CONFORMITY AS A FUNCTION OF PERCEIVED LOCUS OF CONTROL, 
REFERENCE VALUE OF THE PROMULGATING GROUP, 
AND NATURE OF THE PROMULGATED MATERIAL 

A thesis submitted in partial satisfaction of the requirements for the degree of Master of Arts in 

Psychology 

by 

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PREFACE

I wish to thank the members of my thesis committee, Dr. Alice Hawkins-Notestine, Dr. Richard F. Docter, and my committee chairman, Dr. Benjamin Mehlman. As teachers and advisers, their contributions are immeasurable.

James Steven Simon
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ABSTRACT

CONFORMITY AS A FUNCTION OF PERCEIVED LOCUS OF CONTROL,
REFERENCE VALUE OF THE PROMULGATING GROUP,
AND NATURE OF THE PROMULGATED MATERIAL

by

James Steven Simon

Master of Arts in Psychology

The present study is concerned with the relationship between Riesman's (1950) concept of inner-directed and other-directed personality types, as reflected in differing susceptibility to conformity pressure, and Rotter's (1966) concept of internal and external locus of control. Also studied for effect on conformity as well as interaction with the locus of control variable were the factors of influence source, whether college students or campus-area homeowners, and type of material presented, whether matters of fact, opinion, or personal taste.

A three-factor mixed design was employed, with repeated measures on the material factor. Sixty female subjects enrolled in introductory psychology classes at California
State University, Northridge, were classified either as internals or externals based on their scores on the Rotter Internal-External Locus of Control Scale (1966). Subjects in a "student" group were administered a 30-item, true-false, "opinion survey" which contained the bogus preferences of "students" who, ostensibly, had taken the same survey on a previous occasion. Subjects in a "homeowner" group were administered an identical survey except that the bogus preferences were this time attributed to homeowners rather than students. A control group was administered the same survey without the bogus preferences. The 30-item survey actually consisted of three 10-item "sub-surveys" containing items of fact, opinion, and taste, respectively, which were scored for conformity to the bogus preferences.

Scores on the three sub-surveys were standardized and a three-way analysis of variance was performed. A significant groups by perceived locus of control interaction was found with the student and homeowner groups only, $F(1, 36) = 6.2046, p < .05$, indicating that internals were more influenced by homeowners and externals were more influenced by students. A significant main effect of the material factor was found, $F(2, 72) = 9.2676, p < .001$, with subjects conforming most to matters of fact, less to matters of opinion, and least to matters of taste. A significant material by perceived locus of control interaction was found with fact and opinion, $F(1, 54) = 5.3095, p < .05$, indicating that internals conformed more to matters of fact.
than opinion while externals conformed equally to both.

It was concluded that internals look to established authority for guidance and direction while externals identify more with their own peers. Inner-directed and other-directed types, therefore, differ not so much in whether or not to conform as in their preference as to which group to conform to. Rotter's scale appears to discriminate successfully between these two types. Externals, by reacting against the views of homeowners, responded negatively toward this group. Both internals and externals, by similarly reacting against the advocated position on matters of personal taste, seemed to be asserting their independence in regard to such matters. Internals appeared more willing than externals to accept authority on matters of fact but maintained greater independence on matters of opinion.
Introduction

Riesman (1950) has observed that, in a period of incipient population decline, a distinctive social character or personality type begins to emerge. Riesman uses the term "other-directed" to describe this emerging personality type. The other-directed personality looks to his contemporary peers for guidance and direction. By paying close attention to the wishes and actions of others, a close behavioral conformity results among personalities of this type.

Following Riesman, the other-directed personality is gradually replacing the "inner-directed" personality which predominated during a phase of transitional population growth in American history. The inner-directed personality is less dependent on his contemporary peers for guidance. Rather, the source of direction for this personality type is instilled early in life by elders. The inner-directed adult, therefore, appears to function with greater autonomy than the other-directed individual.

There appears to be ample empirical evidence for the existence of inner-directed and other-directed personality types. Asch (1956) and Crutchfield (1955) have dramatically demonstrated the degree to which individuals will conform to the behavior exhibited by a group. Milgram (1963) has demonstrated the startling degree to which people will conform to the demands of a single individual. None of the
studies cited, however, have reported a 100% rate of compliance among their respective subjects. Although the reader is impressed by the proportion of subjects who complied with the perceived wishes of the group or the experimenter, in each study there were those who steadfastly refused to do so. Those who chose to conform in the above studies may be characterized as other-directed, insofar as their behavior was clearly directed by others. Those who chose not to conform may be characterized as inner-directed.

Rotter (1966) and Lefcourt (1966) have called attention to the factor of whether or not an individual believes he possesses control over the important events in his life. When events are generally interpreted as due to luck, chance, fate, or the control of powerful others, Rotter has termed this a belief in an external locus of control. When events are generally interpreted as due to one's own behavior, this is a belief in an internal locus of control. Rotter designed a scale to measure the degree to which an individual perceives important events in his life as products of internal or external forces.

There appears a similarity between Rotter's concept of external control and Riesman's other-directed type. Likewise, Rotter's dimension of internal control seems to correspond to Riesman's inner-directed type. There is, however, a major distinction between the two points of view. Rotter emphasizes the individual's perception of the degree to which he controls important events in his life,
whereas Riesman emphasizes a distinction in the actual locus of control: whether internal standards or external social pressures. A review of the items comprising Rotter's scale provides strong evidence for the phenomenological nature of his internal/external dimension. Rotter himself makes the distinction between his own and Riesman's views quite clear:

Riesman has been concerned with whether the individual is controlled from within or from without. We are concerned, however, not with this variable at all but only with the question of whether or not an individual believes that his own behavior, skills, or internal dispositions determine what reinforcements he receives. (Rotter, 1966, p. 4)

Questions arise as to what relationship, if any, there may be between Riesman's objective formulations and Rotter's phenomenological concepts. Perhaps Riesman's inner-directed type correctly perceives an internal locus of control. Similarly, Riesman's other-directed type may correctly perceive an external locus of control. It is unclear whether the perception of an internal or external locus of control, as measured by Rotter's scale, actually corresponds to the empirically differing behavior which would be expected of the inner-directed and the other-directed individual, such as the conforming and non-conforming behavior exhibited in the Asch, Crutchfield, and Milgram studies cited earlier.

Several studies assessing the relationship between perceived locus of control and conforming or non-conforming
behavior have been reported. Odell (1959) found a significant correlation between perceived locus of control and Barron's Independence of Judgement Scale (Barron, 1953) with externals having the greater tendency to conform. Biondo and MacDonald (1971), Crowne and Liverant (1963), Hjelle (1970), and Ritchie and Phares (1969) all report that externals are more conforming than internals under overt influence conditions. On the other hand, Crowne and Liverant (1963) found no difference between internals and externals in the usual Asch situation. When subjects in the Asch situation were allowed to bet on their judgements, however, externals yielded significantly more than internals.

Ryckman and Rodda (1972) employed a modified Crutchfield situation to investigate conformity and perceived locus of control. Among women subjects, externals conformed more than internals. Among men, internals conformed more than externals. The authors suggest that internal men conformed more than external men due to the internals' greater concern for meeting the task requirements. The authors propose that the women were not so concerned with task performance, thereby explaining the differential behavior of the women subjects.

Strickland (1962) and Getter (1966) investigated perceived locus of control and conditionability within a verbal conditioning paradigm. Strickland found no overall relationship between conditionability and perceived locus
of control. However, among those subjects, on the basis of post-experimental interviews, found to be aware of the reinforcement contingency, those who did not condition were significantly more internal than those who did. Getter found that subjects who responded more frequently during extinction trials than during acquisition trials were significantly more internal than those who did not show such increases and those who conditioned during training.

Gore (1962) investigated the relationship between perceived locus of control and conforming behavior under conditions of overt influence and subtle influence. Gore presented TAT cards to three groups of subjects, explaining that she wished to determine which card inspired the longest stories. In the overt influence condition she attempted to influence subjects by specifying the card she thought was best. In the subtle influence condition, when presenting the same card, she smiled and said, "Now let's see what you can do with this one." A control condition involved no influence attempt. Internals and externals did not differ significantly under either the overt condition or the control condition. Under the subtle influence condition, however, internals produced significantly shorter stories than either externals or control subjects. This study has been cited (Ritchie & Phares, 1969; Rotter, 1966) as evidence that internals react only against subtle attempts to influence their behavior. Biondo and MacDonald (1971), however, have failed to replicate Gore's findings and
therefore caution against such an interpretation.

Riesman (1950) has pointed to the exceptional sensitivity of the other-directed individual to the wishes and actions of others. He has also called attention to the importance of who those others are:

Of course, it matters very much who those "others" are: whether they are the individual's immediate circle or a "higher" circle or the anonymous voices of the mass media; whether the individual fears the hostility of chance acquaintances or only of those who "count." (p. 22)

While Riesman has noted the importance of who those "others" are, Crutchfield (1955) has stressed the significance of what those others promulgate: whether matters of factual judgement or personal opinion.

There is something of a reasonable differentiation made by the individual in his manner of reliance upon the group. He may be led to accept the superiority of the group judgement on matters where there is an objective frame of reference against which the group can be checked. But he does not, thereby, automatically accept the authority of the group on matters of a less objective sort. (p. 198)

The present study investigates conformity as a function of perceived locus of control, the reference value of the promulgating group, and the nature of the promulgated material. Perceived locus of control is measured by the Rotter Internal-External Locus of Control Scale (Rotter, 1966). Reference value is manipulated by attributing bogus survey results either to college students or to campus-area homeowners. Promulgated material, presented via the bogus survey results, includes matters of a purely factual nature,
matters on which there are widely differing opinions, and matters of personal taste or preference.

It is hypothesized that (a) externals will conform more than internals; (b) subjects will conform more to fellow students than to campus-area homeowners; (c) internals and externals will be differentially influenced by the reference value of the promulgating group; (d) subjects will conform most to matters of fact, less to matters of opinion, and least to matters of personal taste; (e) internals and externals will be differentially influenced by the nature of the promulgated material.
Method

Subjects

Subjects were 78 female undergraduate students at California State University, Northridge. Students from several introductory psychology classes signed up to participate in the experiment, which was labeled an "opinion survey." Two levels of perceived locus of control were established by dividing scores on the Rotter Internal-External Locus of Control Scale at the median for the present subject population. Subjects scoring 10 or less were designated "internals." Those scoring 11 or greater were designated "externals." Subjects were distributed among two experimental groups, "students" or "homeowners," depending on which population the bogus survey results were attributed to, and one control group, which was not presented any bogus data. Distribution of subjects among the three groups was accomplished in a non-selective manner depending only on the time period for which they signed up to participate. Eighteen subjects were randomly eliminated from the experiment in order that there be 10 subjects in each of the six subject-cells. A random number table was employed for this purpose. A total of 60 subjects, therefore, participated in the experiment.

Procedure

A 30-item, true-false, "opinion survey" was administered to subjects in the two experimental groups and the
control group. Interspersed in the 30-item survey were actually three 10-item "sub-surveys" consisting, respectively, of matters of "fact," matters of "opinion," and matters of "taste." Three scores were thereby obtained for each subject, yielding a three-factor mixed design with repeated measures on one factor.

Items of fact were constructed such that there could be logically only one correct answer. However, an attempt was made to insure that the answer to each item was sufficiently inconspicuous that no subject could be certain of a correct response, the purpose being to protect the credibility and effectiveness of the bogus results which were presented. For the purpose of adequate face validity, it was important that the items, despite the inconspicuousness of the correct answers, not seem trivial. The items were therefore designed to appear to deal with important, if not earthshaking, issues. Two examples of items of fact follow:

(a) Over 25% of Americans have not completed their high school education.

(b) A major earthquake has been predicted for California within the next 18 months.

Items of opinion were constructed such that there could be no one correct answer. Rather, any answer would depend on a value judgement by the respondent and would be subject to wide disagreement among persons of differing philosophical, political, or social persuasions. However, an attempt was made to insure the plausibility of a high
degree of consensus on these items. Again, for the purpose of protecting the credibility and effectiveness of the bogus results, any consensus which conceivably could have existed on an item was sufficiently inconspicuous as to leave subjects in doubt as to its direction, whether true or false. Again, too, care was taken that the items appear to deal with important issues. Two examples of items of opinion follow:

(a) The news media have too much power.

(b) Everyone should have a college education.

Items of taste required subjects to report their personal preferences on matters of a non-threatening nature. Simple introspection was all that was required. Obviously, answers to these items depend on the personalities, predilections, and idiosyncrasies of the individual respondents and would, accordingly, be subject to wide variation. As with items of opinion, considerations as to the plausibility of consensus, the inconspicuousness of any such consensus, and the seeming importance of the issues were similarly applied in selecting these items. Two examples of items of taste follow:

(a) The clothes I wear are important to me.

(b) I find science interesting.

Subjects in the two experimental groups were told that a survey was being conducted among different populations to assess opinions on various questions on which there seemed, on the basis of previous surveys, to be a high degree of
consensus. The first experimental group was told that another group of college students had previously been surveyed. Opposite each true-false item in the survey were the bogus preferences of the "students" who, ostensibly, had previously been surveyed. For each item, a high degree of consensus was indicated, such as 81% true and 19% false or 25% true and 75% false. Verbatim instructions to this group were as follows:

This is a questionnaire to find out the way in which certain events in our society affect different people. The questions cover a wide variety of topics.

People give a great deal of attention to questions which are very controversial and on which there is much disagreement. I have been trying to determine whether there are some questions on which most people do agree, questions on which there is a wide consensus. I have defined a consensus to exist if at least 65% of the people I survey respond in the same way to a particular question.

I have found, however, that getting a consensus on any question depends on who is being surveyed. For example, there may be a consensus among policemen on the question of capital punishment, but there may be no consensus on this issue in the community at large. Accordingly, I plan to survey several different groups of people. In addition to college students, I am surveying teachers, local businessmen, policemen, and Northridge homeowners.

In a previous survey of college students I have found several questions on which there seems to be a wide consensus, at least among college students. These questions, on which I have found a consensus, are contained in the first survey. I want to see whether the consensus I have found holds up for a larger number of students.

Each item in the survey requires you to answer either true or false. If you agree with an item, mark true. If you disagree with an item, mark false. The percentage of students marking true and false to each item from the previous survey are indicated after the items. Mark your answers on the large answer sheet which has been
The second experimental group was told that homeowners in the surrounding community, rather than students, had previously been surveyed. This group was given a survey identical to that for the first group except that the bogus results were this time attributed to homeowners rather than students. The instructions for this group were the same as for the first, except those parts dealing with the population which, ostensibly, had previously been surveyed. The major changes occurred in paragraph 4. This paragraph was changed to read as follows:

In a survey of Northridge homeowners I have found several questions on which there seems to be a wide consensus, at least among homeowners. These questions, on which I have found a consensus, are contained in the first survey. I want to see whether the consensus I have found among homeowners will also hold true among college students.

The only other change occurred in paragraph 5 where the word "students" was changed to "homeowners."

Subjects in the control group were told simply that a survey was being conducted. No mention was made of
students, homeowners, previous surveys, or any finding of consensus. The controls were given a survey identical to that for the two experimental groups except that no bogus results were indicated. Paragraphs 2, 3, and 4 were omitted entirely from the instructions given control subjects. In addition, the following sentence was omitted from paragraph 5: "The percentage of students marking true and false to each item from the previous survey are indicated after the items."

Following the administration of the "opinion survey," subjects in all three groups were administered the Rotter Internal-External Locus of Control Scale (Rotter, 1966). This scale was presented as simply another opinion survey. Rotter's standard instructions were used.
Results

The Rotter Internal-External Locus of Control Scale was scored in the standard manner. The distribution of internal-external scores for the 78 subjects approximated a normal distribution with $M = 10.71$ and $SD = 3.79$. Scores on the 23-item scale ranged from 1 to 21 with a median of 10.92.

Scores on the true-false opinion survey were based on the number of conforming responses on each of the three sub-surveys. In the case of an experimental group, a conforming response to any item was the response which coincided with the bogus preference reported for the group which, ostensibly, had previously been surveyed. Control subjects were not shown any bogus preferences, but for any particular item, the response defined as a conforming response for experimental subjects was also defined as a conforming response for control subjects. Three conformity scores were thereby obtained for each subject: for matters of fact, matters of opinion, and matters of taste. A score could take any value from 0 to 10.

Mean conformity scores for control subjects only, including three who were subsequently eliminated at random from the experiment, are reported in Table 1. The means cluster closely around 5.00, with standard deviations roughly approximating 1.50.

Each mean in Table 1 is based on a different 10-item
Table 1
Mean Conformity Scores
Control Subjects Only

<table>
<thead>
<tr>
<th>Material</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fact</td>
<td>4.70</td>
<td>1.58</td>
</tr>
<tr>
<td>Opinion</td>
<td>4.87</td>
<td>1.52</td>
</tr>
<tr>
<td>Taste</td>
<td>5.26</td>
<td>1.14</td>
</tr>
</tbody>
</table>

Note. Maximum score = 10.

\(^a_n = 23.\)

sub-survey. For the purpose of future comparisons, therefore, scores on each sub-survey were standardized with \(M = 500\) and \(SD = 150\), based on the data in Table 1. (Three control subjects who were subsequently eliminated at random from the experiment were nevertheless included in the standardization procedure for the purpose of a slightly larger standardization sample.) The figures 500 and 150 were chosen, rather than 5.00 and 1.50, in order to eliminate decimals. Each subject's raw scores were converted to standard scores. All future comparisons and analyses are based on these standard scores.

The data were analyzed by a three-way analysis of variance, (Biomedical Program BMD08V, Health Sciences Computing Facility, University of California, Los Angeles, revised December 24, 1975) as summarized in Table 2.
Table 2
Analysis of Variance

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>5276999.1</td>
<td>179</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Between subjects</td>
<td>1544456.1</td>
<td>59</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Groups (G)</td>
<td>104839.0</td>
<td>2</td>
<td>52419.5</td>
<td>2.2594</td>
<td>n.s.</td>
</tr>
<tr>
<td>I-E&lt;sup&gt;a&lt;/sup&gt;</td>
<td>16112.3</td>
<td>1</td>
<td>16112.3</td>
<td>.6944</td>
<td>n.s.</td>
</tr>
<tr>
<td>G X I</td>
<td>170670.8</td>
<td>2</td>
<td>85335.4</td>
<td>3.6781</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Error&lt;sub&gt;b&lt;/sub&gt;</td>
<td>1252834.0</td>
<td>54</td>
<td>23200.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Within subjects</td>
<td>3732543.0</td>
<td>120</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trials&lt;sup&gt;b&lt;/sup&gt; (T)</td>
<td>361814.9</td>
<td>2</td>
<td>180907.4</td>
<td>6.6608</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>T X G</td>
<td>194530.5</td>
<td>4</td>
<td>48632.6</td>
<td>1.7906</td>
<td>n.s.</td>
</tr>
<tr>
<td>T X I</td>
<td>133081.9</td>
<td>2</td>
<td>66540.9</td>
<td>2.4500</td>
<td>n.s.</td>
</tr>
<tr>
<td>G X I X T</td>
<td>109852.7</td>
<td>4</td>
<td>27463.2</td>
<td>1.0012</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error&lt;sub&gt;w&lt;/sub&gt;</td>
<td>2933263.0</td>
<td>108</td>
<td>27159.8</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>a</sup>Internal-External

<sup>b</sup>Material
Mean conformity scores for students, homeowners, and controls were 549.93, 518.00, and 490.88, respectively. The differences between these means, although in the predicted direction, were not statistically significant. Mean conformity scores for internals and externals were 529.07 and 510.14, respectively. This difference is in the direction opposite that predicted and is not statistically significant. However, the interaction between groups and perceived locus of control is statistically significant, \( F(2, 54) = 3.6781, p < .05 \). This interaction is presented in Figure 1.

The significant interaction between groups and perceived locus of control indicates that internals and externals were differentially influenced by at least two of the three groups. A further analysis of variance was therefore performed with the student and homeowner groups only, as summarized in Table 3. A significant groups by perceived locus of control interaction was found for the two experimental groups, \( F(1, 36) = 6.2046, p < .05 \). This classical interaction pattern indicates that conformity is related to perceived locus of control but that the relation depends on the reference value of the promulgating group. For the present subjects, when the promulgating group was identified as homeowners, internals conformed more than externals. When the promulgating group was identified as students, externals conformed more than internals.

Mean conformity scores for matters of fact, opinion,
Figure 1. Conformity as a function of perceived locus of control for students (S), homeowners (H), and controls (C).
Table 3
Analysis of Variance
Experimental Groups Only

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>3929086.1</td>
<td>119</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Between subjects</td>
<td>1151705.2</td>
<td>39</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Groups (G)</td>
<td>30592.1</td>
<td>1</td>
<td>30592.1</td>
<td>1.1787</td>
<td>n.s.</td>
</tr>
<tr>
<td>I-E&lt;sup&gt;a&lt;/sup&gt; (I)</td>
<td>25696.1</td>
<td>1</td>
<td>25696.1</td>
<td>.9900</td>
<td>n.s.</td>
</tr>
<tr>
<td>I X G</td>
<td>161040.0</td>
<td>1</td>
<td>161040.0</td>
<td>6.2046</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Error&lt;sub&gt;b&lt;/sub&gt;</td>
<td>934377.0</td>
<td>36</td>
<td>25954.9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Within subjects</td>
<td>2777380.9</td>
<td>80</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trials&lt;sup&gt;b&lt;/sup&gt; (T)</td>
<td>516666.0</td>
<td>2</td>
<td>258333.0</td>
<td>9.2675</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>T X G</td>
<td>33980.9</td>
<td>2</td>
<td>16990.5</td>
<td>.6095</td>
<td>n.s.</td>
</tr>
<tr>
<td>T X I</td>
<td>209837.8</td>
<td>2</td>
<td>104918.9</td>
<td>3.7639</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>G X I X T</td>
<td>9887.2</td>
<td>2</td>
<td>4943.6</td>
<td>.1773</td>
<td>n.s.</td>
</tr>
<tr>
<td>Error&lt;sub&gt;w&lt;/sub&gt;</td>
<td>2007009.0</td>
<td>72</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<sup>a</sup>Internal-External
<sup>b</sup>Material
and taste were 577.53, 512.97, and 468.32, respectively. Differences between all three means were in the predicted direction and the analysis of variance presented in Table 2 indicates a significant main effect for this factor, $F(2, 108) = 6.6608, p < .01$. As predicted, subjects conformed most to matters of fact, less to matters of opinion, and least to matters of taste. The interaction between trials and perceived locus of control was not significant.

A groups by material interaction was neither predicted nor observed. Likewise, a triple interaction was neither predicted nor observed.

The analysis presented thus far has, in some instances, been unnecessarily conservative. This has resulted when including the controls in comparisons where they were not appropriate as, for example, in the main effect for perceived locus of control. The mean conformity scores for internals and externals, 529.07 and 510.14, respectively, were made spuriously low by the inclusion of the controls, since the conformity scores of the controls, which are low due to the absence of an influence attempt for this group, are averaged in with the conformity scores of the experimental subjects.

An analysis of variance with the control group excluded has already been presented in Table 3. It is appropriate to consider this new analysis in those instances where the groups factor is not relevant, as in the main effect of perceived locus of control. With the controls excluded,
the means for internals and externals increase to 548.60 and 519.33, respectively. In this instance, the difference is still not significant and is still in the direction opposite that predicted. In the case of the material factor, however, excluding the controls makes a great deal of difference. The mean conformity scores for matters of fact, opinion, and taste become 621.15, 517.90, and 462.85, respectively, with a corresponding change in significance, \( F(2, 72) = 9.2675, p < .001 \). In addition, a significant material by perceived locus of control interaction is now observed, \( F(2, 72) = 3.7639, p < .05 \). This interaction is presented in Figure 2.

The significant interaction between material and perceived locus of control indicates that internals and externals were differentially influenced by at least two of the three types of material. Further tests were therefore performed to determine which two these were. Separate analyses were performed for each of the three possible pairs. With fact and taste only, the material by perceived locus of control interaction was not significant. Likewise with opinion and taste only, the interaction was not significant. With fact and opinion, however, a significant interaction was found, \( F(1, 54) = 5.3095, p < .05 \). This interaction pattern indicates that conformity is related to the type of material promulgated for internals but not for externals. Internals conformed more to matters of fact than to matters of opinion while externals conformed.
Perceived Locus of Control

Figure 2. Conformity as a function of perceived locus of control for matters of fact (F), opinion (O), and taste (T).
equally to matters of fact and matters of opinion.
Discussion

The finding of a statistically non-significant main effect for perceived locus of control came as a surprise, considering the several previous studies, cited earlier, reporting such an effect. Indeed, the small difference which was found between internals and externals was in the direction opposite that reported in the cited studies. The present finding, however, does not stand alone in the literature. One study (Crowne and Liverant, 1963) found no difference between internals and externals in the usual Asch situation. Rotter (1966) attempts to explain this apparent contradiction by drawing a distinction between subtle and overt attempts to influence behavior. He cites a study by Gore (1962) which found that internals react against subtle, but not overt, attempts to manipulate their behavior. This distinction, however, is drawn at the expense of theoretical elegance and parsimony. It may be asked whether the influence attempt in the present study is subtle or overt. The answer is by no means clear. Moreover, Biondo and MacDonald (1971) failed in their attempt to replicate Gore's study. A finding by Ryckman and Rodda (1972) that, when male subjects only were considered, internals actually conformed more than externals, only adds to the confusion. The present finding adds further doubt to the existence of a simple relationship between conformity and perceived locus of control.
Two explanations for the present finding may be considered. The first is that Riesman is simply wrong. Perhaps there are no such distinctive personalities as his inner-directed and other-directed types, at least none that are presently amenable to identification by a simple scale. In view of the many studies on conformity, several of which have been previously cited, this seems unlikely. A second explanation is that Riesman's personality types do exist, but that Rotter's scale is not an adequate measure. That is to say, there is no simple relationship between Rotter's dimension of perceived locus of control and Riesman's concept of inner-directed and other-directed personality types. This seems the more likely explanation. As previously noted, Rotter acknowledges a distinction between his own and Riesman's views. However, perhaps in their enthusiasm to find a parallel between the two theories by investigating the relationship between conformity and perceived locus of control, many researchers, including Rotter, have ignored this distinction.

Despite the present finding of a non-significant main effect, there does seem to be a definite relationship between perceived locus of control and conformity, albeit a somewhat different relationship than previously supposed. However, this relationship does not become apparent until the interaction between perceived locus of control and the reference value of the promulgating group is considered. The reference factor is necessary, therefore, to illuminate
the contribution of perceived locus of control to conformity.

Whether Riesman is wrong or whether Rotter's scale is an inadequate measure of Riesman's concept, the reference factor makes the relationship between perceived locus of control and conformity very clear: Those individuals who generally interpret the important events in their lives to be products of their own behavior look to established authority or their elders, as presently represented by homeowners, for guidance and direction, while those who generally interpret events as due to luck, chance, fate, or the control of powerful others, identify more with their own peer-group, as presently represented by students. It is possible that if previous studies on the relationship between perceived locus of control and conformity had included a reference factor, a larger proportion of the variance might have been accounted for, and some of the present confusion might have been avoided.

In view of the above, a synthesis will be attempted between the two explanations offered previously for the non-significant main effect for perceived locus of control: that Riesman is simply wrong or that Rotter's scale is an inadequate measure of Riesman's concept. Perhaps a clearer distinction than conforming (other-directed) and non-conforming (inner-directed) personality types might be personality types with distinct preferences as to which group to conform to: either one's peers or traditional sources of
authority. After all, in a society of one's peers, if one chooses to conform to the values of traditional authority, a less visible source of values than one's immediate peers, one may give the appearance of non-conformity or inner-directedness. By contrast, if one chooses to conform more to one's peers, the conformity, or other-directedness, is much more obvious. If one accepts this interpretation, then Rotter's scale, based on the present findings, must be conceded to be an excellent measure of Riesman's concept, insofar as it discriminated between those subjects who were influenced by their peers and those who were influenced by elders.

There is some evidence that Riesman would not be adverse to the interpretation offered above. He writes:

The inner-directed person has early incorporated a psychic gyroscope which is set going by his parents and can receive signals later on from other authorities who resemble his parents. He goes through life less independent than he seems, obeying this internal piloting. (p. 25)

It is suggested that, for the internal subjects in the present study, homeowners were the "other authorities who resembled their parents."

As for Riesman's hypothesis that the other-directed type is gradually replacing the inner-directed type, it is instructive to compare the present subjects' scores on Rotter's scale to Rotter's own sample of 605 female college students tested in 1966. As reported earlier, the present distribution is summarized by $M = 10.71$ and $SD = 3.79$. 
Rotter found $M = 8.42$ and $SD = 4.06$. This represents a mean difference of over two points, a change of over half a standard deviation during a period of 11 years. Although this observation must be considered with caution, it does support Riesman's view that the population is becoming progressively more other-directed.

In light of the foregoing discussion, as represented in Figure 1, it is interesting to note that while internals conformed more to homeowners than to students, the difference in degree of conformity to these two populations was relatively small. By contrast, although externals conformed to students to the same degree that internals conformed to homeowners, the externals conformed far less to homeowners than the internals did to students. In fact, externals conformed even less to homeowners than did the uninfluenced controls, thereby not only ignoring the views of the homeowners but even reacting against them. Internals, on the other hand, demonstrated no such reaction against the views held by students.

The significant main effect of the material factor does not represent a new finding in the psychological literature. In his classic study, Crutchfield (1955) has demonstrated that, when subject to group influence, people differentiate between matters of factual judgement, opinion and attitude, and personal preference. The present finding represents a confirmation of Crutchfiel's work, strengthened by the fact that an entirely different methodology
than Crutchfield's was here employed, which nevertheless yielded results strikingly similar to those reported by Crutchfield.

Two findings not reported by Crutchfield are here noted. First, while conforming greatly to matters of fact, subjects not only refused to conform to matters of personal taste, but actually reacted against the advocated position for this type of material, similar to the manner in which externals reacted against the views of homeowners. The assertion of a fierce independence on matters of personal taste was exhibited to nearly the same degree by both internals and externals.

A second finding not reported by Crutchfield but made possible by the present methodology concerns the interaction between the nature of the promulgated material and perceived locus of control, as presented in Figure 2. It may be seen that internals make a large differentiation between matters of fact and matters of opinion, conforming much more to the former than to the latter. Externals, on the other hand, make no such differentiation, conforming equally to matters of fact and matters of opinion. The significant main effect for the material factor is, therefore, due largely to the behavior of the internals. This main effect must assume less importance in light of the present interaction. Internals, apparently, are more willing than externals to accept authority on matters where there is an objective frame of reference, but maintain
greater independence than externals on matters of a more subjective nature. Perhaps this interaction also explains, in part, some of the present contradictions in the literature on conformity as a function of perceived locus of control.
References

Asch, S. Studies of independence and conformity: I. A minority of one against a unanimous majority. Psychological Monographs, 1956, 70(9, Whole No. 416).


Appendix

OPINION SURVEY

1. There is too much violence on TV.  
   ___ True 22%  
   ___ False 78%

2. The time I spend eating is wasted.  
   ___ True 71%  
   ___ False 29%

3. Over 25% of Americans have not completed their high school education.  
   ___ True 69%  
   ___ False 31%

4. The 55 MPH speed limit is a good idea.  
   ___ True 19%  
   ___ False 81%

5. I enjoy going to the movies.  
   ___ True 77%  
   ___ False 23%

6. Nonsmokers outnumber smokers by more than two to one.  
   ___ True 23%  
   ___ False 77%

7. Space exploration is worth the expense.  
   ___ True 74%  
   ___ False 26%

8. On the average, men working full time earn nearly $5,000 per year more than women working full time.  
   ___ True 71%  
   ___ False 29%

9. The clothes I wear are important to me.  
   ___ True 91%  
   ___ False 9%

10. Using calculators to teach children arithmetic is a good idea.  
    ___ True 68%  
    ___ False 32%

11. I enjoy viewing sporting events.  
    ___ True 35%  
    ___ False 65%
12. A major earthquake has been predicted for California within the next 18 months.
   ______ True 70%
   ______ False 30%

13. The news media have too much power.
   ______ True 66%
   ______ False 34%

14. My religious beliefs are an important part of my life.
   ______ True 87%
   ______ False 13%

15. Presidents of the United States should be limited to one six-year term.
   ______ True 28%
   ______ False 72%

16. According to official statistics, New York City has the highest crime rate in the world.
   ______ True 17%
   ______ False 83%

17. The dollar today is worth a third of what it was in 1960.
   ______ True 16%
   ______ False 84%

18. Taxes on alcoholic beverages should be increased to pay for rehabilitation programs for alcoholics.
   ______ True 69%
   ______ False 31%

19. I find science interesting.
   ______ True 20%
   ______ False 80%

20. Less than 20% of the American public attends a church or synagogue regularly.
   ______ True 71%
   ______ False 29%

21. Every American should have a college education.
    ______ True 17%
    ______ False 83%

22. I enjoy taking walks.
    ______ True 33%
    ______ False 67%
23. More people watched Monday night football than watched the 1976 presidential debates.
   True  34%
   False 66%

24. The big oil companies should be broken up.
   True  30%
   False 70%

25. Presidential candidates should be required by law to disclose their financial holdings.
   True  79%
   False 21%

26. I like being alone.
   True  75%
   False 25%

27. Over one third of the world's population is starving, by United Nations standards.
   True  85%
   False 15%

28. I find politics interesting.
   True  14%
   False 86%

29. There are more telephones than people in the United States.
   True  28%
   False 72%

30. I prefer living in a large city.
   True  26%
   False 74%