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**AFFILIATION AND ACHIEVEMENT MOTIVES AND CUES
IN RELATION TO CONFORMITY AND INDEPENDENCE
IN COLLEGE STUDENTS**

by

Krishna Swaminathan

**A dissertation submitted in partial fulfilment
of the requirements for the degree of
Doctor of Philosophy
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Doctoral Committee:

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ABSTRACT

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The purpose of this study was to examine the relation of need achievement and need affiliation to students' conformity and independence behavior as mediated by relevant classroom cues. The motives of need achievement and need affiliation were selected for the study as they were found to characterize some salient concerns of students. One hypothesis stated that the conformity scores of students with a high level of affiliation motive would be relatively higher in classes high in affiliation cues and that the conformity scores of students with a weak affiliation motive scores would be relatively lower in classes high in affiliation cues than in classes with a few affiliation cues. A similar hypothesis regarding the interaction of the achievement motive and achievement cues was set up with independence as the dependent variable.

Students of Introductory Psychology formed the sample of the study, from whom data regarding the above motives, opinions on the six different issues, and ratings of their teachers in the classroom were obtained. Measures of motives were obtained from protocols written in response to pictures of the Thematic Apperception Test. Measures on

classroom cues were obtained from students' rating of their teachers on items of The Student Rating Scale. Students' opinions were ascertained both in the beginning and at the end of the semester and also after a two year period. Indexes of conformity and independence were generated from the opinion scores. Students were divided into three levels on motives and classroom cues were classified into levels of high and low affiliation and achievement cues. Analysis of variance was employed to assess the simultaneous effects of the motive and cues on the dependent variables, conformity and independence.

Confirmation of the hypothesis regarding the interaction of the affiliation motive and affiliation cues on conformity were obtained. The observed interaction was general and its direction was the same across the issues on which opinions were sought. The only exception to this general finding was the issue of 'Family Relations and Sex.' The discrepancy was explained by distinguishing issues in terms of their centrality and cathectedness to subjects.

The results failed to support the predictions about the relation of the interaction of the achievement motive and achievement cues with independence responses of students. An analysis with control on sex likewise failed to spot interactions. Sex interacted with achievement cues and women students were found to score significantly higher in classes high in achievement cues while men students scored higher in classes low in achievement cues. The level of their achievement motive did not differentiate them on independence.

A comparison of conformity and independence scores obtained from the same students two years apart showed significant differences in both conformity and independence scores in the direction of higher indepen-

dence and lower conformity scores. A study of students' responses to opinion items revealed interesting shifts of positions, interpreted as towards increased individuality and decreasing idealism.

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.....	ii
LIST OF TABLES.....	iv
LIST OF APPENDICES.....	vii
INTRODUCTION.....	1
 Chapter	
I. A REVIEW OF RELEVANT LITERATURE.....	3
The Place of Personality in Attitude Change Research..	3
Studies of the Generality of Conformity.....	6
Patterns of Personality Correlates of	
Conformity and Independence.....	11
Studies of the Relation of Need Achievement	
and Need Affiliation to Conformity.....	17
Summary.....	23
II. THEORY AND HYPOTHESES.....	24
The Problem.....	24
The Concepts of Conformity and Independence.....	25
Student Motivation and Conformity.....	29
Hypotheses.....	32
III. THE SURVEY STUDY.....	34
Procedure.....	34
Sample.....	34
Measures of the Variable.....	34
Design of Study.....	41
Results.....	46
Discussion.....	55
Summary.....	62
IV. AN OVERVIEW.....	64
Implications for Future Research.....	66
APPENDICES	68
REFERENCES	156

LIST OF TABLES

Table		Page
1	Characteristics of the sample	35
2	Cutting Scores for Student n. Achievement, and n. Affiliation by sex into levels of High, Medium and Low	36
3	Assignments of Sections to High and Low Levels of Achievement Cues and Affiliation Cues	38
4	Conformity Scores in Spring 1963 for the Six Scales of the Student Opinion Survey Questionnaire	42
5	Independence Scores in Spring 1963 for the Six Scales of the Student Opinion Survey Questionnaire	43
6	Conformity Scores in Spring 1965 for the Six Scales of the Student Opinion Survey Questionnaire	44
7	Independence Scores in Spring 1965 for the Six Scales of the Student Opinion Survey Questionnaire	45
8	Summary of Results of Analysis of Variance for Conformity Scores, Spring 1963	47
9	Analysis of Variance for Conformity Scores, Spring 1963 . . .	48
10	Comparison of Means Independence Scores between Two levels of Achievement Motive for Men and Women	51
11	Summary of Results of Analysis of Variance in Independence Scores, Spring 1963	52
12	Comparison of Conformity Scores of First Post-Test (1963) the First Post-Test (1965) between Two Levels of Affiliation Cues for the Highs and Lows in Affiliation Motive	53
13	Comparison of Independence Scores for Men and Women of the the First Post-Test (1963) and the Second Post-Test (1965) between two levels of Achievement Cues for the Highs and Lows in the Achievement Motive	54
14	Comparison of Conformity Scores between twl levels of Affilia- tion cues for the Highs and Lows in the Affiliation Motive . .	57

Table		Page
15	Mean Scores for Categories - Achievement Cues and Affiliation Cues - of Student Rating form by Section Numbers and Teacher Numbers of Psychology Course 100	73
16	Mean Scores for Categories - Achievement Cues and Affiliation Cues - of Student Rating form by Section Numbers of Psychology Course 101	74
17	Frequency Response of 'the Most Acceptable' Response to each alternative of the 30 questions of the Student Opinion Survey Questionnaire	90
18	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Psychology as a Science' . .	120
19	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Nature of Man'	121
20	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Family and Sex'	122
21	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Religion'	123
22	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Public Affairs'	124
23	Interaction of Affiliation motive, Affiliation Cues, and Conformity Scores on the issue of 'Race Relations'	125
24	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Psychology as a Science'	126
25	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Nature of Man'	127
26	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Family Relations and Sex'	128
27	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Religion'	129
28	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Public Affairs'	130

Table		Page
29	ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Race Relationships'	131
30	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Psychology as a Science'	132
31	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Nature of Man'	133
32	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Sex and Family'	134
33	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Religion'	135
34	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Public Affairs'	136
35	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Race Relationships'	137
36	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Psychology as a Science' . .	138
37	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Nature of Man'	139
38	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Family and Sex'	140
39	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Religion'	141
40	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Public Affairs'	142
41	Interaction of Achievement motive, Achievement Cues, and Independent Scores on the issue of 'Race Relations'	143

42	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Psychology as a Science'	144
43	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Nature of Man'	145
44	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Family Relations and Sex'	146
45	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Religion'	147
46	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Public Affairs'	148
47	ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Race Relationships'	149
48	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Psychology as a Science'	150
49	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Nature of Man'	151
50	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Family Relations and Sex'	152
51	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Religion'	153
52	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Public Affairs'	154
53	ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Race Relations'	155

LIST OF APPENDICES

Appendix	Page
A. STUDENT RATING SCALE	68
B. MEAN SCORES FOR CATEGORIES-ACHIEVEMENT CUES AND AFFILIATION CUES	73
C. STUDENT OPINION SURVEY QUESTIONNAIRE	76
D. FREQUENCY RESPONSE OF 'THE MOST ACCEPTABLE' RESPONSE TO EACH ALTERNATIVE OF THE 30 QUESTIONS OF THE STUDENT OPINION SURVEY QUESTIONNAIRE	90
E. COMPLETE ANALYSIS OF VARIANCE FOR THE SURVEY STUDY	120

INTRODUCTION

One of the most widely researched topics in social psychology in the recent past has been that of conformity and independence of the individual with respect to a group. A major concern of studies in this area has been the relationships between conformity or independence and personality of the individual. The investigations linking personality with conformity have generally employed two types of techniques: one is in the tradition of the Sherif and Asch studies, employing the consensus or group judgments or social expectations method; the other is in the manner of the Yale group researchers, employing persuasive communications emanating from a single source or a reference group. A large number of personality variables have been associated with conformity and its opposite, independence, in each body of studies and no single study could come up with any conclusive findings regarding the consistency of such associations (Berg and Bass, 1961; Hovland and Janis, 1959; Mann, 1959).

Of the several possible reasons for the lack of conclusive findings, one that has been mentioned often is that situational and personality factors interact to a degree that makes trans-situational uniformity of findings highly unlikely and that significant associations may be interactions rather than main effects.

McKeachie (1961) investigating the contribution of some of psychology's recognized variables in settings as complex as the university classroom, identified certain social-psychological dimensions useful for predicting students' academic achievement. Need achievement and need affiliation have for sometime been considered variables of importance in

the classroom setting and McKeachie studied them and their corresponding stimulus cues as they affected classroom performance. He was able to find significant interactions between students' need affiliation and teacher warmth in determining grades in college courses (McKeachie et al., 1966). Similar interactions between achievement cues and achievement motives, power cues and power motives were also found (McKeachie, 1961; 1964). McKeachie suggested that in the area of attitude change also, similar interactions might be identified.

In the light of this suggestion therefore, the present study examines the relations of changes of attitudes of students to interactions between their motives and classroom cues.

CHAPTER I

A REVIEW OF RELEVANT LITERATURE

The Place of Personality in Attitude-Change Research

In the past two or three decades social psychology, under the impetus of the classic studies of norm formation by Sherif in 1935 and of conformity behavior by Asch in 1951, has given considerable attention to the research on the formation, persistence and modification of attitudes and the psychological variables determining them. As a result, there arose an impressive accumulation of empirical and experimental studies and research findings leading to the emergence of some major theoretical approaches in the study of attitudes and attitude-change and these approaches in turn influenced research in the field. They are not theories in the strict sense of the term because they are not sufficiently explicit in their psychological assumptions, in their mode of logical inference or in their empirical referents. As Deutsch and Krauss (1965) point out, they are the products of a science which is still in its early infancy and as such are 'ambitiously inclusive and vague in detail.' The importance of these approaches, however, lies in that they have stimulated and guided research in the area.

The study of attitude-change is essentially an attempt to identify and understand the processes underlying the modification of attitudes. A wide variety of influence or social interaction situations have been employed in attitude-change research and two of the most common are traditionally referred to as "conformity" and "persuasion" situations. Without entering here into the contemporary controversy relating to the definitions of conformity, "conformity" situations can be broadly understood as those situations

in which agreement between an individual's behavior and the norm of the group is found. The minimal social condition necessary for conformity situations would then be the presence of a group and the term conformity would then describe the individual tendency to adopt beliefs and attitudes corresponding to those held by the majority of the group. Evidence for such an agreement with or adoption of the norm of the coworking group without any explicit communication or influence was available in experimental studies of the early twenties, later demonstrated by F. A. Allport (1924) in his study of group processes. He compared the work of individuals alone with individuals together on a variety of tasks and found more effort was expended by individuals together than by individuals alone. He called this phenomenon "social facilitation." The subjects in his study did not communicate and they knew that no comparisons whatever were to be made of their productions. There seems to be an almost ineradicable tendency for members of a group to move toward an agreement even while the members do not know one another's opinions but can only guess at them. Subsequently, however, the classic autokinetic studies of norm formation by Sherif (1935) and the studies of peer influence on the judgment of line lengths by Asch (1952) in which the public expression of individual judgment constituted the minimal condition to produce convergence, came to be regarded as providing a paradigm for "conformity" situation research.

The other situations, called "persuasion" refer to situations in which an individual changes his position on an issue towards that of a source from whom he had received persuasive communications based on either rational or emotional considerations. Studies employing such situations were pioneered by Hovland and his Yale group.

In this review of studies of the relationship of personality to attitude-change we will limit our attention to studies of "conformity" situations only.

A major concern in this area has been the relationship between attitude change and psychological characteristics, or personality, of the individual. A survey of the literature shows that several different kinds of personality variables have been employed. They include personality types like authoritarianism, extraversion-intraversion, inner and outer directedness; interpersonal response traits like ascendancy, dominance vs submissiveness, independence vs dependence, competitiveness vs cooperativeness; coping styles like ego-control processes and ego-defense processes; cognitive styles like concreteness vs abstractness, complexity vs simplicity, field-dependence vs independence, levelling vs sharpening; motivational dispositions like n. achievement, n. affiliation, need for approval, need for clarity; and self dispositions like self-esteem, ego-strength, self-devaluators vs self-maintainers.

The specific concerns and aims of the researchers have varied. One approach aimed at developing a general trait of "conformity" or "persuasibility" as a relatively enduring personality disposition (Hovland and Janis, 1959; Blake, Helson and Mouton, 1957; Crutchfield, 1955; Hoffman, 1953, 1957; Vaughan, 1964). Some investigators tried to enumerate different personality dimensions that are associated with the tendency to conform or with the tendency to remain independent, thereby providing a taxonomy of personality-conformity, personality-independence clusters (Barron, 1953; Beloff, 1958; Crutchfield, 1955; Divesta and Cox, 1960; Tuddenham, 1959; Vaughan, 1964). Some others attempted to go into

the subsurface layers of personality, namely motivational dispositions of subjects, for locating the source of observed change, developing some ad hoc hypotheses to transform the taxonomic yield into one of explanation (Breger, 1963, 1966; Cohen, 1964; Divesta and Marvin, 1960; Smith et al., 1956; McClintock, 1958). In short, the studies differ in the nature and number of personality variables employed, in level and comprehensiveness of explanation sought and in methods of investigation.

Studies of the Generality of Conformity

A number of investigators have contended that conformity is indeed a general trait by demonstrating that "conformity" in one situation tends to be correlated with conformity in other situations. Until this can be demonstrated, it makes little sense to examine how conformity in general is related to other personality dimensions. In this section, we shall first present the evidence that there is such an overall trend among the various indices of conformity in a wide range of situations on different issues. Later, we shall take the opposite tack and point out that the intercorrelations, while positive, are usually quite low. We shall be arguing, then, that while there is an underlying conformity factor on which various conformity tests load there are specific situational factors which operate as moderator variables in relationships between conformity and personality.

Hoffman (1953) originally hypothesized a need to conform, which he inferred from subjects of his study who yielded to a group norm in the absence of any situational demand. Using a perceptual-judgmental task, he divided the subjects into high and low conformity criterion groups and

tested them on a few personality measures. He described high yielders as high on parental dominance and intropunitive handling of hostility and low on ego-strength. In a later study (1957) he came up with evidence for the existence of a need to resist group influence coexisting with a need to conform. His finding suggested that conformity can actually function as a form of resistance against being permanently influenced by the group. He showed how this seeming contradiction could be resolved by his ad hoc theory of compulsive conformity. Although he did not look for consistency in conformity over many situations for the validation of a "trait of conformity," he obtained some construct validity for the disposition to conform. This demonstration of validity by Hoffman was followed by studies of others who sought to show that the construct has considerable generality. Crutchfield (1955) found consistent individual differences in conformity in his sample of fifty military officers tested on widely varied stimulus materials from perceptual to attitudinal items, from structured to ambiguous and from impersonal to personal.

Blake, Helson and Mouton (1957) employed three types of tasks: counting metronome clicks, solving arithmetic problems and judging attitude statements. He found a fairly consistent tendency to conform to simulated group responses for all tasks. Subjects were less prone to conform when presented with perceptual and ability tasks than they were when presented with attitude items, for the latter are much more ambiguous, open to argument and disagreement, while matters of fact are more easily tested and less likely to remain ambiguous. Further, their findings of a generality of conformity between tasks, received additional support in the high reliability of the conformity score for equated halves of the tasks. Rosner (1957) reported that student nurses who

conform to peers on one task tend to conform to other peers on other tasks. Asch (1956) showed that college students tend to get the same conformity scores in both early and late stages of a task.

A more recent attempt to find trans-situational generality of conformity was made by Vaughan (1964) who manipulated four discrete situations in which he obtained four different measures of conformity. The correlation between these measures was low but significant, thereby hinting at, rather than demonstrating, consistency in conformity across situations. Breger (1963) has viewed conformity to group pressure as part of an ego-defensive process suggested by the psychoanalytic model. Like Hoffman (1953), he draws on psychoanalytic theory to explain conformity. The assumption is made that individuals who conform when faced with the group pressure do so because at some level of awareness they perceive opposition to the group as an act of defiance and aggression which arouses anxiety and calls into play defense mechanisms of repression, denial and reaction formation. One manifestation of repression is submission to the group. From this conceptual framework, he predicted that conformity would be inversely related to direct hostility expression and directly related to covert hostility expression. The results confirmed these predictions at statistically significant levels. In a later study, Breger and Ruis (1966) introduced three experimental treatments (anti-conformity, understanding, and control) on conformity to three different types of items (information, sex, and aggression). They predicted on the basis of their ego-defense hypothesis that more conformity should occur on the information items than on the sex or aggression items, with the least conformity occurring on the aggression items. They reasoned that conformers would be in an intensified conflict when faced

with group pressure pushing them toward agreement with items that advocated impulse expression, the very thing they tried to avoid by yielding. Subjects must agree to an aggressive opinion in order to avoid being aggressive! In a sense, this fact takes away part of the defense value of yielding; hence leading to less conformity. The results showed that this was in fact the case.

Previous findings, seen in the study of Blake, Helson and Mouton (1957), had indicated that factual material is more resistant to group pressure than are attitudes and opinions, presumably because of their objectivity and certainty. The results of Breger and Ruis study indicate that such is not the case when the attitude items advocate extreme impulse expression, a finding that they interpret as confirming the importance of ego-defenses in conformity.

All the studies considered above either directly or indirectly argue for the existence of a stable and enduring trait or disposition of conformity similar to the trait of persuasibility studied by Yale group researchers. Convincing evidence for a trait of conformity, however, can be obtained only by comparing individuals for their conforming behavior in many different kinds of situations. Neither a single measure of conforming behavior (Hoffman, 1953) nor a single experimental situation (Crutchfield, 1955) can be taken as proof of the existence of the trait. Many studies failed to include different situations and those that did failed to show clear-cut consistency of conforming. The correlations of conformity scores across situations were generally low. Correlation, of course, does not indicate identity but merely points to an underlying conformity factor which accounts for a small but significant part of the variance in the whole spectrum of conformity tests.

The evidence is too slender however, to argue conclusively for the existence of a trait of conformity.

The term trait usually carries the notion of a once and for all, time exclusive, fixed property of the organism invariant across all manner of situations. There is another sense in which the term trait is considered in the literature: as a disposition or a reaction tendency which is activated in given class of situations and which acts as a limiting condition upon responses in a range of situations. A trait in either sense implies constancy of a disposition, but recognition of the distinction is essential to the proper understanding of the claim that conformity is a trait. The danger is that calling conformity a trait might lead to its reification, obscuring its essential dependence upon the situation. As Vernon (1964) observes, such a reification implies a tendency to assume consistency too readily or to exaggerate it.

It is in the latter sense--a tendency with a certain potential that is more or less easily released by situations--that conformity as a trait has to be understood. We do not regard conformity per se as a meaningful dimension of personality. Propositions about the role of conformity should refer, not to a tendency to conform in general, but to a tendency to conform given a particular situation. What is suggested here is that conformity is specific to the crucial aspects of the situation. Arguments for such a conception of conformity have been presented by Moeller and Applezweig (1957), Tuddenham (1959) and Hollander (1960). The critical study by Goldberg (1954) found susceptibility to influence to be highly specific. He was unable to find anything but low intercorrelations between conformity in different experimental

conditions and was unable to observe any general personality characteristics of conformity. It may be, as the adherents of trait theory could point out, that his failure was due to the limited range of scores of his subjects in personality measure and the differences in the way conformity was measured in his study. But it cannot be gainsaid that many other studies in the area tend to show that differences in the nature of task, differences in the characteristics of groups and person-group relationships make for differences in conformity behavior.

Patterns of Personality Correlates of Conformity

We noted above the tenuousness of the evidence for a conception of a generalized conformity trait, since the data consisted mostly of low but positive correlations which often reached the .05 statistical confidence level, sometimes did not, and which never accounted for more than a trivial proportion of variance. However, the belief in the consistency of people's conformity across situations persists, partly strengthened by the actual existence of some consistency under some conditions. It may be that such a conviction reflects in part behavioral consistencies that are constructed by observers, rather than actual consistency in the subject's behavior. Whatever interpretation one is tempted to make, the fact remains that a large number of investigations have centered around finding correlations of conformity scores with measures of a

variety of personality variables with the hope of eventually discovering permanent personality patterns of the typical conforming person and of the typical independent person (Barron, 1953; Blake and Mouton, 1961; Divesta and Cox, 1960; Hovland and Janis, 1959; Krech, Crutchfield and Ballachey, 1962, Smith, 1961; Tuddenham, 1959; Weiner, Carpenter and Carpenter, 1957). Multiple measures of personality including objective tests, projective tests, self-reports and staff-ratings on diverse samples, were employed in these studies, though the predominant approach was to have subjects describe themselves. Without entering into the detailed findings of each study, a brief profile of the typical personality characteristics significantly associated with conformity and independence can be obtained from these studies.

A conforming person is found to be characterized by low intelligence, greater rigidity, low "ego-strength," lack of spontaneity, heightened anxiety, pronounced feelings of personal inadequacy, general suggestibility, interpersonal dependency, high authoritarianism, and conventionality. This general picture of the conformist bears remarkable resemblance to the picture of the "persuasive person" studied by Hovland and Janis (1959) in persuasive communication situations. In contrast, an "independent" person is described by relatively high intelligence, cognitive flexibility, and ideational fluency, high self-esteem, greater insight and realism in self-perception, more self-sufficiency and autonomy in interpersonal relations, and originality.

Personality, interpreted in the context of conformity situations, can be defined as predispositions that individuals bring situations in which they find themselves. Usually, in the simple experimental set up, subjects are grouped on the basis of their position on a particular pre-

disposition, the choice of which is determined by what the investigator feels is related to the nature of subjects' reaction to the situation. The positions of subjects on one or more personality dimensions are assessed by the use of paper-and-pencil techniques, projective tests, behavioral indices, or some combination of these. Each subject is exposed to an experimentally devised influence attempt--whether it be group pressure or persuasive communication--and his tendency to accept influence is observed. Acceptance of influence is then related to the personality characteristics that have been assessed. That is, change scores of subjects high on a given personality measure can be compared with those of subjects low on that measure; or, conversely, personality characteristics of subjects who manifest a great deal of change can be compared with those of subjects who resist change.

The reasoning behind such simple main effects studies is straightforward. The researcher believes that the strength of the individual predisposition is a sufficient basis for predicting the occurrence of a particular behavior in the experimental situation. The relationship between predispositions and subjects' reaction to influence is, however, not that simple and direct; it is found to differ from situation to situation. The search for sovereign attributes of a conforming personality did not result in specification of any definite typology. Even the descriptive profile of "conforming" and "independent" personalities that we salvaged, did not endure through other studies. In a review of literature, Mann (1959) examined 27 studies relating personality measures to criterion behaviors scored for leadership, popularity, conformity, and other dimensions. Of the hundreds of correlations obtained, the median correlation between some aspect of personality and performance was never higher than .25, and in most cases

it was closer to .15.

Both in the conformity and the persuasibility literature, experimental findings in support of the contention that conformity is significantly related to enduring personality factors are reported. Appley and Moeller (1963), Divesta and Cox (1960), Endler (1961), and Tuddenham (1959) studied the relation of personality characteristics from the three standardized self-report inventories (Edwards Personal Preference Schedule; California Psychological Inventory; and Personality Profile) to yielding. Discrepancies in their findings, both between and within studies are observed. Divesta and Cox' using Crutchfield's (1955) technique to measure conformity on a college population found consistent personality characteristics associated with individual differences in conformity. Tuddenham (1959) reported significant correlations between E.P.P.S. and yielding but only for a non-collegiate sample of women subjects. Both Crutchfield (1955) and Tuddenham (1959) found conformity negatively correlating with some sub-scales of the C.P.I.; but for different sub-scales. Appley and Moeller (1963), on the other hand, did not find any significant relationship between conformity and E.P.P.S. They used 38 personality measures from E.P.P.S., C.P.I., and P.P. scales, 27 of which were supposed to predict conformity as ascertained by competent judges.

Endler (1961) reasoned that because conformity to social influence is a complex phenomenon it requires differentiation into several distinct psychological processes; and so the lack of relationship between conformity and personality in a predicted direction could be due to the simplistic assumption that conformity is a single unitary variable. He distinguished four types of conformity by arranging situations into four phases. In the first phase, the subjects were tested individually on a 48 item scale

consisting of perceptual and informational items. After an interval of two to five days, in the second phase, conformity measures were obtained on the same items using Crutchfield apparatus under a social pressure condition. Immediately afterward, the subjects were tested for conformity in the same social situation without the overt pressure, which constituted phase three. Again, after two to five days, in phase four, subjects were tested individually. Subjects who remained independent in all phases were called 'independents;' those who yielded to overt group pressure (phase two) but remained independent in the subsequent phases, were interpreted as 'compliant;' those who yielded in phases two and three but showed independence in phase four, were said to be 'role-playing,' and those who conformed in all phases of experimental situations were taken to be true conformers. Endler could not be very definite about the distinctiveness of these processes, as conformity scores for the three situations were found to be highly and significantly correlated, though he was inclined to attribute it to the operation of memory process in subjects. Still, he failed to find any E.P.P.S. personality profiles of 'independents,' 'compliance,' and 'true conformers.'

These are a small sample of studies which failed to show up any convincing evidence for 'conforming personality.' The possibility that personality and situational variables may interact in complex ways, it seems, was often overlooked in them. The initial assumptions underlying the search for the 'conforming personality' are logical, inherently plausible and even consistent with the common-sense and intuitive impression. However, the value of the investigator's construct lies not in its intuitive certainty but in its demonstrable utility, established through empirical relations between observables. The relation-

ships obtained in correlational personality research are large enough to demonstrate that personality is not capricious. But the behavior of people, characterised by consistent dispositions, across settings is far from uniform. Usually the unimpressive results of studies searching for 'conforming personality' are interpreted as coming from inadequacies in the tests and samples employed, in the criterion measures adopted or in the particular personality construct advanced. Each of these objections undoubtedly has merit. But it would be more nearly true to say that such results reflect the simplicity and the untenability of such assumptions rather than merely the limitation of measurement techniques. We feel that it is better research strategy to seek out the classes of moderator variables that may limit a given personality-conformity relationship, rather than to try to circumvent such limitations in the quest for relatively unbounded generalizations. Indeed if, as we maintain, a valid specification of the personality-conformity dimension requires interaction formulations, then such formulations yield wider and richer generalizations than would delusively simple neat main-effect formulations.

In short, then, what is suggested here is that the construct of the 'conforming personality' has only a very limited validity and that it will be much more meaningful for predictions and decisions, to talk in terms of conformity-in-situation rather than conformity in general. It is true that the whole concept of personality is based on the assumption that there are certain general dispositions that the individual brings to the various situations in which he finds himself. These dispositions, however, are not necessarily engaged in all situations; and, when they are engaged, they may lead to rather different kinds of behavior, depending on the nature of the situation. The prediction of a particular behavior is then possible only

when the crucial aspects of the situation that engage the personality dispositions are specified. Empirical support for the above observation can be found in a study by Hunt (1965) who with colleagues attempted to estimate on an inventory of anxiety the variance attributable to modes of response, stimulus situations, and individual differences. He found that individual differences in anxiety accounted for only a very small proportion of the total variance, and that interactions accounted for 4 to 11 times the variance due to persons.

In the light of the above observations, we will next examine studies relating need Achievement and need Affiliation to conformity.

Studies of the Relations of Need Achievement and Need Affiliation to Conformity

In the early 1950's D. C. McClelland, J. W. Atkinson, and their associates conducted a series of investigations on the Achievement and Affiliation motives, popularizing these variables as useful tools for analysis in research on college students. The achievement motive, as the very name suggests, is described as concern over competition with some standard of excellence and the affiliation motive in turn is defined as concern over establishing and maintaining positive affective relations with others. These two motives are measured with the Thematic Apperception Test (commonly call TAT) developed by Murray and his associates in Harvard.

Some early studies (McClelland et al., 1953; Drebs, 1958) in this area sought simple linear relations between achievement and affiliation motives and conformity, presumably relying on the reasoning that the stronger a given motivational disposition, the greater the likelihood that the need-relevant behavior will occur. McClelland's theory of the development of

the achievement motive holds that the person with a strong achievement motive has internalized the standards of excellence with which he is competing, and is an independent and inner-directed individual. Consequently, it was felt that achievement motive should be negatively correlated with conformity. Empirical support was obtained by McClelland et al., (1953) who examined TAT stories written by some of Asch's subjects and scored them for achievement motive. There were 30 cases studied, 15 conformers and 15 who did not conform. Thirteen of the conformers scored low, and 13 of the 'independents' scored high on achievement motive. This study provided a good "prediction" on conformity, indicating the direct relationship of achievement motive to conformity. Additional support was provided by Krebs (1958) who found greatest conformity occurring in subjects who were low in achievement motive and also late in their childhood independence training.

Other studies, however, have shown that the relationship between achievement motive and conformity is not so direct and simple, suggesting that the original findings of McClelland et al., (1953) are neither general nor specifically unidirectional. Burdick (1955) pointed out that the assumption of a stable association between achievement motive and independence was erroneous because there are occasions when conformity can be instrumental in satisfying achievement needs. Under such circumstances a positive relationship between achievement motive and conformity should be obtained. Zajonc and Wahi (1961) provided support for this formulation in their study of the relation of conformity and need achievement under conditions of cross-cultural norm conflict. They showed that high need-achievement subjects were more conforming than lows, when conformity was perceived as instrumental to achievement. A similar positive association

between conformity and achievement motive was reported by Samelson (1958), who created a "reduced-conflict" situation under which the subjects were led to believe that they had special competence to perform the task. Under this condition, a positive correlation of 0.51 was obtained between need achievement and conformity. In a "full-conflict" situation comparable to the original Asch setting where subjects were confronted with the wrong unanimous judgment of the majority, no relationship was found between need achievement and conformity.

No unique relationship of the affiliation motive to conformity either has been established, although theoretical rationale points to a close positive relation between them. Hardy (1958), for example, hypothesized that individuals with strong affiliative motivation would be most conforming because of their strong need to be accepted and liked. In his experiment, the attitudes of male undergraduates toward divorce were first measured along with subjects' affiliation needs. Four to eleven weeks later, the subjects were placed in a group-influence situation where their beliefs were either unanimously opposed by all the other confederates or opposed with the exception of having one supporter. Based on a division of the subjects into high and low need-affiliation groups, he found no relationship between need affiliation and conformity.

However, following recommendations in earlier need-achievement research, he reanalyzed the data with a three-way division of the subjects into high, medium and low groups. Subjects high in need affiliation facing unanimous opposition from their group, conformed significantly more than the low group but were much less conforming in the presence of a supporting partner. Hardy thus pointed out a limiting condition of the operation of affiliation motive. Another condition limiting the direct relationship between

affiliation motive and conformity, was reported by Klein (1964). She found that those with strong needs for affiliation and also strong defensive tendencies were resistant to conformity pressures. In this case, the limiting condition stems rather from the other personality characteristic of the individual than the external condition.

Samelson (1958) thought that a study combining both motives would be much more meaningful and fruitful than one using them as separate dimensions. As was indicated earlier, he found a strong evidence of positive relationship between achievement motive and conformity. But surprisingly, he also found that affiliation motive is not directly related to conformity. He looked for its interaction with achievement motive and found the association of motive configuration with conformity pronounced. In conformity studies of unanimous group pressure, subjects' yielding to the erroneous norm of the group is usually attributed to the perceived social pressure. Samelson, on the other hand, thought that the resulting conformity could in part be due to the cognitive conflict that the subject experienced in the face of equal validity of his own definite perception and the contradictory majority response. The total situation for him was highly ambiguous and unstable in view of the fact that there was no information available to him to reconcile the conflict. Under such a condition, conformity would be the only simple recourse open to the subject. If the situation were to be made less ambiguous by giving subjects prior information regarding their ability for faster recognition, this would enable them to explain the disagreement as due to errors by the majority.

Samelson devised such a condition which he labeled as 'Reduced conflict situation' along with the 'Full conflict situation' in which subjects were confronted with the wrong majority judgments without any additional

information. The task was one of identifying tachistoscopically presented simple visual stimuli. He analyzed using both motive measures in combination, dividing into high and low scorers on each of the motives at the median for the larger population from which he had drawn the sample. The combination of affiliation motive with achievement motive was found to produce significant differentiation between subgroups. Subjects high in both motives under both conditions conformed most; whereas, those high in need for affiliation and low in need for achievement conformed least in both conditions. The effect of the experimental treatment was almost nil. The effect of conditions, however, was most pronounced only in the group low in both motives. Samelson offered a tentative interpretation of the finding that the Highs in both motives conform more than the High-Lows in both conditions because the High-High person compromises himself when confronted with a solid opposition. The plausibility of the interpretation aside, the results suggest that conforming is situation specific and not merely personality need specific.

A study of the association of similar motive configuration with conformity under different levels of task ambiguity, was reported by Sistrunk and McDavid (1965). They used the Edwards Personal Preference Scale for the assessment of achievement and affiliation motives in contrast to Samelson (1958) who derived the scores from TAT fantasy measure. They investigated interactions between the two motives using the three levels of task difficulty, called respectively as "difficult," "easy," and "insoluble." Their findings are in direct contrast to those of Samelson (1958). They found that for the high achievement group, the level of affiliation motive was not significantly related to frequency of yielding to group pressure; and also that within the high affiliation groups subjects displaying a high

level of achievement motivation conform significantly less frequently than subjects displaying a low level of achievement motivation. The investigators interpreted their findings by invoking a conceptual distinction between an informational form of social influence (in which conformity was found instrumental to accuracy of judgment) and a contrasted form of social influence in which conformity was related to agreement-seeking. In the former situation, conformity was incidental to goal attainment while in the latter situation, conformity was itself the criterion of goal attainment.

The sample of studies discussed above in relation to achievement and affiliation motives, does not point to any consistent conclusion definitive of their relationship to conformity. In order to specify whether any relationship, positive or negative, linear or curvilinear, will be found between these motives and conformity, what is required is a conceptual scheme according to which every situation is viewed as having unlimited and diverse possibilities for the satisfaction of a particular disposition, and likewise every personality is best viewed as a system of multiple possibilities, only some of which a given situation will elicit. The term multiple possibilities refers to the fact that a person may have many diverse tendencies to act, some weak and others strong varying along dimensions of stability, pervasiveness, consistency and patterning (Krech et al., 1962). Which one will issue in action depends upon the facilities and constraints of the environment. A tendency, though salient, may be expressed less often simply because of the balance of barriers and facilities in the situation.

Summary

Investigations linking personality characteristics to conformity were considered in this brief review from two or three approaches or points of view. There was an attempt to conceive of conformity as a trait or a stable disposition of personality, enduring through different kinds of situations. Such studies were found to fall short of requirements for ascertaining a trait of personality. Another approach is to study the degree and extent of association of conformity to other personality characteristics. No single consistent pattern of personality functioning associated with conformity could be discerned. Specifically, studies relating achievement motive and affiliation motive to independence and conformity respectively were examined, leading us to conclude that situational and personality variables interact to a degree that makes trans-situational generality of findings an unlikely occurrence. The following conclusions can be drawn.

- (1) That the personality variables cannot be considered in their relation to conformity independent of situational factors inasmuch as the one cannot be defined without defining the other;
- (2) That personality dispositions are to be conceived as having multiple possibilities instead of as a repository of certain traits regardless of situational diversity;
- (3) That a model for the study of personality characteristics related to conformity should take into account simultaneously the situational variables.

CHAPTER II

THEORY AND HYPOTHESES

The Problem

The problem of this study is an outgrowth of the research work by McKeachie (1961) who proposed a social-psychological framework for the study of academic performance of students in the classroom setting. He theorized that students' academic achievement is a joint function of their personality characteristics and situational cues emanating from teacher behavior. Students enter college with a number of important, relatively stable dispositions among which such motives as need for achievement and need for affiliation have held considerable intuitive appeal as being important for performance. He reasoned that if these motives could be elicited in students by appropriate teacher behavior, their academic achievement should be enhanced. Empirical support for this idea was shown in a series of studies (McKeachie et al., 1966) in which a significant interaction among affiliation cues, affiliation motives and grades was found. Students high in need for affiliation tended to score higher on various criterion measures in classes taught by teachers rated warm and friendly than in classes with teachers rated low in this dimension.

McKeachie (1961), while thus arguing for the study of interaction between motives and teacher cues for predicting grades in preference to straightforward studies seeking simple linear relations between motives and grades, suggested that similar interaction might be of significance in predicting students' attitude change as well. In the course of the review in Chapter 1, we have pointed out at many points that both theory and empirical findings indicate that many personality-conformity relationships

are quite complex and depart considerably from straight line functions. We found in particular that the motive for achievement and the motive for affiliation are good predictors of "independence" and conformity" behavior respectively, only when these motives are studied in their interaction with relevant situational conditions. For example, Hardy (1958) found that subjects high in affiliation motive facing a situation of unanimous opposition from the group, conformed significantly more than subjects low in the motive; but, when faced with a situation of partial support conformity behavior disappeared.

In this study the position is taken that conformity and independence as need-relevant behaviors are related to the affiliation motive and achievement motive respectively, but their effect is dependent upon how these motives, which are latent, become activated by appropriate situational cues. Therefore, in the light of the evidence surveyed in Chapter 1, and the suggestion by McKeachie (1961), the problem under investigation in this study is to determine the relationship of students' need for affiliation and need for achievement, classroom affiliation cues and achievement cues, and students' conformity and independence responses.

Theoretical Issues Related to the Concept of Conformity and Independence

The terms "conformity" and "independence" are found employed in many different ways in the psychological literature and it partly explains why the research literature in this area remains disparate in many of its findings and implications. We noted in the earlier chapter that the observed inconsistency of experimental evidence concerning the relationship between attributes of personality and conformity could be due to several reasons.

Perhaps the effects of personality characteristics are so slight that they are obscured by the more obvious and compelling effects of situational variables, or possibly researchers little realized that situational and personality variables interact to a degree that makes trans-situational consistency an unlikely occurrence. One other strong possibility is that the variables "conformity" and "independence" are so differently conceptualized and operationalized that comparison between studies becomes highly dubious and hazardous. Therefore, we will first examine the differential meaning of these terms as they are employed in the literature, and then we will clarify the particular meaning we attach to the terms for the purpose of this study.

The terms of "conformity" and "independence" are used in the literature to refer to both a particular social influence situation and an individual's response to it. The number and range of social influence situations that have been used in research are formidable. Conformity as one of the classes of social influence situations, has received a great amount of attention in the past two decades. The definition of a conformity situation has followed mostly the typical conditions that characterized the experimental situation of the Sherif and Asch studies. In them a subject is informed simply that a certain source holds a certain position on an issue and the source position is usually picked to be deliberately discrepant from the subject's, as measured earlier. The minimal condition necessary to define a conformity situation then, is the public avowal of individual judgment, argument supportive or against a position, clear sanctions for disagreement, and/or clear awareness of the group influence.

Sherif's situation or Asch's situation, however, is not the simplest condition imaginable. The simplest condition of conformity situation was

the one employed by Allport (1924) in his studies on "social facilitation," in which the subjects did not communicate or report their judgments aloud, yet in the end made fewer extreme judgments in the "together" condition than they did when working alone. As McKeachie (1954) observed, this suggests that the group members had some vague perception of the existence of the group norm, even when it had not been made explicit. Thus what we see in the literature is the employment of wide range of conditions--from the most general to the highly specific--all of which are definitive of the conformity situation. For the purpose of this study, we will not prescribe any minimal condition for a conformity situation, except that the individuals should belong to a group.

Conformity and independence, as categories of response, have been measured in different ways. Following Walker and Heyns (1962) conformity can be simply defined as a change in behavior toward the group norm and independence as away from the norm. Hollander and Willis (1967), however, questioned the adequacy of such a simple measure and argued for a more stringent one. In this view, in order to be considered as conforming, an act must be intended by the actor to fulfil the normative group expectancies as perceived by the individual. Accordingly, neither the change in behavior nor the intent alone is sufficient to define an act as conforming; both must be present and the direction of the change must be toward the group norm. They examined, in an extensive review of research, the conceptual confusion surrounding these terms. They found that it occurs at two different levels--the descriptive and the explanatory. At the descriptive level researchers studied manifest behavior of conformity, focussing their attention on the antecedent situational conditions and personality characteristics. At the explanatory level they looked for the underlying

psychological states and processes affecting the behavioral outcome differentially. An interdependence between the two levels of analysis is admitted, though very often it was the failure to distinguish the aforesaid levels consistently that contributed to confusion and conflicting findings.

Looking at a typical conformity situation in which an individual in a group finds his own opinion on an issue is discrepant with that of the group, there are three options he might consider. He may become independent and change his opinion away from the group norm; or he may stay with or move closer to the group's opinion and thus conform; or he may change so as to anticonform or counterform (Krech, Crutchfield, and Ballachy, 1962). Anticonformity or counterformity is construed as the polar opposite of conformity in the same dimension of dependent behavior; whereas, nonconformity is a case of independent behavior, indicative of resistance to social influence. Hollander and Willis (1967), therefore, argued for a differentiation of change response at least on "two dimensions" - dependence vs independence and conformity vs anticonformity. We could not, however, employ in this study the above differentiation in the definition of conformity as their study came to our attention long after we started the investigation. We are inclined to believe that such a differentiation of conformity in this study would have given the results greater effectiveness. Investigators however, prefer to study conformity following the generally accepted behavioral definition of conformity as a change of behavior in the direction of or in agreement with the modal behavior of the group. Such a definition of conformity is found to be the widely used one in most empirical studies. Accordingly, we will adopt, for the purpose of this study, the behavioral definitions of conformity and independence described as above.

Student Motivation and Conformity

Earlier in this chapter, while formulating the problem of this study, we indicated that students enter college with a large variety of discernible motives and we singled out the achievement motive and the affiliation motive for their importance in students' behavior in a classroom setting. As McKeachie (1961) pointed out, a motivational factor of major importance to all classes and students is to get good grades. In his words:

Whatever his motives for attending college, a student is motivated for grades. At the very least he must maintain an average high enough to remain in college and in most cases his access to vocational or other goals depends to some extent upon achievement of higher grades. This is probably particularly true at Michigan where we have a student body highly selected on the basis of high school grades, with relatively few students anticipating inheritance of positions resulting from the family fortune, and with a social climate emphasizing academic achievement (McKeachie, 1961, p. 114).

Though it is true that a large number of students go to college primarily to get a diploma or acquire knowledge, a good many students are also motivated by the fun that a college culture provides in the form of football, fraternities and sororities, dates, cars and drinking, and so on. Of course, teachers and courses and grades are in this picture of college culture, but somewhat dimly, in the background. These types of non-academic campus activities constitute an important function for a student seeking admission into college. They are essentially interpersonal and as such we find college a suitable locale for developing interpersonal relations as well as a prime place for academic achievement. Students compete for grades and earn their degrees; also, they socialize, cultivate contacts and win friends.

The college situation is thus highlighted by the socialization process-- a process of interaction whereby a student's behavior is modified to

expectations held by members of a group to which he belongs--and an educational process--a process by which students have to compete for good grades and strive for academic excellence. The relevance then of our choice of the motivational variables--need Achievement and need Affiliation--to study students' behavior in such a setting becomes obvious. We will now briefly consider the nature and origin of these motives and the a priori justification for relating them to conformity behavior and independence behavior of university students, with which this study is concerned.

The constructs of n. Achievement and n. Affiliation were first set out by McClelland and his associates (1953) when they introduced a theory of social motivation and devised a technique of measuring them. The achievement motive was defined as characterized by a tendency to strive to attain the satisfaction which accompanies successful competition with a standard of excellence. It is distinguished from the affiliation motive which is characterized by striving to attain the satisfaction which accompanies the establishment of warm, affectionate relationship with another person. Numerous behavioral correlates of the achievement motive were reported by researchers (McClelland et al., 1953; Walker and Heyns, 1962) validating the above definition of n. Achievement. Similar experimental validation was obtained for the definition of the affiliation motive (Atkinson, 1958).

One of the behavioral characteristics often found associated with the high achievers is self-reliance and independence of judgment. McClelland et al., (1953) analyzed the sources of the need for achievement and postulated that it is determined at least in part by socialization practices which emphasize early training for independence. A number of empirical studies suggested a close positive relation between achievement and independence response. Winterbottom (Atkinson, 1958) found that boys with high

n. Achievement scores were more independent than low scorers in their problem-solving efforts than those low in n. Achievement scores. Krebs (1958) reported that children's achievement tendency was positively related to their maintenance of independence in conformity-evoking situations. It seems reasonable then that as the child grows older his dependency responses diminish and as a result of demands for individual accomplishment from parents he develops more independent modes of responding to situations that formerly elicited dependent reactions. Striving for achievement may be one of these modes. From this analysis of the sources of the need for achievement, it follows that the achievement motivated individual should be more concerned with being independent and self-reliant than with establishing positive social relations and conforming to group standards.

Affiliation motivation is on the other hand, indicated by the desire to be with others, associate with others in an emotionally supportive way. Behavioral sequences dealing with attempts to establish, maintain, or restore positive affective relationships with other persons are found to characterize persons high in this motive. Individuals with strong affiliation motivation would then be the most conforming to group standards because of this strong need to be accepted and liked. Though there is no clear documentation of studies identifying antecedent factors unique to the development of affiliation motivation, both theory and common-sense point to the importance of one unique source of its origin. The newborn human baby is helpless, and its survival and well-being primarily involves dependence on and nurturance from others. All its needs are satisfied in a social situation and being with others has come to symbolize need satisfaction. Engaging in social relations or participation in social activities provide gratification of ego needs subsequently. Social approval boosts

up, social rejection deflates feelings of self-worth or esteem. Therefore, those for whom the association between need satisfaction and the presence of others is particularly strong will be highly motivated to affiliate with others--to establish and maintain friendly relationship with them. Insofar as conformity is believed to be instrumental to this end, the person so motivated will tend to conform.

Hypotheses

In order to assess the validity of the theoretical notions of the relations of the achievement motive and the affiliation motive to behavioral conformity, following hypotheses are proposed.

Hypothesis 1: The conformity score of students with strong affiliation motives will be higher in classes high in affiliation cues than in classes with few affiliation cues, while the conformity score of students with a weak affiliation motive scores will be lower in classes high in affiliation cues than in classes with a few affiliation cues.

The rationale for predicting a difference in conformity behavior of students high in affiliation motive is simple and straightforward. Students with strong concern for positive affiliative relations will find in the friendly cues coming from the class and the instructor both satisfaction and enhancement of their concern and consequently further satisfaction is obtained by conforming. The rationale for hypothesizing lower conformity score for students weak in affiliation motive in classes high in affiliation cues relative to classes low in affiliation cues, is not clear and evident from the theoretical reasoning advanced earlier. However, it is possible that students who have low concern for affiliative interpersonal relations may react to high affiliation cues of the classroom in the form of complete indifference to the class and as such they may show less concern

to go along with the class than their counterparts in the classroom with a few affiliation cues.

Hypothesis II: The independence score of students with a strong achievement motive scores will be higher in classes high in achievement cues than in classes with few achievement cues, while the independence score of students with low achievement motive will be lower in classes high in achievement cues than in classes with few achievement cues.

Here again we find the rationale for predicting a difference in independence behavior of students high in achievement motive is evident. Students high in achievement motive find in the achievement cues emitted by the instructor and the class, arousal of their motive resulting in their assertion of independence in contrast to conforming. In line with the thinking of Atkinson (1958) who chose to assume that "a relatively low n. Achievement score implies that the motive to avoid failure is relatively stronger than the motive to achievement within the individual," students with low achievement motive will only find in the classroom emphasis on achievement, heightening of their anxiety and as a result they will be much less prone to assert their independence than those of them in classes with few achievement cues.

The purpose of this study is to see whether empirical evidence could be found in support of the above hypotheses. The procedures employed to test them are described in the next Chapter. Besides testing of the above hypotheses, the persistence and permanance of conformity and independence behavior over time will be studied. The data collected from the same sample two years apart will make such a study possible.

CHAPTER III
THE SURVEY STUDY
Procedure

Sample

The study sample consisted of 203 students drawn from 38 of the 41 sections of the Introductory Psychology Course at The University of Michigan in the Spring semester 1963. At the beginning of the semester, all students enrolled in Introductory Psychology were invited to take a group of tests designed to measure a variety of variables among which the Student Opinion Survey Questionnaire was included. Two hundred and three students provided usable response on at least one scale but on one (Religion) the N was only 140. The same subject sample was contacted by mail in Spring 1965 to respond to the Student Opinion Survey Questionnaire. Of the 317 students contacted, 263 responded and 183 returns were found usable.

The Table 1 describes the study sample by its course, sex and classroom cue characteristics for Spring 1963 and Spring 1965.

Measures of the Variables

The Thematic Apperception Test (TAT) method developed and described by McClelland, Atkinson, Clark, and Lowell (1953) and Veroff, Atkinson, Feld, and Gurin (1960) was used to measure student need for achievement and affiliation. The scores for n. Achievement and n. Affiliation were obtained from protocols written in response to pictures which were the same as used in the national study of motivation by Veroff et al., (1960). Students were tested under neutral classroom conditions in a

TABLE 1

CHARACTERISTICS OF THE SAMPLE

		Spring 1963	Spring 1965
<u>Course</u>			
Psychology as a natural science		54	43
Psychology as a social science		149	140
<u>Sex</u>			
Male		91	66
Female		112	117
<u>Classroom Cues</u>			
Achievement Cues	High	95	93
	Low	73	90
Achievement Cues	High	125	112
	Low	78	71

large auditorium. Research assistants administered the tests separately for men and women. Usually the men assembled at one end of the auditorium and the women were at the other. Students were provided forms to write upon and each had a booklet of pictures. The protocols were scored by trained scorers with reliabilities ranging from .80 to .94 established with expert scorers. The testing session was completed in the first week of Spring semester 1963.

The scores obtained on n. Achievement and n. Affiliation by students in the sample were divided into three levels as shown in Table 2.

TABLE 2

Cutting Scores for Student n. Achievement, and n. Affiliation by Sex into Levels of High, Medium and Low

Motive	Score Ranges		
	Low	Medium	High
<u>n. Achievement</u>	Score Range	Score Range	Score Range
Male (N 281)	00-01	02-04	05-28
Female (N 360)	00-03	04-06	07-15
Together (N 641)	00-02	03-05	06-28
<u>n. Affiliation</u>			
Male (N 279)	00-02	03-05	06-17
Female (N 360)	00-04	05-08	09-21
Together (N 639)	00-03	04-06	07-21

A high score for n. Achievement indicates high level of achievement motive interpreted as high in hope of success. A low score defines a person as deficient in his concern for competition, suggestive of his high fear of failure. Similarly, a high score for n. Affiliation reflects high affiliative concern while a low score is presumed to reflect deficiency in such a concern or else fear of rejection.

Measures on classroom cues were obtained at the close of the

semester. The Student Rating Scale was an improved version of an earlier one described by Isaacson et al., (in McKeachie et al., 1964). A copy of the scale appears in Appendix A. Students rated their class on each item on the scale from 1 "almost always" to 5 "almost never." The following three items were selected to represent the achievement cues and the mean rating for each class was used as the index of the level of achievement cues in that class.

He maintained definite standards of student performance.
 He told students when they had done a particularly good job.
 He criticized poor work.

The measure of teacher affiliation cues was developed from the following single item.

He was friendly.

Affiliation cue scores could range from 1 to 5, achievement cues from 1 to 15. Low scores represent a high level of cues and high scores a low level. Mean scores for achievement cues and affiliation cues by sections and teachers are reported in Appendix C. The sections of the course were assigned to two levels of achievement and affiliation cues in accordance with their mean ratings by students, as shown in Table 3 below.

TABLE 3

Assignments of Sections to High and Low Levels of
Achievement Cues and Affiliation Cues

	Score Ranges			
	High Score Range	No. of Sections	Low Score Range	No. of Sections
Achievement Cues	6.6 - 8.1	20	8.4 - 11.7	18
Affiliation Cues	1.0 - 1.3	21	1.4 - 2.0	17

The measures of "conformity" and "independence" were derived from students' responses to a number of opinion scales which tap issues salient in the college setting. The student opinion scales used were first developed by Newcomb (1961) and later modified by Bogart (in McKeachie et al., 1964). In addition to Newcomb's scales on the issues of sex and family relations, religion, racial relationships, and political affairs, 10 more items of the same format related to assumptions regarding the nature of man and of psychology or psychologists were included in the form. The Student Opinion Survey Questionnaire used may be seen in Appendix B. Under each of the six general areas, 5 specific issues with five alternative positions resulting in 150 statements constituted the Questionnaire.

Conformity is operationally defined either as a change or shift in verbal behavior in the direction of the modal response or as an agreement between an individual's response and the modal response. The modal response of students in the post-test constituted the class norm, and

their post-test data were analysed for conformity and independence with respect to this class norm. The determination of the modal response was made by means of the greatest frequency of 'the most acceptable' (first rank) response to each alternative of the 30 questions of the Questionnaire. Wherever two alternatives are found almost equally sharing the number of first rank responses, the modal response was determined by considering together the frequency of the second rank-- 'the next most acceptable'--response.

Each scale of the Questionnaire consisted of five questions with five alternative answers to each. Some of the sets of five alternatives relevant to each issue were rationally scaled, while other sets were not. These scales not subject to rational ordering were included in the instrument, because we were less interested in our student subjects' "absolute" positions with regard to any issue than in person-to-group similarities and discrepancies in opinion. Students rank-ordered the five alternatives for each question in terms of their acceptability both in the beginning and at the end of the semester and also after an interval of two years. The conformity score ordinarily consisted of the number of questions on which his first and second ranks, or either one of them was closer to the modal response on subsequent occasions. However, if the S was in agreement with the modal response on the both pre- and post-tests, he was given a conformity score of 1. The conformity score thus ranged from zero indicating no conformity, to five indicating high conformity, on each of the six scales.

Independence is operationally defined as a change away from the modal response. An index of independence was developed by looking for agreement of third and fourth ranks with the modal response. The

independence score consisted of the number of questions on which his third and fourth ranks, or either one of them on subsequent occasions was closer to the modal response. A fifth rank given to a modal response was not scored as independence, inasmuch as the fifth rank--"the least acceptable"--response was construed as representing rather anticonformity or counterformity than independence. The independence score also thus ranged from zero indicating no independence to five, indicating high independence.

The Questionnaire was administered to the students early in Spring semester of 1963 as a pre-test and again as a post-test at the end of that semester. A second post-test was conducted with the same form on the same set of students during Spring semester of 1965, after an interval of two years.

The pre-test was conducted at special testing sessions at the beginning of the semester along with other assessment devices used to measure students' other personality measures. The first post-test was administered in class during the last two weeks of the semester.

A question arose as to how far it is tenable to base the index of conformity or independence, on the classroom norm derived solely from the modal response of students. Teachers hold a central-position in the classroom setup and represent particularly a potent source of influence on students. If the teachers happened to hold and advocate a position at variance with the student classroom norm on the issues, it would be rather difficult to interpret properly the index of conformity or independence. It was therefore thought necessary that the position of teachers of the sample on those issues should be ascertained along

with the information as to how often those issues were raised in the classroom. There were 24 different teachers for the students of our sample, most of whom were graduate teaching fellows. The 150 item Questionnaire was sent to them by mail in Spring 1968. Only nine responded and only seven of them completed the Questionnaire. Their responses showed that their position on the issues coincided with the position of their students as expressed in the modal response of the sample. Most of them also reported that the general issues of the Questionnaire were raised for discussion 'sometimes' in their class. None reported that they were ever 'rarely' raised in their class. Thus, with this slight verification of teachers' position largely concurring with students' norm on the issues, our confidence in the validity of our procedure in developing indices of conformity and independence was strengthened somewhat.

The distribution of student conformity scores and independence scores for each scale obtained in Spring 1963 and 1965 is reported in Tables 4 to 7.

Design of Study

The statistical hypotheses were stated in terms of interactions and a 3 x 2 factorial design was used in which the students' motives --n. Affiliation and n. Achievement--were classified in three levels, classroom cues in two. Since it was not possible to have equal N's in the cells and the inequalities were judged to have occurred for reasons not related to the nature of the particular treatments in the design, an unweighted means of analysis of variance was used. The tedium of

operation was greatly reduced by the availability of a computer program.

TABLE 4

CONFORMITY SCORES IN SPRING 1963 FOR THE SIX SCALES OF THE STUDENT
OPINION SURVEY QUESTIONNAIRE

Scores	Scales					
	Psychology as a science	Nature of Man	Family & Sex	Religion	Public Affairs	Race Relations
	1	2	3	4	5	6
0	0	6	1	0	0	1
1	0	26	1	2	10	3
2	12	51	9	13	33	17
3	45	53	34	26	66	30
4	102	48	77	49	69	92
5	44	19	81	69	25	60
N	203	203	203	159	203	203
Mean	3.88	2.82	4.11	4.06	3.08	3.92
S.D.	.80	1.29	.91	.96	1.19	.97

TABLE 5

INDEPENDENCE SCORES IN SPRING 1963 FOR THE SIX SCALES OF THE STUDENT
OPINION SURVEY QUESTIONNAIRE

Scores	Scales					
	Psychology as a science	Nature of Man	Family & Sex	Religion	Public Affairs	Race Relations
	1	2	3	4	5	6
0	52	16	91	80	25	55
1	79	52	55	37	68	79
2	33	46	17	14	50	20
3	4	37	3	8	21	12
4	0	13	1	1	4	2
5	0	4	1	0	0	0
N	168	168	168	140	168	168
Mean	.94	1.93	.64	.66	1.47	.97
S.D.	.77	1.22	.85	.92	.97	.90

TABLE 6

CONFORMITY SCORES IN SPRING 1965 FOR THE SIX SCALES OF THE STUDENT
OPINION SURVEY QUESTIONNAIRE

Scores	Scales					
	Psychology as a science	Nature of Man	Family & Sex	Religion	Public Affairs	Race Relations
	1	2	3	4	5	6
0	0	4	7	6	5	5
1	8	16	13	11	12	19
2	41	38	42	46	60	49
3	71	57	42	55	65	51
4	51	40	57	43	31	36
5	12	28	22	22	10	23
N	183	183	183	183	183	183
Mean	3.10	3.10	3.10	3.01	2.74	2.89
S.D.	.96	1.19	1.19	1.42	1.07	1.28

TABLE 7

INDEPENDENCE SCORES IN SPRING 1965 FOR THE SIX SCALES OF THE STUDENT
OPINION SURVEY QUESTIONNAIRE

Scores	Scales					
	Psychology as a science	Nature of Man	Family & Sex	Religion	Public Affairs	Race Relations
	1	2	3	4	5	6
0	12	28	21	24	18	26
1	47	42	56	47	39	34
2	59	58	47	49	58	56
3	53	39	44	42	47	49
4	12	14	14	21	19	17
5	0	2	1	0	2	1
N	183	183	183	183	183	183
Mean	2.03	1.86	1.86	1.99	2.09	2.00
S.D.	1.04	1.20	1.20	1.13	1.17	1.19

Results

The common feature of the hypotheses of the study is that the relationship between the motives and conformity or independence behavior is not considered to be direct and uniform but depends on the level of motive-relevant situational cues. Confirmation for this was obtained only with respect to the affiliation motive. The results for each motive will be presented separately.

We predicted greater conformity by students with a strong affiliation motive who were in classes high in affiliation cues than by high affiliation students in classes low in affiliation cues. For students low in affiliative motive, greater conformity was predicted in classes low in affiliation cues. Complete tables of variance estimates, F-ratios, and significance levels for the two-way analysis of variance along with the means for the four groups in their appropriate cells are reported in Appendix E. A summary of the results appears in the first line of Table 8. The interactions turned out to be in the hypothesized direction and significant for all issues except 'Family Relations and Sex.' No main effect was significant for any issue.

The hypothesis of this study is primarily concerned with predictions of conformity and independence behavior of student groups at the high and low levels of the affiliation motive. Something very positive was predicted about each level. But no positive predictions are made about the groups at the intermediate level of the motive. Further, we suspected that some of the interactions obtained could have been due to the presence of this intermediate group in our analysis. Therefore, combining the conformity scores for all issues into a single score for

TABLE 8

SUMMARY OF RESULTS OF ANALYSIS OF VARIANCE
FOR CONFORMITY SCORES, SPRING 1963

VARIABLES	OPINION ISSUES				
	Psychology as a science	Nature of Man	Family Rela- tions & Sex	Religion	Public Affairs Race Relations
n. Affiliation(A) X Affiliation Cues(B)	.001	.001	N.S.	.05	.05 .01
Sex(A) X n. Affili- ation(B) X Affili- ation Cues(C)	.01	N.S.	N.S.	N.S.	N.S. N.S.
Course(A) X n. Affi- liation(B) X Affi- liation Cues(C)	N.S B X C .001	N.S. B X C .001	N.S.	N.S. B X C .05	N.S. B X C .01

each subject, an analysis of variance was performed on conformity scores of only the students at high and low levels of the affiliation motive. The results are shown below in Table 9.

TABLE 9
ANALYSIS OF VARIANCE FOR CONFORMITY SCORES, Spring 1963

Source of Variation	Sum of Squares	df	Mean Squares	F	P
Affiliation Motive (A)	4.29	1	4.29		
Affiliation Cues (B)	10.72	1	10.72		
Interaction: A X B	43.94	1	43.94	5.35	.05
Within Cells (error)	895.00	109	8.21		

It was thought that an analysis in terms of higher order interactions with controls on variables like Sex and Course might add to the quality of the information. Such an analysis was carried out and the results are reported in Tables 24 to 35 in Appendix E and summaries appear in the second and third lines of Table 8. The control on sex permitted a certain amount of refinement in the already established interaction of the affiliation motive and affiliation cues only on the issue of 'Psychology as a Science.' Control on sex differentiated groups high on the affiliation motive with women scoring higher than men. However, no such differentiation was noticed for groups low in the affiliation motive. A significant main effect of sex was found on conformity scores on the issue of 'Family Relations and sex' ($p < .001$,

Table). Women scored higher than men at all levels of the affiliation motive and affiliation cues. The Course variable did not show any effect on the interaction of the affiliation motive and affiliation cues on conformity. The control on sex and course however, seems to have wiped out the interaction effect observed on the issue of 'Public Affairs.'

The relations of the interactions of the achievement motive with achievement cues to independence scores are presented in Tables 36 to 41 of Appendix E. Except on the issue of 'Nature of Man' the hypothesized interaction failed to materialize. There were interactions approaching significance in the predicted direction on the issues of 'Psychology as a Science' and 'Public Affairs' ($.05 < p < .10$). There was no main effect for the achievement motive on any of the issues. In view of the large number of nonindependent tests carried out the single significant interaction effect obtained could very well be due to errors generated by sampling. But the occurrence of some interactions approaching significance for two other issues gives some slight support to the rationale of the hypothesis.

The achievement motive research (Atkinson, 1958; McKeachie, 1961) has consistently reported the existence of sex differences in achievement motive. Women were found to score higher than men on the TAT measurement of the achievement motive. A check on our data supports this finding. In view of the importance of sex differences then, the analysis of variance test with control on sex was carried out looking for the emergence of the hypothesized interaction between achievement motive and achievement cues. Tables 42 to 47 describe the results and the analysis. The anticipated interactions again failed to appear. There was a significant main effect of sex, however, on independence scores

on the issue of 'Family Relations and Sex' ($p < .005$). The mean score on independence was generally higher for men than for women. Further, the sex factor significantly interacted with classroom achievement cues on this issue, men scoring high in independence in classes low in achievement cues while women scored high in classes high in achievement cues (Table 44 - Appendix E).

It was felt that a mean score comparison of the subgroups at the level of highs and lows only on the achievement motive for men and women might reveal the elusive interaction effects between the achievement motive and achievement cues on independence scores. The independence scores for all the issues were combined for each subject and the comparison of the two levels under achievement cues for the high thirds and the low thirds in achievement motive separately was made to test the hypothesis of no difference by the statistic. The comparison was made separately for men and women and the results are shown in Table 10.

Women seem to score significantly higher in low achievement cues classes irrespective of their position on the achievement motive. Neither of these variables, however, had any effect on the score position of male subjects. We suspected that the two different orientations under which the Introductory Psychology was taught could have been responsible for producing cancellation effects in comparisons. A three factor analysis of variance of independence scores was carried out on the data but no significant interaction between course, the achievement motive and achievement cues occurred. A summary of the analysis of variance for independence scores is presented in Table 11.

A second set of post-test data was obtained from the same sample two years after the first post-test to investigate the permanence or the

TABLE 10
COMPARISON OF INDEPENDENCE SCORES

	Highs in Achievement Motive (Men)			
	Achievement Cues			
	High	Low	t	p
Mean	6.50	7.17		
Standard Deviation	1.54	1.04		
n	14	6	10	N.S.
	Lows in Achievement Motive (Men)			
	Achievement Cues			
	High	Low	t	p
Mean	8.44	7.89		
Standard Deviation	3.03	3.37		
n	9	9	.36	N.S.
	Highs in Achievement Motive (Women)			
	Achievement Cues			
	High	Low	t	p
Mean	5.60	7.84		
Standard Deviation	2.01	2.22		
n	10	19	2.7	.01
	Lows in Achievement Motive (Women)			
	Achievement Cues			
	High	Low	t	p
Mean	5.80	8.89		
Standard Deviation	1.22	1.91		
n	15	9	-7.2	.001

TABLE 11

SUMMARY OF RESULTS OF ANALYSIS OF VARIANCE
FOR INDEPENDENCE SCORES, SPRING 1963

VARIABLES	OPINION ISSUES					
	Psychology as a science	Nature of Man	Family Rela- tions & Sex	Religion	Public Affairs	Race Relations
n. Achievement(A) X Achievement Cues(B)	N.S.	.05	N.S.	N.S.	N.S.	N.S.
Sex(A) X n. Achieve- ment(B) X Achieve- ment Cues(C)	N.S. A X B .05	N.S. C .05 A X C .05	.005	N.S.	N.S.	N.S.
Course(A) X Achieve- ment(B) X Achieve- ment Cues(C)	N.S.	N.S.	N.S.	N.S.	N.S.	N.S.

transitoriness of conformity and independence behavior with respect to the same issues. A comparison of conformity and independence scores obtained on the same subjects belonging to the different experimental groups at the first post-test in Spring 1963 and at the second post-test in Spring 1965 was made by testing the hypothesis of no difference between them. Results shown in Tables 12 and 13 reveal a significant difference in both conformity and independence scores in the direction of greater independence and lesser conformity in their opinion on the six issues of the Questionnaire. The *t* statistic was computed by direct difference method for conformity and independence scores.

TABLE 12

COMPARISON OF CONFORMITY SCORES OF THE FIRST
POST-TEST (1963) AND THE SECOND POST-TEST(1965)

n. Affiliation	Affiliation Cues:	Conformity Scores 1963	Conformity Scores 1965	$\bar{D}$	df	t	p
High	High	22.09	18.00	4.09	31	4.22	.001
	Low	21.35	18.82	2.53	27	2.02	N.S.
Low	High	19.64	17.85	1.79	23	2.85	.05
	Low	22.34	19.75	2.59	14	3.16	.01

TABLE 13

COMPARISON OF INDEPENDENCE SCORES FOR MEN AND WOMEN
OF THE FIRST POST-TEST (1963) AND THE SECOND POST-TEST (1965)

<u>Women</u>		Independence Score						
Motive		Cues	(Mean Score)					
n.	Achievement	Achievement	1963	1965	$\bar{D}$	df	t	P
	High	cues: High	5.60	9.45	-3.85	9	3.96	.01
		Low	7.82	10.24	-2.42	15	3.45	.01
	Low	High	5.68	9.36	-3.68	11	3.84	.01
		Low	8.85	11.34	-2.49	7	2.89	.05
<u>Men</u>								
	High	High	6.32	10.54	-4.22	10	5.17	.001
		Low	7.17	11.24	-4.07	5	4.92	.01
	Low	High	8.48	11.36	-2.88	6	3.16	.05
		Low	7.92	10.65	-2.73	4	3.09	.05

Discussion

The purpose of this study was to examine and explore the relatedness of two motives--achievement and affiliation--as aroused by the relevant classroom cues, to conformity and independence responses. We predicted that students high in affiliation motive would conform more under high than low levels of affiliative cues and that students low in the affiliation motive would be unaffected by the high level of affiliative cues in the classroom and as such would conform less than their counterparts in the low affiliation cue classrooms. The results obtained clearly supported our hypothesis. This hypothesized pattern of conformity was found to be 'unbounded' in that the same pattern of finding emerged through a variety of attitudinal issues. The issue of 'Family Relations and Sex,' constituted the only exception. It is understandable that an issue as cathected for the individual as sex and family relations might be an exception to his otherwise familiar pattern of conformity response to external standards. We know, in a general way that decisions which are not ego-involved are more easily influenced from the outside and the issues on which we had obtained students' opinion are largely matters--political, social and intellectual in nature--involving relatively a lesser degree of emotional investment and as such subject to easy outside influence. Questions of family and sex relationships, on the other hand, are intensely personal involving total emotional investment. It is reasonable and perfectly understandable then that students failed to conform to the modal response of the class on this issue. The importance of the concept of investment or cathexis on an issue for a person in the regulation of his behavior overriding the existing concerns

or dispositions which customarily govern his actions, has been pointed out by Jahoda (1959).

It has been our contention from the beginning that the total motivation of an individual to perform a given act cannot be simply equated with need strength alone. We pointed out the misleading simplicity of an approach which assumes that the stronger a given motive, the greater the likelihood that the motive-relevant behavior will occur. As Atkinson (1958) has stated, it is necessary to distinguish between motives, which are relatively stable dispositions of the person, and aroused motivation, which is conceived to be a joint function of the individual's motives and the situational cues. The results of our study amply support our contention in the case of affiliation motivation. The absence of main effects of the affiliation motive on conformity strengthens our belief that important effects may lie at the level of interactions rather than at the simple level of need-affiliation-conformity hypothesis.

Both theory and commonsense point to the linkage of the affiliation motivation to behavioral conformity and the first part of our hypothesis I dealt with such a prediction. Our results illustrated such a linkage. The second part of the hypothesis I predicted that students low in affiliation motive would conform less in classes high than low in affiliation cues. This prediction also was supported by our data as shown in Table 14. We could not find any compelling reason based on theory or intuition, for such a prediction. However, a speculation may be in order. We know that the total fantasy score for need achievement and need affiliation consists of "approach" and "avoidance" imagery which is related to behavior in different ways (Atkinson, 1958; Veroff et. al., 1960). The "approach" imagery of

TABLE 14

COMPARISON OF CONFORMITY SCORES

Highs in Affiliation Motive				
Affiliation Cues				
	<u>High</u>	<u>Low</u>	t	p
Mean	22.34	21.70		
Standard Deviation	2.43	3.07	.95	N.S.
n.	35	31		

Lows in Affiliation Motive				
Affiliation Cues				
	<u>High</u>	<u>Low</u>	t	p
Mean	20.67	22.58		
Standard Deviation	3.25	2.87	-2.03	.05
n.	30	17		

n. Affiliation represented by high scores reflect the positive aspect of the motive involving desire for acceptance and the "avoidance" imagery of n. Affiliation represented by low scores reflect the negative aspect of the motive involving fear of rejection. Individuals with moderate or low n. Affiliation scores are defensively oriented and anxiously motivated towards affiliation. This anxiety is associated with a fear of rejection which in turn leads to increased conformity provided the instigating affiliation cues are low. In a situation where affiliation cues predominate, those with low scores react highly defensively and become inhibited in their need-appropriate response of conformity. The validity of this mode of explanation could be checked empirically to some extent by measures of anxiety on those individuals.

The subject's sex has consistently proved to be a differentiating variable in conformity research. Beloff (1958), Asch (1956), Crutchfield (1955), and Tuddenham (1959) all report that women are more conforming than men. Role expectation and role-prescription explanations are usually advanced to account for the differential effect of sex on conformity. Our study did show that sex is a differentiating variable, though the results were not consistent. We reported a significant triple interaction between sex, the affiliation motive, and affiliation cues on the issue of 'Psychology as a Science (Table 24) and also observed a very high significant main effect of sex on conformity on the issue of family relations and sex ($p < .001$, Table 26, Appendix E).

The results were disappointing with the testing of our hypotheses on the interaction of the achievement motive and achievement cues on independence behavior. The expected interaction failed to materialize on all six issues except one- the nature of man- for which a significant interaction

at .05 level was obtained. Even this did not endure in higher order interactions with sex and course variables. Further, no significant main effects of the achievement motive on independence was observed.

An examination of the cell means of Tables 36, 37 and 40 in Appendix E shows the evidence of interactions in the hypothesised direction sometimes close to significance. It was not that the study and analysis were undertaken in an exploratory groping fashion and that we stumbled upon a couple of interactions of which one is significant and the others less than significant. We were specifically looking for just such an interaction and the fact that our search was rewarded more than once by the discovery of interactions across issues was gratifying to us. The interaction of teacher produced achievement cues and n. Achievement, it is true, accounted for very little of the variance in independence scores but the results in the expected direction on at least three of the six opinion issues was found reassuring. Therefore, the results though disappointing, were not dismal.

One possible explanation for the failure to get confirmation of the interaction hypothesis regarding the achievement motive and achievement cues on independence scores could be that students may have experienced conflict in the exposure to conflicting cues coming from the teacher on one side and the class students on the other. It is likely that the class students give off affiliation cues while the teacher is perceived as achievement demanding. Our measure of achievement cues did not take into account the possibility of such a conflict inasmuch as our measure was constituted entirely by items about teacher cues only.

Regarding the question of permanence or transitoriness of conformity and independence behaviors of students with respect to those six issues, we noted a general trend towards greater independence from and lesser conformity

to the classroom norm of the Questionnaire. Interesting changes or shifts in the direction of greater maturity and individuality with respect to certain specific questions of the issues are noticeable from Tables in Appendix D. We will present the discussion for each issue separately.

Regarding the issue of Psychology as a science, still a large percentage of the sample continued to subscribe to their earlier norm, though a shift towards extreme positions had occurred for some. For example, on the question of concern over the use of psychology or of the extent to which psychology be put to use to influence behavior of the extent to which psychology is a science, the opinion seemed to have become diverse away from the norm. The opinion that psychology is as much a science as any other natural science to which nearly 35 to 40 percentage of students subscribed, was found to be preferred two years after only by a negligible 4 percent of the same sample. Similarly the belief that psychology should be used to influence others, which drew the support of 21 to 23 percent, was given the first rank preference in the second post test by only 9% of the sample. To the question of concern about the uses of psychology, there was a good percentage of shift from the position that psychology provides the possessor with power which can be abused if one is not vigilant, to a humbler position that psychology is harmless and far less powerful. That students turned sober and realistic in their appraisal of the role, nature and use of psychology as a science after two or three years of college experience, is discernible from their post test responses.

On the issue of the nature of man, a tendency to view human nature less idealistically is noticed. Though the majority continued to view man as neutral, equally capable of good and evil, there was a shift from the position that man is basically good to a more discriminate position that man

is predominantly good by a sizable percentage. With regard to the position whether man is free or determined, a steady shift towards a position of more autonomy and free-will had occurred. On the question of to what extent man is to be differentiated from the lower animals, greater recognition of man's uniqueness was registered. In general, students' responses two years later, were less idealistic.

Turning to the issue of family relations and sex, we find important shifts in responses to two specific questions. On the question of marriage before finishing college, a change from the neutral position that such an event is neither good nor bad, to a position that it is good and should be encouraged had occurred in the response of a large number of students. Regarding the role of sex in a good marriage relationship, nearly three fourths of the sample felt that sex was only one of several bases of good marriage in 1963; two years later, sex was given to be the most important base of a good marriage by about thirty percent of the sample.

The pattern of shift in position on the issues of religion is marked. The earlier position, characterised by a total appreciation of other faiths, respect for the different, and pervasiveness of religion in every day life decisions, gave way to a discriminate appreciation of and tolerance towards other faiths and increased rationality in everyday decisions. Though the majority continued to feel that religion should provide a guide to one's life, nearly an equal number felt inclined to draw the line of limitation on religion in decision-making. They were more willing to base their daily decisions on reason and experience than on faith.

In the field of public affairs, to the question of how good a president was Eisenhower, the early opinion of fair to good gave place to a polarised opinion of either excellent or poor. On the specific issue of

the need for selective service in the country, a shift from the position of its universality to one of its limitation or abolition is discerned. Seventy-two percent of the sample advocated compulsory selective service for all; but two years later in Spring 1965, only thirty-three percent wanted selective service for all. Twenty-five percent wanted the abolition of selective service compared to the three percent earlier.

Questions of race relationship exhibited large shifts in opinion. Earlier seventy percent of the sample advocated a position of no segregation of schools and felt that blacks and whites should attend the same schools. Two years later, the position was softened to one of advocating separate schools for those who wanted them. Concerning laws against Negro-White marriages, the majority in 1963 viewed them as wrong but agreed that such marriages should be discouraged. In 1965, they shifted to a position of advocating that every man has a right to marry anyone he pleases. In general, a shift to greater individuality is discerned in students' responses as the years went by.

In short, the picture of a student that emerges from his responses in Spring 1965 is different from the one that can be gathered from his Spring responses to the same Questionnaire. He showed a shift to greater individuality, independence in judgment and maturity. Relatively, he had grown less conventional and idealistic and more practical and deliberate.

Summary

This naturalistic survey study was designed to investigate the interactions of classroom cues and students' motives in producing students' conformity and independence behavior. Specifically, it was predicted that the conformity scores of students with a high level of affiliation motive will be relatively higher in classes high in affiliation cues than in classes

low in affiliation cues; that the conformity scores of students with a weak affiliation motive scores will be relatively lower in classes high in affiliation cues than in classes with a few affiliation cues. The results lent support to the above two aspects of our hypothesis.

A similar hypothesis regarding the interaction of the achievement motive and achievement cues was set up with independence as the dependent variable, but the analysis failed to bear it out. A triple order interaction analysis with sex and course as the third independent variable was carried out in order to find whether with such refinements and control, the expected interactions would emerge. No higher interactions were noticed.

A replication of the study on the same sample two years later to determine the durability of conformity and independence responses revealed that students shifted their positions in the direction of greater independence and lesser conformity on a number of aspects of the six major issues of the Questionnaire.

CHAPTER IV

AN OVERVIEW

The purpose of this study was to examine the relation of need achievement and need affiliation to conformity as mediated by relevant classroom situational cues. Hypotheses, predicting interaction of motives and cues, were advanced based on a social psychological model that McKeachie (1961) employed with positive results in his study of students' academic achievement. The model assumes, in the midst of confusions and contradictions surrounding the results of single-shot studies seeking simple linear relations between motivational dispositions and behavioral conformity, that human action is determined by the arousal of latent motives in the presence of relevant situational cues.

The motives of need achievement and need affiliation were selected for the study as they were found to characterise some salient concerns of students in classroom. Students of Introductory Psychology formed the sample of our study, from whom we had gathered data regarding the above motives, opinions on six different issues, and ratings of their teachers in the classroom. Students' opinions on the six different issues were ascertained both in the beginning and at the end of the semester and also after a two year period. Indexes of conformity and independence were generated from the opinion scores. Students were divided into three levels on motives and classrooms were classified into levels of high and low affiliation and achievement cues. Since we were interested in assessing the simultaneous effects of the two independent variables and particularly the interaction between them--that is, the differential effects of one of them at different levels

of the other, a factorial design of analysis of variance was employed.

We obtained confirmation of our hypothesis regarding the interaction of the affiliation motive and affiliation cues. The observed interaction was general and the direction of interaction was the same through differences in issues on which opinions were sought. The only exception to this generality of finding was the issue of 'family relations and sex'. We were inclined to interpret this singular exception as a case of pointing to the limits of or mitigating circumstances affecting the anticipated interaction. Attention was drawn to the need to distinguish issues in terms of their centrality and cathectedness and in the light of such a distinction the discrepancy of the result could be considered to be meaningful.

The results failed to support our predictions about the relation of the interaction of the achievement motive and achievement cues to independence responses of students. An analysis with control on sex likewise failed to spot interactions. Sex interacted with achievement cues and women were found to score significantly higher in classes high in achievement cues while men scored higher in classes low in achievement cues. The level of their achievement motive did not differentiate them on independence.

The research on the validation of the achievement motivation in general had given rise to more problems to investigators than satisfactory clear-cut results. More often the problems encountered were complicated by the ambiguities in the thematic apperception measures of the need. The approach and avoidance aspects of this motivational construct were sought to be measured by using categories of the n. Achievement system, and such an effort had not been encouraging (McKeachie et al., 1964). Our failure to

obtain any significant interactions between the achievement motive and classroom cues then was not particularly surprising.

Students were found to have changed their positions on many aspects of the different issues on which their opinion was assessed two years apart. The change was interpreted as one towards lesser conformity and increased independence from the norm of the student group. A general tendency towards increased individuality and informed realism in the response was discerned.

In conclusion, we can claim to have had moderate success in our efforts to discover the social-psychological basis of interaction of cues and motive. The single contribution of this study to the social-psychological research is that we were able to specify that situational variables interact with what motives, following the lead of McKeachie (1961).

Implications for Future Research

We reported confirmation of both aspects of our hypothesis regarding the interaction of the affiliation motive with affiliation cues on conformity. We also pointed out that the rationale underlying the first aspect of the hypothesis was straightforward in that both theory and intuition imply that a highly aroused motivational state of affiliation is very conducive to conformity. But when we posited a low level of conformity for students low in affiliation motive, we predicted that it will be lower in classes high in affiliation cues than in classes low in affiliation cues. The results were again in the expected direction. The theoretical rationale advanced for this differential outcome was a little more complicated, in that low scores in n. Affiliation was interpreted as reflecting anxiety coupled with the fear of rejection. The fear of rejection should normally dispose one to increased conformity but under a condition of arousal by a large amount of

affiliation cues, the individual's heightened anxiety inhibits him in his conformity. Hence the low level of conformity. This explanation thus employs the mediating variable of anxiety in suppressing conformity. It should be possible to measure this moderator variable of anxiety and check the adequacy of the explanation advanced. We would prefer an independent measure of fear of rejection and the concomittant anxiety rather than solely rely on low n. Affiliation.

Further our measure of classroom cues was derived from students' response to items concerning the teacher behavior in the class and as such failed to take into consideration the possibility of such cues coming into conflict with the classroom cues emanating from students. Future research in this area would do well to pay attention to this differentiation in developing a measure of classroom cues.

APPENDICES

APPENDIX - A
STUDENT RATING SCALE

This year, as in past years, we ask every student to help improve the teaching of Psychology by rating many aspects of his discussion section. Your instructors want to make the discussion sections as valuable to their students as is possible. The reactions of thoughtful students have, in the past, proved their worth to many instructors.

DIRECTIONS

Please make no marks in this booklet but record your answers on the separate answer sheet using the special pencil with which you have been provided. At the top of the answer sheet fill in the blanks for sex, instructor's name and in the blank "grade or class" put in the time your section meets. In the blank numbered 1 (just beneath the word "School") write your present college standing (freshman, sophomore, etc.); in the blank numbered 2 write your over-all grade point average at this University, unless you are a first semester freshman. If you are a first semester freshman write your standing in your high school graduating class and the size of the class.

Do not put your name on either the answer sheet or the test booklet. Your instructor will not receive the answer sheets until after course grades have been turned in.

1. How would you rate your instructor in general (all-around) teaching ability?
 - A. an outstanding and stimulating instructor.
 - B. a very good instructor.
 - C. a good instructor.
 - D. an adequate, but not stimulating instructor.
 - E. a poor and inadequate instructor.
2. How would you rate the over-all value of this course?
 - A. superior
 - B. very good
 - C. good
 - D. fair
 - E. poor
3. How would you rate the value to your education of your experience participating in psychological experiment?
 - A. one of the most valuable ways to spend three hours of course time.
 - B. more valuable than typical class sessions or assignments.
 - C. as valuable as other course experiences.
 - D. educational, but not of as much value as other experiences.
 - E. of no educational value.

How would you rate the lecture series as a whole?

- A. one of the most interesting and stimulating experiences I have had at the University.
- B. very interesting and stimulating.
- C. an average kind of experience--neither more or less interesting than other course lectures.
- D. somewhat less interesting than other course lectures, in other courses.
- E. generally dull and boring.

DIRECTIONS

The questions which follow make it possible to describe your instructor or his teaching of the discussion section. The items simply describe his behavior; they do not judge whether the behavior is desirable or undesirable. Therefore, in no way are the questions to be considered a "test" either of

the ability of the person answering the items or of the quality of the instructor's behavior. We simply want a description of what he does.

Read each item carefully. Think about how frequently the behavior described by the item occurred.

Mark your answer to each item on the separate answer sheet in accordance with the following scale:

- A. This almost always occurred.
- B. This often occurred.
- C. This occasionally occurred.
- D. This seldom occurred.
- E. This almost never occurred.

- 5. The students in the class were friendly.
- 6. Class time was well spent.
- 7. The instructor was skillful in observing student reactions.
- 8. He maintained definite standards of student performance.
- 9. In his class, I felt free to express my opinions.
- 10. The instructor assigned very difficult reading.
- 11. He encouraged class members to work as a team.
- 12. Students argued with one another or with the instructor, not necessarily with hostility.
- 13. The instructor ruled the class with an iron hand.
- 14. The student was able to get personal help in this course.
- 15. Instructor seemed personally interested in each class member.
- 16. The instructor invited criticism of his acts.
- 17. He anticipated student difficulties before they arose.
- 18. He decided in detail what should be done and how it should be done.
- 19. He listened attentively to what class members had to say.
- 20. He imposed his own goals on the students.
- 21. He exhibited a high degree of cultural attainment.

22. He put his material across in an interesting way.
23. He let the class set its own goals.
24. He was friendly.
25. He followed an outline closely.
26. He tried to increase the interest of class members in his subject.
27. The course work presented a real challenge to me.
28. He asked for more than students could get done.
29. His efforts improved the ability of the students to deal effectively with their personal problems.
30. He announced exams in advance.
31. He told students when they had done a particularly good job.
32. He was sensitive to a student's desire to ask questions.
33. He continually emphasized grades.
34. He made it clear how each topic fit into the course.
35. He assigned a great amount of reading.
36. He was permissive and flexible.
37. He explained the reasons for his criticisms.
38. He had everything going according to schedule.
39. He was talkative.
40. The students frequently volunteered their own opinions.
41. He explained why he did things.
42. He complimented a student on his work in front of others.
43. He planned the activities of each class period in detail.
44. He stimulated the intellectual curiosity of his students.
45. He changed his approach to meet new situations.
46. By the way he acted, he made the students feel afraid of him.
47. He was aware of it when students failed to keep up with him in class.

- 48. He criticized poor work.
 - 49. He explained clearly and his explanations were to the point.
 - 50. The instructor's efforts improved the ability of the students to understand deviant individuals.
 - 51. The instructor's main emphasis was on the development of critical judgment by the students.
 - 52. The instructor exhibited a high degree of knowledge about the subject.
 - 53. The instructor showed interest in the methods and philosophy of science.
 - 54. The instructor seemed genuinely interested in the subject.
-

Please make any comments that you feel should be made regarding the class, teacher, of course, on the back of the answer sheet.

APPENDIX B

TABLE 15

Mean Scores for Categories-Achievement Cues and Affiliation Cues -
of Student Rating Form by Section Numbers and Teacher Numbers of
Psychology Course 100.

Sections of Psychology 100	Teacher Numbers	Achievement Cues	Affiliation Cues
2	4	11.7	1.2
3	3	8.9	1.4
4	1	10.6	2.0
5	7	7.4	1.1
6	5	9.9	1.4
7	3	8.7	1.3
8	6	8.8	1.4
9	8	7.8	1.0
10	2	7.3	1.2
11	1	9.6	1.5
12	3	9.3	1.1

TABLE 16

Mean Scores for Categories-Achievement Cues and Affiliation Cues -
of Student Rating Form by Section Numbers and Teacher Numbers of
Psychology Course 101

Sections of Psychology 101	Teacher Numbers	Achievement Cues	Affiliations Cues
1	14	9.0	1.3
2	5	7.4	1.1
3	2	8.9	1.8
4	11	9.9	1.3
5	3	9.3	1.0
6	8	10.8	1.2
7	1	6.9	1.3
8	7	7.5	1.7
9	2	9.1	1.6
10	11	7.3	1.2
11	14	8.8	1.6
12	1	8.4	1.9
13	4	6.6	1.3
14	6	7.4	1.5
15	5	7.1	1.1
16	12	7.0	1.4
17	13	8.1	1.5
18	13	8.1	1.3
19	9	7.9	1.3

TABLE (con't.)

Sections of Psychology 101	Teacher Numbers	Achievement Cues	Affiliation Cues
20	15	8.1	1.6
21	16	7.2	1.3
23	10	8.9	1.5
24	4	7.4	1.4
26	12	7.7	1.2
27	6	7.9	1.9
28	15	9.8	1.1

APPENDIX C

Student Opinion Scale

On the following pages 30 questions are asked. Below each question you will find five alternative answers. In the spaces at the far left you are to rank-order the five alternatives in terms of their acceptability to you during the time you were the instructor of Introductory Psychology course in Spring 1963. That is, put a "1" before the alternative that is most acceptable to you, a "2" before the alternative that is the next most acceptable, and so on until you have put a "5" before the alternative that is least acceptable to you. Similarly, indicate your ranking of the alternatives in the next spaces (second column) in terms of their acceptability to you now.

Some of the items of this form ask very personal questions. In spite of the fact that your answers will be kept confidential and used only for research purposes, you may not wish to answer these items. If you do not wish to answer a question, write this fact in the answer spaces and go on to the next question. Answer all items in some fashion; do not omit items.

I. Psychology and Science

1. To what extent is psychology a science?

- ___ ___ a. Psychology is not a science at all.
- ___ ___ b. A small part of the field of psychology is scientific.
- ___ ___ c. Psychology has about equal portions of scientific material and non-scientific material.
- ___ ___ d. Psychology is basically a science but lacks scientific rigor in some areas.
- ___ ___ e. Psychology is as much a science as any natural science.

2. To what extent should psychology be employed to influence human behavior?

- ___ ___ a. It should never be consciously used to influence anyone.
- ___ ___ b. It should be used to influence only one's self.
- ___ ___ c. It should be used to influence others in a few restricted ways.
- ___ ___ d. It should be used to influence others as much as one considers desirable.
- ___ ___ e. It should be used extensively to guide people in building a better life for mankind in general.

3. What should be the role of psychologists in society?

- ___ ___ a. They should develop their field but leave its use to others.
- ___ ___ b. They should be active in just a few areas such as education and mental health.
- ___ ___ c. They should have the same influence in society as any other occupational group.
- ___ ___ d. They should have an important role in deciding how society should be run.
- ___ ___ e. They should be the most influential group in governing society.

I. (Cont.)

4. To what extent should courses in psychology be required?

- ___ ___ a. Psychology should be an elective in high school and college.
- ___ ___ b. It should be an elective in high school but one course should be required of certain majors in college.
- ___ ___ c. It should be an elective in high school but one course should be required of all college students.
- ___ ___ d. A course should be required of all high school and another course should be required of all college students.
- ___ ___ e. It should be a required course starting in grade school and continuing at least through one course in high school and one course in college.

5. To what extent should people be concerned about the uses of psychology?

- ___ ___ a. There is nothing to be concerned about; psychology is quite harmless.
- ___ ___ b. Psychology offers very little to worry about if people in general do not lose their heads.
- ___ ___ c. Psychology, like any body of knowledge, provides its possessor with power which can be abused and people must be vigilant in guarding against this abuse.
- ___ ___ d. Psychology is especially dangerous among the bodies of knowledge because it can provide considerable power over other human beings.
- ___ ___ e. The dangers of psychology are far more grave than is generally recognized; psychology can potentially provide dangerous forms of inhumanity.

II. Man

1. To what extent is human behavior determined?

- _____ a. Man is a free agent depending only on his will to be free.
- _____ b. Man is generally free within a few limitations of the natural world.
- _____ c. Man is determined in certain respects but may exercise free will in about as many other respects.
- _____ d. Man is generally determined but can exercise free will in a few instances.
- _____ e. Man is entirely determined by laws of the natural world.

2. To what extent is man apart from the lower animals?

- _____ a. Man is basically an animal differing from the lower animals only in terms of complexity.
- _____ b. There are a few characteristics of man which set him apart from the lower animals but for the most part man is only a more complex animal.
- _____ c. The lower animal and uniquely human elements are represented in man in about equal proportion depending on the person.
- _____ d. Man is unlike the lower animals in more respects than he is like the lower animals.
- _____ e. The characteristics of man are such that analyses of animal behavior have little or no relevance to the study of human behavior.

3. To what extent should a person try to become close friends with others?

- _____ a. Be self-sufficient and don't form close ties with anyone; one doesn't get hurt that way.
- _____ b. Form close ties with only a few people who are really understanding and can be trusted.
- _____ c. Become close friends with anyone you trust; a lot of people can be trusted but a lot cannot.
- _____ d. Try to become close friends with all the people you know; most people will be loyal friends if they know they are trusted, though a few may take advantage of such trust.

II. (Cont.)

_____ e. Let people know you trust them and want to be close friends with them; they will respond in kind.

4. Does human nature predispose man to be good or evil?

_____ a. Man is basically good.

_____ b. Man is predominantly good.

_____ c. Man is neutral or equally good and evil.

_____ d. Man is predominantly evil.

_____ e. Man is basically evil.

5. Suppose a man is acting as a student proctor in an examination for some large, introductory course. He sees that his roommate and best friend is cheating in the exam. The roommate is a hard-working though not a brilliant student, and desperately needs a good grade in this course. The decision as to what to do about it is entirely in the proctor's hands, for no one else sees the cheating. What should the proctor do?

_____ a. Take away his exam book and report him for cheating.

_____ b. Prevent him from cheating further, let him finish the exam, and report him for cheating.

_____ c. If he can be led to withdraw from the exam on some excuse, treat him as absent; otherwise report him for cheating.

_____ d. Prevent further cheating but let him finish the exam, and not report him for cheating.

_____ e. Act as if nothing had happened, and not report him for cheating.

III. Sex and Family

1. How much sex education should parents give their children?

_____ a. None is needed; the child will find out all he needs to know about sex, and soon enough, from his playmates, books, etc.

_____ b. Parents should give their children sex education prior to marriage; before that none is needed.

III. 1 (Cont.)

- ____ c. Parents should instruct their children in matters of sex before they are adolescents, so that they will have all the facts before they need them.
- ____ d. Parents should answer honestly any questions that their children ask them about sex, at any age.
- ____ e. Parents should begin at a very early age to educate their children thoroughly in matters of sex.

2. Who should make family decisions?

- ____ a. The husband has responsibility for the family, and therefore should have authority to make all family decisions.
- ____ b. The husband should make all family decisions except those involving the care and training of children, in which the wife should share.
- ____ c. The husband should make all family decisions except those about the care and training of children and those of a household nature, which should be the wife's responsibility.
- ____ d. Family decisions should be made by joint agreement of husband and wife, but the husband should make the decisions in cases where they cannot reach an agreement.
- ____ e. Family decisions should all be made by joint agreement between husband and wife.

3. Is it a good idea for a man to marry before finishing college?

- ____ a. No; college students are too young, too financially insecure, and too inexperienced to know what they want.
- ____ b. Usually it's a bad thing, because the husband cannot be the major financial support, and he is not situated in a permanent job.
- ____ c. It depends entirely on the individual case; for some couples it works out well and for others it does not.
- ____ d. Usually it's a good thing, because college couples can pool whatever resources they have, and generally are mature enough to know what they want.

III. 3. (Cont.)

- ____ e. Yes; it should be encouraged because the experience of marriage is good for the student and usually helps him settle down to work harder.

4. What are the proper standards concerning pre-marital and extra-marital sexual activity?

- ____ a. Sexual activity for either men or women before marriage, and extra-marital sexual activity after marriage, are wrong.
- ____ b. Some sexual freedom for men but not for women should be permitted before marriage, but not after marriage for either.
- ____ c. Freedom in sexual activity for both men and women should be permitted before marriage but not afterward.
- ____ d. Both sexes should be allowed sexual freedom before marriage, and some extra-marital activity is OK after marriage for men and not for women.
- ____ e. Both sexes should be allowed sexual freedom both before and after marriage, provided both partners agree on the arrangement.

5. How important is the sex relationship in building a good marriage relationship?

- ____ a. Good marriages are built entirely on grounds other than sex; the sex relationship is of minimal importance.
- ____ b. Good marriages are built primarily on grounds other than sex, but sex is an important factor.
- ____ c. Good marriages are built on several grounds, one of which is the sex relationship.
- ____ d. Good marriages are built on several grounds, but the sex relationship is the most important factor.
- ____ e. Good marriages are based almost entirely on the sex relationship; other factors will be OK if the sex relationship is OK.

IV. Religion

1. How should differences between the findings of modern science and religious beliefs be resolved?

- ___ ___ a. Religious viewpoints that differ with the findings of modern science should be abandoned.
- ___ ___ b. Religious viewpoints that differ with the findings of modern science should be re-examined and probably modified to be made compatible with our best current knowledge.
- ___ ___ c. Science and religion each has its own area of applicability, and each is valid only within these limits; let the two get along together, even if in seeming contradiction.
- ___ ___ d. When a scientific finding seems to contradict religious principles, one must find an interpretation of the finding which is compatible with known religious truths.
- ___ ___ e. When a scientific interpretation is not in accord with known religious truths, it is therefore not valid and should be abandoned.

2. How should one regard religious beliefs other than one's own?

- ___ ___ a. With complete appreciation and respect; the powers universe reveal themselves in different way to different people.
- ___ ___ b. With appreciation and respect, but with recognition that some religions are better than others.
- ___ ___ c. With appreciation and respect for the most part, but recognizing that there are some points about which one can only be tolerant.
- ___ ___ d. With tolerance but not appreciation; conflicting beliefs cannot all be right, and it is wrong not to follow the best.
- ___ ___ e. With no tolerance for beliefs that are in error, but with tolerance for the people who mistakenly hold them.

IV. (Cont.)

3. To what extent should various religious sects join together, cooperate, or compete with one another?

- ___ ___ a. All should get together, iron out their minor differences, and consolidate into a united religious force.
- ___ ___ b. All should get together and work in cooperation, but not unite.
- ___ ___ c. Religious groups holding similar views ought to work out differences and consolidate; but others hold totally different views, and thus could not so combine.
- ___ ___ d. Different religious groups ought to maintain their own views, and remain separate; but they should not transgress the right of other groups to do the same.
- ___ ___ e. If a religious group is convinced of the rightness of its creed, it must try in all peaceful ways to spread that creed to all, and thus may have to compete with other groups for members.

4. How important is being a member of a church or religious organization in leading a good life?

- ___ ___ a. To lead a truly religious life, one must be a member of a religious group dedicated to that purpose.
- ___ ___ b. Maybe a few exceptional men can lead virtuous lives apart, but for most men it is necessary to share their religious beliefs with others of like mind.
- ___ ___ c. One may lead a good life alone, but belonging to a religious group makes it easier and more satisfying through sharing beliefs with others of like mind.
- ___ ___ d. Leading a religious life is a matter of following personal conscience in every-day behavior; there is not need to belong to a formal religious group to do so.
- ___ ___ e. Belonging to a formal religious organization can be a hindrance to leading the best religious life, by forcing a man to abandon his own convictions in favor of views which he does not really believe.

IV. (Cont.)

5. What should be the place of religion in every-day life?

- _____ a. Religion should pervade every area of life, and determine all life decisions.
- _____ b. Religion should provide the underlying guiding principles of life, and thus ought to help people make all kinds of decisions.
- _____ c. Religious ideals should influence many life decisions, but they do not always provide useful guides for every-day matters.
- _____ d. There are definite areas of life where religious ideals should prevail, but there are other areas where decisions must be based on reason and experience.
- _____ e. Religious views offer only ideals; real life decisions have little to do with religion, but must be judged entirely on the basis of reason and experience.

V. Public Affairs

1. What should be our policy toward Russia?

- _____ a. We should try to reach an understanding with Russia, avoiding war if at all possible, exercising great patience.
- _____ b. We should try to get along with Russia, and avoid war unless she directly attacks our own territory.
- _____ c. We should try to avoid war, but also try to keep Russia from further expansion by going to war if necessary.
- _____ d. We should be ready to go to war any time Russia starts or causes trouble anywhere in the world.
- _____ e. We should wage a preventive war against Russia now, while we still have the advantage of superior weapons.

2. What should the United States do in regard to sharing atomic-energy information and resources?

- _____ a. We should keep all atomic information resources strictly to ourselves.

V. 2. (Cont.)

_____ b. We should share non-military atomic information and resources, but only with our allies.

_____ c. We should share non-military atomic information and resources with all non-Communist countries.

_____ d. We should share non-military atomic information and resources with all countries.

_____ e. We should share non-military atomic information and resources with all countries, and share military atomic information with our allies.

3. How good a president was Eisenhower?

_____ a. An excellent president; one of our best.

_____ b. A generally good president; most of his policies have been good.

_____ c. A fair president; his policies have been good at times and poor at others.

_____ d. Not a particularly good president; his policies have been bad more often than good.

_____ e. A generally poor president; almost all his policies have been bad ones.

4. In general, how successful has Senator McCarthy been in exposing Communist operations in this country?

_____ a. The harm he has done is far greater than the good, if any.

_____ b. He has probably done more harm than good.

_____ c. The good and the harm he has done are about equally matched.

_____ d. He has probably done more good than harm.

_____ e. The good he has done is far greater than the harm, if any.

5. What selective service regulations does this country need?

_____ a. No selective service; the armed forces should recruit men entirely by volunteers.

_____ b. Limited selective service; any man who has good cause should be permanently deferred.

V. 5. (Cont.)

- _____ c. All able-bodied men should be subject to selective service, but should be able to defer their service for good cause.
- _____ d. All able-bodied men should serve their time in the armed forces when their number is called; there should be no deferments, temporary or permanent, for anything but physical health.
- _____ e. All able-bodied men in the country should serve their time in the armed forces, and then remain permanently on call for service.

VI. Race Relationships

1. In what ways, if any, can Federal laws aid in handling problems of Negro-White conflict?

- _____ a. Make it illegal for persons to discriminate against Negroes in any manner.
- _____ b. Make it illegal for persons to discriminate against Negroes in the areas of housing, employment, and education, but otherwise leave things alone.
- _____ c. Make a few general laws, but mostly we should leave the problem up to individuals.
- _____ d. Make no laws concerning discrimination, but leave it to the people to work out their own ways of handling this conflict.
- _____ e. Accept the fact that there will always be Negro-White conflict, and make realistic laws calling for segregation.

2. How should the problem of assigning Negroes and Whites to schools be handled?

- _____ a. No segregation of schools; Negroes and Whites should attend the same schools and be treated equally by teachers and by other children.
- _____ b. Separate schools for those who want them, whether Negroes or Whites, and unsegregated state-supported schools for all others.

VI. 2. (Cont.)

- _____ c. Negroes and Whites should attend the same schools and be treated equally for academic purposes, but separated for social functions.
- _____ d. Negroes and Whites should attend the same school buildings, but should have separate classrooms and other facilities within those buildings.
- _____ e. Negroes and Whites should have separate, state-supported schools, but the state should rigorously enforce real equality in facilities.

3. What about laws concerning marriages between Negroes and Whites?

- _____ a. There should be strict laws against Negro-White marriages in all states.
- _____ b. Laws against Negro-White marriages are good for southern states, but are not needed elsewhere.
- _____ c. No laws against Negro-White marriages, but both parties to such marriages should be condemned.
- _____ d. Laws against Negro-White marriages are wrong, but such marriages should be discouraged, since the children of them will suffer.
- _____ e. Laws against Negro-White marriages are wrong; every man has a right to marry anyone he pleases without social disapproval.

4. Who is to blame for continuing conflict between Negroes and Whites?

- _____ a. Negroes are entirely to blame; their "slave complex" has made them very hostile to Whites.
- _____ b. Negroes are mostly to blame, but attempts by Whites to "keep them in their place" are also partly to blame.
- _____ c. Negroes and Whites are equally to blame for the continuing conflict.
- _____ d. Whites are mostly to blame, but Negroes have invited this treatment, by their behavior.

VI. 4. (Cont.)

____ e. Whites are entirely to blame; they have imposed discriminations, and justify any device to keep Negroes from getting ahead.

5. Whites should be willing to accept Negroes into relationships of what degrees of familiarity?

- ____ a. To close kinship by marriage.
- ____ b. To close personal friendship.
- ____ c. To the same street as neighbors.
- ____ d. To membership in the same profession.
- ____ e. To admission in the same movie theatres.

1. To what extent do you think these issues were raised for discussion in the Introductory course of Psychology in Spring 1963?

Rarely

Sometimes

Frequently

Generally

Almost Always

Don't remember

APPENDIX D

TABLE 17

FREQUENCY DISTRIBUTION OF 'THE MOST ACCEPTABLE' RESPONSE TO EACH ALTERNATIVE OF THE 30 QUESTIONS OF THE STUDENT OPINION SURVEY QUESTIONNAIRE
WITH THEIR MEANS AND S.D'S

(Numerical values 1 through 5 were assigned to alternatives 'a' through 'e' respectively for every question. Underlined alternatives refer to Students' Modal Response; Asterisk against alternatives refers to Teachers' Modal Response)

Introductory Psychology Spring 1963				2 yrs later		Q. 1. <u>To what extent is psychology a science ?</u>
Pre Test	%	Post- Test	%	Second Post- Test	%	
0	0	1	0	18	7	a. Psychology is not a science at all
10	4	9	4	31	13	b. A small part of the field of psychology is scientific.
43	18	34	14	82	34	c. Psychology has about equal portions of scientific material and non-scientific material.
94	39	112	47	101	42	*d. Psychology is basically a science but lacks scientific rigor in some areas.
93	39	84	35	8	4	e. Psychology is as much a science as any natural science.
240		240		240		N.
4.12		4.12		3.22		M.
.91		.84		.95		S.D.

Introductory Psychology Spring 1963				2 yrs later		
Pre- Test	%	Post- Test	%	Second Post- Test	%	Q. 2. <u>To what extent should psychology be employed to influence human behavior?</u>
5	3	12	4	29	12	a. It should never be con- sciously used to influence anyone.
27	11	23	10	33	13	b. It should be used to in- fluence only one's self.
46	19	41	17	24	10	c. It should be used to in- fluence others in a few restricted ways.
51	21	55	23	22	9	d. It should be used to in- fluence others as much as one considers desirable.
111	46	109	46	132	56	* <u>e.</u> It should be used extensively to guide people in building a better life for mankind in general.
240		240		240		N.
3.98		3.89		3.83		M.
1.15		1.37		1.49		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 3. <u>What should be the role of psychologists in society?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
2	1	4	2	8	3	a. They should develop their field but leave its use to others.
48	20	36	15	86	36	b. They should be active in just a few areas such as education and mental health.
160	66	170	71	109	45	* <u>c.</u> They should have the same influence in society as any other occupational group.
30	13	28	11	26	11	d. They should have an important role in deciding how society should be run.
1	0	2	1	11	5	e. They should be the most influential group in governing society.
240		240		240		N.
2.91		2.95		2.77		M.
.60		.61		.86		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q.	4.	<u>To what extent should courses in psychology be required?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%			
74	30	82	34	78	33			a. Psychology should be an elective in high school and college.
76	32	78	32	88	36			*b. It should be an elective in high school but one course should be required of cer- tain majors in college.
58	24	56	23	51	21			c. It should be an elective in high school but one course should be required of all college students.
27	11	23	11	14	6			d. A course whould be required of all high school and another course should be required of all college students.
5	3	1	0	9	4			e. It should be a required course starting in grade school and continuing at least through one course in high school and one course in college.
240		240		240				N.
2.23		2.10		2.12				M.
1.17		1.01		1.04				S.D.

Introductory Psychology Spring 1963				2 yrs later		Q.	5.	
Pre- Test	%	Post- Test	%	Second Post- Test	%			
16	7	21	9	47	19			<u>To what extent should people be concerned about the uses of psychology?</u>
							a.	There is nothing to be concerned about; psychology is quite harmless.
51	22	50	21	76	31		b.	Psychology offers very little to worry about if people in general do not lose their heads.
148	62	152	63	90	38		*c.	Psychology, like any body of knowledge, provides its possessor with power which can be abused and people must be vigilant in guarding against this abuse.
13	5	12	5	16	7		d.	Psychology is especially dangerous among the bodies of knowledge because it can provide considerable power over other human beings.
12	4	5	2	11	5		e.	The dangers of psychology are far more grave than is generally recognized; psychology can potentially provide dangerous forms of inhumanity.
240		240		240			N.	
2.79		2.71		2.45			M.	
.82		.78		1.01			S. D.	

Introductory Psychology Spring 1963				2 yrs later		Q.	6. <u>To what extent is human behavior determined?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%		
19	8	12	5	30	12		a. Man is a free agent de- pending only on his will to be free.
64	27	58	24	85	36		b. Man is generally free within a few limitations of the natural world.
104	43	87	36	91	38		* <u>c.</u> Man is determined in cer- tain respects but may exercise free will in about as many other respects.
43	18	53	22	25	10		d. Man is generally determined but can exercise free will in a few instances.
10	4	30	13	9	4		e. Man is entirely determined by laws of the natural world.
240		240		240			N.
2.84		3.12		2.66			M.
.94		1.09		.76			S.D.

Introductory Psychology Spring 1963				2 yrs later		Q.	7.	<u>To what extent is man apart from the lower animals?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%			
50	20	56	23	19	8			a. Man is basically an animal differing from the lower animals only in terms of complexity.
69	28	81	34	52	22			*b. There are a few characteristics of man which set him apart from the lower animals but for the most part man is only a more complex animal.
42	17	33	13	66	27			c. The lower animal and uniquely human elements are represented in man in about equal proportion depending on the person.
73	30	63	26	71	30			d. Man is unlike the lower animals in more respects than he is like the lower animals.
6	5	7	4	32	13			e. The characteristics of man are such that analyses of animal behavior have little or no relevance to the study of human behavior.
240		240		240				N.
2.69		2.52		2.77				M.
1.22		1.20		1.94				S.D.

Introductory Psychology Spring 1963				2 yrs later		Q.	8.	<u>To what extent should a person try to become close friends with others?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%			
7	3	5	2	12	4			a. Be self-sufficient and don't form close ties with anyone; one doesn't get hurt that way.
101	42	94	39	95	40	*	b.	Form close ties with only a few people who are really understanding and can be trusted.
35	15	62	26	76	32		c.	Become close friends with anyone you trust. A lot of people can be trusted but a lot cannot.
24	10	21	9	28	12		d.	Try to become close friends with all the people you know. Most people will be loyal friends if they know they are trusted.
73	30	58	24	29	12		e.	Let people know you trust them and want to be close friends with them; they will respond in kind.
240		240		240			N.	
3.23		3.14		2.86			M.	
1.33		1.24		1.09			S.D.	

Introductory Psychology Spring 1963				2 yrs later		Q. 9. <u>Does human nature predispose man to be good or evil?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
77	32	68	28	28	12	a. Man is basically good.
53	22	50	20	85	36	b. Man is predominantly good.
84	35	94	39	107	44	*c. Man is neutral or equally good and evil.
14	6	11	6	14	6	d. Man is predominantly evil.
12	5	17	7	6	2	e. Man is basically evil.
240		240		240		N.
2.28		2.42		2.52		M.
1.09		1.44		.87		S.D.

Introductory Psychology Spring 1963				2 yrs later		
Pre- Test	%	Post- Test	%	Second Post- Test	%	Q. 10.
						<u>Suppose a man is acting as a student proctor in an examination for some large, introductory course. He sees that his roommate and best friend is cheating in the exam. The roommate is a hard-working though not a brilliant student, and desperately needs a good grade in this course. The decision as to what to do about it is entirely in the proctor's hands, for no one else sees the cheating. What should the proctor do?</u>
34	14	35	15	12	5	a. Take away his exam book and report him for cheating.
63	27	64	27	63	26	*b. Prevent him from cheating further, let him finish the exam and report him for cheating.
40	16	34	14	61	25	c. If he can be led to withdraw from the exam on some excuse treat him as absent; otherwise report him for cheating.
97	40	100	42	97	40	d. Prevent further cheating but let him finish the exam, and not report him for cheating.
6	3	7	2	7	4	e. Act as if nothing had happened, and not report him for cheating.
240		240		240		N.
2.90		2.91		3.07		M.
1.15		1.18		1.04		S.D.

Pre-Test	Introductory Psychology Spring 1963		2 yrs later		Second Post-Test	%	Q. 11. <u>How much sex education should parents give their children?</u>
	%	Post-Test	%				
3	2	3	1	8	4		a. None is needed; the child will find out all he needs to know about sex, and soon enough, from his playmates, books, etc.
5	2	2	1	5	2		b. Parents should give their children sex education prior to marriage; before that none is needed.
74	31	64	27	76	32		c. Parents should instruct their children in matters of sex before they are adolescents, so that they will have all the facts before they need them.
138	57	144	60	96	39		d. Parents should answer honestly any questions that their children ask them about sex, at any age.
20	8	27	11	55	23		e. Parents should begin at a very early age to educate their children thoroughly in matters of sex.
240		240		240			N.
3.70		3.79		3.76			M.
.69		.68		.94			

Introductory Psychology Spring 1963				2 yrs later		
Pre- Test	%	Post- Test	%	Second Post- Test	%	Q. 12. <u>Who should make family decisions?</u>
8	3	4	2	10	4	a. The husband has respon- siblility for the family, and therefore should have authority to make all family decisions.
5	2	6	2	7	3	b. The husband should make all family decisions except those involving the care and training of children, in which the wife should share.
11	5	21	9	20	8	c. The husband should make all family decisions ex- cept those about the care and training of children and those of a household nature, which should be the wife's responsibility.
89	37	104	43	100	42	d. Family decisions should be made by joint agree- ment of husband and wife, but the husband should make the decisions in cases where they cannot reach an agreement.
127	53	105	44	103	43	* <u>e.</u> Family decisions should all be made by joint agreement between hus- band and wife.
240		240		240		N.
4.35		4.25		4.12		M.
.91		.84		1.03		S.D.

Introductory Psychology Spring 1963		2 yrs later				Q. 13. <u>Is it a good idea for a man to marry before fin- ishing college?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
14	6	12	5	19	8	a. No; college students are too young, too financially insecure, and too inexperienced to know what they want.
66	28	48	20	11	5	b. Usually it's a bad thing, because the husband cannot be the major financial support, and he is not situated in a permanent job.
158	66	173	72	90	37	*c. It depends entirely on the individual case; for some couples it works out well and for others it does not.
1	-	5	3	58	24	d. Usually it's a good thing, because college couples can pool whatever resources they have, and generally are mature enough to know what they want.
1	-	2	1	62	26	e. Yes; it should be encouraged because the experience of marriage is good for the student and usually helps him settle down to work harder.
240		240		240		N.
2.62		2.73		3.57		M.
.61		.65		1.16		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 14. <u>What are the proper standards concerning pre- marital and extra-marital sexual activity?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
120	50	113	47	102	42	*a. Sexual activity for either men or women before marriage, and extra- marital sexual activity after marriage, are wrong.
43	18	44	19	21	9	b. Some sexual freedom for men but not for women should be permitted before marriage, but not after marriage for either.
57	24	66	27	77	32	c. Freedom in sexual activ- ity for both men and women should be permitted before marriage but not afterward.
2	1	5	2	14	6	d. Both sexes should be allowed sexual freedom before marriage, and some extra-marital activity is OK after marriage for men but not for women.
18	7	12	5	26	11	e. Both sexes should be allowed sexual freedom both before and after marriage, provided both partners agree on the arrangement.
240		240		240		N.
1.97		1.98		2.37		M.
1.19		1.13		1.35		S.D.

		Introductory Psychology Spring 1963		2 yrs later		Q. 15. <u>How important is the sex relationship in building a good marriage relation- ship?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
6	3	2	1	7	3	a. Good marriages are built entirely on grounds other than sex; the sex rela- tionship is on minimal importance.
48	20	43	18	71	30	b. Good marriages are built primarily on grounds other than sex, but sex is is an important factor.
178	74	184	77	90	37	* <u>c.</u> Good marriages are built on several grounds, one of which is the sex relationship.
7	3	10	4	68	28	d. Good marriages are built on several grounds, but the sex relationship is the most important factor.
1	-	1	-	4	2	e. Good marriages are based almost entirely on the sex relationship; other factors will be OK if the sex relationship is OK.
240		240		240		N.
2.78		2.84		2.95		M.
.56		.49		.88		S.D.

Pre-Test	Introductory Psychology Spring 1963		2 yrs later		Second Post-Test	%	Q. 16. <u>How should differences between the findings of modern science and religious beliefs be resolved?</u>
	%	Post-Test	%				
8	4	9	6	13	7		a. Religious viewpoints that differ with the findings of modern science should be abandoned.
64	34	62	32	65	34		b. Religious viewpoints that differ with the findings of modern science should be reexamined and probably modified to be made compatible with our best current knowledge.
94	50	101	53	72	38		* <u>c.</u> Science and religion each has its own area of applicability, and each is valid only within these limits; let the two get along together, even if in seeming contradiction.
19	10	16	9	30	16		d. When a scientific finding seems to contradict religious principles, one must find an interpretation of the finding which is compatible with known religious truths.
4	2	1	-	9	5		e. When a scientific interpretation is not in accord with known religious truths, it is therefore not valid and should be abandoned.
189		189		189			N.
2.71		2.65		2.76			M.
.79		.74		.96			S.D.

Introductory Psychology Spring 1963				2 yrs later		
Pre-Test	%	Post-Test	%	Second Post-Test	%	Q. 17. <u>How should one regard religious beliefs other than one's own?</u>
122	64	126	66	72	38	* <u>a.</u> With complete appreciation and respect; the powers of the universe reveal themselves in different ways to different people.
13	7	11	6	25	13	b. With appreciation and respect, but with recognition that some religions are better than others.
33	17	36	19	48	26	c. With appreciation and respect for the most part, but recognizing that there are some points about which one can only be tolerant.
11	6	7	4	32	17	d. With tolerance but not appreciation; conflicting beliefs cannot all be right, and it is wrong not to follow the best.
10	6	9	5	12	6	e. With no tolerance for beliefs that are in error, but with tolerance for the people who mistakenly hold them.
189		189		189		N.
1.81		1.73		2.39		M.
1.23		1.16		1.31		S.D.

Introductory Psychology Spring 1963		2 yrs later				Q. 18. <u>To what extent should various religious sects join together, cooperate, or compete with one another?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
7	4	15	8	22	11	a. All should get together, iron out their minor differences, and consoli- date into a united religious force.
62	33	58	31	64	25	* <u>b.</u> All should get together and work in cooperation, but not unite.
36	19	47	25	20	11	c. Religious groups holding similar views ought to work out differences and consolidate; but others hold totally different views, and thus could not so combine.
68	36	56	29	64	34	d. Different religious groups ought to maintain their own views, and remain separate; but they should not transgress the right of other groups to do the same.
16	8	13	7	19	10	e. If a religious group is convinced of the rightness of its creed, it must try in all peaceful ways to spread that creed to all, and thus may have to com- pete with other groups for members.
189		189		189		N.
3.13		2.96		2.99		M.
1.07		1.11		1.23		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 19. <u>How important is being a member of a church or religious organization in leading a good life?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
18	10	11	5	10	6	a. To lead a truly religious life, one must be a member of a religious group dedicated to that purpose.
21	10	26	14	36	19	b. Maybe a few exceptional men can lead virtuous lives apart, but for most men it is necessary to share their religious beliefs with others of like mind.
76	41	76	41	74	39	c. One may lead a good life alone, but belonging to a religious group makes it easier and more satisfying through sharing beliefs with others of like mind.
68	36	65	35	47	25	*d. Leading a religious life is a matter of following personal conscience in everyday behavior; there is not need to belong to a formal religious group to do so.
6	3	11	5	22	11	e. Belonging to a formal religious organization can be a hindrance to leading the best religious life, by forcing a man to abandon his own convictions in favor of views which he does not really believe.
189		189		189		N.
3.10		3.19		3.14		M.
1.02		1.37		1.16		S.D.

Pre-Test	Introductory Psychology Spring 1963		2 yrs later		Second Post-Test	%	Q. 20. <u>What should be the place of religion in every-day life?</u>
	%	Post-Test	%				
10	6	10	5	7	4		a. Religion should pervade every area of life, and determine all life decisions.
87	46	81	43	74	39		b. Religion should provide the underlying guiding principles of life, and thus ought to help people make all kinds of decisions.
22	12	28	15	15	8		c. Religious ideals should influence many life decisions, but they do not always provide useful guides for every-day matters.
52	27	47	25	27	14		*d. There are definite areas of life where religious ideals should prevail, but there are other areas where decisions must be based on reason and experience.
18	9	23	12	66	35		e. Religious views offer only ideals; real life decisions have little to do with religion, but must be judged entirely on the basis of reason and experience.
189		189		189			N.
2.88		2.95		3.37			M.
1.16		1.88		1.39			S.D.

Pre-Test	Introductory Psychology Spring 1963		2 yrs later		Second Post-Test	%	Q. 21. <u>What should be our policy toward Russia?</u>
	%	Post-Test	%				
78	32	75	31	60	25		*a. We should try to teach an understanding with Russia, avoiding war if at all possible, exercising great patience.
50	20	57	23	78	32		b. We should try to get along with Russia, and avoid war unless she directly attacks our own territory.
103	42	93	38	74	30		c. We should try to avoid war, but also try to keep Russia from further expansion by going to war if necessary.
11	5	18	8	31	13		d. We should be ready to go to war any time Russia starts or causes trouble anywhere in the world.
3	1	2	0	2	0		e. We should wage a preventive war against Russia now, while we still have the advantage of superior weapons.
245		245		245			N.
2.23		2.24		2.33			M.
.97		.98		1.01			S.D.

Introductory Psychology Spring 1963		2 yrs later				Q. 22. <u>What should the United States do in regard to sharing atomic-energy information and resources?</u>
Pre-Test	%	Post-Test	%	Second Post-Test	%	
24	10	28	11	16	7	a. We should keep all atomic information resources strictly to ourselves.
86	33	86	36	59	24	* <u>b.</u> We should share non-military atomic information and resources with all non-Communist countries.
42	18	44	18	66	27	c. We should share non-military atomic information and resources with all non-Communist countries.
53	22	54	22	61	25	d. We should share non-military atomic information and resources with all countries.
40	17	33	13	43	17	e. We should share non-military atomic information and resources with all countries, and share military atomic information with our allies.
245		245		245		N.
3.00		2.91		3.22		M.
1.27		1.25		1.26		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 23. <u>How good a president was Eisenhower?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
7	3	7	3	24	10	a. An excellent president; one of our best.
74	30	63	26	57	23	b. A generally good presi- dent; most of his policies have been good.
120	49	123	50	88	36	* <u>c.</u> A fair president; his policies have been good at times and poor at others.
37	15	51	21	52	21	d. Not a particularly good president; his policies have been bad more often than good.
7	3	1	-	24	10	e. A generally poor president; almost all his policies have been bad ones.
245		245		245		N.
2.85		2.90		2.98		M.
.82		.77		1.11		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 24. <u>In general, how successful has Senator McCarthy been in exposing Communist operations in this country?</u>
Pre-Test	%	Post-Test	%	Second Post-Test	%	
65	27	60	24	87	35	a. The harm he has done is far greater than the good, if any.
70	29	79	32	88	36	*b. He has probably done more harm than good.
58	24	63	25	32	13	c. The good and the harm he has done are about equally matched.
42	17	33	14	17	7	d. He has probably done more good than harm.
1	3	10	5	21	9	e. The good he has done is far greater than the harm, if any.
245		245		245		N.
2.43		2.41		2.17		M.
1.18		1.13		1.22		S.D.

Pre-Test	Introductory Psychology Spring 1963		2 yrs later		Second Post-Test	%	Q. 25. <u>What selective service regulations does this country need?</u>
	%	Post-Test	%				
9	3	13	5	62	25		a. No selective service; the armed forces should recruit men entirely by volunteers.
37	15	40	17	55	22		b. Limited selective service; any man who has good cause should be permanently deferred.
176	72	172	70	80	33		c. All able-bodied men should be subject to selective service, but should be able to defer their service for good cause.
15	6	13	5	26	11		d. All able-bodied men should serve their time in the armed forces when their number is called; there should be no deferments, temporary or permanent, for anything but physical health.
8	4	7	3	22	9		e. All able-bodied men in the country should serve their time in the armed forces, and then remain permanently on call for service.
245		245		245			N.
2.90		2.84		2.40			M.
.74		.70		1.23			S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 26. <u>In what ways, if any, can Federal laws aid in handling problems of Negro- White conflict?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
77	32	64	26	86	35	* a. Make it illegal for persons to discriminate against Negroes in any manner.
101	41	104	43	89	36	b. Make it illegal for persons to discriminate against Negroes in the areas of housing, employment, and education, but otherwise leave things alone.
58	24	58	23	40	16	c. Make a few general laws, but mostly we should leave the problem up to individuals.
4	1	11	5	21	10	d. Make no laws concerning discrimination, but leave it to the people to work out their own ways of handling this conflict.
5	2	8	3	9	3	e. Accept the fact that there will always be Negro-White conflict, and make realistic laws calling for segregation.
245		245		245		N.
2.01		2.16		2.09		M.
.98		.97		1.19		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q.	27. <u>How should the problem of assigning Negroes and Whites to schools be handled?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%		
170	70	175	71	112	46		*a. No segregation of schools; Negroes and Whites should attend the same schools and be treated equally by teachers and by other children.
62	25	58	24	87	35		b. Separate schools for those who want them, whether Negroes or Whites, and unsegregated state- supported schools for all others.
12	5	10	5	15	6		c. Negroes and Whites should attend the same schools and be treated equally for academic purposes, but separated for social functions.
0	0	0	0	7	3		d. Negroes and Whites should attend the same school buildings, but should have separate classrooms and other facilities within those buildings.
1	0	2	0	24	10		e. Negroes and Whites should have separate, state- supported schools, but the state should rigorously enforce real equality in facilities.
245		245		245			N.
1.36		1.35		1.96			M.
.60		.64		1.21			S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 28. <u>What about laws concern- ing marriages between Negroes and Whites?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
3	1	14	6	6	2	a. There should be strict laws against Negro-White marriages in all states.
0	-	0	-	16	7	b. Laws against Negro-White marriages are good for southern states, but are not needed elsewhere.
5	2	7	3	21	9	c. No laws against Negro-White marriages, but both parties to such marriages should be condemned.
140	56	131	53	85	35	<u>d.</u> Laws against Negro-White marriages are wrong, but such marriages should be discouraged, since the children of them will suffer.
97	41	93	38	117	47	*e. Laws against Negro-White marriages are wrong; every man has a right to marry anyone he pleases without social disapproval.
245		245		245		N.
4.37		4.18		4.19		M.
.37		.96		1.07		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 29. <u>Who is to blame for continuing conflict between Negroes and Whites?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
0	-	2	1	5	2	a. Negroes are entirely to blame; their "slave complex" has made them very hostile to Whites.
11	4	8	4	26	11	b. Negroes are mostly to blame, but attempts by Whites to "keep them in their place" are also partly to blame.
127	52	136	55	94	38	* <u>c.</u> Negroes and Whites are equally to blame for the continuing conflict.
76	31	69	28	79	32	d. Whites are mostly to blame, but Negroes have invited this treatment, by their behavior.
31	13	30	12	41	17	e. Whites are entirely to blame; they have imposed discrimination, and justify any device to keep Negroes from getting ahead.
245		245		245		N.
3.52		3.48		3.51		M.
.79		.79		.91		S.D.

Introductory Psychology Spring 1963				2 yrs later		Q. 30. <u>Whites should be willing to accept Negroes into relationships of what degrees of familiarity?</u>
Pre- Test	%	Post- Test	%	Second Post- Test	%	
27	11	37	14	56	22	a. To close kinship by marriage.
96	39	100	41	93	38	* <u>b.</u> To close personal friendship.
40	16	41	17	37	14	c. To the same street as neighbors.
41	17	36	15	36	14	d. To membership in the same profession.
41	17	31	13	23	12	e. To admission in the same movie theatres.
245		245		245		N.
2.90		2.73		2.52		M.
1.29		1.27		1.26		S.D.

APPENDIX E

TABLE 18

Interaction of Affiliation motive, Affiliation Cues, and Conformity
Scores on the issue of 'Psychology as a Science'

Student n. Affiliation	Classroom affiliation cues			
	High	<u>N</u>	Low	<u>N</u>
High	4.18	44	3.39	38
Middle	3.83	42	4.22	18
Low	3.49	39	4.36	22

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	0.87		
Affiliation Cues (B)	1	1.15		
A X B	2	11.00	16.48	.001
Within Cells	197	0.67		

TABLE 19

Interaction of Affiliation motive, Affiliation Cues, and Conformity
 Scores on the issue of 'Nature of Man'

Student n. Affiliation		Classroom affiliation cues			
		High	<u>N</u>	Low	<u>N</u>
High		3.57	44	2.26	38
Middle		2.86	42	2.83	18
Low		2.41	39	3.50	22

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	0.19		
Affiliation Cues (B)	1	0.29		
A X B	2	21.59	14.34	.001
Within Cells	197	1.51		

TABLE 20

Interaction of Affiliation motive, Affiliation Cues, and Conformity
Scores on the issue of 'Family and Sex'

Student n. Affiliation		Classroom affiliation cues			
		High	<u>N</u>	Low	<u>N</u>
High		4.27	44	4.32	38
Middle		4.02	42	3.89	18
Low		3.87	39	4.23	22

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	1.83	2.08	
Affiliation Cues (B)	1	0.35		
A X B	2	0.92	1.05	
Within Cells	197	0.88		

TABLE 21

Interaction of Affiliation motive, Affiliation Cues, and Conformity
Scores on the issue of 'Religion'

Student n. Affiliation	Classroom affiliation cues			
	High	<u>N</u>	Low	<u>N</u>
High	4.48	35	3.89	31
Middle	3.95	27	4.02	19
Low	3.91	30	4.26	17

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	1.95		
Affiliation Cues (B)	1	.47		
A X B	2	2.96	3.08	.05
Within Cells	153	0.96		

TABLE 22

Interaction of Affiliation motive, Affiliation Cues, and Conformity
 Scores on the issue of 'Public Affairs

Student n. Affiliation		Classroom affiliation cues			
		High	<u>N</u>	Low	<u>N</u>
High		3.52	44	3.08	38
Middle		3.36	42	3.33	18
Low		3.00	39	3.50	22

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	0.14		
Affiliation Cues (B)	1	0.01		
A X B	2	3/36	3.05	.05
Within Cells	197	1.10		

TABLE 23

Interaction of Affiliation motive, Affiliation Cues, and Conformity
Scores on the issue of 'Race Relations'

Student n. Affiliation		Classroom affiliation cues			
		High	<u>N</u>	Low	<u>N</u>
High		4.05	44	3.42	38
Middle		4.09	42	3.72	18
Low		3.77	39	4.23	22

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	1.10		
Affiliation Cues (B)	1	1.46		
A X B	2	4.82	5.30	.01
Within Cells	197	0.91		

TABLE 24

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Psychology as a Science'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	3.90	21	3.11	9
	Middle	3.54	22	4.42	12
	Low	3.67	18	4.33	9
Female	High	4.09	23	3.76	17
	Middle	4.21	19	3.42	19
	Low	3.68	22	4.33	12

Source of Variation	df	Mean Square	F	P
Sex (A)	1	.3421		
Affiliation Motive (B)	2	1.2784		
Affiliation Cues (C)	1	0.1001		
A X B	2	1.3627		
A X C	1	1.8363		
B X C	2	5.6233	8.06	.005
A X B X C	2	4.7378	6.79	.01
Within Cells	191	.6971		

TABLE 25

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Nature of Man'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	2.76	21	2.44	9
	Middle	3.23	22	3.25	12
	Low	2.17	18	3.67	9
Female	High	3.57	23	2.18	17
	Middle	3.37	19	2.42	19
	Low	2.59	22	3.08	12

Source of Variation	df	Mean Square	F	P
Sex (A)	1	.1223		
Affiliation Motive (B)	2	1.6619		
Affiliation Cues (C)	1	.5147		
A X B	2	1.4290		
A X C	1	11.7608	7.54	.025
B X C	2	14.4216	9.24	.005
A X B X C	2	0.0080		
Within Cells	191	1.5605		

TABLE 26

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Family Relations and Sex'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	3.62	21	3.78	9
	Middle	4.00	22	3.67	12
	Low	3.61	18	3.78	9
Female	High	4.39	23	4.29	17
	Middle	4.26	19	4.53	19
	Low	4.41	22	4.67	12

Source of Variation	df	Mean Square	F	P
Sex (A)	1	21.2455	26.28	.001
Affiliation Motive (B)	2	.1815		
Affiliation Cues (C)	1	.2198		
A X B	2	.3195		
A X C	1	.2379		
B X C	2	.2491		
A X B X C	2	.6980		
Within Cells	191	.8085		

TABLE 27

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive,
Affiliation Cues and Conformity Scores on the issue of 'Religion'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	4.20	19	3.74	11
	Middle	3.91	13	4.05	10
	Low	3.93	11	4.21	7
Female	High	4.64	21	3.95	13
	Middle	3.97	11	3.99	15
	Low	3.79	17	4.42	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	.4281		
Affiliation Motive (B)	2	1.8321		
Affiliation Cues (C)	1	0.3807		
A X B	2	0.4267		
A X C	1	0.6895		
B X C	2	3.0567	3.11	.05
A X B X C	2	1.1012		
Within Cells	147	.9823		

TABLE 28

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Public Affairs'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	3.52	21	3.00	9
	Middle	3.36	22	3.42	12
	Low	3.22	18	3.89	9
Female	High	3.52	23	3.00	17
	Middle	3.05	19	3.42	19
	Low	3.09	22	2.92	12

Source of Variation	df	Mean Square	F	P
Sex (A)	1	2.5226		
Affiliation Motive (B)	2	.0439		
Affiliation Cues (C)	1	.0215		
A X B	2	1.2272		
A X C	1	.3502		
B X C	2	2.8604		
A X B X C	2	1.3560		
Within Cells	191	1.1167		

TABLE 29

ANALYSIS OF VARIANCE: Interaction of Sex, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Race Relationships'

Sex	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
Male	High	3.90	21	2.78	9
	Middle	4.05	22	3.75	12
	Low	3.94	18	4.33	9
Female	High	4.13	23	3.76	17
	Middle	3.89	19	3.68	19
	Low	3.91	22	3.92	12

Source of Variation	df	Mean Square	F ₁	P
Sex (A)	1	.3743		
Affiliation Motive (B)	2	2.2120		
Affiliation Cues (C)	1	3.2464		
A X B	2	3.0792	3.31	.05
A X C	1	0.2773		
B X C	2	3.3877	3.64	.05
A X B X C	2	1.2521		
Within Cells	191	.9310		

TABLE 30

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Psychology as a Science'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	4.09	11	3.70	10
	Middle	3.37	8	4.25	4
	Low	3.34	15	4.33	6
PY 101	High	4.21	33	3.28	28
	Middle	3.94	34	4.21	14
	Low	3.54	24	4.37	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.1649		
Affiliation Motive (B)	2	0.1822		
Affiliation Cues (C)	1	2.3827	3.56	N.S.
A X B	2	0.4794		
A X C	1	1.4315		
B X C	2	7.4621	11.16	.001
A X B X C	2	0.2088		
Within Cells	191	0.6688		

TABLE 31

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Nature of Man'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	3.73	11	2.40	10
	Middle	2.62	8	2.50	4
	Low	1.93	15	3.67	6
PY 101	High	3.52	33	2.21	28
	Middle	2.91	34	2.93	14
	Low	2.71	24	3.44	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.6963		
Affiliation Motive (B)	2	0.6619		
Affiliation Cues (C)	1	0.0708		
A X B	2	1.0085		
A X C	1	0.6527		
B X C	2	18.1602	11.99	.001
A X B X C	2	1.1156		
Within Cells	191	1.5143		

TABLE 32

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Sex and Family'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	4.18	11	4.00	10
	Middle	3.75	8	4.00	4
	Low	3.67	15	4.33	6
PY 101	High	4.30	33	4.43	28
	Middle	4.09	34	3.86	14
	Low	4.00	24	4.19	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.8123		
Affiliation Motive (B)	2	1.0513		
Affiliation Cues (C)	1	0.6231		
A X B	2	0.1215		
A X C	1	0.3979		
B X C	2	0.7163		
A X B X C	2	0.5807		
Within Cells	191	0.8928		

TABLE 33

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Religion'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	4.43	7	3.75	8
	Middle	3.98	5	4.03	4
	Low	3.88	8	4.24	5
PY 101	High	4.51	27	3.94	24
	Middle	3.94	28	4.01	13
	Low	3.95	17	4.40	13

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	.7322		
Affiliation Motive (B)	2	.2367		
Affiliation Cues (C)	1	1.7436		
A X B	2	.5502		
A X C	1	.7938		
B X C	2	3.8258	4.02	.05
A X B X C	2	.9823		
Within Cells	147	.9517		

TABLE 34

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Public Affairs'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	2.91	11	3.50	10
	Middle	3.62	8	3.50	4
	Low	3.07	15	4.17	6
PY 101	High	3.73	33	2.93	28
	Middle	3.29	34	3.29	14
	Low	2.96	24	3.25	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	1.6359		
Affiliation Motive (B)	2	.2902		
Affiliation Cues (C)	1	1.0306		
A X B	2	1.1564		
A X C	1	4.0484	3.78	
B X C	2	2.2843		
A X B X C	2	1.6179		
Within Cells	191	1.0698		

TABLE 35

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Affiliation motive, Affiliation Cues and Conformity Scores on the issue of 'Race Relationships'

Psychology Course	Student n. Affiliation	Classroom Affiliation Cues			
		High	N	Low	N
PY 100	High	4.36	11	3.20	10
	Middle	4.00	8	3.75	4
	Low	3.93	15	4.33	6
PY 101	High	3.94	33	3.50	28
	Middle	4.12	34	3.71	14
	Low	3.67	24	4.19	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	.1930		
Affiliation Motive (B)	2	.8754		
Affiliation Cues (C)	1	1.6648		
A X B	2a	.1735		
A X C	1	.4481		
B X C	2	4.5564	4.94	.01
A X B X C	2	.5647		
Within Cells	191	.9225		

TABLE 36

Interaction of Achievement motive, Achievement Cues, and Independent
Scores on the issue of 'Psychology as a Science'

Student n. Achievement		Classroom achievement cues			
		High	<u>N</u>	Low	<u>N</u>
High		1.21	38	0.93	30
Middle		1.00	31	0.78	19
Low		0.69	26	1.04	24

Source of variation	df	Mean Squares	F	P
n. Achievement (A)	2	0.67		
Achievement Cues (B)	1	0.10		
A X B	2	1.59	2.40	.05
Within Cells	162	0.66		.10

TABLE 37

Interaction of Achievement motive, Achievement Cues, and Independent
Scores on the issue of 'Nature of Man'

Student n. Achievement	Classroom achievement cues			
	High	<u>N</u>	Low	<u>N</u>
High	2.33	38	1.55	30
Middle	2.10	31	1.61	19
Low	2.08	26	2.19	24

Source of variation	df	Mean Squares	F	P
n. Achievement (A)	2	1.13		
Achievement Cues (B)	1	0.16		
A X B	2	5.57	3.88	.05
Within Cells	162	1.44		

TABLE 38

Interaction of Achievement motive, Achievement Cues, and Independent
Scores on the issue of 'Family and Sex'

Student n. Achievement	Classroom achievement cues			
	High	<u>N</u>	Low	<u>N</u>
High	0.68	38	0.70	30
Middle	0.59	31	0.50	19
Low	0.54	26	0.87	24

Source of variation	df	Mean Squares	F	P
n. Achievement (A)	2	0.41		
Achievement Cues (B)	1	0.29		
A X B	2	0.66		
Within Cells	162	0.74		

TABLE 39

Interaction of Achievement motive, Achievement Cues, and Independent
Scores on the issue of 'Religion'

Student n. Achievement	Classroom achievement cues			
	High	<u>N</u>	Low	<u>N</u>
High	0.63	32	0.69	26
Middle	0.55	25	0.53	15
Low	0.56	19	0.82	23

Source of variation	df	Mean Squares	F	P
n. Achievement (A)	2	0.37		
Achievement Cues (B)	1	0.97		
A X B	2	0.66		
Within Cells	134	0.67		

TABLE 40

Interaction of Achievement motive, Achievement Cues, and Independent
Conformity Scores on the issue of 'Public Affairs'

Student n. Affiliation		Classroom affiliation cues			
		High	<u>N</u>	Low	<u>N</u>
High		1.45	38	1.33	30
Middle		1.50	31	1.00	19
Low		1.58	26	1.67	24

Source of variation	df	Mean Squares	F	P
n. Affiliation (A)	2	2.25	2.42	N.S
Affiliation Cues (B)	1	0.07		
A X B	2	2.22	2.38	
Within Cells	162	0.93		

TABLE 41

Interaction of Achievement motive, Achievement Cues, and Independent
Scores on the issue of 'Race Relations'

Student n. Achievement	Classroom achievement cues			
	High	<u>N</u>	Low	<u>N</u>
High	0.95	38	1.00	30
Middle	0.91	31	1.06	19
Low	0.92	26	1.04	24

Source of variation	df	Mean Squares	F	P
n. Achievement (A)	2	0.00		
Achievement Cues (B)	1	0.45		
A X B	2	0.03		
Within Cells	162	0.84		

TABLE 42

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Psychology as a Science'

Sex	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
Male	High	1.24	21	0.86	7
	Middle	1.20	10	1.60	10
	Low	0.60	15	1.00	13
Female	High	1.25	12	1.00	20
	Middle	0.74	22	0.64	12
	Low	0.80	15	0.91	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	1.4042	2.17	
Achievement Motive (B)	2	0.9657		
Achievement Cues (C)	1	0.0320		
A X B	2	2.5267	3.91	.05
A X C	1	0.4578		
B X C	2	1.1498		
A X B X C	2	0.3256		
Within Cells	156	0.6462		

TABLE 43

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive,
Achievement Cues and Independence Scores on the issue of 'Nature of Man'

Sex	Student n.	chievement	Classroom Achievement Cues			
			High	N	Low	N
Male	High		1.52	21	2.43	7
	Middle		1.80	10	2.40	10
	Low		2.33	15	1.92	13
Female	High		1.92	12	2.35	20
	Middle		1.61	22	1.91	12
	Low		1.87	15	2.27	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	0.2453		
Achievement Motive (B)	2	0.3869		
Achievement Cues (C)	1	5.2037	3.51	
A X B	2	0.7809		
A X C	1	0.0021		
B X C	2	1.4653		
A X B X C	2	1.5284		
Within Cells	156	1.4806		

TABLE 44

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Family Relations and Sex'

Sex	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
Male	High	0.71	21	1.57	7
	Middle	0.60	10	0.90	10
	Low	0.67	15	1.15	13
Female	High	0.75	12	0.45	20
	Middle	0.52	22	0.27	12
	Low	0.27	15	0.64	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	7.6480	11.16	.005
Achievement Motive (B)	2	1.1383		
Achievement Cues (C)	1	2.2372	3.26	.05
A X B	2	0.1135		
A X C	1	3.4665	5.06	.05
B X C	2	0.5188		
A X B X C	2	0.8531		
Within Cells	156	0.6854		

TABLE 45

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Religion'

Sex	Student n.	Achievement	Classroom Achievement			
			High	N	Low	N
Male		High	.66	14	.74	6
		Middle	.59	8	.61	9
		Low	.62	9	.58	9
Female		High	.61	10	.59	19
		Middle	.52	20	.54	12
		Low	.49	15	.71	9

Source of Variation	df	Mean Square	F	P
Sex (A)	1	.7347		
Achievement Motive (B)	2	.7928		
Achievement Cues (C)	1	.4261		
A X B	2	.9449		
A X C	1	.8472		
B X C	2	.6407		
A X B X C	2	.7205		
Within Cells	128	.6621		

TABLE 46

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Public Affairs'

Sex	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
Male	High	1.52	21	1.29	7
	Middle	1.30	10	1.30	10
	Low	1.67	15	1.77	13
Female	High	1.58	12	1.90	20
	Middle	1.48	22	1.09	12
	Low	1.33	15	1.45	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	.0004		
Achievement Motive (B)	2	1.2404		
Achievement Cues (C)	1	.0078		
A X B	2	1.3677		
A X C	1	0.0357		
B X C	2	0.3185		
A X B X C	2	0.6984		
Within Cells	156	0.9611		

TABLE 47

ANALYSIS OF VARIANCE: Interaction of Sex, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Race Relationships'

Sex	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
Male	High	0.86	21	0.86	7
	Middle	0.80	10	1.20	10
	Low	1.20	15	1.00	13
Female	High	0.92	12	0.95	20
	Middle	0.91	22	1.55	12
	Low	0.53	15	1.09	11

Source of Variation	df	Mean Square	F	P
Sex (A)	1	0.0013		
Achievement Motive (B)	2	0.6418		
Achievement Cues (C)	1	2.1117		
A X B	2	0.8826		
A X C	1	1.0915		
B X C	2	0.8123		
A X B X C	2	0.4379		
Within Cells	156	0.8211		

TABLE 48

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Psychology as a Science'

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	1.25	4	1.11	9
	Middle	1.43	7	1.11	9
	Low	0.83	6	1.10	10
PY 101	High	1.21	34	.86	21
	Middle	.87	24	.50	10
	Low	.65	20	1.00	14

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	2.4952	3.7	N.S
Achievement Motive (B)	2	.4404		
Achievement Cues (C)	1	.2598		
A X B	2	.6253		
A X C	1	.0276		
B X C	2	1.2175		
A X B X C	2	.0530		
Within Cells	156	.6653		

TABLE 49

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Nature of Man'

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	0.50	4	2.22	9
	Middle	1.71	7	1.44	9
	Low	2.00	6	2.30	10
PY 101	High	1.68	34	2.38	21
	Middle	2.12	24	2.00	10
	Low	2.25	20	1.93	14

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	3.8901	2.68	
Achievement Motive (B)	2	1.8695		
Achievement Cues (C)	1	3.3082		
A X B	2	1.4078		
A X C	1	1.8272		
B X C	2	5.7672	3.98	.05
A X B X C	2	0.8578		
Within Cells	156	1.4487		

TABLE 50

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Family Relations and Sex'

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	0.25	4	0.67	9
	Middle	0.86	7	0.67	9
	Low	0.83	6	0.80	10
PY 101	High	0.73	34	0.71	21
	Middle	0.54	24	0.30	10
	Low	0.45	20	0.93	14

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.1336		
Achievement Motive (B)	2	0.3416		
Achievement Cues (C)	1	0.1367		
A X B	2	0.9328		
A X C	1	0.0005		
B X C	2	0.5964		
A X B X C	2	0.5598		
Within Cells	156	0.7492		

TABLE 51

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Religion'

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	.61	3	.71	6
	Middle	.58	6	.53	6
	Low	.59	4	.79	7
PY 101	High	.64	29	.68	20
	Middle	.54	19	.53	9
	Low	.55	15	.83	16

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.3425		
Achievement Motive (B)	2	0.5024		
Achievement Cues (C)	1	0.7321		
A X B	2	0.0352		
A X C	1	0.0231		
B X C	2	0.5325		
A X B X C	2	0.4028		
Within Cells	134	0.6829		

TABLE 52

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Public Affairs'

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	1.50	4	1.44	9
	Middle	1.29	7	1.33	9
	Low	2.00	6	1.50	10
PY 101	High	1.44	34	1.86	21
	Middle	1.54	24	0.80	10
	Low	1.45	20	1.79	14

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	0.0292		
Achievement Motive (B)	2	2.0615		
Achievement Cues (C)	1	0.2034		
A X B	2	0.3193		
A X C	1	0.2191		
B X C	2	0.6822		
A X B X C	2	1.7855		
Within Cells	156	0.9421		

TABLE 53

ANALYSIS OF VARIANCE: Interaction of Psychology Course, Achievement motive, Achievement Cues and Independence Scores on the issue of 'Race Relations

Psychology Course	Student n. Achievement	Classroom Achievement Cues			
		High	N	Low	N
PY 100	High	0.50	4	.78	9
	Middle	0.71	7	1.11	9
	Low	0.83	6	1.50	10
PY 101	High	1.00	34	1.09	21
	Middle	0.96	24	1.00	10
	Low	0.95	20	0.71	14

Source of Variation	df	Mean Square	F	P
Psychology Course (A)	1	.0648		
Achievement Motive (B)	2	.2474		
Achievement Cues (C)	1	1.2634		
A X B	2	1.3592		
A X C	1	1.6973		
B X C	2	0.0031		
A X B X C	2	0.3469		
Within Cells	156	0.8383		

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