A study investigated the relationship of traits measured by the California F Scale (a measure of anti-democratic attitudes) with changes in attitudes as measured by the Minnesota Teacher Attitude Inventory (MTAI) during a one-semester course of educational psychology. A 2 x 2 factorial design was used, classifying 132 sophomore education students into 4 groups depending on their placement in the upper or lower half of the distribution of the MTAI and F scale scores. Analysis of MTAI posttest scores adjusted for MTAI pretest and College Qualification Test verbal scores supported the major hypothesis: that students who have relatively high F scores will show less positive change in attitudes on the MTAI than students who have relatively low F scores. But minor hypotheses were not supported: there were no differences in MTAI gains between students in the upper and lower half of the distribution of MTAI scores, and there was no interaction between the two factors, pre-MTAI and F score.

It may be concluded that greater improvement in attitudes toward teacher and pupil relations may be expected of more critical and independent students (the naysayers expressing democratic attitudes) than may be expected of students characterized as yeasayers and/or as holding authoritarian attitudes. Included is an 8-item bibliography.
Changes in Pupil-Teacher Attitudes:
Yeasayers vs. Naysayers

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Significant changes in Minnesota Teacher Attitude Inventory (MTAI) scores over time have been reported for both control and experimental subjects by numerous investigators (Callis, 1950; Day, 1959). In general, scores tend to increase during teacher preparation and to decrease during the early teaching experience. The purpose of this study was to investigate the relationship of traits measured by the California F scale with changes in attitudes as measured by MTAI during a one-semester course of educational psychology. The major hypothesis is that students who have relatively high F scores will show less positive change in attitudes on the MTAI than students who have relatively low F scores. Two minor hypotheses state 1) that students with initially poor attitudes as measured by MTAI will show greater gains than those with initially high MTAI scores; and 2) that there will be an effect of the interaction of F and initial MTAI scores.

Instruments

The MTAI (Cook, Leeds, and Callis, 1951) is a self-report instrument for measuring the attitudes of teacher toward pupils and pupil-teacher relationships. A subject is requested to indicate whether he strongly agrees, agrees, is undecided, disagrees or strongly disagrees with each of the 150 items. There are three response weights +1, 0, and -1. The items were keyed on the basis of empirical evidence of teachers' ability to establish and maintain rapport in the classroom.
In scoring the MTAI, as many as three response categories may be scored correct or incorrect. A high score indicates, at least on face and concurrent validity, that one has the necessary attitudes to establish and maintain harmonious relations in the classroom. It has also been demonstrated, however, that response set has an influence on the score. A person with a response set to strongly disagree enhances his score on the MTAI. The response set, however, should operate on both administrations of the test in this study and should not have an effect on the changes that occurred.

The F scale (Adorno, et al., 1950) is also a self-report technique and was designed for the measurement of anti-democratic attitudes. Individuals express their opinion on a six-point scale from Strongly Disagree (-3) to Strongly Agree (+3). The scoring of the F scale is in a unilateral direction and hence a person with a response set to agree would tend to get a high score indicating anti-democratic attitudes. Validation of the F scale (Bass, 1955; Christie, Havel, and Seidenberg, 1958) indicates, however, that scores were a function of the response set of the individual and that the content of the belief items were relatively unimportant suggesting the F scale as a measure of acquiescence.

A study by Couch and Keniston (1960) hypothesized that a 'response set is a manifestation of a deep-seated personality syndrome.' Their study indicated that "yeasayers" are "enthusiastic, colloquial, and given to extreme opinions" while "naysayers" are "guarded, qualified and somewhat negative in their intellectual orientation." Couch and Keniston suggest that "these differences in verbal style and intellectual approach contribute to the opposite patterns of the extraverted,
fun-loving, emotional yeasayer and the introverted, serious minded and rational naysayer.'

It is suggested by Christie and others (1958) that the high scorers are a mixed group, with some having a consistent set of authoritarian attitudes and others having a tendency to agree with nearly every assertion.

Subjects and Procedures

The subjects of the present study were 192 students in their sophomore year who were enrolled in educational psychology, their first professional education course. The students were in eight sections (approximately 30 students per section) taught by one of three instructors. The organizational structure of the course called for one lecture session followed by two sessions of class discussion per week. Students were also required to make two types of observations and reports: observation of children in public school classrooms, and observation of an individual school-age child over a period of time.

On the first day of class both the PTAI and F scale were administered to the students. The MTAI was again administered on the last day of class. A pre- and post-administration of the MTAI is a common practice for the educational psychology course and students are assured that scores on the MTAI in no way affect their grades.

The subjects were classified on the basis of two factors, each with two levels, into one of four groups. The factors were pre-MTAI scores and F scale scores. The two levels for each of the factors corresponded to the upper and lower halves of the distributions on the F scale and pre-MTAI. The median score on the F was 82 and one the pre-MTAI, 29. Students whose scores were at the median were randomly
assigned to the upper or lower half of the respective distribution. In order to obtain equal cell frequencies, subjects were randomly eliminated from each of two larger cells until each of the four cells contained 33 subjects.

Analysis and Discussion

The hypotheses were that: (1) students who expressed non-authoritarian attitudes (i.e., low F scores) would show greater gains on the MTAI than students with high F scores; (2) students who expressed unfavorable attitudes as measured by the TAI would show greater TAI score gains than students who initially scored high on the MTAI; and (3) students who evidenced poor attitudes (i.e., low MTAI scores) and did not have greater authoritarian attitudes (i.e., had low F scores) would show greater MTAI gains than would be expected from the two factors acting separately.

The data were analyzed by two-way analysis of covariance (Kendall, 1948, pp. 237-243). The two independent variables were pre-MTAI scores and Verbal scores on the CQT, used for the purpose of controlling initial attitude and intelligence. A .01 level of significance test indicated a statistically significant difference in adjusted post-MTAI scores between the two levels of the California F scale. Thus when adjustments are made for differences in pre-MTAI scores and verbal scores on the CQT, students who have low scores make significantly greater gains on the MTAI than students who obtain high scores on the California F scale. The adjusted criterion means are shown in Table 1. The statistical hypotheses of (1) no difference between initial levels of pre-MTAI scores, and (2) no interaction between factors were accepted.

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Insert Table 1 about here
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The data indicate that beginning students in professional education who have low F scores are more amenable to positive changes in attitudes as measured by MTAI than those who have high F scores. Students with low F scores may be characterized as independent and critical, while students with high F scores may be said to have a tendency to agree with any assertion or to hold anti-democratic attitudes. If we may assume that changes in MTAI scores reflect changes in students' attitudes, we may conclude that greater improvement in attitudes may be expected of more critical and independent students than may be expected of students who are anti-democratic or who tend to agree with any assertion.

Summary

This study was designed to investigate changes that occurred in students' attitudes of pupil-teacher relationships among high and low scorers on the California F scale. The subjects were 132 students that were enrolled in their first professional education course, educational psychology, which was characterized by a high degree of classroom discussion. The subjects were classified into four groups depending on their placement in the upper or lower half of the distribution of the MTAI score and the F scale scores. Because of the desirability of equal cell frequencies for purposes of analysis, subjects were randomly eliminated from the original group of 192 students tested until each of the four cells contained 33 subjects.

The findings from an analysis of covariance indicated that when adjustments were made for pre-MTAI scores and intelligence, there were no differences in MTAI gains between students in the upper and lower half of the distribution of pre-MTAI scores; and there was no interaction between the two factors, pre-MTAI score and F score. There was, however,
a significant difference between high and low scorers on the F scale in changes of pupil-teacher attitudes with the students with low F scores making greater MTAI gains than those with high F scores. Students who may be characterized as yeasayers and/or as holding authoritarian attitudes are not apt to show as much improvement in attitudes toward teacher-pupil relations as students characterized as independent, critical, and expressing democratic attitudes.
Table 1

Unadjusted and Adjusted Pre-, Post MTAI and Gain Scores

<table>
<thead>
<tr>
<th>Group</th>
<th>Unadjusted MTAI</th>
<th></th>
<th>Adjusted MTAI</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Gain</td>
<td>Pre</td>
</tr>
<tr>
<td>High F: High Pre-MTAI</td>
<td>49</td>
<td>65</td>
<td>+16</td>
<td>28</td>
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<tr>
<td>Low Pre-MTAI</td>
<td>6</td>
<td>27</td>
<td>+21</td>
<td>28</td>
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<tr>
<td>Total for High F</td>
<td>28</td>
<td>46</td>
<td>+18</td>
<td>28</td>
</tr>
<tr>
<td>Low F: High Pre-MTAI</td>
<td>53</td>
<td>76</td>
<td>+23</td>
<td>28</td>
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<tr>
<td>Low Pre-MTAI</td>
<td>7</td>
<td>42</td>
<td>+35</td>
<td>28</td>
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<tr>
<td>Total for Low F</td>
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<td>59</td>
<td>+29</td>
<td>28</td>
</tr>
<tr>
<td>Total overall</td>
<td>28</td>
<td>53</td>
<td>+25</td>
<td>28</td>
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References


