

A SCALE FOR MEASURING ADOLESCENTS' ATTITUDES TO SCHOOL

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A scale for measuring adolescents' attitudes to school was constructed and shown to be satisfactory with regards to internal consistency and reliability. Students' attitudes measured on the scale were shown to be significantly correlated with how far they felt they would like to go in their education and with the level of education they believed they were able and motivated to achieve.

An attitude to school scale was constructed as part of a study concerned with adolescents' educational aspirations and expectations. Existing instruments (e.g. Fitt, 1956), of which there are relatively few, were deemed inadequate for the purpose of the study because of their antiquity, the limitations imposed by their format, the purpose for which they were designed, and because of doubts about the application of scales developed outside New Zealand to local circumstances.

PROCEDURE

Items

Initially questions and statements that seemed to reflect attitude towards school were collected in informal discussions with teachers, students, and school counsellors. About forty statements were assembled. In addition, items from previous scales that had been designed for a group similar in age to that under study were brought together, and the most discriminating or highly correlating items for each scale were identified (Buxton, 1966; Entwistle, 1968; Fitt, 1956; Morton-Williams and Finch, 1968). In this way, items that had been shown to be particularly relevant to this attitude dimension were collected. It was found that the resulting pool of items could be classified into statements regarding the usefulness of school and school attendance, statements about the student's approach to his work, and less specific ideas concerning the value attached to sports as opposed to school work, the way in which the student thinks others interpret his behaviour in school, and statements concerning teachers. All items were assembled under these headings. Repetitious statements and those that were likely to be responded to in one way by all respondents were deleted.

Finally, there was a selection of fifteen statements which seemed to cover most of the issues identified in the research, by teachers, students and counsellors, as relevant to an 'attitude to school' dimension. These statements were worded to give eight positive and seven negative items which were then randomly arranged to help avoid a structured response bias (Good and Hatt, 1952). They were also written to fit the response

categories modified from those used by Buxton (1966). Likert-type questions allow the respondent to note the intensity of his feelings towards a certain statement. It is recognised that there may be problems of social desirability with such questions although Buxton (1966), when comparing a forced-choice and Likert-type test of motivation to academic achievement, found that both techniques were equally valid as judged by their correlations with teacher ratings and with the stream of the pupil.

The items were:

1. I feel happy at school.
2. Sports are more important to me than school work.
3. I do not care much about my marks.
4. I think that school is rather a waste of time.
5. I work hard most of the time.
6. I think it is important to do well in school.
7. I set standards for myself and try to achieve them.
8. If I had my way I would never come to school.
9. I am glad when school is over.
10. I enjoy working out difficult problems.
11. The teachers think I misbehave too much.
12. I think most of what we are taught at school is useful.
13. I think teachers tend to forget we are growing up and treat us like kids.
14. I try hard to master things I don't understand.
15. My friends think that I never take school work seriously.

The response categories were: Very true of me; Often true of me; Can't say; No feeling one way or another; Often untrue of me; Very untrue of me.

Sample

The items were administered to all students in the fourth and fifth forms of a college located in a predominantly middle class suburb 10 miles north of Wellington. A total of 158 boys and 134 girls from the fourth form and 154 and 126 fifth form boys and girls respectively took part in the study.

Analysis

Analysis involved both item analysis and factor analysis techniques. Responses were scored 1 to 5. The sigma scoring technique which meets the assumptions of equality between similar responses to all items, and of equal distance between response units within items, has been shown not to modify the scores obtained by the arbitrary method to any significant degree (Good and Hatt, 1952). Adding response scores on component items implies that each item is an aspect of a common dimension. One approach to this problem is an item analysis technique that yields a co-efficient termed the 'discriminative power' of the item (Good and Hatt, 1952, p. 274-276). This discriminative index is a ratio of the weighted means of an item derived from subjects scoring in the upper and lower quartiles of the scale.

A further analysis of the scale involved the calculation of inter-item tetrachoric correlations (Carroll, 1961), which were then factor analysed by the principal factor method (Kinniburgh, 1968). Only those factors with eigen values greater than unity were considered.

Reliability was assessed using coefficient alpha (Magnusson, 1966). An indication of the scale validity was obtained from a multiple criterion approach to construct validity (Scott, 1968). To this end, scores on the scale were correlated with a number of theoretically relevant variables, measures of which were obtained from a questionnaire completed by the students. An IQ test was also administered and a measure of school achievement obtained. The variables and their operational definitions were as follows:

1. Educational aspiration. Precoded response to the question "What you hope you will do?" Responses were seen as probably reflecting a general value orientation with regards to education and as involving a degree of wishful thinking.
2. Educational expectation. The student was asked "What do you believe you will really do?" Responses provided a measure of the level of education students felt they were motivated or able to achieve.
3. IQ. Students completed Otis tests (Otis, 1950).
4. School achievement. Score on mid-year school examination in English.
5. Social class. The Elley and Irving (1972) socio-economic index was used to rate father's occupation and provide an indicator of social class background.
6. Perceived parental expectation. Students were asked how far they believed their parents expected them to go in their formal education.
7. Home environment. A composite assessment of some qualitative features of the home environment involved information on parental reading habits, cultural pursuits and aspects of parent-adolescent interaction.
8. Number of significant others perceived as valuing education. A list of nine significant others most likely to be involved in student's primary groups was provided and respondents asked to indicate "those people who appear to you to believe that education is very important". This gave a measure of the educational value climate of the subject's immediate social environment (see Kemper, 1968).
9. Stream. Rank ordering of the 12 fourth form and 11 fifth form classes was provided by the school.

Data from the four groups were analysed separately. As regards sex, there is evidence that boys and girls differ in their response to, and experience of, college (Turner, 1964; Almquist and Angrist, 1971). The two form levels were treated separately because of the difference in age grouping they represent and because pressures at the fifth form level relating to school leaving and School Certificate examinations are substantially different from those evident at form four.

RESULTS

Good and Hatt (1952) recommended that items should have a discriminative index of at least 1.00. For all items, the mean coefficient was greater than 1.00. (Tables of discrimination indices and the inter-item correlations are available from the author.) The results of a factor analysis of inter-item correlations showed that in each group a first principal factor accounted for around 40 percent of the total variance, while there was a substantial drop to the variance accounted for by the second factors. All items had high loadings on the first factor except for item thirteen for the two groups of boys. To allow comparability between groups, item thirteen was dropped from all groups, and the fourteen item scales factor analysed. In all cases the variance accounted for by the first factor increased slightly. Results of this factor analysis are available from the author. Scott (1968) recommended that all items to be summed should load above 0.30 on a factor. This criterion was

met. Vernon (1950) claimed that a first factor accounting for four times the variance explained by the second factor is evidence of unidimensionality. The scale met this criterion with fourth form boys and approached it with fifth form boys. The scale did not meet this criterion for the two groups of girls. However, no clear or consistent second factors are evident for girls. In all groups there was a large general factor on which all items had substantial loadings.

The reliability of the scales was assessed by alpha coefficients which were as follows:

	Boys	Girls
Form 4	.911	.898
Form 5	.886	.868

The removal of item thirteen had resulted in a slight increase in the reliability of the scale for the two groups of boys, but had little effect on the alpha coefficient of the scale for the girls. For all four groups these reliabilities are good for an attitude measure of this kind (Shaw and Wright, 1967, p. 570).

On the basis of the foregoing analysis it was decided that the items could be treated as a summative scale, and so item scores were added to give a measure of attitude to school.

Correlations of scores on the attitude scale with a number of theoretically relevant variables are presented in Table 1. The correla-

TABLE 1
Correlations of scores on the Attitude Scale with Selected Variables

Variable	Fourth Form		Fifth Form	
	Boys	Girls	Boys	Girls
1. Educational aspiration	.29**	.37**	.23**	.34**
2. Educational expectation	.38**	.37**	.30**	.31**
3. I.Q.	.16	.13	.07	.11
4. Achievement	.20*	.34**	.21*	.16
5. Social class	.19*	.06	.13	.15
6. Perceived parental expectation	.43**	.34**	.24**	.29**
7. Home environment	.61**	.40**	.41**	.35**
8. Significant others valuing education	.28**	.27**	.10	.38**
9. Stream	.29**	.09	.22*	.18

* $p < .05$

** $p < .01$

tions with educational aspiration and expectation were moderate and consistent across the four groups. There was a low correlation with school achievement which was not significant for fifth form girls, while IQ would appear to be unrelated to the scale in this sample. Stream had a low but significant correlation with attitude to school for both groups of boys but not for girls.

Considering the variables that relate to student home background and social environment, it is evident that social class was not related to the attitude measure in this sample. However, home environment had

a modest correlation with scores on the scale that was consistent across all groups, while perceived parental expectation was also related to these students' attitudes towards school. With the exception of fifth form boys the number of people the student knew whom he believed valued education showed a significant correlation with attitude to school.

DISCUSSION

For the present sample the fourteen item scale was satisfactory with regards to internal consistency and reliability. The student's attitude to school as measured by the scale was shown to be significantly correlated with how far he or she felt they would like to go in their education and the level of education they felt able and motivated to achieve. IQ and social class background did not relate to scores on the scale, while present school achievement had a low but significant correlation for three of the four groups, and stream had a low significant correlation for boys but not for girls. The level of education the student believed his parents expected him to achieve, aspects of the home environment, and the value climate of the student's immediate social networks were all correlated significantly with scores on the attitude scale. These findings suggest that the scale has reasonable construct validity. The results also suggest that the attitude measured here may be influenced by factors in the student's social environment, and that such formative factors are of greater relevance than student academic ability or achievement.

The correlations of scores on this scale with achievement are low, and with educational aspiration and expectation, less than 10 percent of variance is accounted for. Clearly factors other than a general measure of attitude to school are necessary to explain student's academic motivation.

The scale allows a reliable ranking of students on the dimension of attitude to school. Behavioural validity of the scale was not examined in the present study and further research might consider this problem. While the ultimate criterion for an alleged measure of an attitude may be seen as the person's behaviour in regard to the focal object (Scott, 1968), and while observation of responses to an attitude object may avoid many of the weaknesses inherent in verbal self-description, behavioural observation essentially provides another basis for inferring a subject's attitude. Rather than speaking of validating a self report measure by comparing its results with behaviour, it is probably more accurate to see such a comparison in terms of a convergence of measures based upon different samples of respondent behaviour (Summers, 1970, p. 432).

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