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ABSTRACT

The purpose of this study was to develop and assess the psychometric properties of a measure of teacher value systems. Three value systems were defined as values associated with (1) the pursuit of truth, (2) social and interpersonal relations, and (3) authority and its exercise. The scale was taken through three stages of development and field testing. A factor analysis and internal consistency study indicated the independence and reliability of each scale as a measure of a distinct value system. Some construct validity was established through relations of value scale scores to

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This paper describes the theoretical rationale for and empirical verification of a measure of teacher value systems. In designing a measure of values, it was assumed following Rokeach (1968, 1973) that a value is a more basic and abstract element of a cognitive structure than a belief. A value system was defined as a hierarchical ordering of values, attitudes, and beliefs arranged according to relative importance. A major goal of the research was to define and label a number of distinct value clusters which could be used to characterize the centrality of values within a value system. Another goal of the present research was to avoid two common problems in most of the current measures of values: 1) the ipsative nature of many measures of value (e.g. Allport, Vernon, & Lindzey's Study of Values, 1968; Rokeach Value Survey, Rokeach, 1968, 1973; see also Hicks, 1970) and 2) the confusion of measures of interest with measures of value (e.g. Allport, Vernon, & Lindzey's Study of Values; see also Adams and Brown, 1953; Gage, 1955; and Mifflin, 1972).

A value was defined as a stable belief resulting from a judgement that an object is personally and socially desirable as a goal, action, or mode of conduct based on a norm, and entailing both affect toward the object and intentions consistent with the belief (see Mifflin, 1972; Rokeach, 1968, 1973). This way of defining value clearly distinguishes the concept 'value' from the concept of 'attitude' or 'interest'. Values can be distinguished from attitudes along a generality-specificity dimension and in terms of a unidimensional vs. multi-

dimensional construct. Values are broad, single beliefs that guide actions and judgements across a number of specific objects and situations beyond immediate goals to more ultimate end-states-of-existence. In contrast, an attitude is an organization of several beliefs focused on a very specific object or situation predisposing one to respond in some preferential manner toward that object (see Mifflin, 1972; Rokeach, 1968, 1973).

Values also involve more domains of behavior than attitudes. Values, typically, are conceived as involving the cognitive, affective, and conative domains, and thus persons have beliefs about the personal and social desirability of, feelings about, and intentions toward some mode of conduct or end state of existence. Attitudes involve only the cognitive and affective domains (see Fishbein, 1968). 'Value' can also be distinguished from the mere 'prizing' of an object. Often a person who is said to like or want something is said to value it. This sense of 'prizing' is clearly a confusing use of the term 'value'. To speak of value at this level, is to confine the term to use within the affective domain. As defined here, 'value' transends all three domains of behavior.

The definition of value derived for this research and the distinction of value from attitude, interest, and prizing had important implications for how the measure was constructed. Broad value statements without reference to specific objects were used. This methodology was consistent with Rokeach's (1968) Valve Survey. When subjects make judgements about value statements it was concluded they must do more than rate like vs. dislike on a Likert scale because such a procedure might only involve the affective domain. Rokeach's value ranking method which forces subjects to make complex simultaneous, rank order judgements was considered but eliminated because it involves an ipsative technique. It was concluded that an adequate procedure might be to have respondents rate each

value statement on a Likert scale along the dimension of importance as a guiding principle in life.

A goal of the research was to develop a scale which would be particularly relevant to the measurement of teacher values and to the kinds of judgements teachers make in instructional settings. A conceptual analysis of the teaching-learning setting and a review of teacher behavior research (Anastasiow, 1967; Anastasiow & Mifflin, 1971; Getzels & Jackson, 1963; Harvey, White, Prather, & Hoffmeister, 1968; Mifflin, 1972; Sherman, 1970) suggested three classes of teacher activity that seemed relevant for construction of the scale: the exercise of control and power, the forming of interpersonal relationships, and the delivery of knowledge. Thus, values associated with authority and its exercise, interpersonal relationships, and the acquisition of knowledge were taken as the three major value clusters relevant to teacher judgements.

It was hypothesized that the measure would reliably measure a person's adherence to three distinct value clusters labelled: authority value, truth value, and social value. Each value cluster constituted a separate scale on the measure. A second hypothesis was that a factor structure derived from a factor analysis would support the assumption that the measure contained three distinct value clusters as defined. Finally, it was hypothesized that the measure would show a significant relationship to certain subscales of another measure, specifically the FIRO-B (Shutz, 1958) and to certain demographic variables.

The FIRO-B is a self report measure of behavior in social settings. It has scales relating to three domains of interpersonal behavior--inclusion, control, and affection. Inclusion refers to the degree persons desire to join or like to invite others to belong to groups and organizations. This dimension relates to both the desire to belong and to the desire for prestige and status. The

control dimension refers to the degree to which a person wants to control others or wants to be controlled by others. The affection dimension refers to the degree to which persons desire to express and receive warmth, love, and affection. It was hypothesized that the Authority and Social value clusters would be significantly related to the Inclusion scale of the FIRO-B, and that the Social value scale would show a significant relationship to the Affection scale of the FIRO-B. Other empirical tests of the new instrument included relating it to the Marlowe-Crowne Social Desirability Scale and to certain types of demographic data including sex, year in school, church attendance, and family income.

Method

Scale Development

The development of the Authority-Social-Truth Value Cluster Measure (A-S-T Measure) was completed in three stages. Stage one involved the construction of a pool of items which theoretically corresponded to each value cluster. The following definitions were derived describing the Authority, Social, and Truth value scales:

Authority Scale: The authority dominant system values control of and power over others, the following of rules, obedience, and the use of established methods for insuring that persons obey the rules. Value statements emphasize control over others and the importance of following rules for behavior established by family, school, religious, or governmental systems.

Social Scale: The social dominant system values friendship, close interpersonal relationships, and methods for building and maintaining such relationships. Value statements emphasize close contact and warmth among persons, membership in groups, and the building of loving, happy, and close relationships.

Truth Scale: The truth dominant system values reliance on fact and data for decision making, the following of well tested problem solving methods, i.e., the scientific method, reliance on logic and proof, and the process of inquiry for its own sake.

A pool of 450 items was developed (approximately 150 items for each value system) using the above definitions as guidelines. Each item was typed on a 4 x 5 index card. The items, the above definitions, and a definition of the term 'value' were given to ten judges (graduate students and faculty in educational psychology) who were asked to sort independently the 450 items into one of five categories: 1) Authority value, 2) Social value, 3) Truth value, 4) not a value, and 5) value, but not one of the three categories. The initial form of the items was composed of complete declarative sentences of the form, "I believe such-and-such mode of conduct or end state of existence is personally and socially preferable or worth striving for in all situations." Items which received 80% agreement among raters were kept for the sample included in the first field test of the instrument.

Stage two of development involved administering the sample of 109 items remaining from stage one to a sample of 240 subjects enrolled in an undergraduate educational psychology course. The form of the statements remained the same in stage two as in stage one. Subjects were given a form of the scale which asked them to agree or disagree with each value statement on a seven point Likert scale according to how much they believed in each statement.

The 109 item form asking subjects to agree or disagree was factor analyzed using a principle components analysis with varimax rotation to a three factor solution. The three factors could be meaningfully interpreted as Authority, Social, and Truth factors. The three factors accounted for approximately 39%

of the variance with each factor accounting for about 1/3 of that total. The factor analysis data were used to select items for several pilot forms of the instrument. An item that had a factor loading greater than ± .400 on a given factor, but less than ± .150 on the other two factors was retained for these pilot forms. On the basis of the results of item analytic procedures (retaining items with the highest item-scale correlations for the respective scales), 36 items were selected for the final form of the questionnaire. Each of the three value cluster scales thus contained twelve items.

Stage three involved some minor revisions made in the wording of terms derived from the declarative statements of the earlier stages. The final form contained a five-point Likert scale with the items arranged in random order. The directions for the measure were as follows:

> On the next few pages are 36 statements of values. Your task is to rate each value for its importance to you, as a guiding principle in your life. Before rating each value ask yourself the question: "How important is this value to me as a guiding principle in my life."

Subjects were asked to rate each value on a five point Likert scale ranging from "Extremely Important to Me" at one pole to "Extremely Unimportant to Me" at the other pole. The final form of the instrument was constructed so that subjects could respond on an IBM card which would thus facilitate electronic scoring of the responses.

Empirical Verification of the Scale

Subjects: 174 volunteer subjects were recruited from multiple sections of an undergraduate educational psychology course. The majority of people enrolled in this course were planning to obtain teacher certification. The

subject pool was approximately 70% female and consisted of mostly juniors and seniors. Subjects were administered a battery of personality tests including the A-S-T Values Measure in groups of thirty to forty persons during a one hour testing session. An additional 116 subjects took the A-S-T Measure in similar testing sessions during a subsequent semester.[1]

Procedure: Subjects were informed that they would be taking a series of inventories measuring aspects of value, personality, and attitude. A series of scales was then administered in the following order: A-S-T Values Measure, Tennessee Self Concept scale,[2] Marlowe-Crowne Social Desirability scale, FIRO-B, and a personal data inventory. When subjects had completed one instrument, they were given a copy of the next one and were asked to read the instructions carefully before proceeding. Most Ss completed the battery of tests in approximately forty-five minutes.

Results and Discussion

The final versions of the Authority, Social, and Truth values scales are shown in Tables 1, 2, and 3, respectively. The internal consistency reliability estimates (Cronbach alphas) for the three scales were as follows: Authority, .82; Social, .81; and Truth, .78. These reliability estimates seem sufficiently high to state that the scale was reliably measuring each value cluster as defined. The intercorrelations of the three subscales were as follows: Authority with Social, $r = .25$; Authority with Truth, $r = .24$; and Social with Truth, $r = .09$. These are moderately low correlations and suggest that the scales are in fact measuring relatively independent value clusters.

Table IV presents the means and standard deviations for total scores for each subscale. Since there are 12 items on each scale and the most positive rating "Extremely Important to Me" was assigned a scale score of 5, the highest

possible score on any scale was 60. The means for each scale are relatively high indicating that persons tended to view the value statements associated with each cluster as important.

Using the data obtained from the larger subject pool of 290 subjects, a principle components factor analysis was performed followed by a Varimax rotation. A value of 1.0 was used for the diagonal elements. Several factor solutions were employed, and the four factor solution emerged as the most meaningful and interpretable. The four factors combined accounted for 44.9% of the total variance. The factor loadings for each item on each factor are reported in Tables 1, 2, and 3.

The factor structure generally supported the hypothesis that each subscale measured a distinct value cluster as defined. The first factor accounted for 19.3% of the total variance. All of the items designated as social value items (Table 2) loaded .50 or higher on factor one with the exception of item 31. Additionally, these social value items generally loaded .20 or lower on the other three factors (items 16, 27, 28, and 31 were exceptions). The second factor accounting for 11.5% of the total variance corresponds to the truth value cluster (Table 3). The items designated as truth value items loaded .50 or higher on factor two with the exception of items 2, 13, and 36. The items corresponding to the authority value cluster loaded on two factors (III and IV). The third factor seems to be a dimension of authority associated with valuing respect for and obedience to authority. The fourth factor is a dimension of authority associated with valuing prestige, reputation and status. The authority items showed a loading of .50 or greater on one of these two factors with the exception of item four which showed a moderately respectable loading of .38 on factor III. The factor analysis results lend rather strong support to the hypothesis that the

A-S-T Value Cluster scales measure three distinct and internally consistent value clusters, and thus imply the centrality of a set of values for a given person.

The factor analysis results indicate that the scale has factoral validity (a type of construct validity), but further evidence for the construct validity of the scale comes from its demonstrated relation to scales purporting to measure similar traits, and from confirmation of hypotheses associated with certain demographic data. Table 5 shows the correlations of the A-S-T scales with subscales of the FIRO-B and with the Marlowe-Crowne Social Desirability Scale. The low and non-significant correlations of the Authority and Truth scales with the Marlowe-Crowne indicate that these scales are relatively independent of a person's tendencies to respond in socially desirable ways. The low significant relationship with the social scale supplies some evidence of construct validity for the Social values scale in that it would be expected that persons holding social values would tend to respond in socially desirable ways more than persons low on social values.

The correlations of the various scales with subscales of the FIRO-B provide supportive construct validity data. As expected, the Social values scale showed a significant relationship to the Affection scales of the FIRO-B, and both the Social and Authority scales showed a positive relationship to the Inclusion scale. Additionally, the Authority values scale showed an expected relationship to the expressed Control scale. The Truth scale, as expected, did not show any strong relationships to the FIRO-B scales. The significant relationships between scales of the FIRO-B, a self report measure of behavior, and the scales of the A-S-T provide support for the hypothesis that responses to the generalized value statements are related to more specific behavioral reports.

Some interesting relationships were obtained between the A-S-T and certain demographic data. The correlations in Table 6 indicate that year in college is negatively related to social values, while positively related to truth values. Thus, data for this sample suggest that there may be a shift from social values to truth values as students proceed through college and begin to internalize the truth values generally associated with more advanced education. As expected, church attendance was positively related to authority and social values, but not to truth values. A small, but significant and expected, sex difference was also obtained. Females were significantly higher than males on social values ($t = 1.79$, $p < .05$, one tailed test).

Summary

The A-S-T measure has received relatively strong support as a measure of three distinct value clusters. That is, this study has shown that persons can be distinguished in terms of value system centrality on the basis of scores on the scales of this measure. The internal consistency estimates were high, and the factor analysis showed four factors which were interpretable within the context of the three defined scales. Additionally, the scales correlated in expected ways with measures of similar constructs. Thus, the scale does seem to provide a way to normatively measure value clusters hypothesized to characterize dominance of a teacher's value system.

Future research needs to focus on whether or not the value clusters as measured here serve as a superordinate organizing theme for a person's cognitive system. The nature of the affective and conative components of the value construct as measured here also needs further investigation. It should be noted that a major construct validity study including a multitrait-multimethod analysis of the scale is currently being completed by the second author of this paper.

To date, values have received little attention in the educational literature with most instruments designed to measure attitudes or beliefs. Definitions and indices of teacher value systems have not been obtained in the past. Moreover, teacher value systems are theoretically related to such important aspects of a classroom as the expectational climate, the managerial sys[illegible] teacher's criteria for good behavior and subsequent rewards and punishments, and the standards children use in assessing their own self concepts. If a value system is the organizing theme for a teacher's cognitive-evaluation system, it seems important that this value system be reliably and validly measured.

Footnotes

[1]This additional set of subjects was pooled with the earlier A-S-T data only for the purpose of the factor analysis.

[2]Data obtained from the Tennessee self concept scale is not reported as part of this study.

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Table 1

Authority Values Scale

Item	Factor Loadings			
	Factor I Social	Factor II Truth	Factor III Authority 1	Factor IV Authority 2
1. Being in control	-.29	.24	.20	.13
4. Being courteous and well mannered	.44	.00	.38	.24
5. Prestige (reputation, status)	-.16	.12	.31	.65
8. Showing allegiance to one's country	.07	.01	.63	.16
12. Being an obedient student	.12	-.01	.78	.14
14. Being an influential person (ability to sway others)	-.10	.29	-.06	.61
17. Having the respect of others	.24	.07	.25	.55
19. Being obedient (dutiful, respectful)	.19	.01	.77	.21
20. Having social recognition (admiration & commendation from others)	.04	.09	.26	.69
25. Showing respect for parents	.23	.01	.54	.01
29. Being a compliant person (agreeability with & conforming to rules & regulations)	.21	.07	.77	-.03
34. Strict discipline	.00	.25	.62	.10

Table 2

Social Values Scale

Item	Factor Loadings			
	Factor I Social	Factor II Truth	Factor III Authority 1	Factor IV Authority 2
3. Helping others less fortunate than oneself	.60	.12	.07	-.18
6. Considerateness (caring about other's feelings)	.64	.05	.05	.06
9. Getting along well with all kinds of people	.54	.06	.16	.20
10. Sharing myself with others	.68	-.08	.06	.08
11. Helping others feel secure	.67	-.04	.11	.03
16. Giving and receiving love	.57	-.02	-.08	.37
22. Kindness (tenderness and gentleness towards others)	.72	.07	.08	.14
23. Unselfishness (caring for interests & welfare of others more than one's own)	.64	.07	.20	-.14
26. Working for the welfare of others	.65	.17	.11	-.26
28. Helping another achieve his own goals	.57	.28	.18	.12
31. Loyalty to friends (care & devotion to close companions)	.44	-.02	.15	.27
33. Being sympathetic toward others	.69	.13	.02	-.06

Table 3

Truth Values Scale

Item	Factor Loadings			
	Factor I Social	Factor II Truth	Factor III Authority 1	Factor IV Authority 2
2. Independence of thought	-.02	.28	-.38	.09
7. Pursuing the logical explanation	-.07	.57	.12	.20
13. Self knowledge (understanding of one's own abilities & needs)	.12	.36	-.12	.23
15. Having wisdom	.14	.60	-.01	.29
18. Being a logical person	.01	.59	.29	.31
21. Rationality (well thought out reasons for action)	.03	.58	.15	.14
24. Developing a strong intellectual curiosity	.12	.73	-.05	-.17
27. Ability to reason	.14	.67	.00	.08
30. Being intelligent and reflective	.13	.65	.11	.16
32. Scientific knowledge (explanation of the physical & social world)	-.07	.71	-.07	-.16
35. Striving for new knowledge about the world	.03	.66	-.10	-.15
36. Intellectual achievement (accomplishing academic goals)	.05	.34	.27	.24

Table 4

Descriptive Statistics for Authority, Social,

and Truth Value Scales

Scale	Mean	Standard Deviation
Authority	44.7	5.6
Social	51.0	4.2
Truth	47.8	4.5

Table 5

Relation of A-S-T Scale to Marlowe-Crowne and FIRO-B

Concurrent Measure	Values Scale: Authority	Social	Truth
FIRO-B			
Expressed Inclusion	.33*	.35*	.11
Wanted Inclusion	.30*	.22*	.01
Expressed Control	.24*	-.08	.08
Wanted Control	-.06	.13	-.16
Expressed Affection	.15	.32*	-.01
Wanted Affection	.08	.34*	.05
Marlowe-Crowne			
Social Desirability	.03	.22*	.05

*p < .05 two tailed test

Table 6

Relation of A-S-T Scale

to Demographic Data

	Values Scale		
	Authority	Social	Truth
Year in College	-.06	-.17*	.23*
Birth Order	.03	.00	.00
No. of Siblings	-.07	-.01	-.03
Family Income	-.08	.06	-.06
Grade Point Average	-.04	.00	.09
Church Attendance	.27*	.23*	.07

*p < .05