

The Measurement of Values for Children:
A Comparison of Ratings and Rankings

1. Introduction

To many social psychologists the concept of value is crucial to the understanding of human behavior across a wide range of domains. Not only do values guide behavior, they are also assumed to be central to the cognitive organization of the individual and to serve as a basis for the formation of attitudes, beliefs and opinions (see Rokeach, 1970). The International Encyclopedia of the Social Sciences defines 'value' as a standard of desirability invoked in social interaction to evaluate the goodness or preferability of social outcomes or modes of behavior (Williams, 1968). Values, then, are the guiding principles or standards used to evaluate alternative courses of action and to order choices among behavioral alternatives.

This paper is concerned with values of a particular type--parental values for children--and their measurement. The most commonly used method in the measurement of parental values is the ranking of competing value preferences in order of their importance. But other methods have been used as well, and the patent superiority of rankings for measuring value orientations is not clear. In this paper we review the approaches to measurement that have been used in the study of parental values and discuss their relative advantages and disadvantages. Then, we compare the conventional ranking method with a rating technique that embodies content identical to that measured by the ranking ap-

proach. We do so through the analysis of data from a randomized split-ballot experiment designed to assess the similarities and differences of rating and ranking methods in the measurement of parental values for children.

2. Background

Values for children are important social indicators because they reflect the orientations of the adults who are charged with their care and therefore represent the environmental conditions to which children are exposed (Bronfenbrenner, 1979). Parental socialization values are linked to parents' perspectives on childrens' rights to autonomy (Bohrnstedt et al., 1981), and have implications for a number of child advocacy issues (Feshbach and Feshbach, 1978). The study of parental values is important not only for what it reveals about the contexts of child-rearing over time and space, but also for what it may tell us regarding culture, social stratification and inequality.

Social psychologists studying the persistence of social inequality over generations and socio-economic differences in child-rearing approaches have maintained a long-standing interest in parental values and their measurement. As early as the 1930's social scientists identified parental orientations to children as class-based (Lynd and Lynd, 1929), and several lines of research have noted socio-economic differences in adult socialization values (Bronfenbrenner, 1958; Gecas, 1979; Morgan et al., 1979; Alwin and Jackson, 1982b). For example, in the late 1950's Kohn initiated a series of empirical studies to determine the impact of parental social class on child-rearing values (Kohn, 1969;

1976; 1977; 1981; Pearlin and Kohn, 1966; Kohn and Schooler, 1969; 1973). Kohn and his colleagues used a modified ranking technique to order a set of child qualities according to their desirability. This ranking technique has figured prominently in the study of parental values.

Applying methods of exploratory factor analysis, Kohn (1969) identified a latent dimension of self-direction vs. conformity to external standards underlying this set of ranked preferences, and he has found such a latent variable in several other bodies of data (Kohn, 1977). Consistent with earlier interpretations of social class-value linkages (e.g., Lynd and Lynd, 1929; Duvall, 1946; Miller and Swanson, 1958; Lenski, 1961), Kohn found working-class parents emphasized the importance of conformity to external authority in the behavior of their children (e.g., cleanliness, good manners, obedience), while middle-class parents were more likely to value self-directed behavior (e.g., self-control, responsibility, an interest in why and how things happen). In this study we focus on the measurement of this latent value Kohn and others have identified--the valuation of autonomy (or self-direction) versus obedience (or conformity) in children.¹

The study of this latent value dimension has been based solely on data collected via ranking measures (e.g. Lenski, 1961; Kohn, 1969). However, there are several disadvantages to this approach. Rankings are time-consuming and therefore more costly to administer (Munson and McIntyre, 1979). They also require considerable cognitive sophistication and concentration on the

part of respondents. And the statistical analysis of ranked preference data requires substantially more complex methods than other approaches (Jackson and Alwin, 1980). Therefore the consideration of non-ranking techniques in the assessment of values and the investigation of their relative costs and benefits is potentially valuable. In this paper we examine whether this latent dimension of self-direction versus conformity may be studied using a measurement method that is much easier for the respondent and the investigator, the rating of qualities one at a time.

The main body of research that has compared ratings and rankings focuses on Rokeach's instrumental (modes of behavior) and terminal (end-states of existence) values using his Value Survey (Rokeach, 1967). This research has shown that (a) the aggregate or average preference orders measured by ratings and rankings have generally been found to be quite similar (Feather, 1973, 1975; Moore, 1975); (b) individual-level preference orders tend to be much less similar across ratings and rankings (Moore, 1975; Rankin and Grube, 1980), primarily because in using ratings respondents can score valued qualities equally; (c) overtime relationships among identical measures are slightly higher for rankings than for ratings, although the differences tend to be small (Munson and McIntyre, 1979; Rankin and Grube, 1980; Reynolds and Jolly, 1980); and (d) the predictive validity of ratings is somewhat higher than that of rankings (Rankin and Grube, 1980). It appears from this small amount of research that ratings and rankings produce quite similar results in terms of

evaluating the relative importance of various qualities or end-states of existence in Rokeach's value scheme, but their covariance properties are different.

The fact that the covariance properties of data gathered by rating and ranking methods are different has important implications for the study of their latent content. There is at least one study that has factor-analyzed responses to rating and ranking methods and compared the results. Vinson et al. (1977) factor-analyzed rating and ranking methods for measuring Rokeach's terminal and instrumental values. They found three times as many factors were required to account for the variance of the ratings compared to the number of factors required for rankings. This suggests that ratings and rankings tap different latent variables and that the two methods may not be entirely interchangeable.

One problem with generalizing from this type of comparison is that the factor analysis of rankings in the Vinson et al. (1977) study did not take into account their ipsative property. Rankings are characterized by the fact that the scores for a given person sum to a constant, that is, they are ipsative (see Horst, 1965). So, if one knows how a person ranked $p - 1$ qualities, one also knows how the p th quality is ranked. This ipsative characteristic, then, produces a linear dependency in the data that results in a singular covariance matrix for a set of rankings (Clemans, 1966; Alwin and Jackson, 1982a). Consequently, rankings cannot be easily subjected to routine factor

analysis, or any other statistical technique that requires a positive-definite covariance matrix.

A common factor model that takes this linear dependency into account has been developed, and analysis methods are available that may be used with ranked data (Jackson and Alwin, 1980; Alwin and Jackson, 1982a, 1982b). In fact, using this modified common factor model and the methods of confirmatory factor analysis, Alwin and Jackson have analyzed Kohn's measures of parental values with data from the 1973-1978 General Social Surveys. Using these more appropriate methods of factor analysis they verified the existence of a latent factor or continuum underlying the Kohn rankings that distinguishes self-direction from conformity values, and which is highly predictable from parental characteristics.

Our comparison of ratings and rankings builds upon the Alwin and Jackson (1982b) analysis of Kohn's measures. In the analysis presented here we investigate the correspondence between results obtained through rating and ranking approaches within the context of latent variable models that are appropriate to each measurement approach. We reproduce the factor-analytic results obtained in these prior confirmatory factor analytic studies of Kohn's measures and compare them with results obtained from the exploratory factor analysis of rating scale measures of parallel qualities. Then we examine the relative predictability or criterion validity of value ratings and rankings using a set of well-established predictors of self-direction/conformity values. First, we review the approaches that have been used to measure

parental orientations to children and discuss their utility for assessing latent standards of desirability.

3. The Measurement of Parental Values

Individuals commonly infer the values of others from their behavior, and considerable social psychological theory is concerned with the processes by which persons infer the attributes and intentions of others (and themselves) in this way (see Bem, 1970). In survey research it is difficult to pose questions about the behavior or intended behavior of parents that might give clues regarding their underlying values, and survey researchers have tended not to rely on behavioral self-reports in the measurement of parental values. Instead, they often ask respondents to name their preferences within a given domain, e.g. the child qualities they prefer. Or, more commonly, respondents are asked to select their preferences from a set of alternatives given by the investigator. A variety of techniques has been used, each with its own relative advantages and disadvantages.

The open-ended question is indispensable in sampling the qualities of children parents think are important. For example, Duvall (1946) asked respondents to name five things a "good child" does. She found that mothers mention a wide variety of things that are desirable qualities in children (see Chart 1), but the most frequently mentioned were things like "obeys and respects parents" and "pleases adults." Duvall classified responses to this question as "traditional" (those which indicate conventional social expectations) or "developmental" (those that emphasize growth and development rather than behavioral conformi-

ty) and found that lower socioeconomic (SES) groups gave relatively more traditional responses than higher SES groups, while the latter gave many more developmental responses.

Insert Chart 1 about here

Schuman and Presser (1981:104-07) report a relevant experiment in which one question form is similar to Duvall's.² Despite differences between their questions, the Schuman-Presser results are strikingly similar to Duvall's when evaluated in terms of the content elicited from parents regarding desirable child qualities. Chart 1 also displays the list of categorical responses obtained by Schuman and Presser (1981). In virtually every instance there are parallels in the Schuman-Presser results to those Duvall obtained nearly thirty-five years earlier. One might conclude from these findings that the kinds of desirable qualities mentioned by parents over the past 30 to 40 years have remained relatively stable, even if some may be more (or less) preferred at different times. This, despite the clear difference in the focus of the question. Unfortunately, Schuman and Presser did not examine the latent dimension of self-direction vs. conformity; and no further examination of patterns of child-rearing values is presented in their report.

While open-ended questions are useful in exploratory studies, data obtained in this way are difficult to analyze. Consequently, investigators have tended to measure values with a standard list of qualities, although they risk suggesting to respondents qualities they might not have otherwise considered (Schuman and Presser, 1981:110). The ranking of qualities on

such a list is the most common method used in the study of parental values. Respondents are generally asked to order the qualities in terms of how desirable or beneficial they are for a child to have.

Perhaps the most common method used to measure parental values in recent research is Kohn's reduced-ranking approach. The set of questions used by Kohn (1969:257) is as follows:

- a. Which three qualities listed on this card would you say are the most desirable for a (boy, girl) of (child's) age to have?
 - 1) that he has good manners.
 - 2) that he tries hard to succeed.
 - 3) that he is honest.
 - 4) that he is neat and clean.
 - 5) that he has good sense and sound judgement.
 - 6) that he has self-control.
 - 7) that he acts like a boy (she acts like a girl) should.
 - 8) that he gets along well with other children.
 - 9) that he obeys his parents well.
 - 10) that he is responsible.
 - 11) that he is considerate of others.
 - 12) that he is interested in how and why things happen.
 - 13) that he is a good student.
- b. Which one of these three is the most desirable of all?
- c. All of these may be desirable, but could you tell me which three you consider least important?
- d. And, which one of these three is least important of all?

Kohn actually began with 17 child qualities (1969:19) drawn from Duvall's (1946) more extensive list (see Chart 1) and subsequently narrowed this list to a more manageable list of 13 qualities, deleting several of the least chosen characteristics and changing some of the qualities to broaden the connotations involved (Kohn, 1969:47-48). Alwin and Jackson (1982b) refer to Kohn's procedure

as a reduced-ranking procedure because instead of ranking these 13 qualities from 1 to 13, the respondent is asked to sort the qualities into five ranked categories with a requisite number in each category.

Chart 1 also presents the five qualities used in Lenski's (1961) ranking approach. He used the following question:

If you had to choose, which thing on this list would you pick as the most important for a child to learn to prepare him for life?

- a. To obey.
- b. To be well-liked or popular.
- c. To think for himself.
- d. To work hard.
- e. To help others when they need help.

Which comes next? Which comes third? Which is fourth?

It has been shown that Lenski's question may also be used to measure the concept of parental self-direction/conformity values (see Alwin and Jackson, 1982a).

Rankings versus ratings. While ranking methods are by far the most popular approach to studying parental values, they are not without problems. Ranking can be an unwieldy and time-consuming task that may be a burden for many respondents.³ And as indicated earlier, the statistical analysis of ranked preference data is difficult, although methods have been developed to circumvent these problems (Jackson and Alwin, 1980; Alwin and Jackson, 1982a, 1982b). These procedures are substantially more complicated than are more conventional statistical techniques.

An alternative to ranking methods that is far less cumbersome for the respondent and for data analysis is a rating ap-

proach. For example, Rogers and Wrightsman (1978) used scales to assess parental orientations to the autonomy of children--giving children "what is good for them" versus "letting children make decisions for themselves." Bohrnstedt et al. (1981) asked adults to respond to a battery of hypothetical vignettes describing parent-child conflict situations, using a scale that measured agreement with parents versus children. In general, researchers have tended to use rating scales in the measurement of attitudes and beliefs, while preferring ranking techniques in the measurement of values.

Rankings may be somewhat more precise than ratings in terms of discriminating the relative importance of valued qualities (Feather, 1973:229), but they are more difficult. And the gains in precision may depend entirely upon how much effort respondents put into the ranking task. One of the primary advantages of ratings is their ease of presentation. Munson and McIntyre (1979:49) estimate that ranking tasks take three times longer than similar rating tasks. They cite evidence that the saving of respondent time and effort occurs at little cost in measurement accuracy and conclude that ratings can be substituted for the more difficult ranking procedure. Still, since ratings require less effort, the quality of the data may be even lower. Feather (1973:229) points out that making the task easier may also reduce respondents' willingness to make more difficult decisions about the relative importance of valued qualities.

One of the main problems with using rating methods in the measurement of values is that all of the qualities rated often

tend to be considered desirable, and as a result their distributions are heavily skewed (Feather, 1973; Munson and McIntyre, 1979). This is not necessarily problematic if one's primary concern is with observing the relative importance of valued qualities in a sampled population. In general, ratings and rankings tend to give similar preference orders in most data (see Feather, 1973, 1975; Moore, 1975).

Ratings can be a problem in subgroup comparisons where the tendency to consider all qualities desirable may vary by subgroup, and a type of differential bias may result.⁴ To handle this problem, some researchers (e.g. Cunningham et al., 1977) have suggested that rating scale data be ipsatized to remove response biases that result from respondents (or groups of respondents) using rating scales differently. The ipsative transformation centers responses to a set of rating scales by deviating each rating score from the respondent's mean rating (see Cattell, 1944). This results in a constant mean rating of zero for all respondents. Applying an ipsative transformation to rating data does reduce some problems of bias in intergroup comparisons, but it does not alter the latent variable structure of the model (Jackson and Alwin, 1980).

When rating scales are used differently by respondents the covariance structure of the items may also be affected. Indeed, if some respondents rate most things as desirable and others do not, a positive correlation among the items is insured. The literature reviewed above suggests that the covariance properties of ratings and rankings may be quite different, and this indi-

cates the possibility that the latent factor models for ratings and rankings may be predictably different.

Despite wide use of rankings for measuring values, particularly adult values for children, they have not been systematically compared to ratings in terms of the latent standards they reflect. Do ratings and rankings measure the same kind of value phenomenon? And do they do so with the same degree of precision? From a procedural point of view alone, these measurement techniques appear to get at somewhat different things. Ratings ask respondents to relate each alternative individually to absolute points on a scale of importance (the anchor points of which are variable over persons), whereas rankings ask respondents to compare each alternative directly with all others. And since there is evidence that these two kinds of measurement produce different covariance properties, more information is needed regarding their validity in the measurement of values. In the following analysis we examine the similarities and differences of the latent factor models underlying ratings and rankings of parental preferences for qualities in children.

4. Methods and Procedures

The 1980 General Social Survey (see NORC, 1982) conducted an experimental comparison of three forms of the Kohn parental values measures.⁵ Two forms were quasi-replicatons of the reduced-ranking method originally used by Kohn, and a third form used a rating scale format. The two ranking forms differed in the gender references used in the list of qualities to be ranked. Kohn's original question (see above) made reference to a child of

the same age and sex as the respondent's (pre-selected) child, whereas the NORC version has never referenced a child of a specific age or sex. In Kohn's format the actual gender reference is geared to the specific child, but in the NORC format the use of the generic "he" may affect the connotation of the question, especially if persons make distinctions in their conceptions of the desirable for boys versus girls. Thus, the variation used in the present experiment was to substitute "a child" (Form Y) for "he" (Form X) in the usual NORC format in order to remove any gender connotation in the list of qualities (see Schaeffer, 1982). The forms used in the three-way split-ballot are as follows:

- (1) Form X -- The standard reduced-ranking form using the "he" pronoun.
- (2) Form Y -- The standard reduced-ranking form using "a child".
- (3) Form Z -- The use of five-point rating scales for each quality separately.⁶

Schaeffer (1982) has recently demonstrated very little difference in the mean rankings given by respondents to the generic "he" and "a child" forms of Kohn's reduced-ranking question.⁷

The population sampled in the 1980 NORC survey was the total non-institutionalized English-speaking population of the continental United States, 18 years of age or older. The 1980 sample was produced by full-probability cluster sampling methods.⁸ Earlier analyses of Kohn's measures in the pre-1980 GSS data restricted the analysis to parents (Kohn, 1976; Alwin

and Jackson, 1982b). Consistent with this approach we present results for parents only. For purposes of this analysis, we define a parent as a respondent who reported ever having had children, regardless of whether they were currently living with them.

In this analysis each of the 13 valued qualities measured using Form X and Y are scored as follows:

- 5 - The trait or quality most valued of all.
- 4 - One of the three most valued qualities, but not the most valued.
- 3 - Neither one of the three most nor one of the three least valued qualities.
- 2 - One of the three least valued, but not the least valued quality.
- 1 - The quality least valued of all.

In Form Z the response categories are scored as follows:

- 5 - Extremely important.
- 4 - Very important.
- 3 - Fairly important.
- 2 - Not too important.
- 1 - Not at all important.

We exclude cases for which there is not complete data on the 13 parental value items.

Insert Table 1 about here

The Importance of Child Qualities. Table 1 presents information from parents in the 1980 survey regarding the relative importance of various child qualities (n = 973). We present mean ranks and ratings for each quality studied and the percentage of respondents choosing a particular quality as "most important" (in Forms X and Y) and "extremely important" (in Form Z). These results indicate, consistent with earlier research (e.g. Feather, 1973) that, in general, ratings and rankings produce very similar results when considered in terms of their measurement of the

relative importance of desired qualities. Using either technique, the quality estimated to be the most valued in the population is "honesty" and the quality estimated to be the least valued is "acting like a child should." The rank-order of the remaining qualities in terms of their overall relative importance is very similar. The Spearman rank-order correlation between the mean rankings and mean ratings in Table 1 is .966. Other highly valued qualities represent both self-direction (good sense, responsible, considerate) and conformity (obeys and manners) domains. There is evidence here that ratings tend to be skewed, and on the average all qualities of children are rated to be important.

The question we address in the remaining sections of this paper is the degree to which this and other properties of ratings limits their utility as a measuring device vis a vis more common ranking methods. We first estimate an ipsative common factor model developed in previous research for the ranked data of Forms X and Y using the methods of confirmatory factor analysis. Then, we present the results of an exploratory factor analysis of the rating scale data (Form Z) and develop a conceptual basis for comparing these results with those for the ranked data. Finally, we compare the predictability or criterion validity of the latent values obtained with the two methods using a well-established set of predictor variables.

5. The Factor Analysis of Rankings

The psychometric literature is replete with warnings against the use of ordinary methods of exploratory factor analysis in the

investigation of ipsative measures (e.g., Cattell, 1952; Guilford, 1954; Horst, 1965). Rankings are ipsative, and although the linear dependence of rankings is sometimes encountered as a problem when they are subjected to factor analytic procedures, it is generally true that these admonitions are disregarded (see e.g., Kohn, 1969; Rokeach, 1973, 1974; Wright and Wright, 1976; Morgan et al., 1979). It is, however, possible to develop a factor analysis model for ipsative data, and in a series of earlier papers (Jackson and Alwin, 1980; Alwin and Jackson, 1982a, 1982b) it was established that a common factor model for rankings must have certain properties in order to fully take into account the ipsative property of the data. It can easily be demonstrated that a factor model for rankings must have the properties that will reproduce a singular covariance matrix. In this regard, Alwin and Jackson (1982a) have shown that because of the ipsative property, the common factor model for ranked preference data must have four critical properties: (a) the columns of the factor pattern coefficient matrix must sum to zero, (b) the location parameters for the rankings sum to a constant, (c) the sum of the disturbances on the rankings must equal zero, and (d) the columns (and rows) of the disturbance covariance matrix must sum to zero. Consequently, the disturbance covariance matrix must be non-diagonal. This final property means that the errors in the rankings are correlated, and in most cases negatively correlated, because of the linear dependence imposed by the ranking procedure itself. It is clear therefore that because ordinary methods of

factor analysis cannot take these properties into account, they should not be applied to ranked preference data.

Such a model can be estimated using confirmatory factor analytic methods. We have applied the ipsative common factor model developed by Jackson and Alwin (1980) to the 1980 GSS data and present the results of this analysis in Table 2 for parents who received Form X or Form Y.⁹ These parameter estimates were obtained using maximum-likelihood confirmatory factor analysis (Jöreskog and Sörbom, 1981). The factor pattern coefficients relating the items to the common factor are shown in Table 2. For the purpose of estimating these parameters, we have arbitrarily constrained the variance of the latent factor to unity.¹⁰ Since the factor pattern coefficients are identified up to a change in sign, the direction of the latent factor is arbitrarily established by the investigator.

Insert Table 2 about here

The relative sizes of the loadings shown in Table 2 are consistent with the notion of a single underlying self-direction/conformity factor. These numbers resemble those obtained both by Kohn (1976) and by Alwin and Jackson (1982b). Negative loadings are associated with conformity items, such as obedience, manners, and cleanliness. Positive loadings are associated with self-direction items, such as good sense and sound judgement, responsibility, and curiosity. Because of the properties of the common factor model for rankings, the factor pattern coefficients must sum to zero. Thus, the coefficients in Table 2 cannot be inter-

preted in absolute terms; they simply reflect the relative ordering of items in relation to one another.

Table 2 also presents the sample estimate of the maximum-likelihood χ^2 value for evaluating the goodness of fit of the model (see Jöreskog, 1978:447).¹¹ According to the significance level of the L^2 value for the model, it should be rejected on statistical grounds, but when considered relative to the degrees of freedom (L^2/df), the fit is judged to be marginally acceptable. The Bentler-Bonett normed fit index for this model using the null model suggested by Jackson and Alwin (1980:235) is .66. Although this is admittedly not a very good fit to the data, an acceptable alternative model is uncertain given the difficulty of modeling ipsative data (see Alwin and Jackson, 1982b:211-212).

We also examined the possibility of substantive differences in the measurement models for the two forms (X and Y) by testing the null hypothesis of no difference in their factor patterns across forms (see Alwin and Jackson, 1979). The differences were minimal, and we conclude therefore that both of the forms are measuring a latent standard of desirability which corresponds to the contrast between values for autonomy and conformity in children. These results are consistent with past analyses of these measures (Jackson and Alwin, 1980; Alwin and Jackson, 1982b).

6. The Factor Analysis of Ratings

The analysis of the latent variables underlying a set of rating scales is somewhat simpler than the corresponding analysis of rankings. There is no a priori rationale for assuming sys-

tematic correlations among disturbances, as in the case of rankings. Rating data can easily be examined using conventional factor analysis procedures. We examined the rating data obtained under condition Z using maximum-likelihood methods of exploratory factor analysis (Jöreskog and Sörbom, 1976). As we expected, the thirteen rating scales are all positively correlated (data not shown). This results from a central feature of ratings, that respondents may tend to rate all questions positively (or negatively), whereas this is not possible with rankings. The use of ratings, then, can result in positive correlations among all qualities rated, and this is the case in the NORC data.

Table 3 displays the factor pattern coefficients in standard form for a two-factor oblique solution.¹² Interestingly, in this two-factor solution the factors appear to represent two concepts--self-direction and conformity to external standards--correlated at a moderately high level, $r = .678$. As in the case of rankings, the rating data tend to cluster in a manner consistent with Kohn's conceptual framework. That is, the conformity-related characteristics of children tend to cluster together--obedience, good manners, neatness and cleanliness--and self-direction qualities also tend to cluster--curiosity, consideration, self-control, responsibility, and good judgement. Obviously, these clusters closely parallel those obtained from rankings, but instead of the clusters being opposed at polar ends of the same continuum as in the case of rankings, here the clusters are positively correlated.

Insert Table 3 about here

If one assumes that self-direction and conformity are contrasting values, these results--that persons valuing self-direction also tend to value conformity--may be somewhat puzzling. If self-direction and conformity are indeed contrasting values, as one would expect from looking at the ranking data, what can account for their strong positive relationship in the rating data? We speculate that the tendency to rate all items positively is variable over individuals, that is, individuals differ in their use of 'regions' of the rating scale, and this results in positive relationships among all items regardless of their specific content. Thus, when using rating scales the content of differential bias is confounded with the value standards one is attempting to measure. These results reinforce the view that rankings may be a preferable method for measuring values because they are not affected by this type of differential bias.

In addition, these results present an ostensible problem in the comparison of rating and ranking approaches. The ranking data we have analyzed can be represented reasonably well with a single factor model, whereas the rating data require at least two factors to adequately represent the correlations among measures. How is it possible to compare rating and ranking approaches when they appear to be measuring such different latent content, or at least measuring it in a very different way?

7. Validation Issues--Do Ratings and Rankings Measure the Same Thing?

In this section of the paper we develop a strategy for comparing the latent factors underlying the ranking and rating measures. This strategy is based on a particular conceptualization of the latent variables being measured by rating scales. We develop a way of drawing a contrast between the latent self-direction and conformity factors of the rating scale factor model. Then, we compare the two measurement techniques in terms of their ability to reflect latent variables that can be predicted on the basis of theoretically relevant sources of variation.

The latent variable underlying the set of rankings of child qualities is most profitably thought of as a continuum that distinguishes between the two extremes on a standard of desirability, in this case the contrast between self-direction and conformity. Recall that the latent variable underlying Kohn's (1969) reduced-ranking measure represents such a contrast. It is possible to consider the latent factors underlying the rating data (η_2 - self-direction; η_1 - conformity) in terms of this contrast between self-direction versus conformity values by considering their difference, i.e. the difference between η_2 and η_1 . Such a conceptualization of the contrast between the latent factors of the rating scale data is plausible, and may prove useful if it can also address the confounding of differential bias with the latent concept of self-direction/conformity.

The following model is one that separates the differential bias factor from the self-direction/conformity factor in the rating data:

$$\eta_3 = \beta_{31} \eta_1 + \beta_{32} \eta_2 \quad (1)$$

$$\eta_4 = \beta_{41} \eta_1 - \beta_{42} \eta_2 \quad (2)$$

This model has the properties of a principal component model for two variables, where the variables (η_1 and η_2) are the latent factors underlying the rating scale data. In this model the weighted sum of these two factors, η_3 , represents the differential bias factor--the differential tendency to rate all items more (or less) positively. The weighted difference between the two latent factors, η_4 , represents the contrast between self-direction and conformity. The weights in the above equations, the β 's, are defined by the principal component model. In such a model the weights are chosen such that η_3 and η_4 are unit length, orthogonal combinations of η_1 and η_2 (see Harman, 1967).¹³

Now that we have defined a self-direction/conformity dimension for both the rating and ranking data, it is possible to examine the extent to which the latent variables underlying the two strategies of measurement have similar relationships with theoretically relevant predictors. For this purpose we predict parental values from a set of predictors used in previous studies (Kohn, 1969, 1976; Alwin and Jackson, 1982b). We examine the effects of the following variables on parental self-direction/conformity values: parental occupational prestige, education, income, race and religion.

The measurement of these variables in the 1980 NORC survey is as follows:

1. Respondent's occupational prestige -- measured in the metric of Hodge-Siegel-Rossi scores (Siegel, 1971) assigned to 1970 U.S. Census occupation codes.
2. Respondent's education -- measured as the number of years of formal schooling completed.
3. Family income -- measured as the total family income, from all sources, before taxes in the year preceding the survey. Our analysis assigns the midpoints of twelve income categories using \$100 units.
4. Race -- measured as a binary variable, where a score of "1" is assigned to whites and a score of "0" is assigned to non-whites.
5. Religion-- measured by a set of three categories: Protestants, Catholics, and all others.¹⁴ Our analysis represents these categories with two binary variables (coded "1" vs. "0") for Protestant and Catholic.

Insert Table 4 about here

We estimated the effects of these predictor variables on the latent self-direction/conformity factors underlying the rating and ranking data using linear structural equation (LISREL) models (Jöreskog and Sörbom, 1981). In the case of rankings we follow the same procedures outlined in Alwin and Jackson (1982b) in the estimation of the effects on a single latent factor underlying the Kohn reduced-ranking measures. In the rating data we define

both principal components defined above (η_3 and η_4), but we estimate the effects of the predictor variables on η_4 only.¹⁵

Table 4 presents the standardized structural coefficients for the regression of the latent self-direction/conformity factors on the set of theoretically relevant parental characteristics. Although the pattern of the two sets of results in Table 4 show some similarities, there are some important differences. First, the effects of relevant predictors on the ranking self-direction/conformity factor are on the whole stronger than in the case of the rating factor. This is indicated, not only by the relative magnitudes of individual coefficients, but by the coefficients of determination (R^2) as well. As in previous studies (see Alwin and Jackson, 1982b), these socio-economic predictors account for a substantial percentage of the variance in parental values (44 percent) when ranking methods are used. By contrast, they account for considerably less variance in the parental self-direction/conformity dimension (27 percent) underlying the rating scale data.

Considering the individual coefficients in Table 4, the same general pattern is exhibited for the measures of education, occupational prestige, race and income, although in the case of ratings these latter three variables have non-significant coefficients.¹⁶ The most striking difference between the two sets of results involves the signs of the effects of the binary variables representing religion. Consistent with past studies (see Alwin and Jackson, 1982b) rankings indicate that Protestants and Catholics both value self-direction less than others. Using the

rating data, however, these effects are in the opposite direction, although neither of them is significantly different from zero; and in the case of rankings only the Protestant group is significantly different.

8. Discussion and Conclusions

We began this paper with the observation that methods of ranking tend to be the generally preferred strategy in the measurement of parental values, but that the superiority of rankings over other strategies of measurement has not been established. We also pointed out that previous research comparing rating and ranking methods has not adequately focused on the latent structure of these methods, and that in order to examine issues of validity, further research using appropriate latent variable models is essential. Our purpose has been to address the question of whether ratings and rankings measure the same latent standards of desirability when applied to measures ostensibly having the same content.

We have examined the correspondence between results obtained through rating and ranking approaches within a latent variable framework. Using data on parental values for children from the 1980 General Social Survey, we find that value ratings and rankings produce quite different factor analytic results. However, despite these differences, their measurement of the concept of parental self-direction/conformity values can be specified quite dependably using either method of measurement. In other words, latent variable models that capture the concepts of self-direction and conformity can be fit to the data reasonab-

ly well for either rating or ranking measures. This conclusion, of course, depends on the assumptions involved in our latent variable models and on our conceptualization of the contrast between self-direction and conformity in the rating data.

Despite the fact that we are able to use either ratings or rankings to index latent self-direction/conformity standards, we do find some interesting differences in the predictive validity of the concepts assessed by the two methods. We can account for appreciably more variance in the latent variable underlying the ranked measures than in the case of rating scales. In addition, the rating data produce some unexplainable patterns of effects for religion that are inconsistent with most previous research based on rankings. In general, there may be somewhat more error engendered by the rating process than by ranking procedures.

While ratings and rankings do order preferred qualities in the same way in the aggregate, the covariance structures for the two types of measures are quite different, reflecting fundamental differences in the structure of the latent content assessed. We find some support for the view that ratings and rankings are measuring the same type of content, but rankings appear to be superior in terms of their predictive validity. Based on these results and the weight of the available research literature that has compared ratings and rankings in value measurement, we find it difficult to reject ranking methods in favor of ratings.

It is difficult to generalize from these findings to the measurement of other kinds of value phenomena. One's choice of measurement approach should depend upon theoretical considera-

tions, as much as on knowledge of the properties of various measurement techniques. The problems we have addressed in this paper are closely tied to a well-defined set of theoretical issues, and our analysis informs the choice of measurement strategy only in this context. To the degree that other theoretical problems are similar to those studied here there may be some correspondence between the measurement issues involved. More generally, in the absence of a priori theoretical knowledge about the content one wishes to measure, generalizations about the relative advantages of various measurement strategies are very difficult. We look forward to further research that will bring more theory-based evidence to bear on the relative advantages and disadvantages of these and other approaches to the measurement of values.

Footnotes

1. This concept, the contrast between values for autonomy versus obedience in children, occurs in a number of different sources and is not unique to any one line of research. The sociological studies cited here generally refer to the same dimension of parental values, although the terms used are often different (see Alwin and Jackson, 1982a). In addition, the concept of self-direction figures prominently in the psychological study of motivation, where it is referred to as 'intrinsic motivation' (see Deci and Ryan, 1980).
2. Schuman and Presser asked respondents: While we're talking about children, would you please say what you think is the most important thing for children to learn to prepare them for life? (1981:106). Lenski (1961) is the source of this question.
3. In general this is not viewed as much of a problem by researchers interested in values. Rokeach's (1967, 1973) Value Survey, for example, asks respondents to rank potential values in two lists of eighteen values each.
4. By 'differential bias' we refer to the correlation among measures which is due to their common form of measurement. See Costner (1969) for a discussion of covariation among measures due to 'method' factors.
5. This experiment was designed by the senior author in collaboration with Study Directors of the General Social Surveys and in consultation with its Methodological Advisory Board.
6. The response categories were: "Extremely important," "Very important," "Fairly important," "Not too important," and "Not at all important."
7. Schaeffer's (1982) work can be subjected to some criticism because she did not take into account the linear dependencies among the ranked items. Moreover, she examined 13 separate t-tests (1982:578) when a more general test would be more appropriate. The Hotelling test (see Anderson, 1958) is a generalization of the simple t-test for comparing means across two independent samples. By contrast to the simple t-test, the Hotelling test compares a vector of means across samples. The relevant statistic, T^2 , is distributed as F. Since the set of rankings is ipsative, the sum of the means equals a constant value. This necessitates the deletion of one of the variable means to perform the Hotelling tests in the case of rankings. The particular variable deleted is arbitrary. We applied this test to the data Schaeffer examined and found no difference between Forms X and Y.

8. The sampling details are given in NORC (1982:207-212).
9. See Alwin and Jackson (1982a) and Jackson and Alwin (1980) for a detailed discussion of the common factor model for ranked preferences and how the model was developed.
10. This constraint on the model is sufficient for identification, although there are other means to identifying the model (Jöreskog, 1978; Alwin and Jackson, 1979).
11. We use the notation, L^2 , to refer to the sample estimate of the population likelihood-ratio χ^2 value for the model.
12. This model was estimated using Jöreskog's maximum-likelihood method carried out by the EFAP computer program (Jöreskog and Sörbom, 1976). The estimate of the maximum-likelihood χ^2 value, L^2 , for this model is 86.44 with 25 degrees of freedom. The Bentler-Bonett normed fit index is .908, comparing this model to one that specifies no common factors underlying the measures (see Alwin and Jackson, 1979). Although this does not represent an adequate fit to the data using conventional standards of statistical fit, the addition of factors beyond the two-factor solution did not improve the substantive interpretability of the model. Therefore we accepted the adequacy of the two-factor model primarily on substantive grounds. A model that incorporates correlations among the errors of measurement in the rating data would undoubtedly improve the relative fit to the data (relative to the model's degrees of freedom), but we can find no substantive basis as of yet for positing such inter-correlations, other than that they will improve the fit to the data.
13. The weights for the latent factors in this model are as follows:

$$\beta_{31} = \left[\frac{\sigma_1\sigma_2 + \sigma_{12}}{2\sigma_1\sigma_2} \right]^{-1/2} \quad (1)$$

$$\beta_{32} = \left[\frac{\sigma_1\sigma_2 + \sigma_{12}}{2\sigma_1\sigma_2} \right]^{-1/2} \quad (2)$$

$$\beta_{41} = \left[\frac{\sigma_1\sigma_2 - \sigma_{12}}{2\sigma_1\sigma_2} \right]^{-1/2} \quad (3)$$

$$\beta_{42} = - \left[\frac{\sigma_1\sigma_2 - \sigma_{12}}{2\sigma_1\sigma_2} \right]^{-1/2} \quad (4)$$

14. Based on previous findings (Alwin and Jackson, 1982b) regarding differences among religio-ethnic categories, we combined all categories of non-Protestants and non-Catholics for the present purposes.
15. This is done within the LISREL program by defining the principal components model for η_1 and η_2 in the BETA matrix and constraining the effects of the exogenous predictor variables on η_3 to zero in the GAMMA matrix. The coefficients associated with the prediction of η_4 in the GAMMA matrix are free parameters. The constraints imposed on the measurement model for rankings in the LAMBDA matrix are discussed in detail by Alwin and Jackson (1982b).
16. The significance levels of these coefficients are affected by sample size, and since the methods under comparison here involve different sample sizes, we re-estimated the model for ratings using $n = 655$. In this model the only additional coefficient to reach significance is for income. All other non-significant coefficients remained so in this analysis.

Chart 1: Responses to open-ended questions about preferred qualities of children and content used in rankings of child qualities.

Duval	Schuman & Presser	Kohn	Lenski
<p><u>Traditional Conception:</u></p> <ol style="list-style-type: none"> Keeps neat and clean (is orderly, is clean, keeps self neat) (6) Obeys and respects adults (minds parents, no back talk, respects adults) (1) Pleases adults (has good character traits, is honest, truthful, polite, kind, fair, courteous at all times) (2) Respects property (takes care of his things, is not destructive, hangs up his clothes) (11) Is religious (Goes to Sunday school, loves God, follows Jesus) Works well (studious, goes to school, is reliable, takes responsibilities, is dependable in his work) (8) Fits into the family program (has an interest in his home, does his share, runs errands willingly, helps out at home) (7) <p><u>Developmental Conception:</u></p> <ol style="list-style-type: none"> Is healthy and well (eats and sleeps well, grows a good body, has good habits) (4) Shares and cooperates with others (gets along with people, likes others, is developing socially, tries to help, plays with other children) (3) Is happy and contented (keeps in good humor, is a cheerful child, is happy, is emotionally well-adjusted) (10) 	<ol style="list-style-type: none"> To obey (12) (2.4%) To be honest (2) (7.4%) To be religious (5) (5.4%) To work hard (14) (1.3%) To be responsible (6) (5.2%) To help others when they need help (15) (0.9%) To get along with others (7) To have respect for others (3) (6.7%) To have self-respect (9) (4.1%) 	<p>Neat and clean</p> <p>Obeys</p> <p>Honesty, good manners, is liked by adults*</p> <p>Considerate</p> <p>Good Student, dependable*, responsible, tries hard to succeed</p> <p>Gets along</p> <p>Happy*</p>	<p>To obey</p> <p>To work hard</p> <p>To help others when they need help</p>

Chart 1 (continued)

Duvall	Schuman & Presser	Kohn	Lanski
<p>11. Loves and confides in parents (responds with affection, loves his parents, has confidence in his parents, trusts and confides in them) (9)</p> <p>12. Is eager to learn (shows initiative, asks questions, accepts help, expresses himself, likes to learn) (5)</p> <p>13. Grows as a person (progresses in his ability to handle himself and different situations, enjoys growing up) (12)</p>	<p>14. To love others (13) (2.0%)</p> <p>13. To think for themselves (5) (4.6%)</p> <p>6. To be self-reliant (4) (6.1%)</p> <p>10. To have self-discipline, self-control (10) (3.5%)</p> <p>2. To be well-liked or popular (17) (0.0%)</p> <p>15. To get an education (1) (12.8%)</p> <p>16. To learn a trade or job skill (16) (0.9%)</p>	<p>Affectionate*</p> <p>Curiosity</p> <p>Self-control, Good Sense and sound judgement, able to defend himself*</p> <p>Popular*</p> <p>Acts like a boy/girl should</p> <p>Acts in a serious way*</p> <p>Able to play by himself*</p>	<p>To think for himself or herself</p> <p>To be well-liked or popular</p>

Note: The numbers in parentheses following the Duvall and Schuman and Presser responses refer to their relative popularity in the samples studied by these investigators. For the Schuman and Presser results, the percentage of respondents mentioning each is also reported in parentheses. The asterisks next to some of Kohn's items mark those that he excluded from his closed-ended questions.

Table 1: Descriptive statistics for ratings and rankings of child qualities by experimental condition: NORC General Social Survey, 1980.

Quality	Form			
	Ranking (n=655)		Rating (n=318)	
	Mean reduced-rank score	Percent ranking quality among 3 most important	Mean rating	Percent rating extremely important
Manners	2.05	24.5	3.13	29.6
Tries hard	1.97	17.2	3.05	29.2
Honest	3.12	66.1	3.64	66.0
Neat & Clean	1.48	6.4	2.93	24.8
Good sense	2.46	41.1	3.31	40.3
Self-control	2.01	13.7	3.22	35.5
Role	.84	3.4	2.71	24.8
Gets along	1.96	13.6	2.96	24.2
Obeys	2.38	31.6	3.30	44.7
Responsible	2.35	34.2	3.29	38.1
Considerate	2.21	25.3	3.29	36.8
Interested	1.64	16.9	3.00	27.0
Studious	1.65	5.8	2.88	23.6

Table 2: Parameter estimates for a single-factor model of rankings of child qualities by experimental condition and parental status: NORC General Social Survey, 1980.

Parameter	Form X and Y (n=655)
Factor Loadings	
Manners	-.281
Tries Hard	.086
Honest	-.095
Neat & Clean	-.280
Good Sense	.339
Self-control	.033
Role	-.092
Gets Along	.013
Obeys	-.385
Responsible	.307
Considerate	.097
Interested	.309
Studious	-.051
Factor Variance	1.000 ^a
Disturbance Variances	
Manners	.660
Tries Hard	.705
Honest	.831
Neat & Clean	.673
Good Sense	.799
Self-control	.437
Role	.957
Gets Along	.413
Obeys	.525
Responsible	.529
Considerate	.491
Interested	.955
Studious	.513

$L^2 = 100.750$, $df = 53$, $p = .0001$, $L^2/df = 1.90$

^aFixed parameter.

Table 3: Promax-rotated factor loadings for a two-factor model of ratings of child qualities: 1980 General Social Survey (n=318).

Quality	Factor 1 (η_1)	Factor 2 (η_2)
Manners	.602	.007
Success	.508	.134
Honest	-.051	.545
Clean	.767	-.042
Judgement	-.043	.685
Control	.213	.472
Role	.899	-.224
Amicable	.561	.133
Obey	.583	.057
Responsible	-.123	.815
Considerate	-.093	.699
Interested	.125	.526
Studious	.656	.146

$L^2 = 140.031$, $df = 53$, $p = .000$, $L^2/df = 2.64$

Factor correlation = .678

Table 4: Structural coefficients in standard form for the regression of latent factors representing parental values on parental characteristics:
NORC General Social Survey, 1980.

	X_1	X_2	X_3	X_4	X_5	X_6	R^2
Form X and Form Y Rankings (n=655)	.127*	.499*	.077	.132*	-.164*	-.105	.442
Form Z Ratings (n=318)	.101	.374*	.118	.079	.129	.129	.269

Note: X_1 -Occupational Status; X_2 -Education; X_3 -Income; X_4 -Race; X_5 -
Protestant; X_6 -Catholic.

*Coefficient is greater than twice its standard error.

REFERENCES

Alwin, D.F. and D.J. Jackson

- 1979 "Measurement models for response errors in surveys: Issues and applications." Pp. 68-119 in K.F. Schuessler (ed.), *Sociological Methodology 1980*. San Francisco: Jossey-Bass.
- 1982a "Adult values for children: An application of factor analysis to ranked preference data." Pp. 311-329 in R.M. Hauser, D. Mechanic, A.O. Haller, and T.S. Hauser (Eds.), *Social Structure and Behavior: Essays in Honor of William Hamilton Sewell*. New York: Academic Press.
- 1982b "The statistical analysis of Kohn's measures of parental values." Pp. 197-223 in K. G. Jöreskog and H. Wold (eds.), *Systems Under Indirect Observation: Causality, Structure, and Prediction*. Amsterdam: North-Holland.

Anderson, T.W.

- 1958 *An Introduction to Multivariate Statistical Analysis*. New York: Wiley.

Bem, D.J.

- 1970 *Beliefs, Attitudes, and Human Affairs*. Belmont, Calif.: Brooks/Cole.

Bohrnstedt, G. W., H.E. Freeman and T. Smith

- 1981 "Adult perspectives on children's autonomy." *Public Opinion Quarterly* 45:443-462.

Bronfenbrenner, U.

- 1958 "Socialization and social class through time and space." In E. E. Maccoby, T. M. Newcomb, and E. L. Hartley (eds.) *Readings in Social Psychology*. New York: Henry Holt and Co.
- 1979 *The Ecology of Human Development*. Cambridge, MA: Harvard University Press.

Cattell, R.B.

- 1944 "Psychological measurement: ipsative, normative and interactive." *Psychological Review* 51:292-303.
- 1952 *Factor Analysis*. New York: Harper and Row.

Clemans, W.V.

- 1966 "An analytical and empirical examination of some properties of ipsative measures." Psychometric Monographs 14.

Costner, H.L.

- 1969 "Theory, deduction, and rules of correspondence." American Journal of Sociology 75:245-63.

Cunningham, W. H., Cunningham, I. C. M., and Green, R. T.

- 1977 "The ipsative process to reduce response set bias." Public Opinion Quarterly 41:379-84.

Deci, E.L. and R.M. Ryan

- 1980 "The empirical exploration of intrinsic motivational processes." Pp. 39-80 in L. Berkowitz (ed.), Advances in Experimental Social Psychology, Vol. 13. New York: Academic Press.

Duvall, E. M.

- 1946 "Conceptions of parenthood." American Journal of Sociology 52:193-203.

Feather, N.T.

- 1973 "The measurement of values: effects of different assessment procedures." Australian Journal of Psychology 25:221-31.

- 1975 Values in Education and Society. New York: The Free Press.

Feshbach, N.D. and S. Feshbach

- 1978 The Changing Status of Children: Rights, Roles and Responsibilities. Journal of Social Issues 34.

Gecas, V.

- 1979 "The influence of social class on socialization." In W.R. Burr, R. Hill, F.I. Nye, and I.L. Reiss (Eds.), Contemporary Theories About the Family. New York: The Free Press.

Guilford, J.P.

- 1954 Psychometric Methods. New York: McGraw-Hill.

Harman, H.H.

1967 Modern Factor Analysis. Chicago: University of Chicago.

Horst, P.

1965 Factor Analysis of Data Matrices. New York: Holt, Rinehart and Winston.

Jackson, D.J. and D.F. Alwin

1980 "The factor analysis of ipsative measures." Sociological Methods and Research 9:218-38.

Jöreskog, K.G.

1978 "Structural analysis of covariance and correlation matrices." Psychometrika 43:443-77.

Jöreskog, K.G. and D. Sörbom

1976 EFAP--Exploratory Factor Analysis Program. Chicago: National Educational Resources, Inc.

1981 LISREL--Analysis of Linear Structural Relationships by the Method of Maximum Likelihood. Version V. Chicago: National Educational Resources, Inc.

Kohn, M. L.

1969 Class and Conformity: A Study in Values. Homewood, Ill.: Dorsey.

1976 "Social class and parental values: another confirmation of the relationship." American Sociological Review 41:538-45.

1977 "Reassessment 1977." In Kohn, Class and Conformity: A Study in Values. 2nd edition. Chicago: University of Chicago Press.

1981 "Personality, occupation, and social stratification: A frame of reference." In D. J. Treiman and R. V. Robinson (eds.) Research in Social Stratification and Mobility, Vol. 1. Greenwich, Ct.: JAI Press.

Kohn, M. L. and C. Schooler

1969 "Class, occupation and orientation." American Sociological Review 34:659-78.

1973 "Occupational experience and psychological functioning: an assessment of reciprocal effects." American Sociological Review 38:97-118.

Lenski, G.

1961 The Religious Factor. Garden City, N.Y.: Doubleday.

Lynd, R. and H. Lynd

1929 Middletown: A Study in Contemporary American Culture. New York: Harcourt-Brace.

Miller, D.R. and G.E. Swanson

1958 The Changing American Parent. New York: John Wiley.

Moore, M.

1975 "Rating versus ranking in the Rokeach Value Survey: an Israeli comparison." European Journal of Social Psychology 5:405-08.

Morgan, W.R., D.F. Alwin and L.J. Griffin

1979 "Social origins, parental values, and the transmission of inequality." American Journal of Sociology 85:156-66.

Munson, J.M. and S.H. McIntyre

1979 "Developing practical procedures for the measurement of personal values in cross-cultural marketing." Journal of Marketing Research 16:48-52.

National Opinion Research Center

1982 General Social Surveys, 1972-82: Cumulative Codebook. Chicago: National Opinion Research Center, University of Chicago.

Pearlin, L. I. and M.L. Kohn

1966 "Social class, occupation and parental values: a cross-national study." American Sociological Review 31:466-79.

Rankin, W.L. and J.W. Grube

1980 "A comparison of ranking and rating procedures for value system measurement." European Journal of Social Psychology 10:233-46.

Reynolds, T.J. and J.P. Jolly

1980 "Measuring personal values: an evaluation of alternative methods." Journal of Marketing Research 17:531-36.

Rokeach, M.

- 1967 Value Survey. Sunnyvale, CA: Halgren Tests, 873 Persimmon.
- 1970 Beliefs, Attitudes and Values. San Francisco: Jossey-Bass.
- 1973 The Nature of Human Values. New York: Free Press.
- 1974 "Change and stability in American value systems, 1968-1971." Public Opinion Quarterly 38:222-38.

Rogers, C.M. and L.S. Wrightsman

- 1978 "Attitudes toward children's rights: Nurturance or self-determination?" Journal of Social Issues 34:59-68.

Schaeffer, N.C.

- 1982 "A general social survey experiment in generic words." Public Opinion Quarterly 46:572-81.

Schuman, H. and S. Presser

- 1981 Questions and Answers in Attitude Surveys. New York: Academic Press.

Siegel, P. M.

- 1971 "Prestige in the American occupational structure." Ph.D. dissertation, University of Chicago.

Vinson, D.E., J.M. Munson, and M. Nakanishi

- 1977 "An investigation of the Rokeach Value Survey for consumer research application." In W.O. Perreault (ed.), Advances in Consumer Research. Proceedings of the Association for Consumer Research.

Williams, R.M.

- 1968 "Values." In E. Sills (ed.), International Encyclopedia of the Social Sciences. New York: Macmillan.

Wright, J.D. and S.R. Wright

- 1976 "Social class and parental values for children: A partial replication and extension of the Kohn thesis." American Sociological Review 41:527-37.