of these data.

FIGURE THREE

ATTRIBUTES OF PERSONS INTERVIEWED*
AND NOT INTERVIEWED** IN WAVE ONE SAMPLE



* White cells.
** Dark cells.

6. Analysis: As Chapter II suggested, a questionnaire instrument for eliciting significant others must, in addition to asking the individual who influences his attitudes, elicit those who influence (1) parts of attitudes (self or object) and (2) the filter categories on which his definitions of self and object rest. A reasonable strategy for causing the individual to think of those who influenced his definition of self, object and the filter categories on which they depend was to list the actual filter categories themselves and then ask model and definer items for each filter, as is done in the interview protocol.

a.) The Problem of Multiple Filters: Although this was relatively easy in the case of the interview protocol since each individual provided his own unique filters on the spot, when all the filters from all the interviews were combined they amounted to several hundred, obviously too many to list in a practical questionnaire. Even when divided into filters for education, occupation and self, the number was still prohibitive. Accordingly, all the filters for each of the three objects,--occupation, education and self,--were grouped together into the smallest number of categories which would include them all. The basic aim was to create a small enough number of categories to include on a questionnaire instrument without omitting any important filters mentioned by the interview subjects.

b.) Filter Categories for Occupation: The original purpose of eliciting filter categories at all, of course, was to use them as cues to remind the subject to think of people who have indirectly influenced his thinking about occupation. If an individual did not influence the subject's definition of working, or of being a doctor, perhaps he did influence his thinking about money or how much money a person should earn. This, of course, would influence the individual's occupational choice; income would be a filter category for occupation. But after all the filters were coded from the occupational section of the protocol there were far too many to include on a reasonable questionnaire. Typical responses were "working with people," "good pay," "service to humanity," "high status," "work around animals," "a way to make a living," etc. Although there were many individual responses, a striking characteristic of the list was the great similarity of most of the items to each other. The following actual filters--livelihood, means to support, to buy necessities, $1.00-$1.70 per hour (or other actual salary figures) means to support family, make money, compensation, survive, --all involve earning money, for example. Because the number of interviews was too small for any meaningful statistical analysis, all occupational filters were intuitively classified on the basis of similarities like those listed above. Four categories emerged into which almost all the filter categories seemed easily placeable: Intrinsic Nature, Extrinsic Nature, Intrinsic Function and Extrinsic Function.

1.) Intrinsic Nature: This category is made up of all those responses indicating activities contributing directly to the work of a particular kind of job; for example installing pipe is part of the work called "plumbing." Some of the more frequent items included in this class were managing people, selling, farming, designing houses, singing, writing theories, etc.

2.) Extrinsic Nature: This category is made up of all those responses which describe the environments in which the direct activities occur; the best synonym, perhaps, is working conditions, such as heavy work, work outdoors, work around animals, work with my hands, leave free time for travel, not too strenuous, fun, etc.

3.) Intrinsic Function: This category describes the purpose of a job; the actual reason for the job's existing; e.g., healing people, manufacturing houses, bettering humanity. It is distinguished from (1) above in that it refers to the reason the job is done rather than the actual activity being done.

4.) Extrinsic Function: This category refers to those functions which are not inherently part of a job, but which can be served by almost any job; e.g., earn money, advancement, high prestige, buy a house, earn the things you need, support family, etc.

This, of course, is by no means the only classification schema that could be imposed on this data. Its usefulness hinges on the assumption that the mentioning (on a questionnaire instrument) of these four categories, along with several sample items of each, may cue the individual to think of the actual filter categories he has used to define occupation, and hopefully help him remember who he talks to or sees as examples of each of them.

At the same time and independently, Gregory and Lionberger at the University of Missouri, factor analyzed the responses of 1091 high school students and college freshman in Missouri to 23 items describing occupations drawn from the literature.[92] The analysis yielded the four factors shown in Figure Four.

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92. C. L. Gregory and Herbert F. Lionberger "Idealized View of Occupation Held by Freshman Students in a Midwestern University and High School Seniors in Country--Small City, Missouri," unpublished paper presented at Rural Sociological Convention, San Francisco, August, 1967.

FIGURE FOUR

GREGORY-LIONBERGER FACTORS IN OCCUPATIONAL ATTRIBUTES

Four Factors in Occupational Attributes	Estimated Loadings
I. Management Creativity (Intrinsic Nature)	
Work that requires managing of and responsibility for people	.66
Work that requires management and responsibility for money	.57
People with whom I would associate	.54
Selling ideas or things	.50
Working with people	.45
Work that requires considerable thought and development of ideas	.45
II. Materialistic Doer (Extrinsic Nature)	
Work requiring much physical activity	.69
Work out of doors	.68
Opportunity to be close to nature	.63
Working with things	.60
Work involving much use of tools and machines	.59
III. Personality Fulfillment (Intrinsic Function)	
Service to humanity	.49
How my interests and abilities fit in	.45
How important people feel the occupation is	.44
Feeling of accomplishment	.44
People with whom I would associate	.41
IV. Extrinsic Reward (Extrinsic Function)	
Good retirement plan	.56
Good beginning pay	.55
Chance for advancement	.53
Being able to keep the job as long as I want to	.46
Jobs available in the field	.40

93. Adapted from ibid.

The four factors are almost identical to those suggested above (although the names assigned to them are different). When the titles of the filter categories uncovered in our own intuitive analysis are placed over (in parentheses) Gregory and Lionberger factors, even the items themselves are almost identical. This similarity between Gregory and Lionberger's occupational factor structure and our own intuitive classification lends a great deal of encouragement to our analysis.

Now the assumption here is not that all people use all four filter categories in defining occupation in general or any job in particular, but that everyone uses at least one of them and that virtually no one uses any other. In fact, although the data are sketchy and the small, non-random and unrepresentative sample prohibits our reporting it here as substantive finding with any confidence, interviewers report differences particularly between Negro and white aspirers and low and high aspirers in the way they classify occupations. In response to the question "What kind of job would you like to have?", Negroes sometimes respond "Yes, I would like to have a job." Apparently, interviewers feel, the distinction between different jobs is relatively unimportant to the Negroes interviewed, that the real distinction is between having and not having a job.

Interviewers also feel that low aspirers tend to rate jobs almost exclusively on the extrinsic function filter, a characteristic shared by Negroes.[94]

c.) Filter Categories for Education: The filter categories for education were compiled from the educational section of Attitudes on Education, Self, and Occupation Protocol in the same fashion as for occupation, and the same four major categories located in the occupational section--Intrinsic Nature, Extrinsic Nature, Intrinsic Function and Extrinsic Function--seemed to describe the educational filters equally well.

1.) Intrinsic Nature of Education: This category refers to those activities which are essential to education as an object, such as reading and doing assignments, hard work (mentally), requires application, studying, writing, etc. It generally refers to the actual academic work of education.

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94. Once again, these are not substantiated findings but rather interviewers' impressions only.

2.) Extrinsic Nature of Education: This filter refers to those things generally associated with the life of a student, such as living in dorms, social activities, not regimented, on your own, allows free time, etc. It generally refers to the usual academic environment.

3.) Intrinsic Function of Education: This filter refers to those ends which are by its nature associated with education, such as improves thinking, gain knowledge and facts, self-development, broadens you, name of a specific subject, etc.

4.) Extrinsic Function of Education: This filter refers to the non-educational ends which education may serve, as helps you get a good job, necessary to get ahead, leads to higher income, lends prestige, etc.

d.) Filter Categories for Self Conception: One of the implications of the theoretical discussion in Chapter II is that individuals identify themselves by citing relationships to the objects of their experience. Apparently, those aspects of the self conception which are relevant to educational and occupational behavior are the individual's conception of his relationship to educational and occuaptional objects and filter categories. All the filters elicited for self fit without too much strain into the filter categories already established toward education and occupation. Thus I am athletic constitutes a relationship toward the extrinsic nature of education (sporting events, etc.,); I am intelligent, I learn quickly, may be seen as orientations toward the intrinsic nature of education (academic work); I want to get ahead is an orientation toward the extrinsic function of education and occupation, etc. Consequently no new filter categories were constructed for self conception. Cues for self conception on the questionnaires were constructed by asking the individual to think of his personal relationship to the same filters as had already been used in the educational and occupational sections. The difference here is that, in the educational and occupational sections the individual is asked about education and occupation in general; in the self conception section, he is asked about his particular relation to those objects and filters. This will be discussed more thoroughly in the section of this chapter on the actual questionnaire instruments.

B. Preliminary Questionnaire Instruments:

Subsequent to the interviews described in section (2) above, initial questionnaire instruments were constructed. The questionnaires were based on the same theoretical presumptions as the interview protocols: that influence may be exerted on parts of (self and object) as well as whole attitudes; that that influence may be excercised through filter categories, and that the two primary modes of influence are defining

and modelling. The one key deviation was that, in the interviews, subjects were allowed to supply their own filter categories for education, occupation and self, while in the questionnaire, filters are provided by the instrument itself.

Two basic instruments were devised: one to detect occupational significant others and one to detect educational significant others. Various stimulus items[95] cued the individual to think of the four filter categories for object and, after each such cue, asked questions designed to elicit models and definers. Then the test cued the individual to think of his relationship to each of the four filter categories, and asked model and definer questions again.

Two basic forms of each instrument were constructed: a long form in which the subject was asked to answer Likert-type questions about each filter category, and a short form in which the filter categories were simply mentioned.

These fairly cumbersome early instruments were pretested on 20 high school students at Milton Union High School. Each student was interviewed briefly after taking the tests, and potential wording difficulties and misunderstandings were discussed. Regression lines for long and short forms for each individual were hand-plotted and, based on this analysis, revised and shortened instruments were prepared and administered to another pretest sample in Madison's Edgewood High School, a private church-related school. (N = 20 seniors). These students, too, were interviewed about their reactions to the test. Finally, a pretest sample of 429 high school juniors was drawn in Eau Claire, Wisconsin, and the revised instruments were administered.[96]

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95. The actual wording of the items was changed somewhat after pretest, but the basic structure remains substantially the same; consequently a full description will be reserved for the final form of the instrument in the next section.

96. These data are partially analyzed in Elizabeth M. Schweitzer, Exploratory Research Into the Relationship Among Socio-economic Status, Significant Other Influences and Level of Occupational Aspiration, unpublished Master's thesis, University of Wisconsin, Madison, 1968; Joseph Woelfel, "A Paradigm for Research on Significant Others," unpublished paper presented at joint sessions of the American Sociological Association and the Society for the Study of Social Problems, San Francisco, August, 1967.

C. Final Significant Other Elicitor Instrument:

The seven-page questionnaire instruments, the Occupational and Educational Significant Other Elicitors,[98] emerged from these pretests. Both are rapid administration questionnaires for use in either individual or group-testing situations which may be administered by non-technical personnel. Aside from wording changed in the items themselves, they are identical in concept to the original instruments described in the preceding section.

1.) The Occupational Significant Other Elicitor: The Occupational Significant Other Elicitor consists of seven pages. Page One (the cover) contains the name of the instrument and provides space for the subject's name. Page Two is an instruction sheet including a sample item. The instructions are comprehensive and simple; they require no amplification by the administrator, although it is recommended he read them aloud with the subjects. Page Three is the first substantive page. The first paragraph (numbered One) lists the four filter categories for occupation--Intrinsic Nature, Extrinsic Nature, Intrinsic Function and Extrinsic Function, although in terms the pretests suggested were more understandable to high school populations--along with example items from each filter. Its purpose is to cue the individual to think of the filter categories he uses in defining occupation. The following four items--numbered A through D--are definer items for the filters, which are repeated. Thus Item A asks the individual to identify definers for the intrinsic nature filter for occupation. If a name appears at all on this page that person is classed a definer for object and is assigned one point. (Since not all persons are expected to use all filters, the number of times a name appears on a page is not relevant to scoring; scoring is based rather on the number of pages on which a name appears.)

Page Four lists all four filters again, but this time asks model items for each filter. Persons whose names appear on this page are classed as model for object and receive one point.

Page Five reiterates the four filter categories for occupation, but this time cues the individual to think specifically about his relationship toward each of them. Items A through D are definer eliciting items for his orientation to each of the filter categories. The persons whose names are elicited on Page Five are definers for self and are scored one point.

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97. See Appendix B.

98. Two additional long-form instruments were also developed primarily for validation purposes and may be found in Appendix B.

Page Six asks model items for each of the self filters. Names of persons occuring on Page Six are models for self and are scored one point.

Page Seven is the concluding page and urges the subject to check over his form one more time before handing it in.

2.) Scoring the Occupational Significant Other Elicitor: As is evident from the description preceding, the instrument classifies and scores significant others according to the pages on which their names occur. Chart One, page 50, summarizes the scoring procedure (and includes the appropriate expectation elicitors, to be described in the next chapter).

3.) The Educational Significant Other Elicitor: The Educational Significant Other Elicitor consists of seven pages. Page One (the cover) contains the name of the instrument and provides space for the subject's name. Page Two is an instruction sheet including a sample item. The instructions are comprehensive and simple; they require no amplification by the administrator, although it is recommended he read them aloud to the subjects. Page Three is the first substantive page. The first paragraph (numbered One) lists the four filter categories for education--Intrinsic Nature, Extrinsic Nature, Intrinsic Function and Extrinsic Function, although in terms the pretests suggested were more understandable to high school populations--along with example items from each filter. Its purpose is to cue the individual to think of the filter categories he uses in defining education. The following four items--numbered A through D--are definer items for the filters, which are repeated. Thus Item A asks the individual to identify definers for the intrinsic nature filter for education. If a name appears at all on this page that person is classed a definer for object and is assigned one point. (Since not all persons are expected to use all filters, the number of times a name appears on a page is not relevant to scoring; scoring is based rather on the number of pages on which a name appears.)

Page Four lists all four filters again, but this time asks model items for each filter. Persons whose names appear on this page are classed as model for object and recieve one point.

Page Five reiterates the four filter categories for education, but this time cues the individual to think specifically about his relationship toward each of them. Items A through D are definer eliciting items for his orientation to each of the filter categories. The persons whose names are elicited on Page Five are definers for self and are scored one point.

Page Six asks model items for each of the self filters. Names of persons occuring on Page Six are models for self and are scored one point.

Page Seven is the concluding page and urges the subject to check over his form one more time before handing it in.

4.) Scoring the Education Significant Other Elicitor: As is evident from the description preceding, the instrument classifies and scores significant others according to the pages on which their names occur. The chart on Page 50 is a complete description of the scoring procedure.

3. Summary:

The Significant Other Elicitors are questionnaire-type instruments for the detection of significant others for education and occupation. They flow from two basic sources: 1) The theoretical assumptions set forth in Chapter II· and 2) interview data gathered from depth interviews of Negro, white, urban, rural, male, female, overage and normal age-in-grade Wisconsin high school youth. Both instruments were refined and modified as a result of three separate pretests in different populations drawn from three cities and towns in Wisconsin.

The instruments classify significant others according to the component of attitude over which they exercise influence (object, self or both) and the mode of influence employed (modelling or defining).

CHART ONE

SCORE FOR THE SIGNIFICANCE OF THE OTHER AND
KEY TO APPROPRIATE EXPECTATION ELICITOR INSTRUMENTS

PAGE(S) OF SIGNIFICANT OTHER ELICITOR ON WHICH SIGNIFICANT OTHER'S NAME APPEARS	TYPE SIGNIFICANT OTHER	SIGNIFICANCE SCORE	ADMINISTER EXPECTATION ELICITOR EDUCATION	OCCUPATION
1, 2, 3, and 4	Model and definer for self and object	4	E2, E3, E4, E5	02, 03, 04, 05
1, 2, 3	Model and definer for object, definer for self	3	E1, E4, E5	01, 04, 05
1, 3, 4	Definer for object, model and definer for self	3	E1, E2, E3, E4, E5	01, 02, 03, 04, 05
1, 2	Model and definer for object	2	E1	01
1, 3	Definer for object, definer for self	2	E1, E4, E5	01, 04, 05
1, 4	Definer for object, model for self	2	E1, E2, E3	01, 02, 03
2, 3	Model for object, definer for self	2	E1, E4, E5	0., 04, 05
2, 4	Model for object, model for self	2	E1, E2, E3	01, 02, 03
3, 4	Model and definer for self	2	E2, E3, E4, E5	02, 03, 04, 05
1	Definer for object	1	E1	01
2	Model for object	1	E1	01
3	Definer for self	1	E4, E5	04, 05

CHAPTER IV.

THE EXPECTATION ELICITORS

1. Introduction:

Once significant others for any individual have been identified, a description of the interpersonal influence process still requires a knowledge of the particular influences those significant others are transmitting to that individual. This task is the one for which the Wisconsin Significant Other Battery Expectation Elicitors[99] have been designed. This chapter will describe those instruments. Section Two discusses the general theory of the questionnaires. Section Three describes each instrument and relates it to the theory. Section Four discusses the administration of the instruments to individuals to detect their aspirations as opposed to administering them to significant others to elicit expectations, and Section Five discusses scoring of the instruments.

2. Theory:

The Expectation Elicitors were developed simultaneously with the Significant Other Elicitors, are based on the same 61 interview cases and theoretical presumptions, and are meant as a complement to those instruments. Most simply and generally, just as the Significant Other Elicitors operated by asking the individual who he talked to or used as a model about objects and filter categories, the Expectation Elicitors operate by asking the significant others what they themselves think about or tell the individual about the objects or categories. Although the instruments are very simple, the fact that slightly different versions of each have been provided depending on the exact classification of the significant other in question makes them somewhat difficult to explain concisely.

As were the Significant Other Elicitors, the Expectation Elicitors are based on the theoretical presumptions of Chapter II.

> 1.) Attitudes are not indivisible units, but rather are constructed of component parts. Consequently it is possible for a significant other to exercise influence over parts of an attitude as well as the entire attitude; 2.) attitudes and the components of attitudes themselves rest on larger cognitive

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99. Expectation Elicitors is a convenient but not exactly accurate title since, although expectations are elicited by the instruments, expectations do not constitute all that is elicited.

structures (filter categories) and consequently may be modified indirectly by modification of these larger structures; and 3) influence over attitudes, their components or the larger structures on which they depend may be caused both by persons and groups that set norms for the individual by holding expectations for him or in some other way communicating with him and by persons or groups which stand as points of cognitive reference.

In accordance with these three distinctions, expectation forms have been provided for models and definers, for significant others for object and self, and for direct and indirect (through filter categories) significant others. Chart Two illustrates all the kinds of Expectation Elicitors in the Wisconsin Significant Other Battery. Column One consists of instruments meant to be administered to those significant others who influence only the individual's definition of the object (either education or occupation). Since, without relating the object directly to the self, an object can only be defined by placing it into categories.[100] The four direct-object cells are labelled Null, or impossible, and no tests have been written to fill them. Column Two consists of instruments meant to be administered to those significant others who influence either the individual's definition of self or his whole attitude. Self and Total are combined in this chart (that is, the same instruments are administered to self and total significant others) because, operationally within this research, the self conception is defined in terms of the individual's perceived relationship to the object in question and its filter categories; i.e., "I am the kind of person who would do well in school," etc. Consequently, any definition of self will operationally imply a reference to the object or object filter category, and will constitute a reference to the whole attitude. Thus, if a person were identified by the Significant Other Elicitor instruments (see Chapter Three) as a significant other for object only, he would receive an instrument from Column One. If he were identified as a significant other for either self or the total attitude, he would receive an instrument from Column Two.

The two major rows, occupation and education, refer to the attitude for which the significant other is influential. If his name is elicited on the occupational Significant Other Elicitor, he would

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100. See Chapter II.

CHART TWO

Schematic Chart of Expectation Elicitors

OBJECT	TYPE INFLUENCE		I ATTITUDE OBJECT	II COMPONENT SELF AND TOTAL
OCCUPATION	MODEL	DIRECT	NULL 1	2 (02)
		FILTER	(01) 3	4 (03)
	DEFINER	DIRECT	NULL 5	6 (04)
		FILTER	(01) 7	8 (05)
EDUCATION	MODEL	DIRECT	NULL 9	10 (E2)
		FILTER	(E1) 11	12 (E3)
	DEFINER	DIRECT	NULL 13	14 (E4)
		FILTER	(E1) 15	16 (E5)

receive an instrument from the occupational row, for example. Within that row, if he were identified as a model, he would receive a model instrument, and if a definer, a definer instrument. If he were both model and definer, he would receive both. Thus, if a person were found by the occupational significant other elicitor to be a definer for object and a model for total, he would receive the instruments from cells seven, two, and four.[101]

The direct filtered distinction within model and definer rows refers to whether the influence is exercised by directly linking the person with the object (e.g., You should be a Doctor) or through a filter category (e.g., You should earn a lot of money, help humanity, etc.) Since direct influence is defined here as directly linking the person to the object, all direct-object cells are logically impossible; the direct linking of object and person automatically placed the influence into the total attitude cell, since the total attitude is involved.

The basic purpose of Chart Two is simply to illustrate the idea that different kinds of significant others exercise different kinds of influence, and so different kinds of instruments must be designed to measure these different kinds of influence. A significant other, for example, who served as a model for object could well be a doctor that the individual knew. The individual's observation of that doctor could serve as evidence about what being a doctor is like. Yet if a definer form were sent to that doctor asking him his expectation for the individual's future job, the doctor might be completely confused; he may not even know the individual at all, much less what his occupational future may be like. How each of these forms performs its individual function can best be explained individually. Chart Two will serve as a quick guide as to which Expectation Elicitor to administer to any significant other based on his Significant Other Elicitor type.

3. Description of the Instruments:

A.) Form 01:[102] Form 01 is an occupational form. It requests

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101. Direct and filtered instruments are different in form, and that difference will be explained below. Any significant other, however, receives both instruments within any cell, since the WISOB SOE does not distinguish significant others who operate by filters from those who operate directly. Both Expectation Elicitor forms are administered so that the influence may be tapped no matter which it may be.

102. All Expectation Elicitor forms can be found in Appendix B.

significant others to report their definition of occupation as an object. This is done by asking the significant other to rate occupation on each of the four filter categories for occupation. (See Chapter Three.) Since defining occupation as an object does not require a knowledge of the individual for whom the significant other is a significant other, Form 01 may serve for both definers and models. Form 01 fills cells three and seven of the chart on page 53.

B.) Form E1: Form E1 is the educational counterpart to Form 01. The form is identical to that of 01, but the person is asked to rate education on each of the four filter categories for education. Form E1 fills cells 11 and 15 of the chart on page 53.

C.) Form 02: Form 02 is an occupational form meant to be administered to models for self and models for the total attitude. It asks the significant other to set down his own orientation toward the occupational hierarchy. Insofar as it refers directly to that significant other's orientation to the object (occupation), it is a direct form. It fits into cell two of Chart Two.

Basically, Form 02 is a slightly modified version of the Occupational Aspiration Scale.[103] The Occupational Aspiration Scale is an eight item multiple-choice instrument. It includes items permitting responses at both the realistic (the best job the person is sure he can attain) and the idealistic (the level the person would most like to attain if nothing stood in his way) expression levels of level of occupational aspirations, each at two goal-periods, called career periods in this context, short range (end of schooling) and long range (at age 30). The four possible combinations of these components are each assessed twice, thus giving a total of eight questions. The alternatives for each item consist of ten occupational titles drawn from among the ninety occupations ranked by the National Opinion Research Center[104] study of the prestige of occupations (see Table One). Each occupation is presented as a possible response only once on the form. Alternative responses for each item systematically span the entire range of occupational prestige, and are scored from zero to nine. Operationally, an item score of nine indicates that the respondent has chosen an occupation from among the eight highest prestige occupations on the National Opinion Research Center scale, and an item score of zero indicates that one of

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103. See Haller and Miller, op. cit.

104. National Opinion Research Center (1947). Jobs and Occupation: A Popular Evaluation, Opinion News, 9:3-13.

TABLE ONE*

Summary of the Relation Between the National Opinion Research Center Occupational Prestige Scores and the Occupational Aspiration Scale Format

National Opinion Research Center Rankings		Occupational Aspiration Scale		
Occupation	Score	Item	Question	Score
1) U.S. Supreme Court Justice.....	96	1	R-S	9
2) Physician.....	93	2	I-S	9
3) State Governor.....	93	3	R-S	9
4) Cabinet Member in Federal Government.....	92	4	I-S	9
5) Diplomat in U.S. Foreign Service.....	92	5	R-L	9
6) Mayor of a Large City.....	90	6	R-L	9
7) College Professor.....	89	7	R-L	9
8) Scientist.....	89	8	I-L	9
9) U.S. Representative in Congress.....	89	1	R-S	8
10) Banker.....	88	2	I-S	8
11) (Government Scientist) (a).....	88	.	...	.
12) County Judge.....	87	3	R-S	8
13) Head of a Department in a State Government.....	87	4	I-S	8
14) Minister (or) (b).....	87	5	R-L	8
15) Priest.....	86	5	R-L	8
16) Architect.....	86	6	I-L	8
17) Chemist.....	86	7	R-L	8
18) Dentist.....	86	8	I-L	8
19) Lawyer.....	86	1	R-S	7
20) Member of the Board of Directors of a Large Corporation.....	86	2	I-S	7
21) Nuclear Physicist.....	86	3	R-S	7
22) Psychologist.....	85	4	I-S	7
23) Civil Engineer.....	84	5	R-L	7
24) Airline Pilot.....	83	6	I-L	7

(a) Titles in parentheses not used in the Occupational Aspiration Scale.
(b) Both are combined as a single alternative in the Occupational Aspiration Scale.

National Opinion Research Center Rankings		Occupational Aspiration Scale		
Occupation	Score	Item	Question	Score
25) Artist who Paints Pictures that are Exhibited in Galleries	83	7	R-L	7
26) Owner of a Factory that Employs about 100 People.....	82	8	I-L	7
27) Sociologist.....	82	1	R-S	6
28) Accountant for a Large Business.....	81	2	I-S	6
29) Biologist.....	81	3	R-S	6
30) Musician in a Symphony Orchestra.....	81	4	I-S	6
31) Author of Novels.....	80	5	R-L	6
32) Captain in the Army.....	80	6	I-L	6
33) Building Contractor.....	79	7	R-L	6
34) (Economist) (a).....	79	.	...	.
35) (Instructor in the Public Schools) (a).....	79	.	...	.
36) Public School Teacher.....	78	8	I-L	6
37) County Agricultural Agent.....	77	1	R-S	5
38) Railroad Engineer.....	77	2	I-S	5
39) (Farm Owner and Operator) (a)..	76	.	...	.
40) Official of an International Labor Union.....	75	3	R-S	5
41) Radio Announcer.....	75	4	I-S	5
42) Newspaper Columnist.....	74	5	R-L	5
43) Owner-operator of a Printing Shop.....	74	6	I-L	5
44) Electrician.....	73	7	R-L	5
45) Trained Machinist.....	73	8	I-L	5
46) Welfare Worker for a City Government.....	73	1	R-S	4
47) Undertaker.....	72	2	I-S	4
48) Reporter on a Daily Newspaper..	71	3	R-S	4
49) Manager of a Small Store in a City.....	69	4	I-S	4
50) Bookkeeper.....	68	5	R-L	4
51) Insurance Agent.....	68	6	I-L	4

(a) Not used in the Occupational Aspiration Scale.

National Opinion Research Center Rankings		Occupational Aspiration Scale		
Occupation	Score	Item	Question	Score
52) (Tenant Farmer--One who Owns Livestock and Machinery and Manages the Farm) (a).....	68	.	...	.
53) Traveling Salesman for a Wholesale Concern.....	68	7	R-L	4
54) Playground Director.....	67	8	I-L	4
55) Policeman.....	67	1	R-S	3
56) Railroad Conductor.....	67	2	I-S	3
57) Mail Carrier.....	66	3	R-S	3
58) Carpenter.....	65	4	I-S	3
59) (Automobile Repairman) (a)....	63	.	...	.
60) Plumber.....	63	5	R-L	3
61) Garage Mechanic.....	62	6	I-L	3
62) Local Official of a Labor Union.....	62	7	R-L	3
63) Owner-operator of a Lunch Stand.....	62	8	I-L	3
64) Corporal in the Army.....	60	1	R-S	2
65) Machine Operator in a Factory.	60	2	I-S	2
66) Barber.....	59	3	R-S	2
67) Clerk in a Store.....	58	4	I-S	2
68) (Fisherman who Owns his Own Boat) (a).....	58	.	...	.
69) Streetcar Motorman.....	58	5	R-L	2
70) Milk Route Man.....	54	6	I-L	2
71) (Restaurant Cook) (a).....	54	.	...	.
72) Truck Driver.....	54	7	R-L	2
73) Lumberjack.....	53	8	I-L	2
74) Filling Station Attendant.....	52	1	R-S	1
75) Singer in a Night Club.....	52	2	I-S	1
76) Farm Hand.....	50	3	R-S	1
77) Coal Miner.....	49	4	I-S	1
78) Taxi Driver.....	49	5	R-L	1
79) Railroad Section Hand.....	48	6	I-L	1
80) Restaurant Worker.....	48	7	R-L	1
81) Dock Worker.....	47	8	I-L	1

National Opinion Research Center Rankings		Occupational Aspiration Scale		
Occupation	Score	Item	Question	Score
82) Night Watchman.....	47	1	R-S	0
83) Clothes Presser in a Laundry...	46	2	I-S	0
84) Soda Fountain Clerk.....	45	3	R-S	0
85) (Bartender) (a).....	44	.	...	.
86) Janitor.....	44	4	I-S	0
87) Sharecropper--One who Owns No Livestock or Equipment and Does Not Manage Farm.....	40	5	R-L	0
88) Garbarge Collector.....	35	6	I-L	0
89) Street Sweeper.....	34	7	R-L	0
90) Shoe Shiner.....	33	8	I-L	0

*Taken from Haller and Miller, op. cit.,pp. 56-57.

the eight lowest prestige occupations has been chosen. Thus, the total possible score for all eight items ranges from zero to 72. This score is used to measure the individual's general level of occupational aspirations. It is designed, not as an absolute measure of level of occupational aspirations, but only as a measure of relative level of occupational aspirations. It is primarily for use on male high school students. (It is the belief of its authors that it may work well with females as well as with males, at this or younger ages, but this belief has yet to be demonstrated.) Thus, the level and range of difficulty of the test items is oriented to male subjects of this age and educational status. The Occupational Aspiration Scale is a self-descriptive instrument. It is easily administered in a group testing situation, but it may also be administered individually.

Relation to the General Concept of Level of Aspiration Expression Levels and Goal-Periods.

The wording of the stimulus-questions of the Occupational Aspiration Scale in terms of expression levels and goal-periods is presented in Table Two. The wordings are intended as occupational applications of the two dimensions which provide estimates of the boundaries of the range of the person's level of aspiration. Thus the wordings flow directly from general level of aspiration theory. Each stimulus question specifies both an expression level and a goal-period, and all four possible combinations of expression levels and goal-periods are used to form the stimulus questions. The same stimulus question is presented twice.

The numbers in parentheses in Table Two refer to the sequence of the items using the four types of questions. The letters in parenthesis refer to the expression levels and goal-periods of the questions. Thus, the questions are presented in the following sequence: Question One, realistic--short-range ("...which is the BEST ONE you are REALLY SURE YOU CAN GET when your SCHOOLING IS OVER?"); Question Two, idealistic--short range ("...which ONE would you choose if you were FREE TO CHOOSE ANY of them you wished when your SCHOOLING IS OVER?"); Question Three, realistic--short-range (same as Question One); Question Four, idealistic--short-range (same as Question Two); Question Five, realistic--long-range ("...which is the BEST ONE you are REALLY SURE YOU CAN HAVE by the time you are 30 years old?"); Question Six, idealistic--long-range ("...which ONE would you choose to have when you are 30 years old, if you were FREE TO HAVE ANY of them you wished?"); Question Seven, realistic--long range (same as Question Five; and Question Eight, idealistic--long-range (same as Question Six). This system permits eight different estimates of the person's level of occupational aspirations, two estimates for each combination of expression levels with goal-periods.

TABLE TWO*

Occupational Aspiration Scale Format: Combination of Expression Levels and Goal-periods for each of the Four Question-Wordings.

Expression Levels	Goal-periods.	
	Short-range (S) (a)	Long-range (L) (b)
Idealistic (I)	Of the jobs listed in this question, which ONE would you choose if you were FREE TO CHOOSE ANY of them you wished when your SCHOOLING IS OVER (2 and 4)	Of the jobs listed in this question, which ONE would you choose to have when you are 30 YEARS OLD, if you were FREE TO HAVE ANY of them you wished? (6 and 8)
Realistic (R)	Of the jobs listed in this question, which is the BEST ONE you are REALLY SURE YOU CAN GET when your SCHOOLING IS OVER? (1 and 3)	Of the jobs listed in this question, which is the BEST ONE you are REALLY SURE YOU CAN HAVE by the time you are 30 YEARS OLD? (5 and 7)

(a) Initial Career-Point.
(b) Mature Career-Point.

*Taken from Haller and Miller, op. cit., p. 60.

The Continuum of Difficulty.

Generally, occupational prestige (or societal evaluation) is the best single criterion available today to rank occupational titles on a continuum of difficulty.[105] By far the best study of the prestige of American occupations is the North-Hatt study.[106] It is best because it is based on an adequate sample of the American adult population, it covers many occupations, and it includes occupations from the entire American occupational hierarchy. For this reason, the National Opinion Research Center occupations and their ratings were selected as the criterion on which to base the continuum of difficulty for the Occupational Aspiration Scale. Each stimulus question of the Occupational Aspiration Scale is followed by a set of ten occupational titles, which are its response alternatives. Any one occupational title is presented as a response alternative only to one question. Using no occupational title more than once works to minimize the specific effects of non-prestige factors in assessing a person's pure level of occupational aspirations.

The occupational titles were systematically selected from the 90 occupations ranked by the National Opinion Research Center study (see Table One). This selection was done in a way which makes sure that the response alternatives for each stimulus question span the entire range of the prestige hierarchy or continuum of difficulty. Ten of the 90 National Opinion Research Center occupations were eliminated in order to reduce the number of occupational responses to 80.(eight stimulus questions by ten alternatives per questions). Of the remainder, the highest prestige occupation was assigned to Question One, the second highest to Question Two, and so on down to the 80th which was assigned to Question Eight. Table Three illustrates how this was done. While each set of alternatives does not span the same area of prestige ratings, they do tend to span almost the same range of occupational prestige. The equality of ranges is only approximated because several of the occupations in the National Opinion Research Center ratings have the same average prestige score.

Scoring.

All of the eight items are scored in the same way. Table Four

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105. Haller & Miller, op. cit.

106. National Opinion Research Center (1947), op. cit.

TABLE THREE*

Occupational Aspiration Scale Format: Distribution of 80 National Opinion Research Center Occupations Among the Occupational Aspiration Scale Items

80 NORC Occupations	Occupational Aspiration Scale Items							
	1	2	3	4	5	6	7	8
(High Prestige)								
1	9	.	.	.	.	.	.	.
2	.	9	.	.	.	.	.	.
3	.	.	9	.	.	.	.	.
4	.	.	.	9	.	.	.	.
5	.	.	.	.	9	.	.	.
6	.	.	.	.	.	9	.	.
7	.	.	.	.	.	.	9	.
8	.	.	.	.	.	.	.	9
:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:
73	0	.	.	.	.	.	.	.
74	.	0	.	.	.	.	.	.
75	.	.	0	.	.	.	.	.
76	.	.	.	0	.	.	.	.
77	.	.	.	.	0	.	.	.
78	.	.	.	.	.	0	.	.
79	.	.	.	.	.	.	0	.
80	.	.	.	.	.	.	.	0
(Low Prestige)								

*Taken from Haller and Miller, op. cit., p. 62.

TABLE FOUR *

Distribution of Prestige Scores of Occupational Titles for Each Occupational Aspiration Scale item.

Order of Presentation	Score
1	7
2	4
3	8
4	2
5	9
6	0
7	6
8	3
9	5
10	1

*Taken from Haller and Miller, op. cit., p. 63.

illustrates the re-arrangement of prestige scores and the corresponding scores for each of the ten response alternatives. The scores of alternative responses for each stimulus question range from zero to nine. The sum of all eight item scores is taken as the individual's level of occupational aspiration as measured by the Occupational Aspiration Scale. Thus, the total score obtainable on the Occupational Aspiration Scale ranges from zero to 72.

D.) Form E2: Form E2 is the educational equivalent of Form 02. The greater simplicity of Form E2 is a reflection of the greater simplicity of the educational hierarchy. Long-range and short-range questions are not needed, nor are parallel levels of achievement available (in occupation, for example, it is possible to choose different jobs on the same prestige level, whereas in education one can either attend college or not; there really are few parallel hierarchial structures.) Thus there are only two items. Item One measures the significant others own ideal level of educational aspiration. Item Two measures his own realistic level of educational aspiration. It is a model form, since it asks the significant other's own expectation for himself, and is used for both self and total significant others. Since it speaks directly of the significant others relationship to the object (education) it is a direct form. It fits into Cell Ten of Chart Two.

E.) Form 03: Form 03 is the filtered counterpart of Form 02. It assessed the significant other's conception of his relationship to each of the filter categories for occupation, rather than his orientation to occupation itself. There are four items, one for each filter category, and each item asks the significant other to rate, on a Likert-type scale, how important each of the filters is in his consideration of occupations. Thus, it is a model for self or total form, filtered, and fits into Cell Four of Chart Two.

F.) Form E3: Form E3 is the educational counterpart of Form 03. The only difference is that, instead of the filter categories for occupation, E3 asks the significant other to rate the relative importance to himself of the four educational filter categories. It thus fits into Cell 12 of Chart Two.

G.) Form 04: Form 04 is meant to be administered to occupational significant others who are definers for self and for the total attitude. It is the exact equivalent of Form 02 except that, instead of eliciting the significant others own expectation for his relationship to occupation (i.e., his level of occupational aspirations) it asks him for his expectation for the individual for whom he is a significant other. Thus Form 02 typically asks "If you were just out of school...which (job) are you really sure you could get?" Form 04 states "This set of questions concerns your interest in different kinds of jobs for (name)."

"Of the jobs listed...which is the best one you are really sure he[107] can get...?" Since it refers directly to the individual's orientation to the object, it is a direct instrument. It fits into Cell Six of Chart Two.

H.) Form E4: Form E4 is to Form E2 as Form 04 is to Form 02. It is the educational equivalent of Form 04 and identical in form to Form E2 except that it asks the significant other about his aspirations for the individual rather than for himself. It fits into Cell 14 of Chart Two.

I.) Form 05: Form 05 is meant to be administered to occupational significant others who are definers for self and for the total attitude. It differs from Form 04 in that it purports to measure the significant other's feeling about the individual's orientation to the filter categories for occupation rather than to occupation itself. It is quite similar to Form 03 except insofar as it asks the significant other to provide his expectations for the individual rather than for himself. It fits into Cell Eight of Chart Two.

J.) Form E5: Form E5 is the educational equivalent of Form 05. It is meant to be administered to educational significant others who are definers for self and for the total attitudes. It differs from Form E4 in that it purports to measure the significant other's feelings about the individual's orientation to the filter categories for education rather than to education itself. It is quite similar to Form E3 except insofar as it asks the significant other to provide his expectations for the individual rather than for himself. It fits into Cell 16 of Chart Two.

K.) Form E01: Form E01 is administered to all significant others and measures basic personal variables such as age, sex, residence, SES, etc.

L.) Form E02: Form E02 is administered to all significant others and measures the degree to which a person is confident of his answers and how strongly he feels about them.

4. Administration of Expectation Elicitors to Individuals Rather than Significant Others:

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107. There are two separate forms here--one for males and one for females. The female form is exactly the same except that it says "...sure she can get..."

In order to determine the individual's own educational and occupational aspirations, all model for self forms may be administered to the individual.

5. Scoring the Expectation Elicitors:

All the Expectation Elicitors (except Form 02 and 04, the Occupational Aspiration Scale, which is scored according to the directions on page 65 above) are scored simply by summing the item scores.

6. Summary

This chapter has presented the forms used to assess each significant other's orientation to the object (education or occupation) regarding which he has influenced the youth. Since the social statuses of the youth and his significant others is to some extent tied to the language (e.g., personal pronouns have genders), and since the types of significant others (e.g. model and definer) and the objects (education and occupation) vary, it was necessary to develop a series of somewhat different forms of the Significant Other Expectation Elicitors. Each of these was presented. Only for those cases in which the significant other is a direct definer of the object (that is, he has told the youth he ought to take a certain job or go to a certain level in school) do we have instruments which measure the significant other's level of (occupational prestige or education) expectations for the youth. When the significant other serves as a direct model for the youth's relation to the object, we have an instinct to measure his (the significant other's) level of (occupational prestige or educational) aspirations for himself. All other expectation elicitors refer to the expectations regarding the filter categories.

CHAPTER V

RELIABILITY OF THE WISOB SIGNIFICANT OTHER ELICITORS AND LEVEL TYPE SIGNIFICANT OTHER INFLUENCE ELICITORS

1. Reliability of the Significant Other Elicitors (SOEs):

For present purposes we will consider validity to mean the degree to which an instrument actually measures the phenomenon it purports to measure, and reliability to refer to the degree of consistency with which it measures whatever it measures.[108]

A. Approaches to Testing Reliability of the SOEs:

As Chapter III shows, the SOEs are unusual questionnaires and their unique qualities breed special problems for testing reliability. Generally, three strategies for assessing reliability have been proposed,[109] sometimes called 1) Coefficient of Internal Consistency, 2) Coefficient of Equivalence, 3) Coefficient of Stability. The SOEs have their own special difficulties for each of these strategies.

1) Coefficient of Internal Consistency: Coefficients of Internal Consistency depend upon the existence within an instrument of a multiplicity of items designed to measure the same or covarying dimensions. The assumption is that if two or more items in the test purport to measure the same phenomena, or phenomena which are highly correlated, then the responses to those two or more items should be highly correlated. The most common usage of internal consistency measures is split-half reliability testing, (although the logic of item-to-item, item-to-total

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108. If one were to construct a thermometer, after completion his first question would be whether it really measured temperature. If the reading of the instrument were found to vary with barometric pressure rather than temperature, it would not be a valid instrument. If it were exposed to exactly the same conditions on several occasions, yet gave divergent readings, it would not be reliable. It is conceivable that it could be reliable yet invalid. A perfect barometer, for example, would be a wholly reliable instrument which is invalid for the measurement of temperature. If a test is wholly unreliable, it is not possible that it be valid, since its readings would be responsive to some other phenomena in addition to the critical variable, and its readings could never be trusted unless one could be assured that this other phenomena were not acting during a given administration. See Standards for Educational and Psychological Tests and Manuals, Washington, American Psychological Association, 1966, pp. 25-27.

109. We are following the terminology of Haller & Miller (q.v.) in this chapter for convenience, even though, as the American Psychological Association's Standards for Educational & Psychological Tests and Manuals in its most recent form points out, no predetermined classification fits all reliability measures adequately. See ibid.

correlations, and item-to-item analyses appears to be about the same). Split-half testing, as the name implies, involves dividing a test into two halves and measuring the correlation between scores on each half. The assumption of course is that if all the items in each half do measure the same dimension, then the two halves should be highly correlated.

This technique is not appropriate to the SOEs. The SOEs purport to measure four dimensions: model for self, model for object, definer for self, definer for object. These dimensions are analytically independent.

(However it stands to reason that most significant others will be people with whom the individual is interacting. So empirically there is probably a positive correlation between being a model and being a definer. Besides, attainment regarding the occupational prestige hierarchy is correlated with attainment regarding the educational system. Hence, being a model or definer for occupation and education are almost surely positively correlated. This information, however, is probably more a measure of construct validity than reliability in the strict sense, insofar as it depends equally on the reliability and validity of the test and the validity of the theoretical view of significant other phenomena presented in Chapter II. Although full-fledged split-half and item-to-total measures were not made, a contingency table analysis of part of one pretest sample shows that the conditional probability of being a model given that one has been identified as a definer is about .5, a result consistent with the theory. The conditional probability of being an educational significant other, given that one has been identified as an occupational SO is about .7).

2) Coefficient of Equivalence: The correlation between two equivalent forms of the same test administered to the same population at the same time is called the coefficient of equivalence. The assumption underlying this method is that two equivalent instruments purporting to measure the same phenomenon, when administered to the same sample at the same time, should be highly correlated. Since the SOEs do exist in both long and short forms which purport and measure the same phenomenon (the degree to which various persons function as significant others for a youth in the areas of educational and occupational decision-making) this would seem an appropriate strategy. There are two characteristics of the SOEs, however, which seriously hamper the effectiveness of this technique. a) The output of the instrument consists wholly of names intimately familiar to the respondent. This leads to three confounding effects: 1) memory from form to form; 2) the possibility that one may not bother to write a name on the second test because he has used it several times on the first form; 3) a tendency of the respondent to try to think of

names he has not used before, even though they may not be wholly appropriate. b) The test is open-ended and requires a great deal of physical effort. Thus fatigue tends to emphasize the effect of a)(2) above.[110]

Our judgment based on early experience with the test indicates that the second form of the test (second in order of administration) is seriously affected by the immediate prior administration of the first, and the two ought not be administered together.

3) Coefficient of Stability: "Coefficient of Stability" refers to the administration of identical or equivalent instruments to the same sample with time intervening between the two administrations. Since the objections to coefficient of equivalence checking were primarily based on the special susceptibility of the SOEs to prior administrations, the time lag between first and second administration provides at least a partial resolution. Yet limitations are imposed here too, not only by the special characteristics of the test but also by the special characteristics of the variable it purports to measure, and there is reason to suggest these difficulties will lead to reduced correlation coefficients:

a) Obviously, the longer the time intervening between the first and second administration, the greater the degree to which the objections raised in the section on equivalence above are resolved. But when time is introduced into the situation, the stability of the instrument over time becomes confounded with the stability of the phenomenon over time. If the phenomenon measured should itself vary over time, then obviously an instrument designed to measure it should not yield the same value when administered at two distinct points of time. The dilemma thus posed demands selecting a time interval great enough to erase the effects of familiarity and memory, yet brief enough to preclude major changes in the phenomenon itself.

In the case of the SOEs this difficulty is particularly severe, since the familiarity of the responses demanded will require a fairly long time to erase memory, and the stability of the patterns of SOs being measured is largely unknown (this mainly because there has never really been instrumentation available to make such a measurement). Since the absolute magnitude of the correlation between two administrations of a perfectly reliable instrument depends upon the amount of change in the phenomenon measured during the intervening time period, and since the amount of change in significant other patterns over time is not known, it is not possible to estimate the exact value of correlation which would indicate the SOE's reliability.

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110. All of these effects were located in post-pretest interviews during the earlier stages of design.

There is some reason to suggest that SO patterns will change over time. The sample in this research is drawn from a high school student population. In such populations, interaction patterns (and consequently pattern of available SOs) may be seen to shift considerably between summer vacation and the school year, as well as from year to year and from semester to semester as classes shift. The SOEs purport only to measure contemporary influence patterns. It should be possible to predict, though, that if the lowered coefficients of stability are due to changes in the significant other phenomenon itself, those changes should be greatest for the lowest ranked significant others, and thus this problem can be at least partially controlled. With these cautions in mind, this coefficient of stability testing, or test-retest reliability, is the strategy we will use here.

B. The Sample:

By now the reader is aware that different samples were used for different purposes. The site chosen for testing the reliability of the Significant Other Elicitor forms was Watertown High School, Watertown, Wisconsin. Watertown is a moderate sized city (1960 population was about 13,000) with a mixed economy based on agriculture, commerce and light industry, located within reasonable access to a large city (Milwaukee) but not really close enough to be wholly a commuting suburb. Watertown also approaches the maximum size allowable under Wisconsin State Law for a single high school, and consequently allows all the city's senior high school students to be reached in one place. This administration yielded 292 usable cases, 138 males and 152 females. All are high school seniors, with an average age of 16.9 years. As Table 5 shows, the majority lived in Watertown (over 10,000 population), but 62 lived on farms, with the remainder dispersed throughout smaller towns.

[Table 5 about here]

Table 6 illustrates the distribution of the subjects by sex and father's occupation.

[Table 6 about here]

The mean educational level for both mothers and fathers was "some high school," with mothers slightly higher than fathers.

These characteristics indicate that the sample covers a satisfactory range of standard structural variables, and generally does not seem to show any gross deviations from the populations in which it is assumed the WISOB will be used.

C. Hypotheses:

The tests were administered during the last week in September and the restests during the first week in December. Test and retest were staged in a single school term to avoid as much change in SO patterns

TABLE FIVE

Sex of Watertown high school reliability sample by place of residence (N=289)

Place of residence	Sex		Total
	Male	Female	
Rural-farm	27	35	62
Rural-nonfarm	12	10	22
Village, under 2,500	4	4	8
Town, 2,500-10,000	2	6	8
City, over 10,000	92	93	185
Total	137	148	285*

*Total does not equal 289 because "other" category is omitted.

TABLE SIX

Sex of Watertown high school reliability sample by father's occupation (N=289)

Occupation	Sex		Total
	Male	Female	
Professional	7	8	15
Executive	13	8	21
Salesman	10	9	19
Office worker	1	3	4
Owns/rents/manages small business	9	11	20
Owns/rents/manages farm	15	27	42
Factory worker	42	46	88
Other	40	40	80
Total	137	152	289

as possible, such as the shift that might be expected from term to term. Ideally, both tests should have been made later in the term since there is little doubt that, since the students had been in school only 2 weeks prior to the first administration, many of them would report influence patterns "left over" from summer vacation at that time, and would shift to school patterns by the December test. During the interim period, too, the school's guidance program began in earnest.[111] The effect of this guidance program should be reflected in a lowered T_1-T_2 correlation, since guidance counsellors not mentioned at T_1 should appear at T_2, possibly displacing persons who had occurred at T_1. Even though the Watertown school officials were enormously cooperative with this research, nevertheless limitations both on our part and theirs made this the best set of times available.

The sample was then divided at random into four equal-sized groups. Group One received short forms of the educational and occupational forms of the SOEs at both T_1 and T_2. Group Two received long forms of the educational and occupational SOEs of both T_1 and T_2. Group Three received the long forms of both instruments of T_1 and the short forms of both at T_2. Group Four received the short forms of both instruments at T_1 and the long forms at T_2. (This does not constitute the problem situation described in the section on equivalent forms, since the subjects are receiving two entirely different tests, one educational and the other occupational. The items are obviously different to the student.) The rationale behind this division is this: In order to assess the reliability of the instrument it is necessary to determine how much of the correlation is genuine (part of the reliability of the instrument) and how much is due memory, and the person's efforts to be consistent. If memory is playing a large part, it should show its greatest effect on those subsamples who received identical forms at both times. Since a) the short form, because it is shorter, should be more memorable than the long, we would expect memory to play a larger role for those receiving both short forms than for those receiving both long forms, and b) the long form contains everything found on the short form plus more, we should expect more memory effect from those receiving the long first and the short second than <u>vice versa</u>, we can generate the following TANH:

1) $r_{ss} > r_{ll} > r_{ls} > r_{sl} > 0$

2) $r_{ss} = r_{ll} = r_{ls} = r_{sl} > 0$

111.

111. In fact, the head of the guidance staff took the occasion of our interrupting a school day for our administration to schedule a major counselling talk to all the students in our sample immediately following our administration. It is entirely possible that this itself helped change the Significant Other patterns between administrations.

If the results approximate inequality 1, memory is probably exercising some effect. If they approximate equation 2, the effect of memory is probably not a factor. The test-retest interval of over two months should make us suspect that memory will not be a large factor.

It should also be noted that the Pearsonian r, which is used as a measure of correlation in this research, is not perfectly appropriate because of the peculiar characteristics of the SOEs. The SOEs yield scores (0, 1, 2, 3, or 4) assigned to each significant other. The correlation is taken, then, between the scores of each significant other at T_1 and T_2, not of the individual taking the test. Since this scoring system does not purport to be an interval scale, the Pearsonian r, which is designed for interval scales, is not entirely appropriate. Rank-order correlation coefficients, like Spearman's r_s, etc., are unwieldy here, since we are faced with two alternatives: 1) rank-ordering almost 6,000 significant others on a 4-point scale, which yields an incredible number of tied ranks, or 2) taking separate rank-order correlations for the SOs for each individual, standardizing and then averaging them. Our decision was to use the Pearsonian r and take into account the fact that it will underestimate the relationship present.[112]

Secondly, the zero point on the ranking system used is not a true zero point; that is, people who score zero (are not mentioned) are not necessarily wholly without influence. The WISOB purports to detect the most influential of a person's sources of interpersonal influence. If we could assume that influence of all persons could be ranked on a scale varying from, say, a true zero (no influence at all) to one hundred, the ratings provided by the SOEs would correspond to the top end of the scale--say, points 85, 90, 95, 100, with the WISOB zero referring to all points of influence below 80, as illustrated in Figure 5.

[Figure 5 about here]

The most important function of the SOEs is to distinguish the most highly influential others from all the rest. If it should rank order, say mother first and father second on the first administration and father first and mother second on a subsequent administration, this is a relatively small error, so long as it correctly distinguishes both mother and father from, say, Charles DeGaulle on both tests. Viewed in this light, such an error is a small percentage error--not nearly so large as it would seem if we did not recognize that the SOEs measure a small segment of a large scale.

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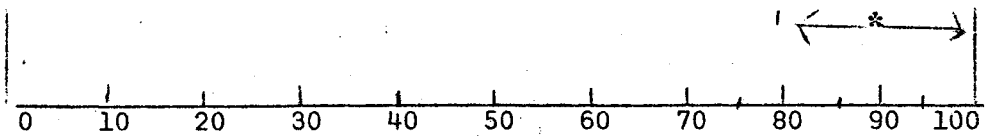
112. Sanford Labovitz, "Some Observations on Measurement and Statistics," Social Forces, 46 (December, 1967), pp. 151-160; Edgar F. Borgatta, "My Student the Purest: A Lament," Sociological Quarterly 9 (Winter, 1967), pp. 29-34.

FIGURE FIVE

Illustrative scale of interpersonal influence showing ratings provided by the Significant Other Elicitors

Hypothetical Scale of All Interpersonal Influence



* = portion of influence scale measured by Significant Other Elicitors.

This, too, means that low reliability coefficients are not a serious drawback. More important the objective of the test is to detect the most influential persons, not to make fine distinctions among persons of medium-to-low influence. Figure Six illustrates the affect of such scales on the correlation between them. As the diagram

[Figure 6 about here]

shows, the correlation between x and y may be quite strong, yet, if it is measured only at the extremes of its range, (the block formed by the intersection of the shaded columns) it will appear fairly small or even non-existent.

To summarize, then the special characteristics of the Significant Other Elicitors are such as to reduce the usefulness of two of the three standard tests for reliability, coefficient of internal consistency and coefficient of equivalence. Even the third test, coefficient of stability (test-retest reliability) requires special interpretation:

a) One factor--memory--is especially prone to exaggerate the coefficient of stability.

b) Three factors--change in the variable measured over time, the non-interval nature of the scale, and restricted range of variation of the scale--tend to depress the coefficient of stability.

A system of null hypotheses was generated to test for the effect of memory, and some minor techniques for detecting actual changes in the variable (e.g., shifting should take place more at the lower ends of the scale than the higher; more guidance personnel should appear as significant others at T_2 than at T_1, etc.) have been set up. Nevertheless, the coefficient of stability should be expected to be substantially lower--even if the Significant Other Elicitors are quite reliable--than is usually the case in the testing literature.

D. Results

Table 7 depicts the coefficients of stability for the SOEs over

[Table 7 about here]

a six-week period. With the exception of the occupational short form at T_1 and T_2 (r_{AA}) there is almost no difference between the correlations of the different tests at T_1 and T_2, and what differences exist are not in the order predicted by the hypothesis of a large memory factor, nor, with that single exception, are the differences statistically significant even with the extremely large number of cases involved. Thus we can safely fail to reject the null hypothesis and conclude that memory is not playing a large role.

FIGURE SIX

Correlation between variables measured only at extreme ranges

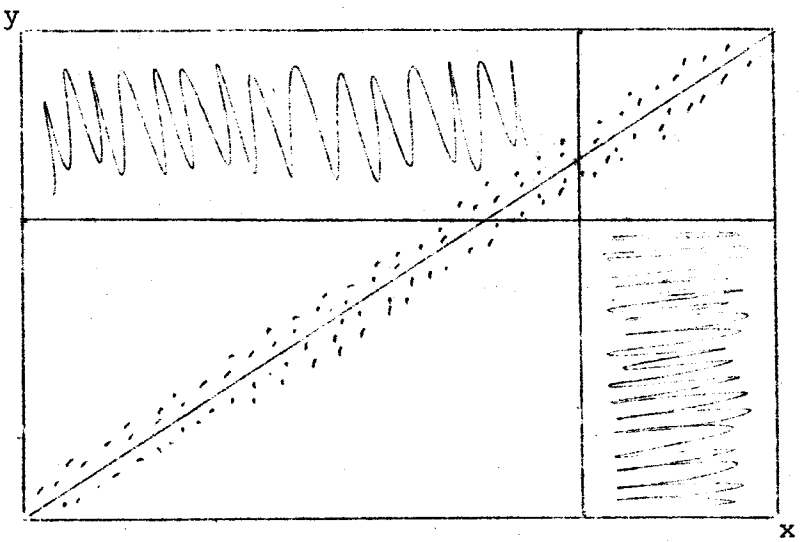


TABLE SEVEN

Coefficients of stability for the Significant Other Elicitors during a six-week interval (N=5942)

Type of elicitor	Test forms*			
	r_{AA}	r_{BB}	r_{BA}	r_{AB}
Occupation	.508	.398	.406	.398
Education	.386	.355	.352	.350
Both	.502	.423	.451	.428

* Legend:

AA = Short-short forms

BB = Long-long forms

BA = Long-short forms

AB = Short-long forms

As predicted, however, the correlations are not large and so it remains to be established whether the apparent instability indicated by such low values is due to measurement instability or due to actual shifting in the phenomenon being measured.

The first relevant hypothesis was that, if the phenomenon itself were changing, most of the changes should occur at the lowest values, with proportionately fewer changes as the level of influence of the other increased. The reasoning behind this assumption is this: if the test is inaccurate or unstable, then errors should be randomly distributed across its scoring range, but if the phenomenon is changing, its less important elements (least significant others) ought to be substantially more prone to change over time. The instrument should make errors randomly; the phenomenon should change lawfully.

In order to test this hypothesis a contingency table which tabulates the significance score of each significant other at time 1 against his score at T_2 was developed including both long and short forms of the SOE. Tables 8 and 9 indicate the outcomes for the educational SOE and the occupational SOE.

[Table 8 about here] [Table 9 about here]

An absolutely stable phenomenon as measured by a perfectly reliable test would find all scores clustered on the principal diagonal. (The zero cells on these tables require a bit of explanation. A person can get a score of zero on an SOE only if his name is not mentioned as an SO regarding area of behavior: for any given subject most other people in the world have scores of zero. In our sample, however, a person may be an SO for occupation and not for education (and vice versa). Such a person falls in our SO sample because of his score on occupation. He is a zero on education. If his name was not mentioned in either T_1 or T_2 he would be zero both times.)

Tables 4 and 5 indicate quite clearly that the great bulk of shifting is taking place at low levels of influence; that it is the least significant of significant others who are doing the majority of the shifting. As table 6 shows (Table 6 is calculated from tables 4 & 5), 62% of the lowest ranked educational SOs at T_1 did not recur at T_2, whereas only 21% of the highest ranked SOs did not recur at T_2; for the

[Table 10 about here]

occupational tests, the results are the same; 56% of the least significant SOs at T_1 did not recur at T_2 while only 15% of the most significant SOs at T_1^1 did not recur at T_2^2.

Table 11 approaches the same phenomenon from a slightly different perspective by classifying all those who were identified as significant others at T_1 that did not recur at T_2 according to their rank as

[Table 11 about here]

TABLE EIGHT

Educational Significant Other Elicitor Scores at T_1 and T_2 (N=5942)

Educational Scores at T_1	Educational scores at T_2					
	0	1	2	3	4	Total
0	1388	758	289	79	34	2543
1	1130	397	210	49	30	1816
2	350	214	334	81	29	1008
3	97	60	100	97	54	408
4	35	14	25	34	59	167
Total	2995	1443	958	340	206	5942

TABLE NINE

Occupational Significant Other Elicitor Scores at T_1 and T_2 (N=5942)

Occupational Scores at T_1	Occupational Scores at T_2					
	0	1	2	3	4	Total
0	2121	936	301	99	21	3478
1	776	337	187	65	11	1376
2	196	104	206	93	23	622
3	61	45	96	109	39	350
4	18	9	36	33	20	116
Total	3172	1431	827	399	114	5942

TABLE TEN

Percentage of educational and occupational significant others for given levels at T_1, who were not significant others at T_2, (N=5942)

Significant other level at T_1	Type of significant other	
	Education	Occupation
	Percent	
1 (Lowest)	62	56
2	34	31
3	23	17
4 (Highest)	21	15

TABLE ELEVEN

Percentage of non-recurring educational and occupational significant others accounted for at each level*

Significant Other Level	Type of significant other			
	Education		Occupation	
	% lost	% of total	% lost	% of total
	Percent		Percent	
1 (Lowest)	70	53	74	56
2	22	30	19	25
3	6	12	6	14
4 (Highest)	2	5	2	5
Total	100	100	100	100

* Chi-square is not computed because the differences are statistically significant due to sample size (N=5942).

significant others at T_1. As Table 11 shows, lowest ranked significant others accounted for changes beyond their proportion in the sample, with lowest ranked educational significant others accounting for 70% of all those who did not recur as significant others at T_2 even though they make up only 54% of the total sample; occupational significant others of the lowest rank account for 74% of all losses, even though they make up only 56% of the total cases in the sample.

There is a third way to approach the same phenomenon. If the test itself is inaccurate or unreliable, then the score assigned to any given individual is relatively random, and those who were not significant others at T_1 but were elicited as significant others at T_2 should have no higher probability of being assigned one score than another when they do enter the system at T_2. Table 12 shows that this is not the case at all. As the table shows, of all those persons who were not elicited as

[Table 12 about here]

educational significant others at T_1, 65% were identified as the lowest level significant others when they were identified as SOs at T_2, while only 3% of those who had not been significant others at T_1 were identified at T_2 as SOs of the highest level. In the occupational forms, 69% of those identified as new significant others at T_2 were assigned the lowest level of influence while only 2% were assigned the highest level.

All of this seems substantial evidence of the stability of the SOEs. The low levels of the T_1-T_2 correlations tend to indicate that some change is going on during the 6-week interval between the two administrations (although, due to the scaling problems pointed out earlier, they probably overestimate that change). But they do not indicate whether changes in the phenomenon or the basic instability of the test is the reason. If the SOEs were unstable, they ought to be equally unstable across all scores. If the phenomenon is changing, it ought to be much more likely to change at its lower levels than its upper. This evidence seems a strong indication that the latter is the case, and that the SOEs are doing an accurate job of measuring a somewhat shifting phenomenon.

There is another related way this data can be read, again illustrating a considerable degree of stability. If the test is not reliable, then the score of a significant other at T_2 should be random with regard to his score at T_1. A person receiving a score of 1 at T_1 should be no more likely to receive a 1 or 2 at T_2 than he is a 3 or 4. Table 13 shows that this is clearly not the case.

[Table 13 about here]

As table 13 shows, the score assigned at T_2 is very closely related to the score assigned at T_1, which is indicative of the kind of change one would expect to take place in the phenomenon itself over time rather than the kind of error one would be likely to find in an unreliable test. For education, 39 percent of the SOs received exactly the same score at T_1 and T_2, 43 percent were scored 1 point differently, 13 percent

TABLE TWELVE

Percentage of new educational and occupational significant others entering at T_2 for each level (N=5942)

Significant Other Level	Type of significant other	
	Education	Occupation
	Percent	
1	65	69
2	25	22
3	7	7
4	3	2
Total	100	100

TABLE THIRTEEN

Percentage of educational and occupational significant others changing 0, 1, 2, 3 and 4 levels (N=5942)

Number of Significant Other Levels Changed	Type of significant other	
	Education	Occupation
	Percent	
0 (no change)	39	47
1	43	38
2	13	11
3	3	3
4	1	1
Total	100	100

were scored 2 points differently, 3 percent were scored 3 points differently, and only 1 percent was scored 4 points differently. For occupation, 47 percent were assigned exactly the same scores at T_1 and T_2, 38 percent were scored 1 point apart, 11 percent were scored 2 points apart, 3 percent were scored 3 points apart, and only one percent were scored 4 points apart.

These data are highly suggestive of the model presented in Figure 7. Figure 7 suggests that the individual is located in a field

[Figure 7 about here]

of significant others. Those most influential are represented as closest to Ego. Those outside the concentric circles are others whose influence is, at any given moment, too small to be detected by the SOEs. Movement of others across levels within the field of SOs and movement into and out of the system is possible, and probably goes on constantly. Within the system, movement across several ranks is less likely than movement across only one or two. Those at the lowest levels are most likely to move out of the field during any given interval, and those outside who enter it are much more likely to enter it at lower levels than higher.

This is precisely how we ought to expect such a phenomenon to behave, and it represents the data presented here quite well. It would seem safe to conclude that the SOEs are accurate and reliable instruments which describe a fairly fluid phenomenon, but nevertheless a phenomenon which behaves quite lawfully.

At least one caution should be made, however. It had been hypothesized that, if indeed the phenomenon itself were changing, one probable change ought to be an increase in the number and influence of teachers and guidance counselors who are significant others as the sample moves further into the school year. Tables 14 and 15 indicate that, if this is going on, its magnitude is negligible.

[Tables 14 and 15 about here]

Table 14 shows that, for education, there is a very slight decrease in the number of teachers and guidance counselors identified as significant others from T_1 to T_2, but a slight <u>increase</u> in the proportion of significant others made up by teachers and guidance counselors. It also shows an absolute <u>increase</u> in the number of teachers and guidance counselors who are identified as significant others for occupation from T_1 to T_2, but a slight <u>decline</u> in the proportion of occupational significant others who are teachers and guidance counselors.

Table 15 takes account not only of the number of teachers and guidance counselors who occur at T_1 and T_2, but also of the level at which they occur. It shows almost the same pattern as Table 10, with the total amount of influence of teachers and guidance counselors for education increasing very slightly, along with a slight increase proportionally. For occupation there is a larger (but still not large)

FIGURE SEVEN

Model of significant other influence on ego

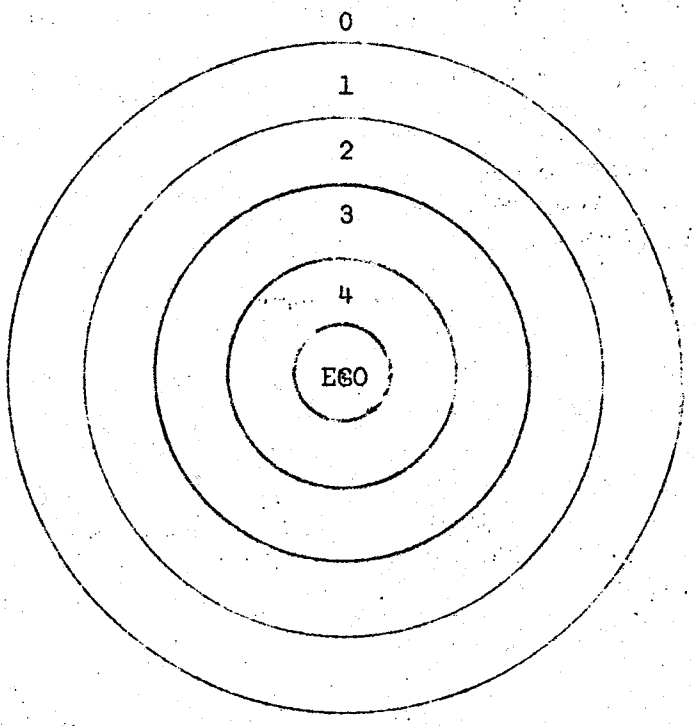


TABLE FOURTEEN

Number and percentage of educational and occupational significant others who are teachers and guidance counselors at T_1 and T_2 (N=5942)

Type of Significant Other	Time			
	T_1		T_2	
	N	% of all SOs	N	% of all SOs
Education	436	13	432	15
Occupation	396	16	416	15

TABLE FIFTEEN

Amount and proportion of influence exerted by teachers and guidance counselors for education and occupation at T_1 and T_2

Type of Significant Other	Time			
	T_1		T_2	
	Amount of influence (N x SO level)*	% of all influence	Amount of influence (N x SO level)*	% of all influence
Education	687	12	692	13
Occupation	646	16	680	14

*Amount of influence is calculated by multiplying the number of teachers and guidance counselors at each level by the value of the level and summing the products.

increase in the absolute amount of influence of teachers and guidance counselors from T_1 and T_2, but a small decrease in the proportion of all influence accounted for by teachers and guidance counselors.

These results are not indicative of the general rise in influence of teachers and guidance counselors expected.

E. Summary

Rank ordering of coefficients of stability over a six weeks intervening period indicate that memory is not exerting an important effect over the T_2 scores of the SOEs, but the modest magnitude of these coefficients suggests either a fair degree of instability in the test or the patterns of interpersonal influence it purports to measure.

The evidence quite clearly shows that the changes over time responsible for the low T_1-T_2 correlations are quite systematic rather than the kind of random shifting associated with measurement unreliability. The data show that persons are more likely to lose low-level significant others than high over time; that a disproportionate amount of such losses are accounted for by low level significant others; that persons are much more likely to add new significant others at low significance scores than high, and that, if significant others do change scores over time, they more frequently make small changes than large ones. All of this is quite plainly the kind of changing likely to be associated with the behavior of the phenomenon, rather than the unreliability of the test. Even so, it must be noted that one change which was plausibly predicted for the phenomenon--the increase of influence of teachers and guidance counselors as the school year progressed--did not materialize. It would seem reasonable to conclude that the WISOB SOEs do a satisfactorily reliable job of identifying significant others, a phenomenon which itself changes quite a good deal.

2. Reliability of the Significant Other Influence Elicitors (IEs):

The problem of identifying and measuring the variables describing the kinds of influence any one significant other (SO) may exert on the individual's levels of aspiration turns out to be more complicated than we had anticipated. At the beginning of the project we had assumed that all significant others were definers and that the only way they influenced the individual was through their expectations for him.[113] As the thinking progressed we came to realize that not only were some significant others definers, but some were models and some were both definers and models. We further learned that some models exhibited the position or role (in these cases, levels of the educational or the occupational prestige hierarchies) in their daily lives. These are usually adults who have completed their education and have jobs. There are other models--not many, fortunately--who exhibit the level of aspiration they

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113. For a discussion of terminals regarding aspirations (for oneself) and expectations (for another) see Archibald O. Haller, "On the Concept of Aspiration" Rural Sociology 33 (Dec. 1968), pp. 484-487.

have for themselves but who have not come to occupy the roles for which they stand. These are usually other youths, although the popular literature is full of examples of frustrated parents who try to attain vicariously a level to which they themselves aspire. We assume that any significant other exerts some influence on the level of aspiration of the individual. But different types of SOs influence him in different ways, and some types influence him in more ways than one. If an SO is only a definer, we assume that he influences ego's level of aspiration through his expectation level for ego. (We might call these people expecters, although since we assume that all definers are expecters, there is no point in adding a new word.) If an SO is only a model who is an incumbent of the level he illustrates, we assume that it is this level itself which influences ego, SO's attainment level. We call this type of SO an exemplifier, because his unique contribution to ego is his exemplification of a level. If SO is only a model who has not attained a level (has not yet finished school or taken a permanent job), we assume that he influences ego by communicating the level of aspiration he holds for himself. Note that this type of SO is neither a definer nor an exemplifier; we may call him a non-exemplifying model.

We imply that there are four types of SOs and three variables describing the modes of influence any one SO has on ego. (We further assume that any one ego may have any number of SOs of any of the four types; and that there need be no consistency among SOs, which is to say that the total pattern of SO influence is determined by the combination of influences of the three types of SO variables, the number of SOs of each type and the agreement among SOs.) The logically possible types of influence of any one SO are shown in Table 16. Exemplifiers

[Table 16 about here]

who are definers may affect ego's level of aspiration (X_y) by means of all three modes of influence: each demonstrates a level of attainment (X_a), has a level of expectation for ego (X_y); and has (or has had) a level of aspiration for himself (X_a). (We grant that the salience of Xa may be quite low, and therefore realistically unimportant, for many SOs of this type who are doubtless adults who long since quit talking about their aspirations.) If each ego had only one SO, then the net influence of this type of SO on ego would be equal to $R_{y.axs}$. Non-exemplifiers who are definers affect ego's aspirations by means of two modes of influence: each has a level of expectation for ego and a level of aspiration for himself. Again assuming each ego had only one SO, the net influence of this type of SO would be $R_{y.xs}$. Exemplifiers who are not definers also exert two modes of influence: each exemplifies a level of attainment and each has a level of aspiration. The net influence here would be Ry.as. Non-exemplifiers who are not definers have only one mode of influence: the level of aspiration they have for themselves. Their net effect, under the above assumption would be r_{ys}.

The reader will be interested in knowing the role-relationships of ego to SO which most frequently occur in each of these cells. This would go a long way toward telling us the similarities and differences in modes of influence of parents, peers, etc. These data have not yet

TABLE SIXTEEN

Variables Influencing Ego's Aspiration Levels
Among Four Classes of Significant Others

	Exemplifiers	Non-exemplifiers
Definers (Expecters)	SO's attainment level $-X_a$	----------
	SO's expectation level $-X_x$ (for ego)	SO's expectation level $-X_x$ (for ego)
	SO's aspiration level $-X_s$ (for himself)	SO's aspiration level X_s (for himself)
Non-Definers (Non-Expecters)	SO's attainment level $-X_a$	----------
	----------	----------
	SO's aspiration level $-X_s$ (for himself)	SO's aspiration level $-X_s$ (for himself)

been analyzed, so we cannot say for certain, but our guesses are probably close to reality. These role-relationships will differ a little according to whether education or occupation is the topic. In these areas of behavior, exemplifiers who are definers would most likely be working adults who are quite "close" to the youth: fathers, close relatives who are adults, occasionally a teacher or minister who takes a direct interest in the youth. Mothers exemplify a level of educational attainment as does almost any adult. Exemplifiers who are not definers would probably be other adults whose contact with ego is casual from their point of view but important from ego's perspective: the doctor, some teachers, some of the clerks in the neighborhood stores, gas station attendants, mass media "personalities." Non-exemplifiers who are definers would be people who discuss education or the jobs with the youth but who are not employed. Regarding education, these would have to be other young people who are close to the youth: brothers and sisters, close friends. Regarding occupations any close friend or relative who is not in the labor force might fit this cell: mother, aunt, brothers, and sisters, close friends. Finally non-exemplifiers who are not definers would be people who had not completed their education nor taken a regular job and who have not discussed education or work with ego. These would thus be mostly people in school whom the youth respects but who are not among his closest friends.

The main instruments for assessing the influence variables are those assessing the levels of expectation definers (whether or not they are models) have for ego. This is true for three basic reasons: most SOs are definers who are expecters by definition; all SOs whose SO scores are high are definers, though they may also be models; communicating one's expectations to another is doubtless the most powerful of the three modes of influence. In addition the level of expectation an SO has for ego offers the greater possibilities for intervention: it is not feasible to manipulate SO's attainment level and the influence of SO's levels of aspiration for himself is probably not great enough to warrant manipulating it. We shall concentrate our attention mainly on this variable. But we cannot forget SO's levels of aspiration for himself because this variable was measured for those SOs who were not definers. In short, in the following discussion, when an SO is a definer we have administered instruments designed to measure his level of expectation for ego regarding education and occupation. Since most SOs are either solely definers or are both definers and models, this means that the variable usually measured is level of expectation. When, on the other hand, an SO is a model but not a definer we have administered instruments to measure his level of aspiration for himself--"now," if he is not yet working or not yet through school; or "before leaving school" if his education is complete or if he now has a permanent job.

Finally, as Chapter Four indicated, there are two generic types of IEs in the WISOB: those which deal with the level (within either the educational or occupational hierarchy) to which individual's aspire (or which SOs expect individuals to attain) and those which deal with the degree of valuation placed on the various filter categories for education and occupation (again, either by the individuals or their significant others). Because, first, the "level" measures are the primary concern of

this report, and, second, because the phenomena that the second, choice measures, purports to measure are unusual enough to justify their separate treatment, the remainder of this chapter will deal exclusively with the level-type IEs. The "choice" measures are dealt with specifically in Chapter VI. We emphasize that for most purposes related to levels of educational and occupational attainment the Influence Elicitors yielding level data are of primary importance.

A. Methods:

The relatively straightforward character of the level-type IEs allows a simple test-retest stability design to be used. The validity sample will be described in the next chapter. Drawn from West Bend, Wisconsin, it was used primarily to assess the validity of the Significant Other Elicitor forms and the Significant Others' Influence Elicitor forms. It consists of 109 high school seniors and 898 of their SOs as identified by the WISOB SOEs. A subsample of 100 significant others from the West Bend validity sample was drawn for retesting the Expectation Elicitors, and a response rate of 69 percent made 69 cases available at time T_1 for reliability analysis. The initial forms were by mailed questionnaire in the last weeks of January, 1968. The second reliability sample was also contacted by mail, during the end of the following March, allowing a two month interval between T_1 and T_2. Of the original 69, only about two-thirds were successfully followed-up. The reliability tests are based on those who properly filled out the necessary forms both times.

Again as described in Chapter Four, forms containing slight wording variations were administered to different types of SOs. For convenience these forms are referred to here as indicated in Table 17.

[Table 17 about here]

B. Results:

Table 18 indicates the test-retest reliability coefficients for

[Table 18 about here]

the definer forms of the influence elicitors, that is those which mean SO's expectation levels for ego.

The two critical T_1 - T_2 correlations, DOAS T_1 against DOAS T_2 and DEDULEV T_1 against DEDULEV T_2, at .91 and .87 respectively, indicate substantial reliability over a two-month time lapse. This means that the instruments we have designed to measure, first, the occupational prestige level which the significant other expects the individual to attain (O4 in Table 17), and second, the level of schooling the significant other expects the individual to complete (E4 in Table 12), have a high degree of response stability over a two-month period.

TABLE SEVENTEEN

CODE SYMBOLS, CODE NAMES, AND NAMES AND DESCRIPTIONS OF FORMS USED TO MEASURE LEVEL OF ASPIRATION ELICITORS FOR YOUTH AND INFLUENCE ELICITORS FOR THEIR SIGNIFICANT OTHERS

Appendix B Code Symbol	Code Name	Name of Form	Description of Form
		Subject Forms	
021	OAS	The Occupational Aspiration Scale[1/]	A relative measure of the occupational prestige level to which the youth aspires.
E21	EDULEV	An educational aspiration scale.	A measure of the level of schooling to which the youth aspires.
		Significant Other Forms	
042	DOAS	Definer Form, Occupational Level (also called the Occupational Expectation Level Elicitor for SOs)	A relative measure of the occupational prestige level the Significant Other who is a definer (or model and definer) expects the youth to attain.
022	MOAS	Model Form, Occupational Level (also called the Occupational Self-Aspiration Level Elicitor for SOs)	A relative measure of the occupational prestige level the Significant Other who is only a model had for himself before gaining steady employment.
E42	DEDULEV	Definer Form, Educational Level (also called the Educational Expectation Level Elicitor for SOs)	A measure of the level of schooling the Significant Other who is a definer (or model and definer) expects the youth to attain.
E22	MEDULEV	Model Form, Educational Level (also called the Educational Self-Aspiration Level Elicitor for SOs)	A measure of the level of school the Significant Other who is only a model had for himself before gaining steady employment.

[1/] A. O. Haller and I. W. Miller (1963).

TABLE EIGHTEEN

Test-retest reliability correlation coefficients
for definer forms
of the significant other expectation level elicitors
(N given below correlations)

Time 1	Time 2	
	DOAS	DEDULEV
DOAS (definer SO's level of occupational expectation for the youth)	.912** (28)	.823** (24)
DEDULEV (definer SO's level of educational expectation for the youth)	.690** (23)	.869** (37)

**Significant at the .01 level.

The table also shows, as one would suppose, correlations between two measurements of the same variable at different times is higher than the correlation between two different instruments at different times.

For the model forms, the results are much the same, as Table 19 indicates.

[Table 19 about here]

The two critical correlations, MOAS at time T_1 vs. MOAS at time T_2 and MEDULV T_1 vs. MEDULEV T_2, are respectively .723 and .848. These values are not quite so high as the equivalent values for the definer forms (DOAS and DEDULEV), but they are nonetheless substantial enough to warrant confidence in the reliability of the model forms. They tell us that the instruments to measure the levels of occupational and educational aspiration this type of significant other (model) reports that he had for himself when he was young and had not yet finished school or taken regular employment are somewhat stable over a two month period.

Paralleling the previous data, the table also shows the correlations between different types of instruments at different times, while high (.535 and .501), are lower than the reliability coeficients.

C. Summary:

Straightforward test-retest methods reveal substantial reliability over a two-month interval for definer forms of the occupational expectation level instrument for significant others (r_{tt} = .912), for the educational level instrument for significant others (r_{tt} = .869), and for the model forms of the same two types of instruments, which measure the significant other's recollection of his early aspiration levels for himself (occupation: r_{tt} = .723; and education: r_{tt} = .848). Despite the high attrition rate on this subsample, it seems safe to say that these instruments have a high degree of stability, at least over two months.

Reliability and internal consistency data on the expectation levels definers hold for the individual for whom they are significant others are available on all those SOs for whom comparable data are available at both times the expectation instruments were administered to the West Bend SO reliability sample. These are presented in Table 19a

[Table 19a about here]

The final sample sizes (reduced because not all SOs are definers, because of the T_2 non-response rate and because of various minor technical problems) are small. Despite this, the size of the critical reliability coefficients is quite high; we have already reported this. More important for present purposes is the pattern of high over-all correlations for each instrument within and between instruments at the same amount at different times.

TABLE NINETEEN

Test-retest correlations for model forms
of the significant other level-type expectation level elicitors
(N given below correlations)

Time 1	Time 2	
	MOAS	MEDULEV
MOAS (Model SO's level of occupational expectation for the youth)	.723** (27)	.501 (15)
MEDULEV (Model SO's level of educational expectation for the youth)	.535** (20)	.848** (33)

**Significant at the .01 level.

TABLE NINETEEN A

TEST-RETEST RELIABILITY AND INTERNAL CONSISTENCY COEFFICIENTS, DEFINERS' EXPECTATION LEVELS FOR HIGH SCHOOL YOUTH FOR WHOM THEY ARE SIGNIFICANT OTHERS*

Time 1 (T_1)	A. Occupation T_1			B. Education T_1			C. Occupation T_2			D. Education T_2		
	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}
A. Occupational Expectation Level:												
X_1 - Total Score	--	90	92	79	69	79	*91*	68	86	82	74	84
X_2 - Realistic Subscore	32	--	75	79	68	82	*86*	*78*	83	76	66	80
X_3 - Idealistic Subscore	21	21	--	77	71	74	71	*55*	*74*	71	67	67
B. Educational Expectation Level:												
X_4 - Total Score	24	24	15	--	95	92	69	61	73	*87*	82	76
X_5 - Realistic Subscore	24	24	15	39	--	75	61	47	69	*82*	*81*	67
X_6 - Idealistic Subscore	24	24	15	39	39	--	68	68	69	81	*70*	*77*
Time 2 (T_2) - Two months after T_1												
C. Occupational Expectation Level:												
X_7 - Total Score	*28*	28	19	23	23	23	--	76	89	75	63	83
X_8 - Realistic Score	*28*	*28*	19	23	23	23	31	--	61	59	51	62
X_9 - Idealistic Score	17	*17*	*14*	14	14	14	18	18	--	72	54	86
D. Educational Expectation Level:												
X_{10} - Total Score	24	24	15	*37*	37	37	23	23	14	--	93	90
X_{11} - Realistic Score	24	24	15	*37*	*37*	37	23	23	14	38	--	67
X_{12} - Idealistic Score	24	24	15	37	*37*	*37*	23	23	14	38	38	--

*Correlation coefficients are to the right of the diagonal. Effective sample sizes are to the left of the diagonal.
Test-retest reliability coefficients and their sample sizes are italicized.

These data provide solid evidence of the generally high reliability of these crucial instruments which measure the levels of attainment a young person's significant others expect of him. They also provide further evidence of the validity of the Significant Other Elicitor (SOE) forms, which identified the SOs in the first place: surely SO Expectation Elicitors taken on people whom an SOE erroneously nominated would have yielded erratic expectation levels for focal youth and thus low correlation coefficients.

3. General Summary:

In general we have found that the Significant Other Elicitor forms provide a fairly good screening device for identifying persons who influence a youth's educational and/or occupational decision-making by functioning as definers (who tell him how he can or does relate to school and work) or are models (whose actions show him how one can relate himself to school and work). Evidentally, there is some turnover of significant others over time in this area. Also, the instrument itself probably "captures" only some of the most important of those who perform this function. Yet the instrument seems quite adequate to be used as a screen to identify persons who are significant others for the youth in these areas of life. Surely, if administered twice, with several week intervals between, we could be quite certain that those names which appeared at high levels both times really are significant others for the youth. Working with them, either for research purposes or for practical reasons, would have a relatively high probability of yielding substantial results for the youth.

The stability of the forms for eliciting the expectation levels definer SOs have for the youth and model SOs have for themselves is quite high. For most theoretical and practical pruposes the first of these--the forms for measuring expectation levels definers hold--is the most important. They also have the highest stability coefficients. We can safely say that they are exceedingly reliable over a two-month period.

CHAPTER SIX

RELIABILITY AND VALIDITY OF THE "CHOICE" TYPE INFLUENCE ELICITORS:

1. Introduction and Special Considerations:

This chapter is included primarily to explain some of the instruments which are used to test validity of the instruments designed to assess the SOs influence on the levels of educational and occupational aspiration of the youth; and secondarily because they are of theoretical interest in their own right.

In Chapter Five we pointed out that the special phenomena which the "choice" type Influence Elicitors (i.e., those instruments which measure the degree of valuation individuals and their significant others place on the various filter categories for education and occupation)measured warranted their separate consideration. The characteristic we were referring to is their supposed status as culturally shared values. If, indeed, the filter categories are broad enough to apply meaningfully to all segments of the population, they must take on the character of values, and one of the characteristics of values is a near-universal high (in this case) valuation assigned them by members of the society. Consequently, if the filter categories were well chosen, i.e., if they really are cultural values, then a valid measure of their valuation should yield uniformly high values with little variance. But if the variance is small, then product-moment correlations among the tests which measure them will be depressed accordingly, and this needs to be accounted for in discussing measures of reliability. It is desirable, then, to discuss validity and reliability jointly.

2. Methods:

Although the structure of the variable measured by the choice measures warrants special treatment, the test forms themselves are not unusual, and so standard procedures such as internal consistency analysis, test-retest, etc. can be applied. Bearing in mind the potentially depressing effect of expected low levels of variation, however, a contingency table form of analysis similar to that devised for the SOEs in Chapter Five was also designed.

3. Sample:

The samples are drawn from elements of the West Bend Students and SOs already described in Chapter Five. Citations to the appropriate samples are given as they occur in the text.

4. Results:

Table 20 shows the abbreviations used in this chapter. The first validity hypothesis--that, if the choice Expectation Elicitors do in fact measure values, their scores should be high and their variances low, is born out by the data.

Each of the choice instruments purports to measure four filters or "dimensions." On all occupational choice forms, the questions refer to the following:

(1) Kind of work
(2) Working conditions
(3) Purpose
(4) Benefits

On all educational forms,

(1) Success in life
(2) Personal development
(3) School work
(4) School social life

Each item has a maximum possible range of from +1 (very unimportant) to +5 (very important). Thus each item has a minimum possible score of +1 and a maximum possible score of +5, and each test has a minimum possible score of +4 and a maximum possible score of +20. The means for all items were in the vicinity of +4, and the means for all the tests were about 16.[114]

It is important to recall that expectation elicitors were applied only to SOs who are definers. SOs who are merely models were given self-aspiration elicitors. These models have influenced the person but only because he has learned something about education or occupation by observing them; not because he discussed such things with them.

Variance was low, as expected. Of 71 selected variables used at one time or another in the course of this research, the average coefficient of variation[115] was 36.66. The average coefficient of

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[114] For exact values, see Appendix E.

[115] Coefficient of Variation = $\frac{100\ sj}{\bar{X}j}$

TABLE TWENTY

Designations for Choice Instruments

Appendix B Designation:			
			Subject Forms
03	OC	=	Occupational Choice
E3	ED	=	Educational Choice
			Significant Other Forms
05	DOC	=	Definer for Occupational Self or Object, Choice
03	MOC	=	Model for Occupational Self or Object, Choice
01	GOC	=	Definer or Model for Occupational System, Choice
E5	DED	=	Definer for Educational Self or Object, Choice
E3	MED	=	Model for Educational Self or Object, Choice
E1	GED	=	Definer or Model for Educational System, Choice

variation for the choice measures was 12.54. Although this result supports the hypothesis of validity (this is the way we should expect such a variable to behave) it also indicates that caution should be exercised in interpreting product-moment correlations among the instruments.

With the above caveats, the correlations of internal consistency of each form are now presented in Table 21.

For the significant other forms, the correlations are from the mean score of all SOs for each subject since significant others cannot be assumed independent of the subject they hold expectations for, and since it is this single mean score that enters further analyses as the composite of influences the significant others have on the subject.

We would expect that the SO's general statements of choice would be more highly intercorrelated than the statements relating to self (for model forms) or the subject (for definer forms). This is borne out by an examination of the eight pairs of item-total correlations relating the SO influence forms appropriate to defining the self in relation to occupational filters to those defining the occupational system (DOC + MOD to GOC), and the SO influence forms appropriate to defining the self in relation to educational filters and those defining the educational system (DED + MOC to GED). This should be true as discrimination on each item will take place when put in the context of a particular situation; this discrimination replaces a general statement of values readily given high responses. If one test is assumed valid, there is evidence for the validity of the other test(s).

Another hypothesis between these sets is the following: since for D + M vs. G sets, each item number refers to the same content,[116] we should expect that, with valid and reliable tests, item correlations from form to form would be highest on the same items. The relevant data are given in Table 22.

The parenthesized correlations should be higher than any other correlation in its row or column. This holds for the top matrix of Table 22, and there are two exceptions in the bottom matrix.

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116 See Appendix B for item content.

TABLE TWENTY-ONE

Internal Consistency of Coefficients of Choice Instruments

	Q1	Q2	Q3	Q4	ITEM TOTAL
		Occupational			
Q1	--	.274	.308	.244	.667
Q2		--	.289	.454	.721
Q3			--	.120	.630
Q4				--	.649
TOTAL					----
		Educational			
Q1	--	.491	.465	.318	.714
Q2		--	.599	.466	.799
Q3			--	.412	.819
Q4				--	.728
TOTAL					----
Definer Occupational Expectations & Model Occupational Self-Aspirations					
Q1	--	.398	.311	.398	.624
Q2		--	.183	.691	.684
Q3			--	.032	.391
Q4				--	.544
TOTAL					----
		General Occupational			
Q1	--	.407	.441	.436	.772
Q2		--	.403	.655	.781
Q3			--	.297	.696
Q4				--	.737
TOTAL					----
Definer Educational Expectations & Model Educational Self-Aspirations					
Q1	--	.755	.718	.356	.695
Q2		--	.562	.542	.711
Q3			--	.339	.632
Q4				--	.586
TOTAL					----
		General Educational			
Q1	--	.728	.637	.338	.791
Q2		--	.688	.441	.849
Q3			--	.313	.757
Q4				--	.637
TOTAL					----

TABLE TWENTY-TWO

Correlations Between SO Items Eliciting Expectations (for definers) and Self-aspirations (for models) Tending to Define the Self in Relation to Educational and Occupational Filters or to the Educational and Occupational Systems as Such

Items Defining the filter for the Self or Object in Relation to:	Items Defining Occupational or Educational System			
Occupational:	GOCQ1	GOCQ2	GOCQ3	GOCQ4
Q1	(.686)	.234	.388	.300
Q2	.398	(.707)	.384	.584
Q3	.154	.121	(.548)	.026
Q4	.408	.550	.273	(.647)
Educational:	GEDQ1	GEDQ2	GEDQ3	GEDQ4
Q1	(.456)	.463	.391	.237
Q2	.594	(.598)	.367	.387
Q3	.311	.351	(.499)	.175
Q4	.319	.410	.206	(.714)

The test-retest reliability of the choice forms was made from a sample [117] of significant others, and not from the subjects. Mean scores by subject sets were not used here as significant others were not chosen by subject set, and a strong dependence here was not expected.

Respondents were mailed these instruments along with others in late January, 1968. The retest sample was mailed in a packet containing all the same forms in late March, 1968, giving a two-month period between tests. From an initial sample of 100, 69 responded the second time. Since each SO received only forms relevant to his type as an SO, the N does not equal 69 in any case. The number of responses used by form for each type of test-retest reliability are presented in Table 23. If the forms are reliable, we should have (1) a high percentage of the same response each time; (2) a significant chi-square (which we present because it is a more trustworthy technique for testing significance with this kind of data than are techniques based upon correlation coefficients); (3) a high correlation, bearing in mind that low variance depresses the correlation.

The results are presented in Table 24. Note that if all marginals were non-zero, a 5 x 5 table would result for each item (5 possible responses at T_1 by 5 possible responses at T_2) yielding 16 degrees of freedom. Of twenty-four tables, only two do, as, in general, the lower value rows and columns were all zero. This further indicates the high clustering of the responses at the high levels of the scale.

It seems that the questions are reliable over time. Most respondents either change not at all or make one change on a five-point scale. The statistical significance of the cross-tabulation indicate stability over time, as do the high C values.

For the above instruments as total scores, we have the following test-retest correlations:

DOC:	.529
MOD:	.724
GOC:	.744
DED:	.798
MED:	.314
GED:	.606

---

117 One hundred SOs were selected at random from those SOs who had already responded to the first validation questionnaires. They were sent another packet of the same forms two months later.

TABLE TWENTY-THREE

Sample Sizes for
Test-retest Reliability Coefficients for Significant Other
Choice-Type Influence Elicitors

Abbreviation of Instrument	Content of Instrument	Effective Sample Sizes
DOC	Definer of Filter for Occupation, Self or Object	28
MOC	Model of Filter for Occupation, Self or Object	28
GOC	Definer or Model for Occupational System	39
DED	Definer of Filter for Education, Self or Object	36
MED	Model of Filter for Education, Self or Object	32
GED	Definer or Model for Educational System	55

TABLE TWENTY-FOUR

Test-retest Reliability of Analysis of Choice-type SO Influence Elicitors

Form	Item	% No Change	X^2	df	Significance Level	r
DOC	1	48	22.77	12	.010	.583**
	2	59	33.73	9	.001	.581**
	3	41	10.96	9	.500	.376*
	4	48	23.36	99	.010	.538*
MOC	1	53	21.27	12	.050	.755**
	2	50	15.75	9	.100	.706**
	3	43	9.81	6	.250	.470*
	4	53	25.46	12	.025	.679**
GOC	1	65	36.65	9	.001	.693**
	2	60	23.32	6	.001	.665**
	3	60	16.90	4	.005	.479**
	4	68	34.53	8	.001	.761**
DED	1	58	38.89	16	.005	.750**
	2	47	29.33	12	.005	.692**
	3	63	43.19	9	-.001	.747**
	4	58	36.95	12	.001	.675**
MED	1	64	19.49	6	.005	.508**
	2	42	8.04	6	.250	.326
	3	58	20.90	9	.025	.568**
	4	55	33.17	12	.001	.465**
GED	1	60	17.45	6	.010	.293*
	2	47	48.32	9	.001	.571**
	3	53	19.19	8	.025	.484**
	4	67	66.89	16	.001	.612**

* Significant at the .05 level.

** Significant at the .01 level.

The possibility that the phenomena under study (definer SO's expectations for the youth whom they influence or the model SO's self-aspirations which are (perhaps hazily) communicated to the youth,and seen in terms of concrete choices as their filters, rather than in terms of levels of the educational or occupational hierarchy) have changed over a period of two months does not seem to be indicated by these results. Minor changes over time point to sharp differentiation between low and high scores with somewhat less differentiation between these categories.

In conclusion, the SO choice influence instruments appear to be valid and reliable as evidenced by (1) reasonable item-item and item-total correlations on all versions of the forms; (2) lawful relation of the G forms to the D and M forms, in terms of item-to-total, and item-to-item associations; and (3) in terms of retest data after two months and the resulting indications of stability for items and for total scores.

Because of the unusual nature of the variables measured and their problematic relationship to educational and occupational levels of aspiration, more research is indicated before they can serve as a useful tool for the applied practitioner, and we recommend they be considered research instruments only.

CHAPTER VII

VALIDITY OF THE WISOB SIGNIFICANT OTHER ELICITORS AND LEVEL-TYPE SIGNIFICANT OTHER INFLUENCE ELICITORS

There are three separate validity questions involved in assessing the quality of the significant other battery: 1) The validity of the Significant Other Elicitors, 2) The validity of the Expectation Elicitors, and 3) The validity of both sets of instruments in conjunction as a measure of the field of interpersonal influence in which individuals are located.

1. Validity of Significant Other Elicitors:

The simplest measure of the validity of a test instrument is its correlation with another test instrument of known validity which purports to measure the same variable.[118] Since this technique is not possible with the Significant Other Elicitors, (the Significant Other Battery was designed specifically because of doubts about the validity of existing instruments) a less direct measure, sometimes called construct validity is used here.

Construct validity implies some theoretical knowledge about the behavior of the phenomenon to be measured. If one is checking the validity of a thermometer, and he knows beforehand that temperature is higher in sunlight than in shade (other factors equal) then he can place his thermometer at one time in the shade, then in the shade, then in sunlight. If the thermometer does measure temperature, it will read higher when in sunlight than when shaded.

Unfortunately, not so much is known about the behavior of significant others under varying conditions as is known about the behavior of temperature. Since the quality of construct validity procedures is only as good as our theoretical understanding of the behavior of the phenomena the test purports to measure, and since our theoretical knowledge of significant others is scanty, the approach used here is somewhat of a compromise measure.

In the long run our aim is to test hypotheses about the influence of significant others on the educational and occupational orientations of youth. It would be perfectly feasible to generate hypotheses about this area and use them as the basis of tests of construct validity. But to

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118. This kind of validity testing is called convergent validity. It implies as well that the test should not be correlated with valid tests which measure variables unrelated to the phenomenon in question. This related form is called discriminant validity. See Donald T. Campbell and Donald W. Fiske, "Convergent and Discriminant Validation by the Multitrait Multimethod Matrix," Psychological Bulletin 56(1959), pp. 81-105.

validate the instruments with tests in this area and then to use exactly the same data as evidence regarding the validity of the hypotheses would open us to the charge of circular reasoning. We would in effect be saying that the instruments were valid because the results were consistent with predictions for a hypothesis, and then saying that the hypotheses were tenable because tests of it, based on valid instruments, turned out to support it. We have therefore decided to test the construct validity of the instruments on hypotheses other than the main ones we wish to test, involving non-SO variables which are different from those with which we are ultimately concerned. As an additional safeguard we have tried to use the basic SO response data to form SO variables which are different from the ones we intend to use in testing our key substantive hypotheses.

Finally, all hypotheses were worked out before the data were collected. This was done to avoid using chance relationships, formed post-hoc, as evidence of validity of the instruments or of the substantive hypotheses.

A. Hypotheses:

The procedure involved here is basically this: two measures of patterns of significant others were selected: (1) Total number of significant others for any individual, and (2) an index of mean significant other involvement consisting of the average level of significance of all significant others for any individual. (This takes into account the"intensity" of the SO relationships of the person.) Hypotheses were then generated (within the limits of current theory) about (a) the relationship of these two variables to each other, (b) the variables upon which high and low values of these two measures may be seen to depend and, (c) the variables which should take high or low values as a consequence of high and low values of these two variables.

(1) The relationship between number of significant others and mean involvement with significant others: At first glance it would seem that these two measures should be inversely related. If the amount of time a person has to spend with others is relatively fixed, then the larger the number of persons he spends it with, the less will be the average amount he spends on each. We do hypothesize a negative correlation between these variables, but not nearly a perfect one.

First of all, the amount of time and attention one devotes to interaction with others is not absolutely fixed; those persons with a higher "social" inclination may spend a greater proportion of their time interacting than others, and consequently may have both a higher total number of significant others as well as a higher average involvement with them. Secondly, there are both upper and lower bounds to the measure of significant other involvement

(4 and 1 respectively). It is likely that, on the one hand, a person could invest the maximum amount of attention measurable on this instrument on several people (perhaps 3 or 4)--that is, he could have 3 or 4 others at level 4 of significance. Reductions in total number beyond that level would no longer reduce the average level of influence. On the other end of the scale, a score of 1 is the lowest a significant other can attain on the Significant Other Elicitor instrument, and so no matter how many significant others are detected, each of them must occur at level one or higher, otherwise their name would not appear on the instrument at all.

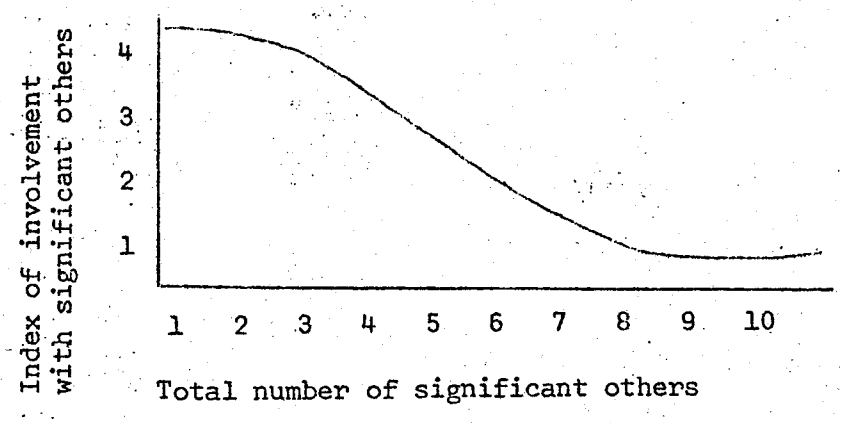
These limitations indicate a hypothetical regression line similar to the one in Figure 8. Thus the curve is negative over part of its slope but not all of it. Although we posit a negative correlation between total number of significant others and index of involvement with significant others, (a) the relationship is probably curvilinear and thus depresses the Pearsonian r, and (b) both measures are undoubtedly related to factors other than each other. Consequently we draw the following hypothesis. H_1: There will be a low negative relationship between index of mean significant other involvement and number of significant others when these variables are measured by means of a valid significant other elicitor.

(2) Factors upon which values of Total Number of Significant Others and Involvement of Significant Others depend: The basic assumption underlying this section is that interpersonal influence is positively related to interaction; that is, the more one exposes himself to interaction, the more he exposes himself to interpersonal influence. Consequently, two sets of variables are measured in this section: (a) amount of interaction, and (b) psychological disposition toward interaction. Theoretically, we can make the following hypotheses:

(a) Increased interaction increases the available pool of potential significant others. Consequently H_2: The amount of interaction will be positively correlated with a valid measure of total number of significant others. But (b) simple increased interaction could be a consequence of either a greater amount of time spent in interpersonal behavior, or the same amount of time spent with more significant others, thus reducing the average level of involvement with significant others. The next hypothesis follows from this. H_3: The correlation between the amount of interaction and a valid index of mean significant other involvement will be near zero or slightly negative. (c) Psychological predisposition toward interpersonal activities, insofar as it actually leads to increased interaction should be positively related to total number of significant others. Thus we hypothesize--H_4: Variables measuring psychological disposition toward interaction will be positively correlated with a valid measure of the total number of significant others. But (d) a high psychological predisposition toward interaction should lead to more total time spent with more others, or more total time spent with the

FIGURE EIGHT

Hypothetical regression line showing a slightly negative relationship between index of involvement with significant others and total number of significant others



others in some instances. Thus the next hypothesis--H_5: Variables measuring psychological predisposition toward interaction will show a low-to-moderate positive correlation with a valid index of mean involvement with significant others.

(3) Factors which depend upon values of Total Number of Significant Others and Involvement of Significant Others:

Since significant others are by definition important sources of influence for the psychological characteristics of individuals, then differences in patterns of significant others should correspond to personality differences in the individual. It should be of real psychological consequence to the individual, for example, to have a great many significant others rather than a few, or to be deeply involved with interpersonal influence rather than only superficially so. We suspect that two psychological variables in particular should be so affected: (a) dogmatism, and (b) personality adjustment.

(a) Dogmatism: We assume here that dogmatism refers to a rather rigidly delineated set of concepts available to the individual for the categorization of reality; consequently the dogmatic individual is relatively restricted in the alternative interpretations he can place on reality and in the alternative behaviors he can apply or allow to be applied to social situations.[119] If reality is socially defined, such a view ought to be at least partially a consequence of a restricted environment of interpersonal influences. Hypothetically, increments in the number of significant others to which one is exposed should maximize the probability of receiving diverse interpretation of reality and consequently larger numbers of potential behaviors. However, it is conceivable that an individual may be involved with a sizeable number of significant others of nearly identical belief, so the relationship should not be a perfect one.

We hypothesize, then, as follows, H_6: A low correlation will be found between dogmatism and a valid measure of the total number of significant others.

We see no direct reason why dogmatism should be correlated with significant other involvement, and accordingly draw the following hypothesis, subject to the qualification stated immediately afterward, H_7: The correlation between a valid index of mean involvement with significant others and dogmatism should be zero. (However, the negative relationship between Total Number of Significant Others and Involvement of Significant Others itself may be enough to generate a spurious positive correlation of low matnitude between dogmatism and mean involvement with significant others.)

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119. Milton Rokeach, The Open and Closed Mind, New York, Basic Books Inc., 1960; also see T. W. Adorno, Else Frenkel-Brunswick, D. J. Levinson, and R. W. Sanford, The Authoritarian Personality, New York, Harper, 1950.

(b) Personality Adjustment: If the categories one uses in order to classify and deal with social situations are products largely of interpersonal influences, then deficiencies in interpersonal influence should lead to deficient category systems, relative inability to cope with social situations, and personality maladjustment. There ought to be a point, however, at which sufficient interpersonal influence has accrued so that the individual is capable of handling his environment adequately, and beyond which further accretions of significant others would not markedly improve adjustment. We hypothesize, then, a curvilinear relationship more or less like the one in Figure 9. The zero-order Pearsonian r will underestimate this curvilinear relation, and we consequently expect a moderate positive relationship between Total Number of Significant Others and personality adjustment. The next hypothesis is based upon this. H_8: A moderate positive correlation will be found between a valid measure of number of significant others and degree of personality adjustment.

The relationship between ISO and personality adjustment is somewhat problematic, in that the relationship [if one], is more likely between total involvement and adjustment than average involvement. No hypothesis is made here.

B. Data.

(1) The Sample: The sample consists of 110 students drawn at random from the senior class of West Bend High School, West Bend, Wisconsin. This school was chosen because census data showed the town to have an industrial base and because, having only one school, students from all strata attended it.

The administration yielded a useable N of 110, 59 males and 51 females. Table 24 illustrates the distribution of subjects by sex and father's occupation.

Table 25 illustrates the division by residence.

The table illustrates the bulk of the sample lives in West Bend (over 10,000), although 38 live in rural areas and 13 live on farms.

Generally the sample seems roughly representative of the kinds of subjects to whom the WISOB is intended to be administered.

(2) Operational Definitions of Variables Measures:[120]

(a) Amount of Interaction: This variable is measured in two different ways. The first is a simple two-item, open-ended

120. All these instruments may be found in Appendix C.

FIGURE NINE

Hypothesized curvilinear relationship between personality adjustment and total number of significant others

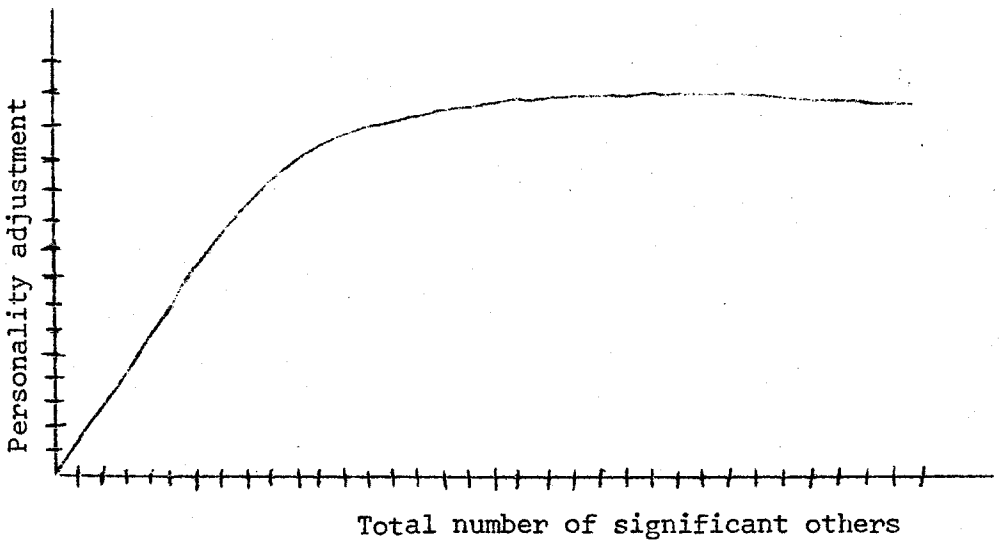

TABLE TWENTY FOUR

Sex of subjects by father's occupation,
West Bend High School (N=110)

Occupation	Sex		Total
	Male	Female	
Professional	2	3	5
Executive	3	2	5
Salesman	6	5	11
Office worker	2	1	3
Owns/rents/manages small business	2	2	4
Owns/rents/ manages farm	1	2	3
Factory worker	27	21	48
Other	15	14	29
Total	58	50	108*

*Total does not equal 110 because of missing data.

TABLE TWENTY FIVE

Sex of subjects by place of residence (N=110)

Place of residence	Sex		Total
	Male	Female	
Rural-farm	6	7	13
Rural-nonfarm	10	15	25
Village, under 2,500	1	2	3
Town, 2,500-10,000	0	1	1
City, over 10,000	41	25	66
Total	58	50	108*

*Total does not equal 110 because of missing data.

sociometric-type test (filled in by the students in class, of course), called number of interactors. Item one is worded: "Of all the people in this room, who do you spend most of your time with?" Item two is worded "Of all the people that you know, who do you spend most of your time with?" Six blank spaces are provided for each. The total number of different persons mentioned on both items is summed.

The second instrument is somewhat less direct, measuring participation in extra curricular activities, as follows:

> The kinds of extra curricular activities in which I participate are:
>
> (Check the ones in which your participate regularly, and add to the list if necessary.)
>
> ( ) athletics.
> ( ) band-orchestra.
> ( ) chorus-vocal.
> ( ) dramatics.
> ( ) debates
> ( ) 4-H or FFA
> ( ) school paper
> ( ) annual.
> ( ) student government.
> ( ) hobby club.
> ( ) other._____.
> ( ) _____.
> ( ) _____.
> ( ) _____.

(b) Psychological disposition toward Interaction: This variable is measured operationally by the Acceptance of Others[121] scale, a 28-item Likert-type scale. The assumption underlying its use here is that the more favorable a person's attitude toward people in general, the higher his rate of interaction.

(c) Dogmatism: Dogmatism is operationally measured here by the Schulze Dogmatism Scale, a shortened form of the Rokeach Dogmatism Scale.[122] This Guttman scale consists of the "best" ten items (i.e., those resulting in the least errors) from Rokeach's original index.

(d) Personality Adjustment: Personality Adjustment is operationally measured here by the Short Form of the general adjustment

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121. E. Berger, "The Relation Between Expressed Acceptance of Self and Expressed Acceptance of Others," Journal of Abnormal and Social Psychology 1952, Vol. 47, pp. 778-782, cited in Marvin E. Shaw and Jack M. Wright, Scales for the Measurement of Attitudes, New York, , McGraw-Hill, Inc., 1967, pp. 432-436. Used by permission of the author. Also see appendix C.

122. Rolf H. K. Schulze, "A Shortened Form of the Rokeach Dogmatism Scale," Journal of Psychological Studies, 1962, Vol. 13, No. 2, pp. 93-97.

scale called the "Minnesota Survey of Opinions."[123]

It is a 31 item Likert-type instrument which measures the morale and general adjustment of respondents.

(3) Validity of Expectation Elicitors

As we mentioned in Chapter 4, there are four basic kinds of expectation elicitors measuring whole attitudes in the WISOB: two dealing with education and two with occupation. Of these, one specifically measures the level of attainment that the SO who is a definer expects of the youth, and another measures the level of aspiration the SO who is a model had for himself when he was young. It is these which we hope to use in research on attainment levels in stratification systems. The other two, based on the relative values of filter categories, do not explicitly deal with hierarchical levels, but rather with the criteria upon which such judgments rest. Of these, the hierarchical measures of levels of occupational expectation or aspiration is based directly on an instrument of known validity.[124] In its original form (referring to a youth's aspirations for his own attainment, rather than another's expectations for his attainment) the behavior of the variable it measures is fairly well-known theoretically. We know, for example, that levels of occupational and educational aspiration are positively correlated to a substantial degree. Consequently, valid instruments designed to measure the occupational level of influence of SOs should be highly positively correlated with valid instruments designed to measure the educational level influences of SOs. That is to say, the SO's scores for ego on the Occupational Expectation Level Elicitor Form (042, from Table 12, Chapter 5) or, if the SO is only a model, his scores on the Occupational Self Aspiration Level Elicitor Form (022, from Table 12, Chapter 5 will be highly correlated with SO's scores for ego on the Educational Expectation Level Elicitor Form (E42 from the above mentioned table) or the Educational Self-Aspiration Level Elicitor Form (E22 from above). (Self-aspiration forms were used for models who were not definers and who therefore did not have expectations for the individual.)

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123. E. A. Rundquist and R. F. Sletto, Personality in the Depression, Child Welfare Monograph Series, No. 12, Minneapolis, University of Minnesota Press, 1936, cited and discussed in Delbert C. Miller, Handbook of Research Design and Social Measurement, New York, David McKay Co., 1964, pp. 151-159.

124. A. O. Haller and I. W. Miller, The Occupational Aspiration Scale: Theory, Structure and Correlates, East Lansing: Michigan Agricultural Experiment Station, Tech. Bull. No. 288, 1963.

The two remaining sets of instruments do not refer to hierarchical levels and for convenience are called expectation choice elicitors. Of the two, the Educational Choice Elicitors (E) almost necessarily imply such a hierarchy though, for the following reason: since there is little latitude for choice within any given educational level, an increase in the valuation placed on the filter categories defining education as an object would almost necessitate a higher level of educational aspiration. We should expect some correlation, then, of the Educational Choice Elicitor with a valid measure of the Educational Level Elicitor. Within the occupational prestige hierarchy, however, there is a great deal of variation possible within any given occupational prestige level. Higher valuation placed upon the occupational filter categories for occupation would not imply higher scores on the Occupational Level Elicitors to such a great degree as higher valuation of educational filter categories implies higher Educational Elicitor scores. Consequently, a valid occupational choice measure should not be so highly correlated with a valid measure of educational level expectations. We should assume then, that the two level measures (since they measure relatively the same phenomenon) should intercorrelate highly. The two level vs. level/choice measures (Educational level vs. Educational choice; Occupational level vs. Educational choice) should correlate less highly; the level choice and choice only (educational choice vs. occupational choice) should correlate less still, and the two level and choice measures (educational level vs. occupational choice and occupational level vs. occupational choice) should correlate least of all. This should be the case both for the expectations of others and the aspiration of youth.

Consequently, the following hypothesis may be generated:

$H_o : r_{12} = r_{13} = r_{23} = r_{34} = r_{24} = r_{14}$

$H_1 : r_{12} > r_{13} \tilde{=} r_{23} > r_{34} > r_{24} \tilde{=} r_{14}$

Validity is indicated by rejecting H_o in favor of H_1.

Where
V_1 = Educational level
V_2 = Occupational level
V_3 = Educational choice
V_4 = Occupational choice

Sample: The expectation elicitors (EE) were administered to a sample of 110 students selected at random from West Bend High School and all the significant others (SO) of this group as identified by the WISOB SOE's (N = 1357). Administration of the EEs to the SOs was by mailed questionnaire, and a 66% return rate yielded a useable N of 898.

An approximately 66% return rate yielded 898 significant others, 505 male and 393 female. Table 26 illustrates the division of SOs by residence.

Table 27 shows the occupations of the SOs, by sex of the SO. The large "other" category represents mostly students, housewives and retired persons.

(4) Joint Validity Measures

The third validity question is the degree to which the WISOB SOEs and the WISOB EEs, working together, provide a valid measure of the location of individuals within a matrix of significant other influence.

Within the construct-validity framework necessary here, it is essential to assume that variations in the structure of interpersonal influence patterns will have psychological consequences for the individual, and that a valid measure of significant other influences will be associated with such psychological effects. Current theory allows us to predict certain consequences of different SO patterns (e.g., a correlation between the expectations of SOs and the aspirations of ego) but is not really strong enough to predict the magnitude of such relationships--immediate, contemporary significant other influences must compete against lesser sources of interpersonal influence (which, in sum, may be great), prior significant other influences, self-reflexive acts, etc. What this means in practical terms for our purposes is this: while we can predict that there should be correlations between the expectations of significant others and the aspirations of individuals, we do not know how strong they should be. Consequently the following basic research strategy was adopted.

Without predicting the magnitude of the relationships, it should be the case that a valid test administered to significant others should correlate higher with a test measuring the same variable administered to the students than it should with a valid test measuring a different variable. The following four hypotheses may thus be generated.[125]

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125. Here we follow the terminology presented in Archibald O. Haller, "On the Concept of Aspsiration," Rural Sociology 33, Dec. 1969, pp. 484-487. Levels of aspiration (toward a goal structure) are defined as properties of ego as opposed to levels of expectation which alters (or here, significant other) have for ego--obviously properties of alters.

TABLE TWENTY-SIX

Number of significant others by place of residence (N=898)

Place of residence	Number	Percent
Rural-Farm	74	8.2
Rural-nonfarm	178	19.8
Village, under 2,500	40	4.4
Town, 2,500-10,000	46	5.1
City, over 10,000	553	61.5
Other	7	.9
Total	898	100

TABLE TWENTY-SEVEN

Sex of significant others by occupation (N=898)

Occupation	Sex		Total
	Male	Female	
Professional	136	69	205
Executive	17	0	17
Salesman	20	6	26
Office worker	13	44	57
Owns/rents/manages small business	3	0	3
Owns/rents/manages farm	7	0	7
Factory Worker	61	16	77
Other*	248	258	507
Total	505	393	898

* The large "other" category represents primarily students, housewives and retired persons.

H_o	H_1	
$r_{12} = r_{14}$	$r_{13} > r_{14}$	where V_1 = Student's Educational Aspirations
$r_{24} = r_{23}$	$r_{24} > r_{23}$	V_2 = Student's Occupational Aspirations
$r_{13} = r_{23}$	$r_{13} > r_{23}$	V_3 = Significant Others' Educational Expectations
$r_{24} = r_{14}$	$r_{24} > r_{14}$	V_4 = Significant Others' Occupational Expectations

Validity is indicated by rejection of the H_o in favor of H_1.

These hypotheses are restricted to measures of Educational and Occupational level, which are the expectation instruments of principle concern. There is virtually no existing body of theory of enough substance to warrant firm predictions about the behavior of the variables measured by the educational and occupational choice instruments. There is enough evidence resulting from this research, however, to consider them valid measures of a fairly unusual set of variables, and to warrant treating them in a separate section, as has been done . (See Chapter Six.)

(5) Results:

(a) Validity of the Significant Other Elicitors.

All the hypotheses in this section depend on the total number of SOs a person has. Yet the WISOB purports only to detect educational and occupational SOs. In order to test the hypothesis that number of educational and occupational SOs was related to number of SOs in general, a crude instrument, the Life Style Indicator, was developed. This instrument purports to measure the significant others a person has for defining his future social drinking and smoking behavior. These decisions, we reasoned, were unrelated to educational and occupational decision-making, yet pervasive enough to be faced by all members of the sample. Although originally designed as an exact parallel to the Educational and Occupational instruments, objections by school administrators forced the deletion of one item (Who do you know who is of legal age who uses alcohol?--a model for object item). Even so, the correlation between number of educational and occupational SOs and life-style SOs is .740 (N = 109).

In the earlier paragraphs nine hypotheses, two of which were tested two ways, concerning the validity of the SOEs were made concerning the relationship of two variables yielded by the SOEs to other selected variables. Table 28 summarizes the predicted relationships and Table 29 shows the observed correlations.

TABLE TWENTY-EIGHT

Summary of hypothesized relationships for validity

The Significant Other Elicitors

Patterns of significant others	Amount of interaction and psychological disposition toward interaction						
	Indexes of interaction		Psychological disposition toward interaction	Dogma-tism	Personality adjustment	Number of significant others	Involvement with significant others
	A Number of interactions	B Number of extracurricular activities					
Number of significant others	Both A and B: Moderately positive		Positive	Slightly negative	Positive	---	Negative or near zero
Mean involvement with significant others	Zero or negative		Slightly to moderately positive	Slightly positive	Slightly positive	Negative or near zero	---

TABLE TWENTY-NINE

Observed relationships for validity of the Significant Other Elicitors

(N = 109)*

Patterns of significant others	Amount of interaction and psychological disposition toward interaction						
	Indexes of interaction		Psychological disposition toward interaction	Dogmatism	Personality adjustment	Number of significant others	Involvement with significant others
	A Number of interactions	B Number of Extracurricular Activities					
Number of significant others	.50	.37	.05	.13	.43	---	.01
Mean involvement with significant others	.09	.02	.29	.21	.29	(.01)	---

* For N = 109, correlations of ± .19 are significantly different from 0 at the .05 level.

As a comparison of the two tables indicates, seven of the nine hypotheses are confirmed by the data at the .05 level. Two are not: the relationship between number of SOs and Psychological Disposition Toward Interaction is essentially zero where a position relation had been predicted, and the relationship between number of SOs and Dogmatism is statistically not different from zero at the .05 level where a negative r had been predicted.

The Attitude Toward Others Test, however, (which is used here as the measure of psychological disposition toward interaction) does not correlate significantly with any of the other 71 variables derived in the course of the significant other project except for low to moderate correlation with the other two personality tests. This is enough to generate significant doubts about its validity. It should probably not be counted strongly as evidence in either direction.

The failure to appear of the negative relationship between dogmatism and number of significant others is not so easily accounted for, except that the Schulze Dogmatism Test correlated with only three of the 71 variables in the matrix, and thus casts some doubt on its validity as well. If both the Schulze Dogmatism Scale and the Attitude Toward Others Tests were removed from the analysis, five validation hypotheses, all confirmed, would remain. Nevertheless, even if all tests are included, only one of the nine correlations would flatly contradict the validity of the SOEs at the .05 level. It would seem, then, that the results strongly indicate that the SOEs are valid instruments for detecting significant others.

(b) Validity of the Expectation Elicitors.

The validity of the expectation instruments, as has been pointed out, rests on the fact that a good deal is known about the theoretical behavior of some of the variables measured by the major expectation elicitors. Based on that knowledge, the following relationship among the instruments was predicted:

$H_o = r_{12} = r_{13} = r_{23} = r_{34} = r_{24} = r_{14}$

$H_1 = r_{12} > r_{13} \tilde{=} r_{23} > r_{34} > r_{24} \tilde{=} r_{14}$

where V_1 = Educational Aspiration
V_2 = Occupational Aspiration
V_3 = Educational Choice
V_4 = Occupational Choice

Validity is indicated by the rejection of H_o in favor of H_1.

There are two basic ways in which these hypotheses can be tested. First, the expectation elicitors were administered first to the 110 students at West Bend High School to measure their own aspirations

and attitudes. Second, the expectation elicitors were subsequently administered to 899 of these students' significant others. The mean values of the SO influence variables (levels of expectation for definers and level of self aspiration for models) of the SOs of each student were then calculated. Consequently, two equations (or inequalities) can be generated: one for the relationships among the tests administered to the students and a second for the relationships among the mean expectations of the significant others. (Exact significance levels have not been calculated, because it is scarcely possible to obtain two intervals between r = .652 and r = 0 leaving the 1.96 standard deviations required for significance at the .05 level between each step, but it should be noted that these inequalities are simply shorthand ways of predicting orderings between pairs of correlation coefficients. The two inequalities represent 26 such distinct pair predictions. The probability of confirming all 26 of these hypotheses by chance when in fact $r_{12} = r_{13} = r_{23} = r_{34} = r_{24} = r_{14}$ is extremely remote.)

The results indicate that, in both cases, we are more than justified in rejecting the null hypothesis in favor of the alternative indicating validity.

For the students, the results show that

$$r_{12} \quad r_{13} \quad r_{23} \quad r_{34} \quad r_{24} \quad r_{14}$$
$$.652 > .379 \cong .413 > .106 > .051 \cong .034$$

For the significant others,

$$r_{12} \quad r_{13} \quad r_{23} \quad r_{34} \quad r_{24} \quad r_{14}$$
$$.723 > .482 \cong .338 > .157 > .064 \cong .078$$

The marked similarity between the two inequalities also indicates the similarity of the result when the instruments are administered to students and their SOs. Again, the evidence strongly suggests that the instruments eliciting aspiration or expectations for attainment along an educational or occupational hierarchy are valid. This indicates that we can have a great deal of confidence in the ways here devised to measure the expectation levels of SOs who are definers and the self-aspirations of model SOs who are not definers, both for eliciting the aspirations of students and the expectations of their SOs as well.

(c) Results of Joint Validity Measures

The basic reasoning behind the joint validity tests was that a valid test administered to significant others should correlate higher with a valid test measuring the same variable administered

to the students than it should with a valid test measuring a different variable. In this instance, that means that the educational expectations of SOs for ego should correlate better with his educational aspirations than with his occupational aspirations, and vice versa. The fact that educational and occupational aspirations are highly inter-correlated (r = .70, approximately) seriously confounds this strategy, but nonetheless the results tend to support the hypotheses of validity.

The originaly hypotheses were:

H_o	H_1	where
$r_{13} = r_{14}$	$r_{13} > r_{14}$	V_1 = Students' Educational Aspiration
$r_{24} = r_{23}$	$r_{24} > r_{23}$	V_2 Students' Occupational Aspiration
$r_{13} = r_{23}$	$r_{13} > r_{23}$	V_3 = SOs Educational Expectations (or self-aspirations)
$R_{24} = r_{14}$	$r_{24} > r_{14}$	V_4 SOs Occupational Expectations (or self-aspirations)

Rejection of H_o in favor of H_1 indicates validity.

The observed correlations yield the following result:

$$r_{13} \quad r_{14}$$
$$.720 > .646$$

$$r_{24} \quad r_{23}$$
$$.667 > .509$$

$$r_{13} \quad r_{23}$$
$$.720 > .509$$

$$r_{24} \quad r_{14}$$
$$.667 > .646$$

All results are in the direction predicted by validity; all but the first and fourth are statistically significant at the .05 level. Although the data do not allow for statistical rejection of the first and fourth null hypothesis, the statistical probability of the sample yielding all four relationships as they are, given that there are no differences in the population, is very small, particularly since both educational and occupational aspirations and educational and occupational expectations are so highly related. We should also expect some degree of non-spurious relationship between SO's educational expectations and ego's occupational aspirations, and vice versa,

for the same reason. ($r = .652$, $r = .723$ respectively). Again, the general pattern of the results tends to indicate validity.

(d) Summary:

Three separate kinds of validity tests were employed: (1) tests of the validity of the significant other elicitors, (2) tests of the validity of the expectation elicitors, and (3) tests of both sets of instruments operating jointly. In the first section, nine hypotheses (two tested two different ways) were generated concerning the relationship between two variables measured by the SOEs (number of significant others and mean involvement with significant others) and interaction, propensity toward interaction, dogmatism, personality adjustment and each other. Eight of the nine relationships were in the predicted direction; seven were statistically significant.

In the second section, 26 separate validity hypotheses (in the form of two inequalities) were generated, based on theoretically expected relationships among the variables measured by the expectation elicitors. Although tests for statistical significance were not, strictly speaking, appropriate, all the relationships were in the predicted ranges and directions.

In the third section, four hypotheses, based on the theoretically expected interrelationships between SO's expectations (or self-aspirations for SOs who were models but not definers) and ego's aspirations were generated. All were in the direction predicted and two were statistically significant, although the tests for statistical significance were confounded by the degree to which educational and occupational aspirations are intercorrelated.

In general, then, 39 validity hypotheses were generalized. One was clearly disconfirmed, 38 were in the direction predicted by validity, and in cases where results were not statistically significant, clear mitigating circumstances can be found. Even though one may hold reservations about any of the tests individually, the remarkably consistent pattern of the results taken together is too substantial to be ignored.

It should also be noted again that the validity measures used here are deliberately chosen to minimize the circularity of reasoning involved in using the relationship the test is designed to investigate as evidence of its validity. For example, if one uses the correlation between SO's educational expectations and ego's educational aspirations as evidence of the validity of the WISOB, then he cannot use the Significant Other Battery to prove that the expectations of others are related to the aspirations of individuals without being accused of circularity. Nonetheless, if the WISOB does not detect significant others, and if WISOB does not accurately measure the expectations of others or the aspirations of youth, then one is hard pressed to explain

the correlation of .652 between the occupational expectations of SOs detected by WISOB and the occupational aspirations of students, a correlation fully 8.2 standard deviations from zero (N = 109), or the correlation of .723 between the educational aspirations of those identified by WISOB as educational SO's and ego's own educational aspirations, a correlation 9.3 standard deviations from zero. (N = 109)

When the evidence is viewed overall, it seems reasonable to suggest the following conclusions:

(1) The WISOB significant other elicitors validly detect the educational and occupational SOs for high school students.

(2) The WISOB Expectation Elicitors validly measure

(a) the educational and occupational aspirations students hold for themselves.

(b) the educational and occupational expectations of significant others relevant to ego's aspirations.

(3) The WISOB, as a unit, validly measures the contemporaneous interpersonal influences which relate to ego's educational and occupational decisions.

CHAPTER EIGHT

SUMMARY AND CONCLUSIONS

1. The Construction and Validation of the WISOB.

This report began by reviewing the general current of research concerning the educational and occupational attainment process. This review yielded two important conclusions: that interpersonal influence, particularly influence exerted by certain key or significant others, is of critical importance in the process, and that, to date, no satisfactory instruments for detecting and measuring that influence had been devised. A more specific review of the term significant other (apparently first used by Harry S. Sullivan) showed that it seemed to be similar in intent to the more general Meadian other, but reflected a situation in which the "fracturing" of the social context into divergent groups and viewpoints required a rank-ordering of others with different characteristics and attitudes. Although a great deal of effort had been expended on the concept, particularly under the name "reference group," no single, parsimonious theory was available concerning the nature of significant others.

Chapter Two attempted to develop a theoretical base for the later construction of questionnaires for the measurement of significant other influence. Significant others were defined as those people who exert an important influence on the attitudes of an individual. The component structure of attitude consists of the individual's definition of the object of the attitude, his definition of himself and the consequent relationship between the two. The individual forms his definitions of objects (and himself) by placing them into categories, which, insofar as they "filter" the individual's conception of reality, are called "filter categories."

Significant others were said to exercise their influence by defining objects (or the individual himself) into these filter categories. They do so either by communicating through a symbol system (like language) or by example. The former were called definers, the latter models. By cross-classifying these techniques, four types of influence emerge: models for objects, models for self, definers for objects and definers for self. The more of these an individual exercises, the greater is his proportional influence on the attitude, and the greater his significance as an other.

As in all basic research, parts of the theory became clearer as the analysis progressed; a full-blown theory was not available when we began. Models and definers exert their influence in different ways: models because they exemplify something to a person (here,

most importantly, an orientation to a level of the occupational or educational structure), definers because they communicate something (here, an occupational or educational orientation) directly to the youth. For the topic of occupational and educational attainment levels of youth, definers exert influence through the expectation levels they hold for the youth. Each definer evidently holds an expectation level for each youth for whom he is a definer. Models are a little more complex (and probably less important on the average.) Some models exemplify an attainment level; they have a job at a certain prestige level and they have completed a level of education. These are mostly adults. Other models, most of the youth's peers as well as some others without gainful employment, exemplify only what they wish for themselves. Some SOs exert their influences in all three ways, others in fewer. In Figure 10 we present a paradigm of the modes of SO influence. In certain details this paradigm is an extension of our thinking somewhat beyond the evidence presented herein. We included it because it clarifies the modes of SO influence and because it forms the basis for new analyses which should be made.

Some SOs (type A) exert influence through three modes: the attainment level they exemplify to Ego, the expectation level they hold for Ego, and the aspiration levels they hold for themselves. When such an SO presents consistent levels on all three variables, he is the most influential. Other SOs, types B and C, exert two modes of influence. Since we assume that expectation levels are the most powerful of the three influence variables, we think type B is more powerful than type C. Obviously type D, with only one influence variable, self-aspirations which may be communicated to Ego, is the weakest of the four. Not only this, but we suspect that expectation levels for Ego in general are more powerful than attainment levels exhibited to Ego, which in turn are more powerful than self-aspirations exhibited to Ego. We suppose that type D has a second reason for not being very influential; this type exerts only one mode of influence and it is usually weak. To provide examples in plain English, type A people would ordinarily be adults known well by the youth: his father, a few teachers, a friend or two. When such people become SOs they can be enormously influential. Type D people would ordinarily be school friends. These people, as individuals, would not be very influential, though if many of them become SOs and present consistent aspirations to the youth, they could have an important net influence.

Chapters Three and Four describe the construction of the Wisconsin Significant Other Battery based on the theory outlined in Chapter Two along with 61 interviews, 31 with high school youth and 30 with significant others drawn from the interviews with the youth.

There are two basic kinds of instrument in the WISOB, the Significant Other Elicitors (described in Chapter Three) which,

FIGURE TEN

Paradigm of types of Significant Others and the Variables by which each type influences the person (Ego).

Definer	Model Functions of Significant Others	
Functions of Significant others	Exemplifier Role encumbents whose (educational and/or occupational) roles are known to Ego	Non-exemplifier Role aspirants whose self-aspiration levels are known to Ego
Definer Significant others who hold expectations for Ego	Type A. Definer-exemplifier (Role encumbents who hold expectations for Ego) SO's attainment level SO's expectation level for Ego SO's self-aspiration level	Type B. Definer-nonexemplifier (Role aspirants who hold expectation for Ego) --- SO's expectation level for Ego SO's self-aspiration level
Non-Definer Significant others who do not hold expectations for Ego	Type C. Nondefiner-exemplifier (Role encumbents who do not hold expectations for Ego) SO's attainment level --- SO's self-aspiration level	Type D. Nondefiner-nonexemplifier (Role aspirants who do not hold expectations for Ego) --- --- SO's self-aspiration level

as their name implies, are designed to determine the contemporary educational and occupational significant others for any high school student, and the Expectation Elicitors (described in Chapter Four) which serve the dual purpose of (a) measuring the educational and occupational aspirations of high school students, and (b) the expectations of their significant others.

The Significant Other Elicitors consist of two basic instruments, an Educational form and an Occupational form. The Expectation Elicitors consist of four basic instruments (and slight variants to make them relevant to all kinds of subjects and SOs; e.g., male-female, youth-adult, etc.) those which elicit the level (both educational and occupational) toward which youth aspire (or which their SOs expect of them) and those which attempt to elicit the degree of valuation respondents place on the filter categories used to define education and occupation.[126]

Chapter Five discusses the reliability of the instruments. The first section establishes a test-retest reliability of the SOEs. The unusual nature of the instruments begins to show itself here, and the moderate Pearson product--moment correlations conceal relationships more clearly revealed in a contingency table design. The conclusion apparently supported by the data is that the SOEs are quite reliable measures of a fluid (but lawfully acting) phenomenon.

Secondarily, Chapter Five deals with the reliability of level-type expectation elicitors. Here the straightforward level-type measures (measures of level of educational and occupational aspiration) respond to simple techniques, and show substantial test-retest reliability.

Chapter Six deals with the validity and reliability of the choice forms of the expectation elicitors. These tests are used in validity checks, otherwise they are of only theoretic value for the time being. The instruments (and their variants), which purport to measure the degree of valuation individuals place on filter categories, show only moderate product-moment correlations over time, but a contingency table design similar to that used for the SOEs tends to indicate the following: The phenomena measured by these two instruments are presumed by the theory to be culturally shared values. The data bear this out, as almost all sample members score highly on them, with negligible variance.

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126. The theoretical behavior of the variable measured by these latter instruments is not well known, and so these instruments should best be reserved for research only.

This phenomena, we suspect, is great enough to seriously affect the product moment correlations and lead to an underestimation of true association. Values calculated from the Chi Square tables bear out this interpretation, but caution is still advised regarding this tentative interpretation.

Chapter Seven discussed the validity of WISOB. Three separate validity tests were employed: (1) tests of the validity of the significant other elicitors, (2) tests of the validity of the expectation elicitors, and (3) tests of both sets of instruments operating jointly. In the first section, nine hypotheses were generated concerning the relationship between (a) two variables measured by the SOEs (number of significant others and involvement with significant others) and (b) interaction, psychological disposition toward interaction, dogmatism, personality adjustment. Most of these relationships were in the predicted direction.

In the second section, 26 separate validity hypotheses (in the form of two inequalities) were generated, based on theoretically expected relationships among the variables measured by the significant other influence elicitors. Although tests for statistical significance were not, strictly speaking, appropriate, all the relationships were in the predicted ranges and directions.

In the third section, four hypotheses, based on the theoretically expected interrelationship between SO's expectations and ego's aspirations, were generated. All were in the direction predicted and two were found statistically significant, despite the fact the tests for statistical significance were confounded by the degree to which educational and occupational aspirations are intercorrelated.

In general, then, 41 validity hypotheses were generated. One was clearly disconfirmed, 40 were in the direction predicted and in cases where results were not statistically significant, clear mitigating circumstances can be found. Even though one may hold reservations about any of the tests individually, the remarkably consistent pattern of the results taken together is too substantial to be ignored.

It should also be noted again that the validity measures used here are deliberately chosen to minimize the circularity of reasoning involved in using the relationship the test is designed to investigate as evidence of its validity. For example, if one uses the correlation between SO's educational expectations and ego's educational aspirations as evidence of the validity of the WISOB, then he cannot use the Significant Other Battery to prove

that the expectations of others are related to the aspirations of individuals without being accused of circularity. Nonetheless, if the WISOB does not detect significant others, and if WISOB does not accurately measure the expectations of others or the aspirations of youth, then one is hard pressed to explain the correlation of .54 between the average occupational expectations (and self-aspirations) of SOs' detected by WISOB and the occupational aspirations of the SOs' respective students, or the correlation of .75 between the educational expectations and self-aspirations of those identified by WISOB as educational SO's and ego's own educational aspirations (both based on sample sizes of 109 students).

When the evidence is viewed overall, it seems reasonable to suggest the following conclusions:

(1) The WISOB Significant Other Elicitors validly detect the educational and occupational SOs of high school students.

(2) The WISOB Expectation Elicitors validly measure

(a) the educational and occupational aspirations students hold for themselves.

(b) the educational and occupational expectations of significant others relevant to ego's aspirations.

(3) The WISOB, as a unit, validly measures the contemporaneous interpersonal influences which relate to ego's educational and occupational decisions.

In general, the results tend to indicate that the WISOB, taken as a whole, is a valid, reliable and economical battery of instruments, rapidly administered and easily scored, which measures the primary field of contemporary educational and occupational significant other influence for high school students.

2. Ramifications for Theory and Future Research:

There are two distinct but related issues that should be considered at this point. First, the practical purpose of this research in the first place was to achieve higher levels of prediction for educational and occupational attainments, and to provide the practitioner with points of leverage for influencing students whose aspiration levels are in some sense unrealistic. Notwithstanding the importance of this task, it should be recognized that its accomplishment is probably more technology than science. The prediction or controlling of the educational and occupational aspirations or attainments of any youth or set of youth is the prediction or controlling of a discrete, historical event. Second, while prediction or control of discrete historical events

may be an "ultimate" test of scientific theory, the ultimate goal of science qua science is the generation of theory about abstract classes of phenomena. While the WISOB may be of enormous usefulness in understanding and influencing educational and occupational attainment, it is potentially even more useful in furthering theoretical knowledge about the process by which any individual aspires to any activity. Although restrictions of time and money precluded any effort at a substantive use of WISOB at this time, nonetheless some of the findings generated in the process of establishing validity and reliability indicate that the WISOB has taken us a long way toward both goals.

Table 30 presents some of the evidence for both points. Here we have computed the correlations among a number of variables taken on the West Bend, Wisconsin sample of youth and their SOs as identified by the Wisconsin Significant Other Battery. We have averaged the SO expectations of all SOs for each youth and treated each such average as if it were one variable measured on the youth. This is justified on the grounds that we are here interested in assessing the influence of the net SO expectations levels on each subject (self-aspirations of models who are not definers are not included here). It should be recognized that most of the correlational data do not readily lend themselves to causal analysis, and we have not undertaken such an analysis.

The main points to be made here are that the youth's level of educational aspiration (X_{11}) and his SOs' educational expectation levels (X_{19}) for him correlate highly: $r = +.75$; his level of occupational aspiration (X_8) and his SOs' occupational expectations (X_{16}) for him correlate moderately highly: $r = +.54$. His levels of educational and occupational aspiration (X_{11} and X_8), however, are not correlated very highly with his SOs' respective levels of educational and occupational attainment (X_{13} and X_{12}): $r = +.17$ and $r = +.29$. This reinforces our earlier supposition that SOs' expectations are more influential than their attainments. Interestingly, the youth's educational aspiration levels (X_{11}) appear to be moderately correlated with his SOs' occupational attainment levels (X_{12}): $r = +.42$. It is also instructive to learn that neither the youth's family's socioeconomic status (X_1) nor his own mental ability (X_4) are highly correlated with either his levels of educational and occupational aspiration (X_{11} and X_8), or his SOs' levels of educational and occupational expectations. These correlation coefficients range from $r = +.19$ (X_1 by X_8) to $r = +.36$ (X_4 by X_{19}).

But the main message of these data is that we can identify SOs and measure their expectations for the youth; when we do we find that, as social psychological theory predicts, the aspiration levels of a youth are substantially related to the expectations levels his significant others hold for him.

TABLE THIRTY

Correlation Among Significant Other Expectation Variables, Significant Other Attainment Variables, Youths' Aspiration Variables, and Selected Background and Performance Variables of Youth.*

VARIABLE		X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}	X_{11}	X_{12}	X_{13}	X_{14}	X_{15}	X_{16}	X_{17}	X_{18}	X_{19}
X_1	SES		.20	.22	.10	.18	.18	.14	.19	.28	.26	.30	.38	.23	.33	.24	.35	.30	.29	.31
X_2	LEADACT	109		.57	.22	.41	.36	.31	.39	.42	.44	.45	.22	.06	.52	.43	.44	.41	.55	.51
X_3	LEADER	109	109		.29	.44	.43	.31	.43	.51	.55	.57	.34	.16	.50	.34	.41	.51	.67	.62
X_4	MA	105	105	105		.60	.26	.32	.33	.25	.33	.35	.23	-.06	.39	.26	.33	.34	.34	.36
X_5	GPA	103	103	103	103		.39	.26	.38	.37	.47	.46	.27	.08	.58	.47	.50	.51	.54	.57
X_6	RLOA	109	109	109	105	103		.50	.88	.49	.59	.61	.25	-.01	.61	.46	.56	.43	.51	.50
X_7	ILOA	109	109	109	105	103	109		.84	.39	.48	.47	.25	.17	.43	.24	.34	.37	.44	.44
X_8	TLOA	109	109	109	105	103	109	109		.52	.63	.63	.29	.08	.62	.42	.54	.47	.56	.55
X_9	ILEA	109	109	109	105	103	109	109	109		.55	.87	.28	.26	.53	.39	.49	.53	.62	.60
X_{10}	RLEA	109	109	109	105	103	109	109	109	109		.85	.38	.07	.67	.46	.54	.64	.74	.73
X_{11}	TLEA	109	109	109	105	103	109	109	109	109	109		.42	.17	.67	.47	.58	.66	.76	.75
X_{12}	$\bar{X}$SOOL	67	67	67	65	63	67	67	67	67	67	67		.11	.35	.15	.23	.26	.34	.34
X_{13}	$\bar{X}$SOED	86	86	86	82	80	86	86	86	86	86	86	58		.13	.17	.14	.17	.29	.26
X_{14}	RLOE	99	99	99	95	93	99	99	99	99	99	99	66	83		.76	.87	.74	.77	.80
X_{15}	ILOE	99	99	99	95	93	99	99	99	99	99	99	66	83	99		.85	.66	.60	.67
X_{16}	TLOE	99	99	99	95	93	99	99	99	99	99	99	66	83	99	99		.69	.66	.72
X_{17}	ILEE	104	104	104	100	98	104	104	104	104	104	104	66	86	98	98	98		.76	.91
X_{18}	RLEE	104	104	104	100	98	104	104	104	104	104	104	66	86	98	98	98	104		.95
X_{19}	TLEE	104	104	104	100	98	104	104	104	104	104	104	66	86	98	98	98	104	104	

*Computed with missing data. Correlation coefficients are on the right of the diagonal. Respective subject sample sizes are on the left. All nominal definitions are presented in Table 30A, on the next page.

TABLE THIRTY A

Nominal Definitions of Variables on Table 30

X_1	SES	Youth's family's socioeconomic status
X_2	LEADACT	Youth's extracurricular activities
X_3	LEADER	Youth's self-estimate of his leadership
X_4	MA	Youth's mental ability (Hermon-Nelson test scores)
X_5	GPA	Youth's grade point average in school
X_6	RLOA	Youth's realistic level of occupational aspiration
X_7	ILOA	Youth's idealistic level of occupational aspiration
X_8	TLOA	Youth's level of occupational aspiration (sum of realistic and idealistic)
X_9	ILEA	Youth's idealistic level of educational aspiration
X_{10}	RLEA	Youth's realistic level of educational aspiration
X_{11}	TLEA	Youth's level of educational aspiration (sum of realistic and idealistic)
X_{12}	$\overline{X}$SOOL	Significant others' average levels of occupational attainment (models and model-definers)
X_{13}	$\overline{X}$SOED	Significant others' average levels of educational attainment (models and model-definers)
X_{14}	RLOE	Significant others' average realistic levels of occupational expectation for the youth (definers and definer-models only)
X_{15}	ILOE	Significant others' average idealistic levels of occupational expectation for the youth (definers and model-definers only)
X_{16}	TLOE	Significant others' average levels of occupational expectation for the youth (sum of realistic and idealistic definers and model-definers only)
X_{17}	ILEE	Significant others' average idealistic levels of educational expectation for the youth (definers and model-definers only)
X_{18}	RLEE	Significant others' average realistic levels of educational expectation for the youth (definers and model-definers only)
X_{19}	TLEE	Significant others' average levels of educational expectation for the youth (sum of realistic and idealistic, definers and definer-models only)

3. Conclusions

(1) The Significant Other Elicitor of Wisconsin Significant Other Battery provides a reasonably valid, and reliable, and practicable method of identifying the particular people who function as significant others for any one youth.

(2) The Significant Other Expectation Elicitor of the Wisconsin Significant Other Battery provides a valid, reliable, and practicable method for measuring (a) the levels of educational and occupational expectations which definer SOs hold for a youth and (b) the levels of educational and occupational self-aspirations by which model SOs sometimes influence youth.

(3) As social psychological theory would predict, these variables, particularly the SO expectation variables, have substantial correlations with the levels of aspiration of youth.

The WISOB should therefore provide the necessary tools for begining serious study of the role of significant others in educational and occupational attainment, and with appropriate modification, in other areas of life. These people provide the most meaningful sector of the environment of the individual. Presumably, aspirations and later attainments of youth may be influenced by adding significant others to the environment of the individual or by changing their expectations for him.

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GLOSSARY

Definitions

Aspiration .....An individual's orientation toward some future state. In this research, specifically an individual's orientation toward his own future level of educational and/or occupational attainment. Aspirations may be idealistic (what he would most like to attain) or realistic (what he actually expects to attain). As used in this research, aspiration includes both realistic and idealistic components. Aspiration is distinguished from expectation which we use to refer to the attitudes of another person toward the future educational and occupational attainment of some person. Expectations may also be realistic and/or idealistic, and, as used in this research, expectation contains both components.

Attitude.....The individual's conception of the relationship of the filter categories (q.v.) of which he thinks he is a member. An individual identifies objects by placing them into filter categories and identifies himself by placing himself into filter categories. His orientation toward objects (his attitude) is determined by his conception of the orientation of the filter categories into which he assigns those objects.

"Choice" Measures.....Those instruments in the WISOB which measure the degree of valuation a person places on a filter category or set of filter categories, e.g., "how important is education as a means of getting a better job?"

Definer.....A significant other who 1) holds expectations for a person and b) communicates those expectations to that individual via some symbolic medium such as language.

Educational Significant Other Elicitor.....An instrument or set of instruments within the WISOB which identifies the significant others who have educational expectations for any given individual.

Expectation.....See Aspiration

Expectation Elicitors..Those instruments in the WISOB which measure the expectations significant others hold about the educational and occupational attainments of individuals. Although the terminology is not perfectly apt (see aspiration), these instruments are also used to measure the aspirations of individuals. Included within the expectation elicitors are level measures (q.v.) and choice measures (q.v.).

Extrinsic Function.....A function not inherently part of a job but which can be served by almost any job (e.g., earn money, advancement, support family, etc.) or noneducational ends which education may serve (e.g., helps get a job, necessary to get ahead, etc.).

Extrinsic Nature.....Description of environment in which the direct activities occur, i.e., working conditions, or of things generally associated with the life of a student, i.e., academic environment.

Filter Category.....Any group of stimuli or objects which an individual conceives to be in some sense unitary or similar. These categories are called "filter" categories insofar as they exert a "filtering" influence on the individual's perception of its member objects.

Influence Level.....The amount of influence a significant other exercises over an individual, as measured by the WISOB SOE'S.

Intrinsic Function.....The purpose of a job and the reason it is done (e.g., healing people, building houses, bettering humanity, etc.) or the ends which are associated with education (e.g., improve thinking, gain knowledge and facts, self-development, etc.).

Intrinsic Nature.....Description of activities contributing directly to the work of a particular kind of job, or of activities which are essential to education as an object, i.e., academic work.

Level of Aspiration....A point, or limited range of points, on a continuum which a person defines as appropriate to himself.

Level of Educational Aspiration.....Level of aspiration which takes the educational hierarchy as its continuum of difficulty.

Level of Occupational Aspiration.....Level of aspiration which takes the occupational prestige hierarchy as its continuum of difficulty.

"Level" Measures.....Instruments in the WISOB which deal with the level of attainment to which an individual aspires, or which his significant others expect him to attain.

Model.....A significant other who influences an individual by virtue of having some quality which ego observes, i.e., by example.

Object.....An element of an attitude (q.v.) used in the general sense of "anything that can be designated or referred to."

Occupational Significant Other Elicitor.....An instrument or set of instruments within the WISOB which identifies the significant others who have occupational expectations for any given individual.

Protocol (interview procedure).....Interview procedure consisting of three major sections: Occupation, education, and self. Each section 1) specifies the object in question, 2) elicits the filter categories the individual uses for defining that object, and 3) elicits the models and definers for a) the object and b) each filter.

Significant Other.....A person who influences an important attitude or a component of an attitude of another person.

Significant Other Elicitor.....An instrument or set of instruments within the WISOB which identifies the significant others for any given individual.

Abbreviations

EE.....Expectation Elicitor (q.v.)

GPA.....Grade Point Average

SES.....Socioeconomic Status

SO(s).....Significant Other (q.v.)

SOE(s).....Significant Other Elicitor (q.v.)

WISOB.....The Wisconsin Significant Other Battery