THE PERSONALITY CORRELATES OF CONFORMITY:

A LITERATURE REVIEW

by

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Conformity is one of today's major social issues, and the last decade has seen an ever increasing amount of psychological research devoted to the areas of social influence, persuasibility, and conformity. However, conformity is not a new interest for the social psychologist; on the contrary, conformity has been a central area of concern for the experimental psychologist almost from the beginning of the field. The fact that when individuals learn of the behavior of others, they tend to modify their own behaviors in the direction of increased conformity is one of the oldest and most stable findings in experimental social psychology (e.g., Allport, 1924; Bridges, 1914; Hoede, 1920; Moore, 1921; Sherif, 1935, 1936; and Triplett, 1897, 1900). While early research demonstrated conformity in ambiguous and judgmental situations, it remained for Asch (1951, 1952) to demonstrate the pervasive power of social influence in totally unambiguous situations. In his now classic line-judging task, Asch showed that when an individual is faced with a spurious unanimous or majority consensus, the individual's conflict between the spurious group judgment and his own cognition will with significant frequency be resolved by acceding to what Festinger (1950) has called "social reality." Experimental research on conformity has flourished following Asch's pioneering studies, and it is the purpose of this review to present one aspect of this increasingly important research area within the field of experimental social psychology.

Asch himself (1951, 1952) suggested that independence or yielding to group influence is a joint function of three classes of variables: (1) the character of the stimulus; (2) the character of the group forces; and (3) the character or personality of the individual. A great deal of research has centered upon each of these three variables. However, this review will deal only with the third class of variables; as the title of this review indicates, it will deal solely with presenting experimental research which has related conformity behavior to personality variables. This review covers the available literature from 1897 to 1964. The bibliography was compiled by searching the most relevant journals and published abstracts, and by following the chain of references from article to article. Earlier reviews by Bass (1961b), Blake and Mouton (1961a, 1961b), and by Graham (1962) also have been helpful.

Before presenting the indicated review, it should be noted that this is a review of experimental research. The thorny theoretical issue of definition and how conformity can be conceptualized will be discussed only at the conclusion of this review; indeed the major purpose of this review is heuristic, it is the writer's hope that this review will stimulate theory and theoretically oriented research. The need for a clearer conceptualization of the phenomena called "conformity" will become apparent, at least the writer
hopes to make this need apparent, only after the reader has had the opportunity to see the many different ways in which the various researchers working in this area have operationalized the phenomena in their research designs.

One further note appears to be necessary. The reader might well ask, how can the personality correlates of conformity be isolated from the stimulus factors and the group factors. The writer's answer is unequivocal—there can be no theoretical isolation of any one of the three variable classes which are generally considered to be the basis of conformity behavior. Conformity must be viewed theoretically as an interaction between these three variable classes. Thus the writer's distinction of the "personality correlates of conformity" is an artificial one. However, experimentally, one can isolate, or at least attempt to isolate, the personality correlates of conformity, while theoretically, no such distinction is possible. Jessor (1958, p. 173) has noted that the very definition of psychology is interactional. He writes:

... behavior viewed psychologically is interactional or relational in nature; its specification or identification at the referential level requires the specification of a particular context and a set of relationships thereto. Our definition of psychology, therefore, excludes the study of organisms or physical environments per se, and behavior may not be referred to either alone. The laws of behavior of a discipline so defined refer to the dynamics of organism-environment functional interaction. (Note: the writer has added the underscoring indicating italics in this citation.)

In a critique of the then current research techniques used to study prejudice, Hood and Sherif (1955, p. 85) made the following statement which this writer believes applies equally well to the study of conformity:

Only by considering factors coming both from the sociocultural setting and from the individual in a functionally interrelated (italics in the original) way, and by noting in every case the relative weights of factors coming from both sides, can we hope to attain an adequate account of intergroup phenomena . . .

Finally, we should note the view of one of the most prominent researchers in the area being reviewed, one whose name will appear time and time again in this review—Richard S. Crutchfield. He (in Krech, Crutchfield, and Ballachey, 1962, pp. 528-529) has stated the place of personality factors in a total conceptualization of conformity to be the following:
... there remains the critical question of whether the influence of such personality factors is universal for all kinds of conformity situations. In view of what we have learned earlier about the powerful governing role of situational factors, it would seem prudent to conclude that, although personality factors undoubtedly play a major role in determining conformity behavior, their influence may be substantially modulated by variations in those specific situations in which the conformity behavior is elicited. ... we must speak of the conforming person or the independent person as described within a specified range of situations (italics in the original). The personality predisposing toward conformity in one type of situation are to some extent different from those relevant to other situations. In some kinds of situations, indeed, personality factors may play a negligible part.

Clearly, the artificial distinction of "personality correlates of conformity" which forms the basis of this review will be hard to maintain, and the reader will note that throughout this review some experiments cited deal with stimulus or group variables as well as with personality variables. The problem of inclusion or exclusion is one faced by every reviewer; it is hoped that the reader's criticism will not be too harsh should he disagree with this reviewer's inclusions.

In any case, this review will take the following form. The generality, stability, and consistency of conformity behavior will be presented as a prerequisite to studying the personality correlates of conformity. Then experiments relating to differential historical experience and to differential prior experimental experience will be presented. Next experiments relating to physiological factors will be presented, and, finally, the writer will present his own evaluation of the research cited and will present what he considers to be the major heuristic implications of the review.

CONSISTENCY, GENERALITY, AND STABILITY OF CONFORMITY BEHAVIOR

If it can be shown that individuals differ greatly in their conformity behavior across situations and tasks, if a person will tend to conform in one situation but not in another, then it would appear that variables other than personality factors would account for most of the variance in conformity behavior. However, the above is not the case. All investigators have found that there are large individual differences among people in their proclivity to conform; but they have also found that for any one person the tendency to conform tends to be stable across many situations and tasks. Using a standard group technique by which subjects hear a background by means of earphones, Blake, Helson, and Mouton (1957) found consistent individual differences in conformity across three
tasks, reporting the number of metronome clicks heard, expressing attitudes toward statements about peace and war, and solving arithmetical problems. The split-half reliability for a composite conformity score on the three tasks was .93 indicating that conformity was a general response. Nelson, Blake, Bouton, and Olmstead (1956) demonstrated that individuals shifting their judgments on a larger number of items moved closer to the contradictory opinions of others than did individuals who shifted less frequently. Tuddenham (1958a) obtained highly consistent individual differences across 74 trials involving judging visual targets, general information items, and opinions. Occasionally a high yielder gave an "independent" response on an item, or a relatively independent subject gave a typically yielding response. However, subjects at both extremes of the yielding-independent continuum displayed significantly more stability from item to item than did subjects with yielding scores in the middle range. Tuddenham found split-half reliabilities of from .68 to .90 for his subscales of items, with lower but highly significant correlations between subscales. In his early studies Asch (1951, 1952) reports that his subjects showed a remarkable degree of consistency. Asch (1956) later investigated intraseries consistency in individual performance and found that both subjects who conformed and those who resisted initially tended to maintain their behavior throughout the series of trials. Tripling the length of the series did not alter the results. Beloff (1958), using an Asch-type situation, found that acquiescence, defined as agreement with expressed group opinion in a situation involving pressures from others, and conventionality, which she defined as concurrence with tenets, attitudes, and mores of a culture or subculture, were correlated. This finding was interpreted to indicate that there is a generalized tendency toward or away from conformity in individuals. Luchins and Luchins (1955a) have reported a significant correlation between degree of agreement with response given by an assistant in a preliminary trial series and an experimental series. Crutchfield (1955) found the split-half reliability of individual conformity scores for a 21 item test to be .90. MacBride (1958) reports that he was impressed by the high degree of individual consistency in conforming obtained even after he systematically had raised or lowered the self-confidence of his subjects. Both Bass (1959b) and McDonald (1960) have reported consistent individual differences in the tendency of experimental subjects to conform to group decisions. For 10 to 12 trials, Bass found split-half reliabilities averaging .52 for subjects in groups of five trying to determine the correct rank-ordering of the familiarity of words. McDonald obtained similar consistencies for group judging alternative solutions to human relations problems. Iscoe and Williams (1963) used nine-year-olds to study the function of changes in stimulus presentation on conformity in a Blake-Brehm (1954) simulated group situation and concluded that "in a conformity situation of this kind children display a generalized conformity reaction relatively independent of their ability to perform when conformity pressures are absent" (p. 245). Ferguson (1944) found consistency in response by
subjects to group opinion on three attitudinal scales dealing with religion, humanitarianism, and nationalism. However, since the materials in this study were all concerned with opinion, it provides no basis for assessing the consistency of conformity tendencies in individuals when factual tasks are involved. Linton and Graham (1959), on the other hand, did find that subjects who yielded to group influence on perceptual tasks did so also on judgmental and opinion tasks.

Consistencies in conformity have been found not only between tasks, but have been found also between experimental settings. Using an Asch-type situation in which three confederates made erroneous judgments about nonsense words, nonsense figures, and a simple paragraph, Resner (1957) found a high degree of consistency in conformity for all tasks and phi correlations of .33 to .54 for conformity for two different administrations of one task. Wiener, Carpenter, and Carpenter (1956, 1957) classified a sample of undergraduate psychology students by three degrees of their compliance with a request to hand in some extra class work on time. It was found that subjects who conformed to group influence in a task involving the judging of ambiguous designs were also more likely to hand in their extra work on time. Helson, Blake, and Mouton (1958) report comparable results with a petition signing task.

While the research cited above has demonstrated conformity in situations with perceptual, informational, and opinion items, a recent experiment has indicated that analytic thought processes are also subject to social pressures. Rosenham, DeWilde, and McDougal (1963) used an Asch-type situation in which the task was the solving of logical syllogisms which had been previously shown to be within the capacities of the subjects. Significant conformity behavior was found, indicating that thought processes are also subject to social pressures. Moreover, Kassarjian and Kassarjian (1962) have demonstrated that conformity can also be induced in group tasks with a simultaneous group approach. In this study perceptual judgments were indicated privately with paper and pencil by 97 undergraduates while 10 confederates attempted to influence judgments by publicly indicated wrong choices. Significantly more errors were made than by a control group who performed the task without influence. This result was interpreted as indicating that such group approaches are workable and can yield results comparable to those obtained in individual situations like Asch's.

Two experiments have been conducted which indicate that socially induced responses appear to be remarkably stable. Endler (1960), with a sample of grade school and high school students, assessed the point at which subjects reported the cessation of autokinetic movement during a pretest session. One day after the pretest the subjects judged autokinetic movement with a confederate, and under social pressure a new cessation point was established in the direction of the confederate's judgment. In private retests both immediately after the social influence situation, again two weeks later,
the socially induced cessation point was found to be relatively stable and significantly different from the original response. In a somewhat similar experiment, Rohrer, Baron, Hoffman, and Swander (1954) trained ROTC students under alone conditions to perceive autokinetic movement as either two or eight inches. Subjects then judged in pairs in which subjects trained at two inches were paired with those trained at eight inches. Significant consistency was found between estimates given under the interaction conditions and those given under a private condition one year later. Similarities between performances after the initial training and the year later private situation were small indicating that pretraining influences were negligible by comparison with effects produced within the social influence situation. While these stability results are impressive, the ambiguous nature of the task may have contributed to these results.

While most researchers have found the conformity response consistent and general, the research results have not been unequivocal. Nakamura (1958), using an undergraduate sample and an Asch-type situation, found the reliability of perceptual items highly significant (.87 for men; .80 for women), but the reliability of attitude items was very low and nonsignificant. Linton (1955), with 530 male undergraduates, divided her subjects into two groups according to the extent of change toward the judgments of a male confederate who responded five inches above the subject's pre-group norm on the autokinetic task. This conformity measure was then related to a measure of dependence on the perceptual field (the Tilting Room, Tilting Chair, and Embedded Figures Tests), to the degree of attitude change after reading an article contrary to own opinion, and to the influence of personal attitudes on a syllogisms test. The conformity measure for the autokinetic situation correlated significantly with a composite score for the degree of dependence on the perceptual field; however, no significant correlations were found between conformity and the attitude change or attitude influence measures. Both the Nakamura and Linton results can be interpreted as arguing against a general tendency to conform.

The most controversial study in this area, and the only one which directly argues against the notion of a general conforming response is a study by Goldberg (1954) in which judgments of intelligence from pictures were made, before and after fictitious group norms were supplied. Susceptibility to influence was found to be highly specific to each picture and Goldberg interpreted this result to argue against "a general personality characteristic of suggestibility or conformity" (p. 328). Goldberg's conclusion has been challenged by both Graham (1962) and Helson (1964). Graham points out that Goldberg's finding might not depend on susceptibility to influence, but rather on the nature of the pictures used. Some of the fictitious norms may have appeared to be plausible assessments while other did not appear to be plausible. If this were the case, Graham points out, lack of consistency should not be
surprising. Helson states that Goldberg based his argument on low intercorrelations between nine experimental conditions which were actually variants of the same task. Therefore his finding cannot be interpreted against some generality in conformity behavior.

In his Handbook of Small Group Research, Hare (1952, p. 33) reviews the evidence in this area and concludes:

Apparently, whatever the device for measuring conformity, whether it be a paper-and-pencil test as in the case of the F scale, a measure of conventionality derived by comparison of a subject with the mean response of his group, or a test of the Asch type, subjects who conform in one situation will probably conform in another.

Finally, it should be emphasized that postulating a generality of conforming behavior does not negate the situational elements of conformity. Heyns (1958) has clarified this point and presented what appears to be a very cogent psychodynamic explanation of this phenomenon in terms of differential response hierarchies. Heyns writes:

Personality traits have been found to relate to the tendency to conform to group opinions. Implicit in this latter conception is the notion that conforming behavior has a great deal of generality, that tendency to conform is a trait characterizing individuals in consistent ways, irrespective of the situation. Even if one were to conceive of the act of conformity as instrumental to the satisfaction of individual needs and hence to some extent situational, it might nevertheless become a general response high in the hierarchy for some people and less high for others. (Heyns, 1958, p. 436)

Summary: Conformity behavior has been found to be consistent across different tasks, situations, and experimental settings. This consistency has been demonstrated most clearly with perceptual items; attitudinal items or ambiguous stimuli like autokinetic movement may reduce the generality of conformity. Two studies using the autokinetic task have demonstrated a remarkable stability of the social induced response tendency.

DIFFERENTIAL HISTORICAL EXPERIENCE IN SUBJECTS AND CONFORMITY BEHAVIOR

Different childhood experiences, as revealed biographically or through questionnaires and projective measures, and their effects on conformity behavior have been experimentally investigated. Mussen and Kagan (1958), using male college students in an Asch-type situation with line-judging items related conforming behavior
perceptions of parents as shown in responses to eight TAT cards. TAT stories were scored for presence or absence of parental punishment themes, and a significantly greater per cent of extreme conformists perceived their parents as harsh, punitive, restrictive, and rejecting. These researchers concluded: "These data . . . suggest that conformity tendencies are manifestations of basic personality structure and are influenced by early parent-child relations." (p. 60). Using a college student sample and a simulated group situation with an auditory click counting task, League (1963) related conformity to responses on a preexperimental questionnaire and found that reported childhood experiences significantly related to conformity. Subjects recalling adult models as having been adequate and successful tended to yield more in the social pressure situation. It was also found that adequate models were viewed differently by men and women, with nurturance being more emphasized by the men in their descriptions. Crutchfield (1955) reports that persons raised in broken homes tend to be less conformant than those raised in unbroken homes. Krebs (1958) classified male college students as either early or late in independence training according to Winterbottom's (1953) independence training questionnaire. Greatest conformity, in an Asch-type situation with perceptual items, occurred for individuals classified as late in independence training; those with early independence training were significantly less conformant. McQueen (1957) found a greater susceptibility to conform to ethical standards under social influence for students classified in the dominant style of life according to McGuire's (1954) Index of Value Orientation. McQueen's study involved the return of examination papers with correct and incorrect scores and subjects classified in the dominant life style reported significantly more errors.

Summary: Experimental research indicates that childhood experiences indirectly affect the proclivity to conform. Conformists tend to view their parents as harsh and punitive, come from broken homes, and recall childhood adult models as adequate. Conformists also receive later independence training and tend to be classified in the "dominant style of life."

**EXPERIMENTALLY CREATED DIFFERENTIAL EXPERIENCE IN SUBJECTS AND CONFORMITY**

Personality characteristics or individual differences may be described by several kinds of measures; psychological characteristics or physiological states may be measured or personal differences may be characterized in terms of experimentally created differences in amount or type of prior experience. Experiments which deal with the latter type of individual differences will be reviewed in this section; the two sections which follow will review those experiments which deal with psychological or physiological individual differences. Individual differences have been experimentally created by prior experiences of success or failure,
different amounts of familiarity with the task, differences in anxiety and insecurity, variations in properties of the prior task, pretraining with reward, and by differences in prior social experience. The experimental evidence in this area will be reviewed in the preceding order.

Prior success or failure: Goldberg (1954) found that the amount of prior experience with a task with no subsequent feedback, no experience of having the performance evaluated as good, poor, or indifferent, does not appear to be related to susceptibility to conformity on a task which is later subjected to conformity pressures. Chapman and Volkmann (1939) found that once subjects have established their own standards in an originally ambiguous task (that of setting a level of aspiration), the experimenter cannot make them shift towards him as easily as when the subjects had not had an opportunity to establish their own bases of judgment.

A number of studies have indicated that failure results in decreased reliance in one's own judgments and consequently leads to increased conformity. Mausner (1954a), after creating individual private experiences of success or failure for male college students, arranged interaction for success-success pairs, failure-failure pairs, and success-failure pairs. He found that those who had experienced failure showed a significantly greater tendency to shift toward the answer given by the partner. In the success-failure pairings, the unsuccessful member shifted toward the successful one, but the successful ones did not shift from their prior estimates. In the failure-failure pairings, the members' responses tended to converge. Similar results have been reported by Goldberg and Lubin (1958), Mausner (1954b), Mausner and Bloch (1957), and by Blake, Mouton, and Olmstead (1956). Rosenberg (1961) demonstrated that the relationship between prior failure and conformity was consistent and independent of group size. Rosenberg used a male undergraduate sample and a Crutchfield apparatus with a line-judging task in which different group sizes (2, 3, 4, and 5 member groups) were simulated. A prior failure condition was also introduced in which subjects were lead to believe that their estimates were much less accurate than estimates of the others in the group, and for all levels of group size the prior failure condition significantly increased conformity. In a later study Rosenberg (1963), with a male undergraduate sample, assessed conformity in a simulated group situation using a line judging task and related conformity behavior to the "prior experience variable" of experiencing failure and of perceiving the partner as highly accurate in a pretest situation prior to the group influence situation. Rosenberg used control groups which had no prior experiences and experimental groups in which the treatment consisted of ten sessions during which the subjects were "wrong" on eight trials and "right" on two while they were told that the average number of times their partners had been "right" was seven. The results indicated that increasing the self-error significantly increased conformity; decreasing partner error also significantly increased conformity.
A study by Wolf and Zolman (1959) has demonstrated that success can also be manipulated by the interpolation of a related task. These investigators created a partner interaction situation in which subjects were required to estimate the number of paratroopers in two briefly exposed photographs before and again after judgments were by the confederate partner. A task consisting of counting dots on a specially prepared card supposedly representing the number of chutes in the first photograph was interpolated between the two judgments; this task was used to manipulate success by making the number of dots similar to or different from the subject's own judgment in the first photograph. Wolf and Zolman found that subjects who had their initial judgment reinforced in the interpolated task were significantly more resistant to social influence during the second judgment than were subjects whose initial judgments were disconfirmed in the interpolated task.

Keisler (1956), with a high school student sample, measured differences in imitative behavior before and after training by allowing subjects to respond to size estimation items after observing responses given by a model. The experimental "success" groups, whose responses during training were called correct with no information about the model's performance, did not differ in their change in imitative behavior from the corresponding "failure" groups who were also given no information about the model's performance. However, "successful" subjects who followed a model who was perceived as receiving chance scores followed the model significantly less often than "unsuccessful" subjects who followed a successful model. Kelman (1950) used the autokinetic task to investigate the effects of success and failure and found that subjects who perceived failure and inadequacy in the preinfluence situation showed greater susceptibility to confederate influence in the interaction situation than did subjects who experienced success and adequacy in the pretest. Moreover, Kelman found that differences in responses in the social influence situation and a postindividual session showed that successful subjects shifted away from the confederate's report while the failure subjects shifted toward the confederate's norm. Consequently, these data suggest not only that failure experience increases conformity, but that success decreases conformity behavior.

A study by Kidd and Campbell (1955) indicates that it is necessary to differentiate between individual failure in a prior alone experience and a prior experience of group failure. In their study Kidd and Campbell created three member undergraduate groups which were given different degrees of failure and success in a collaborative group task (forming words from separate letter lists given to each subject in such a way that each word contained at least one letter from each member's list). Following this task subjects twice judged the number of flickers of a light, receiving a bogus average group judgment prior to the second estimate. It was found that persons in groups given three successes and no failures in the prior task showed significantly more movement in the second estimate in the direction of the bogus group average than did subjects
in either the three failure groups or those in a central situation which had no prior experience. Persons given two successes and one failure were intermediate; the three failure groups showed less conformity than did the control groups; however, the difference was not statistically significant. Thus it can be seen that when an individual has a prior alone experience of failure, he is more susceptible to group pressures on a second task. However, following a group experience of failure, subjects are less susceptible to group pressures on the second task. Perhaps the most cogent explanation of this latter finding is that group failure lowers the perceived competence of the group, thereby lowering its influence.

A study by Croner and Willis (1961) has added another qualification to the relationship between prior failure and susceptibility to influence. Croner and Willis have shown that prior success or failure of a partner on a different but related task results in increased social influence only when the tasks are perceived to be similar. In one experiment the partner's perceived competence was manipulated on a bean counting task, and no difference was found in the degree to which prior competence affected movement toward the partner's judgments in a second task of line length judgments. In a second experiment the partner's competence was established in the same bean counting task, but the second task involved the judging of irregularly shaped areas, and the experimenter explicitly explained the similarity between the two tasks. In this second condition in which the tasks were similar and the instructions emphasized the similarity, a significant degree of asymmetry of influence toward the competent partner was found.

Familiarity with task: In the previously described study by Goldberg (1954) in which subjects judged intelligence from pictures, Goldberg provided all subjects with three degrees of experience and found that increased experience did not result in more resistance to social influence pressures. As explained earlier, the nature of the task may account for this unexpected finding. On the other hand, Harvey and Rutherford (1958) found that naive college subjects with fewer pretrials on the autokistic task showed a significantly greater tendency to shift their responses in a subsequent group pressure situation.

Degree of anxiety or insecurity: Sherif and Harvey (1952) varied familiarity with the experimental setting and the manner (friendliness and helpfulness) of the experimenter. Subjects judged the autokinetic task initially in private; then two to seven days later they judged in pairs. Comparisons were made of ranges and medians of judgments for private and pair sessions. The greater the uncertainty induced under private conditions, the more individuals fluctuated in the ranges and medians of their pair judgments. For those subjects experiencing maximum uncertainty under private conditions, dispersion of judgments was significantly reduced in the pair sessions while no differences occurred between private and
group judgments for those experiencing lesser degrees of uncertainty. Sherif and Harvey interpreted these findings to indicate that subjects served as "anchors" for one another when field anchorages were reduced.

Properties of the prior task: Several experimenters have provided pretraining on tasks with properties differing from the later tasks on which social pressures are exerted. Luchins (1945) used the task of naming the percept in a series of twelve drawings. By comparison with a control group, the erroneous response was given more frequently by those who had had pretraining with a confederate whose identical response was called "correct" in the preliminary series and "incorrect" in the second social influence series. When the confederate's preliminary responses were not supported by features of the drawing, no differences were found between the experimental and control groups.

These results are consistent with those of Croner and Willis (1963) who found that prior experience increases susceptibility only when the tasks are perceived to be similar. Luchins and Luchins (1955) have also shown that stimulus characteristics of the prior task can influence susceptibility. In this study the responses of the confederate to a preliminary series of pictures were varied and half the subjects judged pictures of clearly delineated objects while the other half judged an ambiguous set of lines. Conformity was found to be higher when the preliminary series was ambiguous and when the confederate's responses in the preliminary series were congruent with those of a control group which judged privately.

Reward pretraining: Experimenters have varied the type of response which has been reinforced; in some studies independent responses have been rewarded while in others conformity to false group norms has been reinforced. Scott (1957) found that college debaters who were rewarded by praise showed significantly greater average change in the direction of their positions than did losers or control subjects. In the study by Luchins and Luchins (1955) mentioned above, subjects showed greater susceptibility to influence on a subsequent test series when in the preliminary series the experimenter called the naive subject's responses "right" when they agreed with the purposely incorrect responses of the confederate. It appears, therefore, that feedback or reward has a stabilizing effect even when the information is incorrect. With similar conditions in an earlier study Luchins (1944) reported comparable results. Crutchfield (1955) found that when the experimenter called erroneous reports of others "right," conformity increased on a task involving perceptual judgments. However, subsequent responses to attitude judgments by the same subjects were not influenced by erroneous feedback. It appears, therefore, that conformity behavior following pretraining with reward for erroneous responses is limited by the content of the tasks.

Prior social experience: Several investigators have manipulated social interaction prior to the influence situation; the results from these experiments are equivocal. Kidd (1958) used a light
flicker counting task to create social influence pressures. After an alone estimate, undergraduate subjects were given bogus average group estimates attributed to either an identifiable or a non-identifiable source. Kidd found that identifiability of the source significantly increased conformity toward the bogus estimates. Lambert and Lowy (1957) had male undergraduates fill out comparable forms of the F scale (Adorno et al., 1950) under three conditions: alone, in groups of five without discussion, and in groups of five after discussion. The degree of acquaintance of the group members was also varied. Among the high acquaintance subjects there was a significant reduction in score variability from both the alone condition to the group together condition and from the alone condition to the group discussion condition; the low acquaintance subjects showed no reduction in score variability to either of the group conditions. Bray (1950) found that in the autokinetic task Gentile subjects ranking high in anti-Semitism on the Levinson-Sanford Scale of Attitude Toward Jews (1944) converged their judgments toward supposedly Jewish partners; Gentile subjects ranking high in anti-Negro feelings on the Likert Scale of Attitude Toward the Negro (1942) failed to converge towards a Negro partner. Bray related these findings to what he considered to be common stereotypes among prejudiced people in which the Jew is seen as clever and the Negro is seen as stupid.

In a study in which prior social experience was not experimentally induced, but based on self-selection, Ex (1960) found that in the autokinetic task strangers appear to exert more social influence than acquaintances. Ex used Dutch undergraduates ranging in ages from 20 to 30 years; 32 male-female partnerships were used, 16 of these partners were engaged couples (I-duos) and 16 of the partners were strangers (S-duos). In each duo eight males were confederates and eight were the naive subject. The naive subject judged autokinetic movement alone prior to the influence situation in which the confederate gave judgments either larger or smaller than estimates the subjects had previously given. Under these conditions Ex found significantly more shifting toward the partner in the S-duo condition; moreover, shifting away from the partner was found only in the I-duo. The men in the S-duos shifted significantly more toward their partners than did the men in the I-duos, but women in the S-duos did not shift more toward their partners than did women in the I-duos. Neither with the S-duos nor with the I-duos did an overall comparison of shifting between men and women produce a significant difference. Perhaps one can best interpret these results facetiously to indicate that engaged couples should not judge autokinetic movement together. More seriously, one must consider cultural factors when relating these results to the American studies which offer contradictory evidence that acquaintances exert more social influence than do strangers.

Summary: A prior individual failure experience on a task that is later subjected to conformity pressures has been found to render the individual less resistant to subsequent social influence.
Properties of a prior task on which a confederate gave a false report have been found related to the degree of susceptibility to pressures exerted by the same confederate on a later and different task provided that the two tasks are perceived as similar. Experimentally induced anxiety and insecurity prior to the pressure situation is related to susceptibility; those experiencing the greatest anxiety are least resistant. Pretraining with reward for incorrect responses renders a person more susceptible to influence. Finally, experimentally induced prior social interaction appears to increase susceptibility, although a Dutch field experiment offers contradictory evidence.

PHYSIOLOGICAL AND DEMOGRAPHIC CHARACTERISTICS AND CONFORMITY

The physiologic characteristics which have been experimentally related to conformity will be reviewed in the following order: sex, age, birth order, sex of sibling, physical condition, and physiologic states of the person. Then experiments relating conformity to the demographic characteristics of culture, race, occupation, income level, and religious affiliation will be presented. It should be noted that while sex and age are classified as physiologic factors for purposes of this review, this classification is arbitrary and not appropriate in every case. Age and sex differences in susceptibility to social influence can also be interpreted in terms of such cultural and psychological factors as role expectancy, differential experiences, and cultural role prescriptions. Consequently, the experimental results reported in this section may be indirectly related to age and sex but not "caused by" the physiologic factor varied in the experiment. It should also be noted that the experiments relating demographic characteristics to conformity have been included in this review to add completeness; nonetheless, it is recognized that some readers will view these experiments as beyond the scope of a strict interpretation of the "personality correlates of conformity."

Sex: Seventeen experiments which have related conformity behavior to sex differences are summarized in Table 1. (Throughout the remainder of this review the writer will summarize in table form those experiments in which a number of investigators have related the same variable to conformity behavior. Where an experiment can be described adequately in table form, no further mention of that experiment will be made in the review itself. Where experimental details cannot be summarized, the experiment will appear both in the tables and in the text. The failure to describe in detail a summarized experiment should not be interpreted as indicating that the experiment is of less importance than an experiment which is both summarized and detailed.) In the experiment by Ball (1953) 38 statements from the Drobra Attitude Toward War scale (1931) ranging from moderately pacifistic, through neutral, to moderately militaristic were used with three background conditions: items
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<td>Ball (1953)</td>
<td>Paper and pencil attitude measure</td>
<td>Attitude toward war items with various norms provided</td>
<td>Undergraduates (60 male; 37 female)</td>
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<td>Beloff (1958)</td>
<td>Simulated discussion</td>
<td>Attitude toward war, aesthetic preference, social, political, and religious items</td>
<td>Undergraduates at Queen's University, Belfast (Ireland) (35 male; 25 female)</td>
<td>Men more conforming to political-social issues; women more conforming to aesthetic issues; overall, women more conformant than men</td>
</tr>
<tr>
<td>Burtt (1920)</td>
<td>Group discussion</td>
<td>Groups with 4-26 members judging truthfulness of recounting an imaginary crime</td>
<td>Undergraduates (156 male; 88 female)</td>
<td>No sex difference in shift of judgment as a result of group discussion</td>
</tr>
<tr>
<td>Chaplin (1955)</td>
<td>Autokinetic situation</td>
<td>Latency, direction, and amount of movement measured</td>
<td>Undergraduates (52 male; 51 female)</td>
<td>Females showed longer latency, perceived shorter movement, and reported 13% more no-movement responses</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Coleman, Blake, and</td>
<td>Simulated group</td>
<td>General information items, difficulty</td>
<td>Undergraduates (30 male; 30 female)</td>
<td>Rank difference correlation between item difficulty and conformity was .58 for men, .89 for women</td>
</tr>
<tr>
<td>Kouton (1958)</td>
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<td>controlled</td>
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<tr>
<td>Crutchfield (1955)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, information, and opinion items</td>
<td>Undergraduates (19 male; 40 female). Also college alumnae aged about 40 and a comparable aged male group (50 in each adult group)</td>
<td>College women more conforming than college men; the college alumnae group showed less conformity than the male group of equal age</td>
</tr>
<tr>
<td>DiVesta and Cox</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, information, and opinion items</td>
<td>Summer school undergraduates ages 18-40 (35 male; 35 female)</td>
<td>Females more conformant at all age levels</td>
</tr>
<tr>
<td>(1960)</td>
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<tr>
<td>Hottel (1961)</td>
<td>Simulate group</td>
<td>Judging line lengths</td>
<td>School children, grades 3, 5, and 7 (180 children in sample)</td>
<td>Girls more conforming at all grade levels</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Hunt, Goldberg, Meadow, and Cohen (1958)</td>
<td>Asch situation</td>
<td>Judging line lengths</td>
<td>Undergraduates (21 male; 20 female)</td>
<td>No sex difference in conformity behavior</td>
</tr>
<tr>
<td>Iscoe, Williams, and Harvey (1963)</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>Children ages 7, 9, 12, and 15 (32 male and 32 female in each age group)</td>
<td>Females more conforming than males. Up to age 12, females much more conforming; by age 15, males slightly more conforming than females</td>
</tr>
<tr>
<td>Jenness (1932)</td>
<td>Group discussion</td>
<td>Judging number of beans in a jar</td>
<td>Undergraduates (51 male; 50 female)</td>
<td>No sex difference in shift of judgment as a result of group discussion</td>
</tr>
<tr>
<td>Kirkpatrick (1936)</td>
<td>Paper and pencil attitude measure</td>
<td>Male-female pairs working on attitude measure</td>
<td>150 undergraduates each paired with opposite sex member</td>
<td>Women changed their opinion less than men as a result of pair interaction</td>
</tr>
<tr>
<td>Mouton (1957)</td>
<td>Simulated group</td>
<td>Attitude, arithmetic, and information items with controlled familiarity</td>
<td>Undergraduates (50 male; 50 female)</td>
<td>For items of equal familiarity, no sex difference. With sex-related item familiarity varied, difference in conformity related to familiarity difference</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Patel and Gordon (1960)</td>
<td>Paper and pencil vocabulary test</td>
<td>Measured acceptance of incorrect hints written into booklet</td>
<td>10th, 11th, 12th grade students (72 in sample, both sexes in each grade)</td>
<td>Acceptance of incorrect hints was greater for girls at all grade levels</td>
</tr>
<tr>
<td>Tuddenham (1958)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual comparisons, information and opinion items</td>
<td>Undergraduates (106 male; 99 female) and an adult sample (27 male; 29 female)</td>
<td>College women more conforming than college men; adult women more conforming than adult men but sex difference less in the adult group</td>
</tr>
<tr>
<td>Tuddenham (1959)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual comparisons, information and opinion items</td>
<td>Undergraduates (37 male; 27 female) and an adult sample (27 male; 29 female)</td>
<td>For men only, negative correlation between conformity and Independence of Judgment scale (Barron, 1953a)</td>
</tr>
<tr>
<td>Tuddenham (1961)</td>
<td>Crutchfield apparatus</td>
<td>Visual perception items</td>
<td>10-12 year old children (35 boys; 35 girls) and undergraduates (32 male; 33 female)</td>
<td>Females more conformant in both age groups; greater sex difference in conformity among children than among adult group</td>
</tr>
</tbody>
</table>
were introduced with the phrase "Most people think that," with the phrase "Few people think that," or with no background. It was found that women rated items significantly higher with the "Most" background and significantly lower with the "Few" background than did a control group; men rated items significantly lower than a control group only with the "Few" background. Because women shifted more in both directions, it was concluded that women were more susceptible to influence. While Beloff's (1958) finding that women are more conformant than men is supported by other researchers, it must be noted that her sample consisted of Irish students. Consequently, her finding differentiating aesthetic conformity and political-social conformity for women and men respectively cannot be easily generalized to other student populations in other cultures (a study by Milgram, 1961, relating to this issue will be described in detail later in this review).

Crutchfield's (1955) finding that a sample of college alumnae in their forties showed less conformity than a male sample of equal age cannot easily be interpreted as indicating that older women are less conformant than older men because of the highly select nature of the alumnae group. It should be noted that Tuddenham (1958a) found a general sample of adult women to be more conformant than a sample of adult men.

Mouton's (1957) finding that sex differences in conformity behavior may be an artifact of sex-related differences in item familiarity appears to be noteworthy. In her experiment, two tasks were judged by a standardizing group to be of equal familiarity to men and women; one task was composed of attitude statements, the other included mental arithmetic problems. A third task involved information items, with half of the selections judged to be items with which men are more familiar and half composed of items with women are judged to be more familiar. In the simulated group situation, each subject responded after hearing the responses of two "others." The "others" were men for half the male subjects, women for the other half of the male subjects; similarly, half of the female subjects responded after hearing responses of two female "others," the other half responded after hearing two "men" respond. For materials with men and women were equally familiar, Mouton found no difference in susceptibility to social influence between the male and female subjects. When familiarity was related to sex role, susceptibility was found to be a function of familiarity rather than sex; both men and women were more susceptible to conformity pressures on materials with which they were not familiar. Moreover, Mouton found that pressures for change created by men were not greater than pressures for change created by women. Rather, it was found that women are capable of exerting more pressure on both men and women for materials with which they are more familiar, and women accepted more pressure from other women, rather than from men, for materials with which men and women are equally familiar. This latter finding is contradicted by Tuddenham, MacBride, and Zahn (1958) who, with an undergraduate sample and perceptual comparison
items, found that in simulated mixed-sex groups women tended to
crandon more when more men were supposedly contained in their
simulated groups (however, unlike the Mouton study, item difficulty
was not controlled). In any case, Mouton's experiment indicates the
complex nature of the relationship between sex differences and con­
formity behavior.

Other investigators have also conducted experiments which point to
the complex nature of the sex difference-conformity relationship.
Bass (1961b) has suggested that the sex differences usually found
in experiments on the susceptibility to social influence may be
due to differences in motivational orientation for men and women
in the experimental situation. Bass (1961b) notes that a series
of unpublished studies conducted at Louisiana State University
indicated that college men tend to be much more task-oriented,
more concerned about getting the right answer, or doing the best
job possible. Women, on the other hand, were found to be more
interaction-oriented, concerned with obtaining harmonious relation­
ships with others, and being accepted as members of their groups.
Consistent with Bass' observations is Tuddenham and MacBride's
(1959) finding that women were more conforming if they were con­
cerned about their answers not appearing peculiar to the other
participants, while men were more conforming when they said they
were concerned with doing the job faster. According to post-
experimental interview reactions, Tuddenham and MacBride also
found that men seemed more satisfied with their performance, were
more confident of their answers, and were more flattering to them­
selves in comparison to others. Tuddenham's (1959) finding that
the Barron Independence of Judgment scale (1953a) was negatively
correlated to conformity only for men also suggests that the con­
comitants of conformity for women are quite different than they
are for men. Tuddenham (1959) concluded that "the yielding­
indifference variable is less closely related in women to attitudes
toward the self and the sex role, and hence, is somewhat less pre­
dictable from other variables" (p. 284).

The importance of motivational factors (or response set) to con­
formity has been demonstrated by several researchers. DiVesta
(1959) used attitude, information, and perceptual items with an
undergraduate sample in a Crutchfield apparatus and found that
giving instructions that skill in making accurate judgments was
related to intelligence significantly decreased conformity. Thi­
baut and Strickland (1956) found that when subjects were given a
"task set," when they were told to do the best possible job in an
Asch-type situation, conformity behavior decreased significantly
from what it was when subjects had a "social set." If it is true,
as Bass suggests and the above research indicates, that men and
women do indeed approach the experimental situation with different
motivational orientations, more research appears to be needed to
specify the interaction between motivational variables and sex dif­
ferences in conformity behavior.
It has also been demonstrated in a recent study by Allen and Crutchfield (1963) that there is a sex difference in the degree to which conformity effects will generalize. With a male and female undergraduate sample, Allen and Crutchfield used a Crutchfield apparatus with five types of items: perceptual, vocabulary, number series, opinion estimates, and attitudinal. Feedback was given only on the perceptual and vocabulary items, and it was found that the experimentally reinforced conformity generalized to a significant degree to the items on which feedback was not given. Taking both feedback and nonfeedback items together, females were significantly more conforming than males on the vocabulary items, and they tended to be more conformant on the perceptual items. Moreover, the females showed significantly greater generalization of conformity than did the males. These results are interpreted as indicating that the female role not only involved greater expectation of conformity, but that the role is a generalized one in which the female's conforming behavior is less discriminating than male conformity.

Perceived status differences may also contribute to the sex difference-conformity relationship as suggested in the studies by Strodtbeck (1951) demonstrating that status differences in three cultures (navaho Indian, Mormon, Texas farmer) led to differential tendencies of husbands and wives to lead in problem-solving discussions. Finally, Crutchfield (as reported in Krech, Crutchfield, and Ballachey, 1962) has conducted a series of studies, with military officers, medical school applicants, engineers, research scientists, creative writers, and architects, all of which indicate that sex role is an important variable in the sex difference-conformity relationship. In all his studies, Crutchfield reports that females earned higher conformity scores than males and this difference tended to get larger as the testing sessions continued. The average conformity scores for males tended to decline over the duration of the sessions; the average scores for females tended to rise. Crutchfield also found evidence that the higher conforming females tended to be generally characterized by an easier acceptance of the female role. Many of the females who resisted group pressures tended to be characterized by marked signs of conflict in their feelings about the conventional feminine role, by rejection of dependent relationships with parents and others, and by hostile attitudes toward family. On a personality scale intended to measure "socialization" (Gough, 1960a), the independent females scored significantly lower than did the conforming females; among the males there was no difference in socialization scores between

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1In conformity research, feedback refers to a method in which the experimenter provides authoritative confirmation of the group by informing the subject immediately after a judgment what the "correct" response was; this allegedly "correct" response is arranged to be in agreement with the bogus group consensus.
the independents and the conformers. In reviewing and interpreting the findings from his many studies, Crutchfield (1959, p. 387) has written the following concerning the relationship between sex and conformity:

The females conform more readily, and the personal correlates of their conforming behavior are appreciably different from those in the male. An interpretation of this finding is that males and females perceive the group pressure situation in different ways, owing to their different beliefs and values concerning conformity, and reflected in the contrasting definitions of the typical feminine and masculine roles.

Thus as Table 1 indicates, and as the above experiments have further demonstrated, the relationship between sex differences and conformity is complex and equivocal; the most appropriate conclusion appears to be that differential susceptibility to social influence by men and women is difficult to interpret and that this differential merits further research.

Age: Ten experiments which have related conformity behavior to age differences are summarized in Table 2. In Berenda's (1950) study, the younger children conformed more to incorrect responses made by their teachers than to incorrect peer responses; the older children conformed equally to both types of confederates, and as noted in Table 2, the younger children were more conformant in both cases. In the study by Duncker (1938) food preferences (for carrots, nuts, bananas, apples, bread, and grapes) were initially established and then the children watched another child whose preference was different select a food from a table.

Milgram's (1961) study has important theoretical implications which will be discussed later in this review; moreover, it is necessary to describe this experiment more fully than can be done in table form. In what was ostensibly a "learning experiment" whose purpose was to investigate the effect of punishment upon verbal learning, the naive subject was paired with three confederates, one who read the word pairs, one who indicated whether the response was correct, and one who was the "learner." The subject had control over the shock level and was requested to administer increasingly greater shocks when the learner gave an incorrect response. As indicated in Table 2, the subjects varied in age, occupational status, and educational level. Milgram also related response to group pressure to such variables as political preference, religious preference, birth-order, and military experience, and these results will be presented later in this review.

In summarizing the experimental evidence relating age to conformity behavior, it appears that younger people are generally more responsive to social pressures than are older individuals.
# TABLE 1

**SUMMARY OF EXPERIMENTS RELATING AGE DIFFERENCES TO CONFORMITY**

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berenda (1950)</td>
<td>Pair interaction after initial judgments</td>
<td>Line judgments with teacher and peer confederates</td>
<td>47 children ages 7-10; 29 children ages 10-13</td>
<td>Both groups showed significant susceptibility to both teacher and peer confederates; the younger group showed significantly greater susceptibility than the older group</td>
</tr>
<tr>
<td>DiVesta and Cox (1960)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, information, and opinion items</td>
<td>Summer school undergraduates, ages 18-40 (35 male; 35 female)</td>
<td>Significant negative correlation between age and conformity (-.24; p less than .05)</td>
</tr>
<tr>
<td>Duncker (1938)</td>
<td>Pair interaction after establishing initial preference</td>
<td>Choosing a preferred food after a peer has chosen</td>
<td>London nursery school children, ages 2 years, 8 months to 5 years, 2 months</td>
<td>Younger children were more influenced to imitate peer's choice; children under 2 and 2/3 years did not respond to influence of others</td>
</tr>
<tr>
<td>Iscoe, Williams, and Harvey (1963)</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>Children ages 7, 9, 12, and 15 (white children, urban and rural, 32 of each sex in each age group)</td>
<td>Relationship between age and conformity was curvilinear; conformity increased to age 12, then decreased</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Iscoe, Williams, and Harvey (1964)</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>Children ages 7, 9, 12, and 15 (both Negro and white, from urban locale, 64 male, 64 female in each racial group</td>
<td>Whites increased in conformity from 7 to 12, then slight decrease; Negroes Negroes showed progressive decrease in conformity after age 9</td>
</tr>
<tr>
<td>Marple (1933)</td>
<td>Paper and pencil attitude measure, initial and after expert and peer opinion</td>
<td>Political, social, ethical, and educational items</td>
<td>300 high school seniors, median age 18; 300 college seniors, median age 22; 300 adults, median age 39</td>
<td>All three groups shifted to both expert and peer group opinion; adults shifted less than student groups; no difference between the student groups</td>
</tr>
<tr>
<td>Milgram (1964)</td>
<td>Group &quot;learning experiment&quot;</td>
<td>Administering &quot;shock&quot; to a learner for incorrect answers under group pressure</td>
<td>80 adult males; ages 20-50, various occupations and educational levels from less than completing elementary school to doctorate</td>
<td>Age not related to the naive subject's willingness to administer punishment under group pressure as compared to to an individual control condition</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Luchins and Luchins (1955b)</td>
<td>Pair interaction with partner giving incorrect responses</td>
<td>Line length judgments</td>
<td>13 elementary school children, ages 10-13; 13 male undergraduates</td>
<td>Conformity to incorrect response by confederate was significantly greater among the children than among the college group</td>
</tr>
<tr>
<td>Patel and Gordon (1960)</td>
<td>Paper and pencil vocabulary test</td>
<td>Measured acceptance of incorrect hints written into test booklet</td>
<td>10th, 11th, and 12th grade students (72 in sample, both sexes in each grade)</td>
<td>12th graders accepted significantly less suggestion than did 10th and 11th graders; the latter two groups did not differ significantly from each other</td>
</tr>
<tr>
<td>Tuddenham (1961)</td>
<td>Crutchfield apparatus</td>
<td>Visual perception items</td>
<td>10-12 year old children (35 boys, 35 girls) and undergraduates (32 male, 33 female)</td>
<td>Children yielded more than adults to false norms; nonsignificant difference in yielding between college men and boys; difference between college women and girls reached 1 per cent level</td>
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</table>
Birth-Order: Although Adler (1945) had suggested the importance of an individual's ordinal position in the family some years ago, until quite recently very little research had been conducted using ordinal position as the independent variable. Then a few years ago Schachter (1959) published a book in which he reported the results of a series of studies on ordinal position, motivation, and behavior in both experimental and social situations. Schachter suggested that first-born individuals are more anxious and more affiliatively dependent than later-born individuals; he also suggested that first-born individuals would be more prone to influence by others. The book reported the findings of a study by Ehrlich in which first-born males were found to be less resistant to social influence than later-born males, and since the publication of Schachter's book, a number of researchers have both supported and contradicted Ehrlich's finding. (The contradictory nature of the findings and the variety of methodologies used in these experiments make them difficult to summarize in table form; consequently, the writer will review these experiments in text form.)

Using an interaction-type influence situation in which a hired assistant sought to influence a subject to adopt an attitude contrary to one indicated in a pre-influence assessment, Sampson (1962) found that for a female undergraduate sample birth-order tended to be related in a direction opposite to Schachter's hypothesis (at the .10 level); first-born females were more resistant to social influence than were later-born females. In a second study which used the discrepancy between a subject's own personal evaluation and a group leader's evaluation of performance in a group task as the measure of susceptibility to social influence, Sampson (1962) found that for a sample of male Coast Guard recruits he replicated Ehrlich's finding that first-born males are more conformant than later-born males. Becker and Carroll (1962) report similar results with a sample of grade school boys tested in an Asch-type situation with line judging items. In a later study Becker, Lerner, and Carroll (1964) tested the hypothesis that the relationship between birth-order and conformity is dependent upon the type of social influence, normative or informational, which is operating in the influence situation. In this study, first-born and later-born high school boys were tested in an Asch-type situation, and a small ($0.05) or large ($0.25) reward was introduced for each correct response; a control group made judgments without any mention of rewards. The study replicated the earlier finding that first-born boys yield more frequently than later-born boys. Moreover, the small payoff condition lead to decreased yielding for both the first-born and later-born boys, whereas the larger payoff lead to increased yielding only for the later-born boys. These results are interpreted as indicating that first-born persons are more dependent on others for social support (normative influence) whereas later-born persons rely more on others for the validation of their beliefs (informational influence). The operationalization of the two types of social influence in this experiment is, in the opinion of the writer, a noteworthy methodological innovation which will be discussed more fully at the conclusion of this review.
Using female undergraduate samples, two researchers have failed to find a birth-order effect. Thorne (1962) compared only children and first-born against later-borns in a Crutchfield apparatus with perceptual judgments as stimuli and did not find a relationship between conformity and birth-order. Schmuck (1963) assessed the "personal disposition to conform" by a three picture projective test developed by Davis (1954). According to Davis' work these pictures are related to compliant-defiant derivatives of the anal complex in psycho-analytic theory and were validated with Blum's Blacky Test (1949). Schmuck found no relationship between birth-order and conformity as measured by the projective test. In a recent study Moore (1964) found no relationship between birth-order and susceptibility to social influence except for an only child group where her finding was in a direction opposite to Schachter's hypothesis; the only child group was less susceptible than a later-born group on one of three measures. Moore's subjects were male undergraduates; her measures were the Persuasibility test of written communications of opinion from authoritative sources (Hovland and Janis, 1959), the Influencibility test with false peer group norm feedback (Schachter, 1959), and the autokinetic situation. Moore compared only children, first-born, and later-born on each of these three measures and found no relationships except on the Influencibility test where only children were less "influencible."

Walters and Karal (1960) have hypothesized that anxiety is the most important motivating factor in determining susceptibility to social influence, and the relationship between anxiety, birth-order, and conformity has been experimentally investigated in a study by Staples and Walter (1961). In this study suggestion of movement in the autokinetic situation was given to 64 female undergraduates, 32 first-born and 32 later-born. It was found that first-born responded more quickly to suggestion of movement than did later-born. Half of the first-born and half of the later-born were then told that they would receive shock when their judgments were in error (anxiety condition). It was found that first-born in the anxiety condition were more suggestible than first-born in the nonanxiety condition; there was no significant difference between later-born in the anxiety condition and later-born in the nonanxiety condition. There was also no difference between first-born and later-born in the nonanxiety condition. Thus the results are inconclusive; both Schachter's hypothesis relating susceptibility to birth-order and the Walters-Karal hypothesis relating susceptibility to anxiety received partial support in the Staples and Walters (1961) experiment.

In summarizing the above experiments relating birth-order to conformity or susceptibility to social influence, one must conclude that to date the results are equivocal and that no relationship has yet been empirically demonstrated.
Sex of sibling: While Schmuck (1963) failed to find a birth-order effect in the previously cited experiment, he did find that his projective measure of conformity was related to the sex of sibling for his female undergraduate sample. The subjects were characterized by one of the following: (1) a two-child family with (a) a younger brother or (b) a younger sister or (c) an older brother or (d) an older sister; or (2) a one-child family. In the two-child families the age difference between the subject and the sibling was from two to five years. Schmuck found that girls with a brother more often had personal tendencies to conform than did girls with a sister; neither birth-order nor an interaction between birth-order and sex of sibling yielded significant results. This appears to be the only study in the literature which has used sex of sibling as the independent variable; in view of Schmuck's finding, more research in this area appears to be indicated.

Physical condition: One study, an investigation by Linde and Patterson (1964), has used the subject's physical condition as the independent variable in a study of conformity. Conformity was assessed in an Asch-type situation using two control groups, one composed of able-bodied male undergraduates, the other consisting of disabled male undergraduates (paraplegic-type disabilities requiring wheelchair confinement). Two experimental groups were used in which the physical condition of the confederates was contrasted with the condition of the naive subject. It was found that disabled men in groups with able-bodied confederates conformed less than did able-bodied men in groups with disabled confederates; moreover, conformity was greater in homogeneous groups than it was in the nonhomogeneous groups. The researchers point out that their results are consistent with the observation by Wright (1960) that people who are able-bodied often have positive attitudes toward the disabled related to respect for presumed intelligence, courage, or perseverance.

Physiologic states of the person: Physiologic states which have experimentally related to conformity include sleep deprivation, degrees of thirst, food preferences, palmer sweat, galvanic skin response, and plasma free fatty acid level. In a study by Fisher and Rubenstein (1956) loss of sleep was found to render a person more susceptible to social pressure. Subjects who had been awake continuously for 48 to 52 hours showed significantly greater changes in autokinetic judgments, both within trials and between trials, than did a control group which was not sleep deprived. After experimentally creating two degrees of thirst, strong and moderate, Kimberrell and Blake (1958) asked subjects to wait for the remainder of the experiment near a drinking fountain with a sign forbidding its use. Under conditions of moderate thirst, the naive subject was significantly influenced by a confederate who violated the sign; confederate behavior did not influence drinking in the strong thirst
condition. Marinho (1942) found that with respect to food preferences, the individual with definite preferences is more resistant to change as a function of social pressures. Marinho placed four to six year old kindergarten children into two groups, one showing a preference for one of two kinds of fruit paste, the other group had an indefinite preference. Half of each group served as a control and half served as the experimental group in an interaction situation with a peer confederate. Both groups showed a shift as a result of the confederate's selection, but the group with the definite preferences showed significantly less shift than did the group with the indefinite preferences.

Several researchers have related attitude change to anxiety as measured by either palmer sweat or galvanic skin response (GSR). Lawson (1955) selected extreme scorers on two measures of nationalism-internationalism from a male undergraduate sample, and 40 nationalists and 40 internationalists then participated in a group discussion in which two naive subjects with the same views were opposed by six to eight role-playing confederates with the opposite viewpoint. Lawson found that attitude shift was brought about more successfully in the nationalist group (toward internationalism), and in both groups attitude shift toward the opposing view resulted in decreased palmer sweat. In a related experiment using a similar sample, situation, and task, Lawson and Stagner (1957) again found that attitude shifts were accompanied by decreases in palmer sweat, particularly for those subjects initially holding nationalist positions. In a study relating attitude shift to GSR, Hoffman (1957) used selected items from the F scale (Adorno et al., 1950) to differentiate undergraduates with high and low conformity needs. GSR readings were taken in a social pressure situation in which each subject responded orally to social attitude items after hearing bogus group norms that alternately agreed or disagreed with responses that subjects had given six weeks earlier to the same items. Unexpectedly, both groups shifted significantly toward the false norms. Conformity produced less anxiety than did resistance (as measured by the GSR), although the differences were significant for the high conformity subjects only.

One of the most sophisticated research efforts to appear in this review, research whose important methodological implications the writer will discuss at the conclusion of this review, is a series of studies conducted at the Duke Medical Center in which a team of medical doctors and social scientists have collaborated to study the relationship between experimental conformity and "central nervous system arousal" by means of sequential physiological measures taken throughout the experimental situation. Blood samples are drawn automatically throughout the experimental series and the plasma free fatty acid (FFA) level, which is considered to be a measure of central nervous system arousal, is registered. In the first study of the series by Bogdonoff, Klein, Estes, Shaw, and Back (1961), nine four-member groups composed of normally fasting
males were assessed in a modified Crutchfield apparatus with perceptual judgment items. The general effect of the group pressure situation was a substantial increase in the FFA level. For those subjects who resisted group pressure, the FFA level remained high, but for those who conformed the FFA level was reduced. The correlation between conformity scores and FFA level reduction was significant ($r = .63; \ p < .05$). This finding was interpreted to indicate that conformity behavior results in a general lowering of the aroused state, an interpretation which is consistent with the finding that conformity results in decreased palmer sweat and lowered GSR. In a more recent study conducted at the Duke Medical Center by Back, Bogdonoff, Shaw, and Klein (1963) the researchers attempted to understand the psychological dynamics of conformity behavior by analyzing physiological data. The FFA level was measured as a sample group of NROTC students responded to a task consisting of matching airplane silhouettes in a modified Crutchfield apparatus. The experimenters manipulated group cohesiveness and the subject's subjective perception of his ability in the task. The greatest conformity and the greatest increase in FFA occurred in the high cohesiveness-high ability condition and in the low-cohesiveness-low ability condition. These findings are interpreted in the following manner. The FFA increase in the high cohesiveness-high ability condition may indicate that the subject experiences increased arousal as a consequence of feeling responsible for his group which, except for him, is not very able. The subject experiences less arousal if he is the weak member of a congenial group and he can profit from his friends' superior ability (the high cohesiveness-low ability condition). If, however, he does not feel very close to the group (low cohesiveness), and if, therefore, he is on his own, he experiences greater arousal when he is worst and less arousal when he is best in his group (low cohesiveness-high ability). In the low cohesiveness condition his performance stands out more significantly; he may therefore consider he is under greater scrutiny, especially when he is worst, and this may be the factor which contributes to his increased arousal. The use of physiological data which is collected throughout an experiment to attempt to understand social psychological phenomena appears to be a significant methodological innovation about which the writer will make further comment at the conclusion of this review.

Culture: As Mead (1939) and many other anthropologists have shown, primitive societies vary widely in the degree of conformity to social norms which they demand of their members. It has also been shown that the nature of the particular culture in which an individual grows up may significantly shape his conformity behavior. For example, an investigation by Barry, Child, and Bacon (1959) indicated that conformity training in childhood is much greater in subsistence cultures engaged in tillage and dependent upon loyal adherence to detailed practices than in those subsistence cultures of comparable size and complexity depending upon hunting and fishing. Anthropological evidence, as well as personality theory, have indicated that as part of the socialization process the individual
develops particular beliefs, attitudes, and values with respect to the abstract concepts of "conformity" and "independence," and these values will help govern how ready the individual will be to conform or resist when he is faced with group pressures later in life.

The writer has not forgotten the objective of this review, namely to present experimental research, and the above comments should be considered merely as an introduction to the work of one experimenter, Milgram (1961), who has attempted to apply experimental methods to the study of national character. Milgrim writes:

My objective was to see if experimental techniques could be applied to the study of national characteristics, and in particular to see if one could measure conformity in two European countries: Norway and France (p. 47).

Milgram conducted a series of experiments in which a simulated group situation was used with the task being to judge tonal lengths. Natives of the respective countries conducted the experiments and the recorded voices were those of native speakers. A noteworthy feature of these experiments, and one which will also be discussed later, was that each subject was given a tonal discrimination test prior to the experiments and it was found that there was no prior difference in the subjects from the two countries in their capacities to discriminate tonal lengths. The Norwegian sample consisted of students attending the University of Oslo; the French sample was a group of Paris university students matching the Norwegian group in age, level of education, sex, marital status, fields of study, and so far as possible, social class. There were 20 subjects in each group, and in the first series of experiments, 62 per cent of the Norwegians conformed on the critical trials as compared to 50 per cent of the French. A second experiment was conducted in which the task was related to a life and death issue; the subjects were told that the results would be applied to the design of aircraft signal devices. Under these conditions Norwegians conformed on 56 per cent of the critical trials as compared to 48 per cent for the French. Another series of experiments indicated that when subjects made their judgments by secret ballot (as compared to public response in the above described experiments), Norwegians conformed 50 per cent of the time as compared to 34 per cent for the French. Forty Norwegian industrial workers were then tested and their level of conformity was the same as for the college students; a comparable sample of French workers had not been studied at the time these results were published. Milgrim (1961, pp. 50-51) interpreted these results in the following manner:

No matter how the data are examined, they point to the greater independence among the French than among the Norwegians . . . in every one of the experiments performed in both countries the French showed themselves to be more resistant to group pressures. These findings
are by no means conclusive. Rather they must be regarded as the beginning of an inquiry that one would like to see extended. But incomplete as the findings are, they are likely to be far more reliable than armchair speculation on national character. It is useful, nevertheless, to see if the results are comparable with a nation's culture as one can observe it in daily life. Conceivably the discrepancy (between the experimental findings and the observer's general impressions) might be due to viewing the culture through a screen of stereotypes and prejudices rather than seeing it with a clear eye. In any case, in our study, experiment and observation seem to be in reasonable agreement.

Pepinsky, who was a Guggenheim Fellow and a Fulbright Research Scholar at the Institute for Industrial Social Research, Trondheim, Norway during 1961-62, and who therefore had the opportunity to observe Norwegian culture in "daily life" and to discuss some of Milgram's research with his Norwegian colleagues, has bitterly attacked Milgram's "experimental" approach to the study of national culture. After reviewing the Milgram experiments, Pepinsky (1962, pp. 182-183) writes:

Well kids, the lesson to be learned from all this is that you shouldn't waste your time with any lengthy study of culture in which you're going to conduct research. Just view it with a 'clear eye,' instead of through that obfuscating 'screen of stereotypes and prejudices.' An experiment (italics in the original) will help, especially if it is dressed up in shiny content, apparatus, and method from the Good Old USA! Don't be buffalooed either by small frequency differences; pretty blue and grey graphs take care of that. At least one Norwegian social scientist I met likes it very much. Now I'm leaving on a brief trip where I expect to do a 'quick and dirty' casing of six European cultures in about six weeks. This should yield a lot of dandy ideas for experiments.

It is not the writer's purpose to take sides in the above argument; to do so is far beyond the scope of this review. In any case, each side appears to have some merit; the reader is challenged to take his own position. What is important to the purpose of this review is to note the extension of conformity research into areas previously reserved for anthropological observation. The writer can see no harm in carrying the experimental method into new areas of inquiry; whether experimental interpretation is then misapplied is another matter altogether.

One other experiment relating cultural variables to conformity should be mentioned. In the previously described experiment by Iscoe, Williams, and Harvey (1963) it was found that for white urban and rural children, urban males tended to conform less than rural males while females conformed at approximately the same rate in both locales.
Much more research will be needed before one can reach any summary conclusion regarding the relationship of cultural differences and conformity behavior.

Race: The previously cited experiment by Iscoe, Williams, and Harvey (1964) presents the only experimental evidence relating race to conformity. It was found that overall Negro children were less conforming than whites. A very significant sex-race interaction was also found; white and Negro males were similar in their conformity behavior while Negro females conformed much less than white females. Below 80 IQ (as measured by the California Mental Maturity Test) Negroes of both sexes conformed much less than whites; above 80 IQ decreasing conformity with increasing intelligence was found for both races. The investigators point out that finding Negro females less conformant than white females can perhaps best be explained by an examination of the sex role expectancies and child rearing practices of the two racial groups. According to Dai (1952), the father in the Negro culture is frequently absent from the home and the mother is the chief source of authority. Behavioral scientists familiar with the Negro culture generally agree that a Negro girl can "get away" with nonconformity more than a white girl. The same holds true in terms of the relationships between Negroes and whites; Negro females are much more independent in dealing with members of the white culture than are Negro men. Observers note that white females are instructed early into the virtues of conformity and "getting along," and they lack the competitiveness which is frequently exhibited by Negro females.

The relationship between race and conformity behavior appears to be a neglected research area which American social psychology should neglect no longer. The current American "Negro Revolution" heightens the immediate sociological importance of this research area, and it would appear that with a far better understanding of the relationship between conformity and race, American social psychology could make a significant contribution to this very important social problem.

Occupation: Two investigators have related conformity behavior to occupational status. Miner (1962) tested the suggestion made by Whyte (1956) in his book The Organization Man that team research has infiltrated the academic world to the point where individuality has largely disappeared and originality has lost out to uniformity of thought and action in the academic community while the Protestant ethic still prevails among executives of large American corporations where pressures to conform have been largely resisted by such top-level executives. Miner's sample consisted of 44 executives and 41 professors. The executive group consisted entirely of men who were officers of large corporations in 1953; 24 were listed in Who's Who in America, 26 were presidents, the rest were vice-presidents, treasurers, or held equal corporate rank. The professor
group consisted largely of department heads, only seven held ranks lower than full professor, and 17 were listed in Who's Who in America. (It should be noted that Whyte did not comment on professors in the humanities; he limited his discussion to professors in the sciences—physical, biological, and social and only 17 professors in Miner's professor group were scientists.) Miner used two control groups: college graduates who were neither executives or professors, and an adult sample of housewives, retired people, and people in the labor force which matched the executive and professor groups in terms of age, intelligence, and education. Miner's measure of conformity was the Tompkins-Horn (1957) Picture Arrangement Test which is a personality assessment measure requiring the subject to make an arrangement of a set of three pictures so that the pictures "make the best sense." There are a total of 25 such sets; the pictures all represent everyday life; over half of them depict work situations; and conformity is assessed by comparing the frequency of a subject's arrangements with norms established in a national representative sample. Miner (1962, p. 106) reports his results as follows:

. . . conformity occurred equally in both occupational groups, and both were on the average less conforming than the average college graduate. This relative non-conformity was found to be an artifact, however; when age was held constant, professors and executives were found to be no less conforming . . . it appears that the older and more distinguished members of the academic community are less conforming than the average college graduate, but most, if not all, of this difference can be accounted for in terms of age differential. There is little that is unique about the college professor in this respect. He does appear to be more conforming than others his age, but neither is he less conforming . . . The findings as regards the business executive point to a very similar conclusion.

Miner also tested the hypothesis that the more successful executives and professors would be less conformant; listing in Who's Who in America was used as a criterion of relative success (55 per cent of the executives and 41 per cent of the professors were so listed). The men listed were found to have higher mean conformity scores than those not listed, but the difference did not approach significance. Miner concludes that "in so far as the data permit a conclusion, conformity and relative success are not related in the occupations studied." (p. 108). Milgram's (1964) study of action conformity (see Table 2) used a male adult sample with varying occupations (postal clerks, high school teachers, salesmen, engineers, and laborers were included in the sample), and no relationship was found between the occupational variable and action conformity. However, the smallness of Milgram's sample (i.e., 80) makes any conclusion very tentative.
Income level: In the previously described study by Hunt, Goldberg, Meadow, and Cohen (1958) subjects were divided into two income levels and significantly more conformity was found among subjects reporting annual family incomes above $5,000 as compared to subjects reporting incomes below this figure. This finding is interpreted as presenting "some suggestive evidence that social-class level and conformity may be related. It is also suggested that future investigations of conformity behavior may gain precision by controlling for social-class levels" (p. 198). However, in Milgram's (1964) action conformity study it was found that educational history was significantly related to conformity; less educated subjects, those with a high school education or less, tended to yield more than those subjects who possessed a college degree. Moreover, in the next section of this review it will be shown that intelligence has been found to be inversely related to conformity. Consequently, it would appear that the above interpretation by Hunt et al. may be artifactual. Since education, intelligence, and social class are not independent in our culture, on the contrary, they are usually highly correlated, it may well be that the gain in experimental precision which Hunt et al. seek can be achieved better by controlling educational level or intelligence, rather than social class.

Religious affiliation: Hunt et al. (1958) also divided their subjects into three major religious classifications, Protestant, Roman Catholic, and Jewish, and no relationship between conformity and religious affiliation was found. On the other hand, Milgram (1964) found that Roman Catholic subjects tended to yield more than Protestant subjects (p less than .10). Again, the smallness of the sample sizes must be noted; Hunt et al. used 41 subjects; Milgram 80.

Summary: As with most research areas cited in this review, the experiments relating conformity behavior to physiologic and demographic characteristics have produced results which are hard to summarize and are in many cases equivocal. Age appears to be inversely related to conformity, sex differences do not appear to be extreme, and physiologic states can affect conformity behavior. More research is needed before one can relate such variables as culture, race, income level, occupational status, and religious affiliation directly to conformity behavior.
PSYCHOLOGICAL CHARACTERISTICS AND CONFORMITY

Because the relationship between conformity behavior and various psychological characteristics is of interest to researchers with widely differing backgrounds and orientations, this area has seen even more research than the other areas appearing in this review. Twenty-one different content areas, ranging from intelligence to self-ratings will be presented. The sheer volume of research in these areas demands that each experiment be reviewed with brevity; consequently, wherever possible the experiments will be presented in summarized table form and where required, textual mentions will be brief.

Intelligence: Thirteen experiments have related intelligence to conformity behavior, five of these experiments are summarized in Table 3, the rest have been described earlier. Neither Berenda (1950) nor Jenness (1932) found significant correlations between susceptibility and measures of intelligence. Crutchfield (1955) reports negative correlations between conformity and staff ratings for intellectual competence (-.63) and between conformity and Terman's (1956) Concept Mastery Test (-.51). Tuddenham (1959) found actual IQ (as measured by the Terman Group Test), academic grade point averages, self-report questionnaire scales for academic achievement, and interviewers' ratings of intellectual efficiency all negatively related to yielding. DiVesta and Cox (1960) found three measures of intellectual ability related negatively with conformity; conformity scores correlated -.24 (p less than .05) with Cooperative Reading Test-Vocabulary scores; -.20 (p less than .05) with ACE Psychological Examination-Language scores; and -.30 (p less than .01) with grade point ratio of academic achievement. Hottel (1961) found a significant relationship between conformity and IQ; bright and average children did not differ significantly from one another but both were significantly more independent than dull children. However, in both experiments by Iscoe, Williams, and Harvey (1963, 1964) IQ (as measured by the California Mental Maturity Test) was not related to conformity behavior.

The methodology in Crutchfield's (1951, 1953) two experiments in which a curvilinear relationship between susceptibility to pressure and intelligence was found merits a special description since the writer will make further reference to these experiments at the conclusion of this review. In the Group Squares Test subjects worked in groups of six on a problem that involved fitting together irregularly shaped cardboard pieces into squares. Each subject was required to complete his square from a limited set of pieces available in common to the group, and subjects were told they would be exchanging pieces with one another in order to complete their squares. The exchange was made indirectly through the experimenter who controlled the situation and permitted no real transactions; pieces
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<tr>
<td>Crutchfield (1951)</td>
<td>Simulated group interaction</td>
<td>Group Squares Test (see text)</td>
<td>Graduate students in their final year of Ph.D. work (40 male)</td>
<td>Curvilinear relationship between response to pressure (breaking the Square) and intelligence as measured by Terman Concept Mastery Test (1956) and Idea Classification Test</td>
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<td>Crutchfield (1953)</td>
<td>Simulated group interaction</td>
<td>&quot;Bingo Game&quot; (see text)</td>
<td>Undergraduates (60 female; 49 male)</td>
<td>Curvilinear relationship; those of highest intelligence were intermediate on social responsiveness (measure of intelligence not identified)</td>
</tr>
<tr>
<td>Fisher, Williams, and Lubin (1957)</td>
<td>Simulated group judgments</td>
<td>Numerosity judgments</td>
<td>Not specified</td>
<td>No relationship between intelligence and susceptibility to social influence (measure of intelligence not identified)</td>
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TABLE 3
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<tr>
<td>Nakamura (1958)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual items</td>
<td>Undergraduates (77 female; 64 male)</td>
<td>For men, significant negative relationship between conformity and Terman Concept Mastery Test ($r=-.31$; $p$ less than .01); for women no relationship between conformity and intelligence</td>
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<tr>
<td>Wilson (1960)</td>
<td>Simulated group</td>
<td>Auditory click counting and attitude items</td>
<td>10th and 11th grade high school students (80 male)</td>
<td>For click counting task, no relationship between conformity and intelligence; for attitude items, a significant negative relationship ($r=-.37$; $p$ less than .01) (Intelligence measure not identified)</td>
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were made available on a preset schedule while maintaining the illusion that the subjects were dealing with one another. Each subject was permitted to complete his square early in the experiment, but was lead to believe that others had not yet finished. The experimenter would then request one of the pieces in the subject's completed square, and the crucial determination was how many requests were required before a subject broke his square and yielded the requested piece. Some subjects "broke" at the first request; one subject broke only after 20 successive requests. The "Bingo Game" was a similar quasi-interaction situation in which the subject was requested to yield one of his key numbers and thereby break his Bingo; like the Group Squares Test, the Bingo Game yielded a quantitative measure of what Milgram (1964) terms "action conformity." Crutchfield classified his subjects as to whether they broke fast, moderate, or slow, and, as Table 3 indicates, those who broke after moderate pressure scored highest in intelligence.

Authoritarianism, dogmatism, and ethnocentrism: Twelve experiments which have related conformity to authoritarianism, dogmatism, or ethnocentrism are summarized in Table 4. As this table indicates, most investigators have found that conformity behavior is positively related to the above personality characteristics. Several explanations regarding the summarized experiments are in order. The unexpected finding that there was no difference in conformity between high ethnocentric subjects who received support from white partners and those who received support from Negro partners lead Malof and Lott (1962) to the following conclusion, a conclusion which to this writer appears to be important: "... know prejudicial attitudes do not provide adequate grounds for making accurate behavioral predictions in certain interracial situations." (p. 258). Vidulich and Kaiman (1961) point out their significant interaction between dogmatism and influence source cannot be attributed to differences in intelligence since these researchers found no differences in gross intellectual ability (as estimated by grade point average) in their authoritarian and nonauthoritarian subjects; moreover, previous studies by Rokeach (1960) had indicated that the 40-item Dogmatism scale is unrelated to intelligence for a student population.

A recent experiment by Steiner and Johnson (1963) serves to illustrate the care which must be exercised in generalizing laboratory findings to real life situations, a caution which is also indicated in the findings of Malof and Lott (1962) cited above. Steiner and Johnson found a significant interaction effect between conformity, authoritarianism, and unanimity of social influence. When two male undergraduate confederates were almost always unanimous in the answers they gave to a series of multiple-choice questions (judgments about political and social events, the characteristics of animals, and sizes and shapes of geometrical figures), a positive
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<tr>
<td>Beloff (1958)</td>
<td>Simulated group</td>
<td>Attitude toward war, aesthetic preference, social, religious, and political items</td>
<td>Undergraduates at Queen's University, Belfast (Ireland) (35 male; 25 female)</td>
<td>Authoritarianism on the F scale and conformity positively related for both men and women</td>
</tr>
<tr>
<td>Block and Block (1952)</td>
<td>Subject experimenter interaction</td>
<td>Continuing a boring task (spool packing) under experimenter pressure</td>
<td>54 male undergraduates</td>
<td>Tendency to conform to experimenter pressure and continue the task after indicating desire to quit positively related to scores on scale</td>
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<tr>
<td>Crutchfield (1955)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, informational, and opinion items</td>
<td>Undergraduates (19 male; 40 female)</td>
<td>Correlation between conformity and F scale was .39 (p less than .01); correlation between conformity and staff rating of authoritarian behavior in a standard psychodrama situation was .35 (p less than .01)</td>
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<td>Canning and Baker</td>
<td>Autokinetic task</td>
<td>Judge autokinetic movement with confederate interaction</td>
<td>40 undergraduates</td>
<td>Susceptibility to confederate influence positively related to scores on Allen (1955) measure of religious authoritarianism</td>
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<td>Gorfein (1961)</td>
<td>Asch situation</td>
<td>Line length judgments</td>
<td>24 Canadian undergraduates</td>
<td>No relationship between conformity and F scale scores</td>
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<td>Hardy (1957)</td>
<td>&quot;Group interview&quot; inter-</td>
<td>Discussion of attitude toward divorce with confederates</td>
<td>31 male undergraduates</td>
<td>No relationship between either public conformity or private attitude change after interaction experience and F scale scores</td>
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<td>Malof and Lott (1962)</td>
<td>Asch situation</td>
<td>Line length judgments with white and Negro confederates</td>
<td>60 white male undergraduates</td>
<td>Subjects high on E scale more conformant than those low on E scale; both high and low E scale scorers accepted significant influence from Negro confederate</td>
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<td>Millon and Simkins</td>
<td>Autokinetic task</td>
<td>Judge autokinetic movement with prestige or nonprestige partner</td>
<td>Undergraduates (number not specified)</td>
<td>Subjects high on F scale more susceptible to prestige influence; no difference in overall susceptibility between high and low F scale scores</td>
</tr>
<tr>
<td>Nadler</td>
<td>Asch situation</td>
<td>Line length judgments</td>
<td>91 undergraduates</td>
<td>Conformity correlated .30 with score on E scale (p less than .025); conformity correlated .48 with score on F scale (p less than .01)</td>
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<tr>
<td>Vidulich and Kaiman</td>
<td>Autokinetic task</td>
<td>Judge autokinetic movement with high status (college professor) confederate of low status (high school student) confederate</td>
<td>Undergraduates (picked 30 high scorers and 30 low scorers on Rokeach (1960) Dogmatism scale from original sample of 237 undergraduates)</td>
<td>Significant interaction between dogmatism score and influence source; low on D scale agree with low status sources; high on D scale agree with high status source; no overall difference in susceptibility to influence</td>
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<td>Weiner and McGinnies (1961)</td>
<td>Subject-confederate interaction (2 role playing confederates; one male, one female)</td>
<td>Judgment as to whether a human face drawn neither smiling nor frowning; oral judgments under confederate influence</td>
<td>Undergraduates (20 high scorers and 20 low scorers on F scale picked from class of 300)</td>
<td>No relationship between F scale score and susceptibility to influence; both groups gave significantly more agreements than disagreements</td>
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<td>Wells, Weinert, and Rubel (1956)</td>
<td>Asch-type situation</td>
<td>Placing blame for traffic accident projected on screen for group decision</td>
<td>124 undergraduates (62 judged in Asch situation; 62 private judgments)</td>
<td>Conformity in group situation positively related to score on Gough (1951) 30 item form of F scale</td>
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</table>
correlation between conformity and F scale scores was obtained for a male undergraduate sample. When the two confederates disagreed with one another a moderate number of times, authoritarian subjects were more inclined than nonauthoritarians to conform equally to the two confederates and to avoid alliance with one at the expense of the other; moreover, in this situation, total conformity was unrelated to F scale scores. When the two confederates disagreed with one another many times, the authoritarian subjects were more inclined than the nonauthoritarians to reject one confederate and conform to one but not the other; under these conditions also conformity was unrelated to F scale scores. Steiner and Johnson point out, and this writer considers it to be a noteworthy interpretation, that outside the experimental laboratory individuals rarely find that their associates unanimously contradict their own views and that when associates are not unanimous in their views, it is the authoritarian who may be the nonconformist. This interpretation also adds efficacy to the interactional approach to the understanding of conformity behavior which the writer championed at the outset of this review.

The methodological and theoretical controversy which has surrounded the F scale is also reflected in some of the research relating conformity behavior to authoritarianism. Bass (1955a, 1956, 1961a) has maintained that the usually demonstrated positive relationship between conformity and authoritarianism may be nothing more than an artifact and that the F scale is to an appreciable extent a measure of conformity. In reviewing the correlations between conformity and authoritarianism, Bass (1961b, p. 44) has suggested the existence of a common underlying factor in writing as follows:

It is probable that similar correlations will be found with other related measures such as dogmatism, conventionality, xenophobia, religiosity, militancy, and intolerance of ambiguity. At the roots of consistent individual differences in conforming behavior as well as related actions and attitudes such as conventionality, authoritarianism, and dogmatism may be correlated differences in the generalized tendency to acquiesce, the generalized need for certainty or assuredness, and perhaps generalized feelings of insecurity.

While Bass' hypothesis appears to be a plausible one, a number of investigators have presented evidence which indicates that the relationship between authoritarianism and conformity is not an artifact and that authoritarianism, conformity, and acquiescence can be experimentally differentiated. Crutchfield's (1955) finding that conformity was significantly related to a measure of authoritarian behavior derived from staff observer ratings of subjects in a standard psychodrama situation suggests that the relationship between conformity and authoritarianism is more than an artifact. Using a wide variety of judgmental items (dot
numerosity, area of geometric figures, attitude toward war, etc.) with an undergraduate sample (male and female) in a Crutchfield apparatus, Foster (1961) demonstrated that conformity was not related to acquiescence response set (ARS). ARS was assessed by two measures; an aphorism questionnaire containing 72 heterogeneous items about human behavior and a 78 item true-false test containing 46 extremely difficult items which had been found to elicit an even distribution of true and false answers. Foster concluded that: "From this study it seems fairly safe to conclude that individual differences observed in these two operations (ARS and conformity) do not reflect the same personality dimension or behavioral tendency" (p. 159). In response to the proposals by Bass that the correlations between the F scale and conformity might be primarily a function of a generalized tendency to agree with questionnaire items regardless of item content, Small and Campbell (1960) reevaluated these correlations to determine the extent to which these correlations are a function of item wording and item content. The conformity score used by Small and Campbell was derived from the judgment of the number of beans in ten plastic bags under two judging conditions: in one condition the subject recorded his judgment on a sheet with six bogus judgments previously recorded, in the other condition the subject judged an identical bag and recorded his judgment on a sheet with no other judgments. Conformity was determined by the degree of shift toward the bogus judgments. A 60 item version of the F scale was used containing the 30 original items and the 30 reversed items proposed by Christie, Havel, and Seidenberg (1958). The items were mixed so that both the original and the reversed items were in both halves of the test and so that the last 30 items contained the opposite forms of the first 30 items. Small and Campbell found that the F scale based on the original 30 items correlated .17 with the conformity score (significant at the .13 level); the correlation between the reversed F scale and the conformity score was .26 (p less than .04); the correlation of the total original and reversed F scales with the conformity score was .27 (p less than .03); and the correlation between conformity and pure acquiescence (the tendency to endorse any item no matter in which direction it was worded) was .04. Small and Campbell (1960, p. 70) concluded as follows:

Insofar as these data are indicative, they reassure us that the correlation between conformity and the F scale is a function of F-type item content. The problem is of sufficient importance, however, that it should be subject to further scrutiny.

It would appear that one must interpret the relationship between authoritarianism and conformity behavior cautiously; the findings are somewhat equivocal, have limited generality and have been subjected to a theoretical attack which has not been totally negated.
Cognitive consistency: Since many investigators have used attitudinal and opinion type items in their social influence experiments, and since other investigators have operationalized conformity behavior in terms of attitude shift or opinion change following social interaction, the experimental investigation of the relationship of attitude change to the structural properties of attitudes appears to be an important and somewhat neglected research area which has important methodological implications for future conformity research. Scott (1959) has studied one structural property of attitudes, cognitive consistency, and found that such consistency is positively related to decreased susceptibility to social pressure. Scott defines cognitive consistency as congruity of an attitude with one's perception of an event in relation to one's values; an attitude is deemed consistent, operationally, to the extent that its direction and strength can be predicted from a knowledge of the subject's values and expectancies in relation to the object of the attitude. In his experiment, with 38 undergraduate subjects, Scott assessed attitudes toward several different issues (Greek organizations, campus activities, etc.), asked the subjects the degree to which they admired eight "ideal traits," and the degree to which the object of each attitude would help or hurt each of the eight ideals. On the basis of the latter two sets of replies subject's attitudes were "predicted"; subjects whose predicted attitudes corresponded to their actual attitudes were deemed cognitively consistent, the rest were deemed inconsistent. Consistent and inconsistent subjects were then induced to present arguments on one of two issues, always taking a different side from that which they had indicated as their own in a pretest. These verbal behaviors were reinforced with praise from the experimenter in an attempt to alter their attitudes in the direction of the presentation. While the subject group as a whole showed a significant, though small, attitude shift in the direction of the reinforced behavior, Scott found that cognitive consistent subjects were much more likely to maintain their initial attitudes than were the cognitively inconsistent subjects. These results indicate that consonance of an attitude with other cognitive elements, such as values and expectancies, serves to stabilize the attitude and makes it more resistant to change under externally imposed pressures such as those found in many of the experimental conformity situations. Scott's finding appears to suggest that in conformity research attitudinal items must be used cautiously. When attitudes toward war, political, religious, social, or educational attitudes are subjected to social pressure, the resulting relationship between conformity and the independent variable may be spurious and contaminated by such uncontrolled factors as cognitive consistency or other attitudinal variables.

Masculinity-femininity: Three investigators have related conformity to various measures of masculinity and each has found that conformity was negatively related to masculinity. Crutchfield
(1951) found that the subjects in the group which broke their puzzles last in the Group Squares Test, the subjects who were, therefore, least responsive to social pressure, were found to be markedly more masculine as demonstrated by lower ratings on the Franck Test (1949), a test which assesses masculinity-femininity through completions of figure drawings. Tuddenham (1959) reports that for the 27 men in his adult sample yielding was negatively correlated with the interviewer ratings of masculinity (−.59; p less than .10), and similar results have been reported by Goldberg, Hunt, Cohen, and Meadow (1954) who found that subjects in the conforming group scored significantly lower on the Mf scale (more feminine) of the MMPI.

Complexity-simplicity: Barron (1953a) used 90 male subjects from Asch's (1951, 1952) experiments and categorized the two extreme groups as yielders and independents. Using the Barron-Welsh Figure Preference Test² (1952) to measure complexity-simplicity, Barron (1953a) found that subjects who were independent in the Asch situation made significantly higher complexity scores. Previously, Barron (1952, 1953b) had found that a liking for complex figures was negatively related to rigidity, constriction, social conformity, subservience to authority, politico-economic conservatism, and ethnocentrism; a liking for complex figures had been found to be positively related to originality, verbal fluency, expression as opposed to repression of impulse, and cathexis of intellectual activity. Barron combines these earlier findings with the results from the presently reviewed experiment to conclude as follows: "Thus independence of judgment in this particular experimental situation (the Asch situation) must be included in the general constellation of factors which go along with preference for complex figures" (Barron, 1953a, p. 293). The writer would note that he is not altogether comfortable with such sweeping conclusions about general personality factors when such conclusions are based on relatively limited experimental research; it may indeed be true, as Barron suggests, that liking complex figures taps a central and general personality factor, however the writer would argue that there is great merit in interpreting experimental data conservatively and he becomes somewhat skeptical when broad generalizations are made from rather limited data. It should be noted that one other investigator, Crutchfield (1951) has related conformity to preference for symmetry and has found results which are somewhat consistent with Barron's findings. Crutchfield found

²The Barron-Welsh Figure Preference Test consists of 65 line drawings on 3" x 5" cards; the subject is asked for each drawing whether he likes it or not, and the test is so scored that liking the complex figures and disliking the simple ones earns a high score.
that subjects who yielded in the intermediate range in his Group Squares Test showed significantly less preference for symmetry on the Welsh Figure Preference Test (1949) than did subjects who were either most responsive or least responsive to social pressure. However, it should be remembered that subjects who yielded in the intermediate range in this situation were also found to be more intelligent so that the relationship between preference for symmetry and conformity may in fact be a spurious one. In any case, it appears, to this writer at least, that more research is needed before we can accept the view that the preference for complexity is a part of a general factor directly related to conformity behavior.

Originality: The same two investigators who have attempted to relate complexity to conformity behavior have also related originality to conformity. From a sample of 100 United States Air Force captains, Barron (1955) selected extreme groups on eight measures of originality including scores from the Rorschach, the TAT, anagrams, and plot titles. Using a Crutchfield apparatus to assess conformity, Barron found that those classified as original yielded less in the group pressure situation. However, the relatively small size of the experimental groups should be noted; of the 100 captains comprising the population in this experiment, only 15 were selected as original and 15 as unoriginal. Using the Group Squares Test Crutchfield (1951) found that with his sample of male graduate students who were in their final year of Ph.D. work, those students responding in the middle range on susceptibility to social influence were rated by their instructors as being highest on originality related to being a scholar or scientist.

Inner-directed—other-directed: Centers and Horowitz (1963) have used the I-O Social Preference scale developed by Kassarjian (1960) to test Riesman's (1950) hypothesis that "other-directed" persons are more susceptible to social influence than are "inner-directed" persons. In their study Centers and Horowitz used 364 undergraduates and selected 80 extreme scorers on the I-O scale for random assignment to either of two treatment groups. The task involved responding to 24 items from the F scale; subjects in the

3The I-O scale contains 36 two-choice items, one representing an inner-directed response, the second choice an other-directed response. The items were derived from material in Riesman's The Lonely Crowd, and the item content was taken from descriptions of situations in which Riesman made a clear distinction between inner-directed and other-directed behavior.
experimental conditions were administered the F scale on which for each item the alternative chosen by "a number of well-known and important people" was designated whereas in the control condition subjects responded to a standard form. It was found that the other-directed persons were more susceptible to the social influence of the reported opinion of others than were the inner-directed persons, and these results, therefore, confirm the Riesman hypothesis. Campbell (1961) has reported that Bell (1955) has also found other-directed persons to be more conformant, but the details of this latter experiment were not stated.

It would appear that Riesman's hypothesis that other-directed persons are more responsive to social influence merits further empirical investigation; it would be worthwhile to assess the conformity behavior of inner-directed and other-directed persons in more direct social influence situations such as the Asch-type situation, a simulated group, the Crutchfield apparatus, or in a quasi-interaction situation.

Social acquiescence: It was noted earlier in this review that Bass (1961b) has posited a generalized tendency to acquiesce which he believes to be a general factor that includes both authoritarianism and conformity. To support this position Bass (1956) has developed a Social Acquiescence (SA) scale4 which measures the generalized tendency to accept a wide variety of generalizations about social behavior, and Bass (1961a) reports that a variety of samples has suggested that one who earns a high score on the SA scale tends to be an uncritical conformer, a "yes-man" to social demands. Moreover, Frye and Bass (1963) have related SA score to behavior in problem solving situations and found that in such situations the high scorer on the SA scale would be most prone among the group members to accept whatever group decision is reached and to increase in agreement with others as he learned their opinions during discussions with others.

The relationship of social acquiescence to behavior in social influence situations appears to be another area which merits further investigation by researchers other than the developers of the SA scale. At the conclusion of this review the writer will have more to say about the use of quasi group-interaction situations to assess action conformity behavior; however, it should be noted here that the relationship between social acquiescence and conformity in action situations appears to be an important and as yet neglected research area.

4The Social Acquiescence scale is a 56 item measure which assesses the tendency of the subject to accept or reject aphorisms, proverbs, and a wide variety of similar generalizations.
Objectivity: Bernberg (1954), with a sample of 89 female social welfare case workers and case work supervisors, found a significant negative correlation (-.47; p less than .05) between the Objectivity Factor on the Guilford-Zimmerman Temperament Survey (1949) and a measure of what Bernberg has called "social conformity." Social conformity is defined as "the tendency of members of a society to manifest communality of attitudes and of behavior as a result of the restrictive influence of culture and society in personality development" (Bernberg, 1954, p. 148). Bernberg (1955) has reported that his scale is a 37 item measure with the item content drawn from six areas; moral values, positive goals, reality testing, ability to give affection, tension level, and impulsivity. Bernberg developed his scale by arbitrarily designating high school males as conformers and inmates of a youth prison as nonconformers. The scale was then validated by using a sample of "regular church goers" as the conforming group and a sample of male and female prison inmates as the nonconforming group.

Not only was the sample obtained in this study highly select and somewhat different from a normative female population on the Guilford-Zimmerman scale, but one must seriously question the methodology used to construct the above measure of "social conformity." At the conclusion of this review it will be noted that such men as Asch and Sherif are pessimistic and critical about the nature and quality of conformity research; they believe that much of the research in this area has been trivial and poorly conceived theoretically. The writer would argue that Bernberg's experiment serves to illustrate both counts of this criticism.

Dependence on perceptual field: Studies by Jackson (1958), Linton (1955), and Rosner (1957) have attempted to link conformity to behavior in perceptual situations. From a population of 143 undergraduates Jackson selected 36 "yielders" and 36 "independents" indirectly from extreme scores on a 45 item inventory derived from items reported by Barron (1953a) and Crutchfield (1955) to distinguish between independents and yielders. The subjects were instructed to hold the "up" phase of a Necker cube, and yielders were found to be more successful in doing so. Jackson interprets this result to indicate that independents are "more active in manipulating their field forces" (p. 280). Moreover, Jackson concludes that "The evidence suggests that those who characteristically resist certain hypothetical field forces also have the personality characteristics associated with independence of judgment, a form of resistance to social field forces" (p. 281). It should be noted that the evidence for such a conclusion was slight, since the reliability of the conformity inventory was only .54 for men and .44 for women.

In the Linton (1955) experiment (which was cited earlier in this review), two perceptual tests (Tilting Room, Tilting Chair and the
Embedded Figures Test) and three conformity measures were used (autokinetic situation, opinion change test, and personal attitude influence on a syllogism test). As noted earlier, the three conformity measures were not correlated while the perceptual tests did correlate with each other. Linton also found significant correlations between the composite perceptual dependence scores and high conformity in the autokinetic situation (.54; p less than .01) and between the perceptual index and opinion change (.66; p less than .01). The correlation between the perceptual index and the syllogism test was nonsignificant. Linton (1955, p. 506) interprets her results as follows:

The results indicate that there is a common basis for behavior in perceptual and conformity situations. The common element, whatever it may be, is apparently more uniformly expressed in the perceptual situations since they are significantly intercorrelated, on the whole, while the conformity situations are not. It may be that perceptual tasks tap deeper, more enduring levels of the person than do the cognitive and social situations.

Rosner (1957), with a population of 88 student nurses, selected 20 independents and 20 yielders in the Asch situation using a line judgment task. The Embedded Figures Test (Witkin, 1950) was administered to each group and the yielders failed to locate the simple test pattern in the complex figures significantly more often than did the independents.

While the evidence is somewhat slight, the three experiments reviewed above do suggest that those who are more susceptible to conformity pressures show greater dependence on the perceptual field.

Projective materials: From a population of 373 undergraduates, Hoffman (1953) composed extreme groups of those who shifted most (12 males; 15 females) and those who shifted least (10 males; 10 females) toward false norms reported for two line judging tasks. Conformity to the false norm was related to TAT responses and it was found that high conformers scored significantly lower on two ego strength categories and higher on measures of parental dominance, intropunitive aggression, overidealization of parents, and success striving. This finding is consistent with the result from Mussen and Kagan (1958) study, reviewed earlier, which indicated that conformers more often perceive their parents as being harsh, punitive, restrictive, and rejecting.

Two investigators have related susceptibility to social influence to Rorschach responses and have reported contradictory results. Steisel (1952), with a sample of male and female undergraduates,
assessed suggestibility by the following five measures: (1) the mean amount of movement reported in 50 trials in the autokinetic situation; (2) the degree to which these movement estimates changed as a result of suggestion offered by the experimenter in a second autokinetic test; (3) the mean time required to report movement in the initial autokinetic situation; (4) the number of percepts accepted in the Eysenck and Furneaux (1945) "Ink-blot Suggestion" Test; and (5) the maximum amount of body sway during the recitation of suggestion that the subject was falling forward. These suggestibility measures were then related to the following Rorschach measures which Steisel presumed to be measures of suggestibility: R, CF, %CF, N, %N, F%, F+%, and on colored cards A%, P, %P and average color score. Of the 72 correlations which resulted from this analysis, only three reached the five per cent level of confidence or beyond, and four additional correlations reached a significance level between five and ten per cent. Steisel pointed out that this proportion of significant correlations would be expected by chance, and he therefore concluded that there is no consistent relationship between Rorschach measures of suggestibility and other measures of susceptibility to influence.

Linton (1954), with a sample of male undergraduates, related Rorschach responses to change of autokinetic judgments under the influence of planted judgments given by a peer confederate. Linton found significant correlations between high susceptibility and Low W, High P, Flexor N, High Hd, High F%, High M, Sum C, and animal responses. In comparing her findings with those of Steisel (1952), Linton points out that she used a male sample and confederate influence while Steisel used both males and females in his experiment as well as using himself as the influence source. Linton (1954, p. 82) interprets her finding as follows: "The findings of the present study indicate, that while the relationships are not simple, certain Rorschach measures are clearly related to reactions to the autokinetic situation."

The writer finds the latter two results puzzling. It would appear that the equivocality of these results cannot be due solely to the experimental differences suggested by Linton; moreover, the writer must wonder why the two experimenters used somewhat different Rorschach categories to relate susceptibility. Perhaps one can conclude that interpreting the Rorschach is still more of an "art" than a "science."

Minnesota multiphasic personality inventory: Six experiments which have related MMPI responses to conformity are summarized in Table 5. As this table indicates, it is difficult to identify basic relationships because the results are equivocal and because different scales have been used. One other experiment should be cited, not only because it is related to the area under consideration but also because it again illustrates the manifold ways in which different researchers have attempted to operationalize "conformity."
TABLE 5
SUMMARY OF EXPERIMENTS RELATING MINNESOTA MULTIPHASIC PERSONALITY INVENTORY (MMPI) RESPONSES TO CONFORMITY

<table>
<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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</thead>
<tbody>
<tr>
<td>Barron</td>
<td>Asch situation</td>
<td>Judging line</td>
<td>Male undergraduates (92 &quot;Independents&quot;; 92 &quot;yielders&quot;)</td>
<td>No difference between yielders and independents on the usual clinical and validity scales; summed scores on the F, Sc, Pa, and Ma scales (this index was taken to indicate subclinical psychotic trends) and again no difference between the two groups</td>
</tr>
<tr>
<td>Crutchfield</td>
<td>Simulated group</td>
<td>Group Squares</td>
<td>40 male graduate students in their final year of Ph.D. work</td>
<td>The group most responsive to social pressure scored significantly higher on the Ma scale; group moderately responsive scored lowest on Ma scale; least responsive group scored in intermediate range on Ma scale</td>
</tr>
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</table>

1Ma (Hypomania) scale measures tendencies toward marked overproductivity in thought and actions; Sc (Schizophrenic) scale measures tendencies toward bizarre and unusual thoughts or behavior; Pa (Paranoia) scale measures tendencies toward suspiciousness, oversensitivity.


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<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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<tbody>
<tr>
<td>Crutchfield (1955)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, opinion, and</td>
<td>Undergraduates (19 male; 40</td>
<td>No relationship between conformity and MMPI responses</td>
</tr>
<tr>
<td></td>
<td></td>
<td>information items</td>
<td>female)</td>
<td></td>
</tr>
<tr>
<td>Goldberg, Hunt, Cohen</td>
<td>Asch situation</td>
<td>Judging line lengths</td>
<td>76 undergraduates (male and</td>
<td>Male conforming group significantly lower on Mf, Hs, and Pt scales; female conforming group significantly higher on Pt scale</td>
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<tr>
<td>and Meadow (1954)</td>
<td></td>
<td></td>
<td>female)</td>
<td></td>
</tr>
<tr>
<td>Sarbin and Hardyck (1955)</td>
<td>Perceptual responses to a set of</td>
<td>Identify the posture of the</td>
<td>91 undergraduates (male and</td>
<td>Nonconformist perceptual responses correlated .32 with F scale; thus subjects who answer MMPI items in unusual ways also perceive perceptual stimuli in nonconforming way</td>
</tr>
<tr>
<td></td>
<td>schematized human figures</td>
<td>figures</td>
<td>female)</td>
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</table>

and delusions of persecution; F (Validity Score) is not a personality scale but measures test validity by assessing carelessness, inability to understand items, and extensive scoring or recording errors; Mf (Interest) scale measures tendency toward masculinity or femininity of interest pattern; Hs (Hypochondriasis) scale is a measure of amount of abnormal concern about bodily functions; Pt (Psychasthenia) scale measures tendency toward phobias or compulsive behavior; Pd (Psychopathic Deviate) scale is a measure of absence of deep
<table>
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<tr>
<th>Investigator</th>
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<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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<tbody>
<tr>
<td>Tuddenham</td>
<td>Crutchfield apparatus</td>
<td>Perceptual, opinion, and information</td>
<td>Adult sample, age about 35</td>
<td>Nonsignificant negative correlation between conformity and the Welsh Anxiety Scale (1956); nonsignificant positive correlation between conformity and the Welsh Repression Scale (1956).</td>
</tr>
</tbody>
</table>

emotional response, inability to profit from experience, and disregard for social mores. (Source: Hathaway and McKinley, 1951.)

2The Welsh Anxiety Scale (1956) is a measure of the general complaint level and anxiety about complaints.

3The Welsh Repression Scale (1956) is a second factor MMPI scale which presumably measures neurotic repression and denial.
(The theoretical implications of this latter observation will be discussed at the conclusion of this review.) Holder (1958) assessed "conformity" by a paper and pencil test, a specially prepared Inventory Value Integration (IVI) (Holder, 1955) which contained 240 value-attitude items in which conformity items were those on which 75 per cent or more of the students in a validation group agreed in their answers. In the experiment 136 undergraduates (66 male; 70 female) were given the IVI and MMPI. "Two highly qualified judges" (administrators of the University of Missouri Testing and Counseling Service) were asked to judge the subjects independently on the basis of their MMPI profiles and to classify them into the following categories: normal (87 Ss), non-normal (38 Ss), and unclassifiable (11 Ss). Holder reports that the normal group had significantly higher conformity scores than the non-normals. A Welsh Anxiety Index (1952) was computed from the MMPI scores and it was found that highest conformity was accompanied by lowest anxiety and the lowest conformity group indicated the highest anxiety.

Ascendancy-submission: Seven experiments which have related ascendancy-submission to conformity are summarized in Table 6. As the table indicates, a number of different measures have been employed and the results are not easily interpreted. Unfortunately, Beloff (1958) provides no basis for interpreting her divergent results for men and women. The complicated relationships between ascendancy, prejudice, and susceptibility found in the Bray (1950) study do not appear to fit any systematic pattern; it would appear that only replication and refinement will make it possible to comprehend these relationships. Kelman's (1950) study indicates that ascendancy does not necessarily carry over simply into a group judgment situation and that personality factors function differentially. Mouton, Blake, and Olmstead (1956) suggest two interpretations of their results: one interpretation is that submissive subjects are more sensitive, in the sense of being more aware of the opinions of others, and that therefore their reactions are more likely to reveal the influence of the reports of others. A more likely interpretation is that while ascendant and submissive subjects may be equally sensitive to the opinions of others, the former are less swayed by the opinions of others due to their greater capacity to resist such influence. Mouton et al. favor the latter interpretation because the items in the Allport scale indicate that one who scores in the ascendant range is one who resists the influence attempts of others in a variety of different situations.

A tentative conclusion from the reviewed studies would be that a basic association exists between conformity and ascendancy-submission in the direction of greater conformity as a function of greater submissiveness. This relationship has been confirmed for male subjects only; an inversion of the relationship was reported for women in one study.
<table>
<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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<tbody>
<tr>
<td>Beloff (1958)</td>
<td>Simulated group</td>
<td>Attitude toward war, aesthetic preference,</td>
<td>Undergraduates at Queen's University, Belfast (Ireland) (35 male; 25 female)</td>
<td>Used Allport-Allport A-S reaction study (1928) to assess ascendancy. For men, a negative relationship between ascendancy and conformity; for women, a positive relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>social, religious, and political items</td>
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<tr>
<td>Berenda (1950)</td>
<td>Pair interaction after initial judgments</td>
<td>Line judgments with peer and teacher confederates</td>
<td>47 children, ages 7-10; 29 children, ages 10-13</td>
<td>Ascendancy measured by teachers' ratings. No relationship between rated ascendancy and susceptibility to confederate influence</td>
</tr>
<tr>
<td>Bray (1950)</td>
<td>Autokinetic task</td>
<td>Judge movement Gentile, Jewish, undergraduates and Negro confederates (see text for measures</td>
<td>150 male</td>
<td>Ascendancy assessed by the A scale of the Guilford-Martin Inventory Factors GAMIN (1945)¹ For anti-Semitic group judging with Jewish confederate, ascendancy positively related to susceptibility; for not anti-Semitic group, no relationship under same conditions. For not anti-Semitic group with</td>
</tr>
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### TABLE 6
(continued)

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<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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<tbody>
<tr>
<td>Bray (continued)</td>
<td></td>
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<td></td>
<td>Gentile confederate, ascendancy positively related to susceptibility; for anti-Semitic group, no relationship under same conditions. For non-anti-Negro group, negative relationship; for the anti-Negro group, no relationship</td>
</tr>
<tr>
<td>Helson, Blake, Mouton, and Olmstead (1956)</td>
<td>Simulated group</td>
<td>18 statements from Thurstone-Chave Attitude toward war scale (1930-1931)</td>
<td>45 male undergraduates</td>
<td>Used Allport-Allport A-S reaction study to assess ascendancy. Both frequency and amount of opinion shift from alone condition to group condition positively related to submissiveness.</td>
</tr>
<tr>
<td>Jenness (1932)</td>
<td>Group discussion</td>
<td>Judging the number of beans in a jar</td>
<td>101 undergraduates (51 male; 50 female)</td>
<td>Ascendancy measured by teachers' ratings. No relationship between ascendancy and susceptibility to group influence</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Kelman (1950)</td>
<td>Autokinetic task</td>
<td>Judge movement with confederate; with success, failure, ambiguous, and control conditions</td>
<td>48 undergraduates (18 male; 30 female)</td>
<td>Used A scale of Guilford-Martin Inventory Factors GAIMIN (1945)(^1) to assess ascendancy. Under failure, control, and ambiguous conditions, low ascendancy related to susceptibility; under success condition, high ascendancy related to susceptibility</td>
</tr>
<tr>
<td>Mouton, Blake, and Ulmstead (1956)</td>
<td>Simulated group</td>
<td>Auditory click counting (personality identity and anonymous conditions)</td>
<td>48 male undergraduates</td>
<td>Used Allport-Allport A-S reaction study (1928) to assess ascendancy. Ascendant Ss show no differences in yielding as a function of revealing personal identity; submissive Ss significantly increased their rate of yielding under disclosure of identity</td>
</tr>
</tbody>
</table>

\(^1\) The Factors GAIMIN are as follows: G—general pressure for overt activity; A—ascendancy in social situations as opposed to submissiveness; M—masculinity of attitudes and interests as opposed to femininity; I—lack of inferiority feelings, self-confidence; N—lack of nervous tenseness and irritability.
Needs: A relatively large number of studies have investigated relationships between conformity and the strength of various needs or drives, as measured by personality tests. The needs for achievement, affect, affiliation, approval, dependency, and status, as well as overall need profile as measured by the Edwards Personal Preference Schedule (EPPS) (1954), have been related to conformity; these studies will be reviewed in the preceding order.

A. Achievement

McClelland, Atkinson, Clark, and Lowell (1953) analyzed fantasy stories written by Asch's subjects in terms of the achievement motive and found that of subjects with need achievement scores above the group median, 13 per cent were "yielders," while 87 per cent of those with achievement scores below the median were found to yield to conformity pressures. Krebs (1958), using as his measure of conformity the degree to which memory judgments about the content of two slides was influenced by bogus norms, found subjects with high n Achievement (as measured by TAT fantasy) to be less conformant than subjects with low n Achievement.

In a study cited earlier, Hoffman (1953) found that with a line judging task in an Asch situation, conformers score higher on a measure of "success strivings." Hoffman's personality measures were obtained from a sentence completion test, the TAT, and two questionnaires. It is somewhat puzzling to note that Hoffman found conformers to be more highly motivated to succeed while Krebs found conformers to have lower n Achievement. These conflicting findings may be due to some extent to the measuring instruments; the differences may also be due to a difference in the meaning of the experimental situation. What subjects regard as "achievement" and how important they consider achievement to be may vary with the experimental situation. An inverse relationship between conformity and n Achievement has also been reported by other investigators. Both Cruchfield (1955) and Tuddenham (1959) found that yielding to a distorted group norm was negatively correlated with need for achievement as measured by the California Psychological Inventory (Gough, 1957). Marlowe (1959) reports a similar negative relationship between conformity in a simulated group situation and n Achievement as measured by TAT fantasy.

A number of studies have presented evidence which appears to qualify the relationship between achievement and conformity. Samelson (1957) had subjects identify nonsense syllables under group pressure (conflict situation) while he provided some of the subjects with information that might allow the subject to account for the discrepancy between physical and social reality (reduced conflict). Need achievement was measured by TAT response. Samelson found significantly less conformity in the reduced conflict situation. In the usual full conflict situation, n Achievement was negatively but not significantly correlated with conformity;
under the reduced conflict condition the relationship was positive and significant. Moreover, in the reduced conflict situation subjects low in n Achievement became significantly more independent while those high in n Achievement showed no change in their conformity behavior. In a second study in which subjects were confronted with wrong majority judgments in a word recognition task for which the subjects were told they "were better than others in recognizing words," Samelson (1958) found that subjects with high n Achievement scores showed a significantly stronger tendency to conform than subjects with lower n Achievement scores.

Samelson's latter finding supports a suggestion made by Burdick (1955) that a person with strong achievement motivation should conform in situations in which he perceives conformity as instrumental to achievement. Burdick's hypothesis has received support from a study by Zajonc and Wahi (1961) which assessed the relationship between n Achievement and conformity with cultural norms using a sample of 30 male Indian students. The results indicated that the relationship between conformity to cross-cultural norms and n Achievement (as measured by TAT fantasy) was mediated by the instrumental value of conformity; when conformity was perceived as instrumental, a positive relationship between conformity and n Achievement was found. The high n Achievement group was also found to be more sensitive to the instrumental value of conformity whereas the low n Achievement group was found to be more sensitive to the congruence of cultural norms.

B. Affect Need

Gill (1963) equated 28 normal males and 28 schizophrenic males for age and education and related their conformity behavior in an Asch-type situation to what he has termed "affect need." Four TAT cards were used to score affect need in interpersonal relations and Gill found a significant interaction between the factors of mental health, conformity, and affect need. Gill (1963, p. 505) interprets his results as follows:

The fact that affect and conformity do interact suggests that in general those individuals who conform more readily to group pressure manifest more affect need, while those who manifest little affect need have less tendency to conform in a group influence situation.

C. Affiliation

Walker and Heyns (1962) report a series of studies in which n Affiliation was positively correlated with conformity. It was also found in these studies that subjects high in n Affiliation and low in n Achievement were particularly predisposed toward
conformity behavior in various group pressure situations. (Throughout their research Walker and Heyns (1962) used TAT fantasy measure needs.) As Samelson (1957, 1958) did in the case of n Achievement, Hardy (1957) has reported a study indicating an interaction between n Affiliation and the situational determinants of conformity. Hardy manipulated the degree of support given to a naive subject in an Asch-type situation by having the subject either unanimously opposed or supported by one confederate in six member groups. High, medium, and low n Affiliation, as measured by the TAT, was related to conformity for both the support and no support conditions. Within each support variation, a positive relationship between n Affiliation and conformity was found. In the no support condition, subjects with high or medium n Affiliation were significantly more conforming than were the low n Affiliation subjects. However, in the partner support variation, the medium and low n Affiliation subjects were significantly more conforming than the high n Affiliation subjects. Consequently, Hardy's findings appear to add an important qualification to the relationship between n Affiliation and conformity. For those individuals with high n Affiliation, the presence of a single partner appears to result in a disappearance of conformity that is definitely present under conditions of no support.

D. Need for Approval

Moeller and Applezweig (1957) placed female undergraduates into groups representing combinations of high and low needs for social approval and self-approval as measured by a sentence completion form of their Behavior Interpretation Inventory (Moeller and Applezweig, 1956). In an Asch-type situation, subjects high in social approval needs and low in need for self-approval conformed with greater frequency than subjects in the other groups; no differences in conformity were found for persons scoring high in self-approval needs and low in social approval needs, or for those scoring high on both measures. The relationship between conformity and low self-approval was confirmed in studies by Schroeder and Hunt (1958) and Strickland and Crowne (1962).

E. Dependency

In a study by Jacubczak and Walters (1958), 24 child subjects, half classified as high dependent and half as low dependent (by teacher ratings), were subjected to peer and adult pressure in the autokinetic task. Adults were found to exert more social influence, but no difference in suggestibility was found between those subjects rated high and those rated low on dependency. In a second study using the same experimental conditions with a sample of nine-year old boys, Jacubczak and Walters (1959) report that the high dependent boys were more suggestible. The high dependent subjects were more susceptible to adult suggestion while
there was no difference in susceptibility to peer suggestion. Kagan and Mussen (1956) have reported evidence indicating that *n* Succorance (Murray, 1943) on the TAT and Asch's measure of conformity refer to the same construct of dependency. In their study, Kagan and Mussen (1956) assessed the conformity behavior of 27 male undergraduates in an Asch-type situation with line judgment items. Stories from eight TAT cards were analyzed for two types of themes suggesting dependency needs; themes in which the hero sought help from another individual in solving a personal problem or was disturbed over the loss of a source of love or support were classified as D themes. Kagan and Mussen (1956) found a significant positive relationship between D themes in TAT fantasy and conformity in the Asch situation. With a sample of only 12 non-psychosomatic hospital patients, Weiss and Emmerich (1962) report a similar positive relationship between conformity in an Asch-type situation and *n* Succorance as measured by TAT fantasy. However, contradictory evidence is presented in a study by Bernardin and Jessor (1957) who assessed conformity behavior of an undergraduate sample in an Asch-type situation with line judgments and related conformity to dependency as measured by the EPPS. Dependent subjects were defined as those who scored high on the deference scale and low on the autonomy scale; independents were those scoring high on autonomy and low on deference. No difference in conformity behavior between those subjects termed dependent and those termed independent.

F. Status

Harvey and Consalvi (1960) found that a want or drive for status lead to conforming behavior in groups of delinquent boys at a state training school who were subjected to group pressure in a perceptual task involving the judgment of the distance between lights. The greatest conformity was exhibited by boys with the second highest status in their respective groups (as measured by a previously administered sociometric test). The leader was least conformant, but not significantly less than the lowest status persons. Harvey and Consalvi interpret these results as indicating that those boys just one position removed from leadership had a greater need to conform than did the leader himself or those with lower status. Dittes and Kelley (1956) found that among male undergraduates who attach equal importance to their membership in a group, those who receive information that they are only minimally accepted by their colleagues and that this evaluation is subject to change, possibly becoming worse, conforming behavior was significantly greater than it was for subjects who receive information that they are highly accepted and that this condition is stable. Dittes and Kelley interpret this finding as indicating that subjects who enjoyed somewhat less than complete acceptance were motivated to conform because they saw conforming behavior as a means to increase their status. Hollander (1958) has presented a model of status emergence which indicates that behavior
perceived as nonconforming for one member may not be so perceived for another. Such differentiations are seen to be a function of an accumulation of positively disposed impressions which Hollander terms "idiosyncrasy credits." A person gains credits (i.e., rises in status) by showing competence and by conforming to the expectancies applicable to him at the time. Hollander's model would predict that with a relatively constant level of manifest competence, the influence of a person who nonconforms early would be less than the influence of a person who nonconforms later. In a later experiment Hollander (1960) reports results consistent with his model. In a group problem solving task, a highly competent confederate's influence was found to increase as the trials progressed and past conformity by the confederate was positively and significantly related to the acceptance of his influence.

The writer believes that Hollander's model and his subsequent experiment have added an important, and largely neglected, dimension to conformity research. Hollander has used time as the independent variable; this appears to be an important methodological innovation about which the writer plans to make further comment at the conclusion of this review.

G, EPPS Needs

While the EPPS has been used by a number of investigators to relate needs to conformity, the stability of correlations between yielding and EPPS scores across samples is not impressive. Tuddenham (1959), Izard (1960), DiVesta and Cox (1960), Endler (1960), and Appley and Moeller (1963) have studied the relation of EPPS scales to conformity. Across seven samples in these five studies (Tuddenham's adult men and women; Izard's college men and women; DiVesta and Cox's undergraduates; Endler's college men; and Appley and Moeller's college women) 10 of the 105 correlations differ significantly from zero, and only three pairs of these correlations are mutually confirming. Achievement is negatively correlated with conformity for Tuddenham's adult women and DiVesta and Cox's undergraduates. Dominance is negatively related to conformity for Tuddenham's adult women and Izard's college men, and order is positively related to conformity for the latter two groups. Moreover, two of these three replicated correlations arise from studies which differed the most methodologically from each other. Izard employed the autokinetic task in which social pressure came from the experimenter in a subtle point in the instructions to the subject rather than from a real or simulated group, whereas Tuddenham, Divesta and Cox, Endler, and Appley and Moeller all used variants of the Asch-type situation. It should be noted that Robbins (1961) also reports no relationship between susceptibility to social pressure in an opinion change situation and EPPS needs. In the study by Appley and Moeller (1963) cited above, conformity was also related to scores on the Gough California Psychological Inventory (1956) and the Gordon Personal Profile (1953), and with a sample of 41 female freshmen,
only the Edward's Abasement scale was able to generate a small but significant positive relationship with conformity while the scale titles and descriptions of from 12 to 27 of the 38 personality scales which compose the three tests used indicate that they would yield predictions of conforming behavior.

It appears that one must summarize cautiously the various studies relating needs to conformity behavior. Need for achievement has been found to be inversely related to conformity except in cases where conformity is perceived to be instrumental to achievement; in the latter case the relationship between conformity and achievement is positive. Conformity has generally been found to be positively related to needs for affiliation, affect, status, dependency, and approval, while no basic relationship has been demonstrated between conformity and the 15 needs on the EPPS.

**Self-esteem:** Research in the area of conformity, including studies of attitude change and persuasibility, have generally supported the hypothesis that persons with low self-esteem tend to be more conforming and more susceptible to social influence than persons with high self-esteem (Crutchfield, 1955; deCharms and Rosenbaum 1960; Hochbaum, 1954; Janis, 1954, 1955; Janis and Field, 1959; Janis and Rife, 1959; Lesser and Abelson, 1959; Schroeder and Hunt, 1958; and Tuddenham, 1959). Moreover, Stotland, Thorley, Thomas, Cohen, and Zander (1957) found individuals low in self-esteem to be more easily influenced by group evaluations than individuals with high self-esteem, and Stotland and Hillmer (1962) found that low self-esteem individuals identify more readily with others. However, it should be noted that with few exceptions (e.g., Milgram, 1961), in studies dealing with altered judgments of physical stimuli as a result of social pressure, the assumption has been made that the experimental tasks are so simple that it is unnecessary to obtain prior judgments to assess accuracy in a non-social situation. The importance of controlling initial competency in conformity research has been demonstrated in a recent study by League and Jackson (1964), a study which the writer believes has important methodological implications. Prior to the application of group pressure to conform to an erroneous consensus in the Blake-Brehm (1954) simulated group procedure with an auditory click counting task, League and Jackson (1964) administered a control series in the absence of social pressure to ascertain sheer counting accuracy in two groups of undergraduate subjects selected to differ in their degree of measured self-esteem. (The clicks were recorded at a rate of 176 per minute, a rate which had been found by Olmstead and Blake (1955) to be well within the ability of most subjects and to produce maximum yielding. In their study League and Jackson (1964) found that low self-esteem subjects were significantly less accurate than high self-esteem subjects in counting accuracy under nonsocial conditions. If, as this study indicates, low self-esteem subjects are indeed less
able to make accurate judgments in tasks which are used in conformity research, then the commonly obtained negative relationship between self-esteem and conformity may take on a different interpretation from that usually provided. Low self-esteem subjects may be depending upon the judgments of others in situations in which they are inadequate. In reviewing their results, League and Jackson (1964, p. 114) make the following remarks:

Whatever independent theoretical importance (if any) the finding that many low self-esteem subjects cannot count accurately may have, it is clear that a refinement in the design of conformity experiments is needed. Even in situations involving apparently simple physical events or relationships, it is necessary, prior to the introduction of group pressure to conform, to obtain accuracy judgments under solitary conditions. Unless this control is introduced, yielding scores obtained as a result of various experimental conditions or by preselection of subjects will be confounded to an unknown degree by differences in the ability of groups of subjects to render accurate judgments of physical stimuli.

The methodological implications of this study will receive further discussion at the conclusion of this review; in any case the problem raised by this study appears to be of sufficient importance to merit replication and further study.

Commitment: A number of investigators have related conformity behavior to public commitment to a position prior to an attempt at social influence, and such investigations will be reviewed in the present section. It is important to distinguish such experiments from those in which public disclosure of one's position is required after an attempt at social influence. These two types of experiments have produced opposite results, and the latter type of research will be reviewed in a later section.

Hobart and Hovland (1954) found that subjects who were required to commit themselves on a social issue prior to an attempt at influence were more resistant to influence by the communication than a control group in which commitment was lacking. Deutsch and Gerard (1955) found that in an Asch-type situation fewer socially induced errors occurred by subjects who were publically committed to their judgments prior to the influence attempt. Similarly, Asch (1955) found that if a subject was independent of the others at the outset, he tended to remain independent to the end of the series of judgments. Since the amount of evidence disconfirming the subject's own judgments increases with successive disagreement, it would decrease and yielding would increase . . . a subject who was adamant at the outset would be expected to relent with continued confrontation of discrepant judgments. However, the latter was not the case; the subject remained adamant.
However, a study by Fisher, Rubinstein, and Freeman (1956) contradicts the Asch (1956) study. This study indicates that it is important to differentiate between social influence in a single interaction and influence resulting from the overall accumulative effects of the influence situation. In their study Fisher et al. used a perceptual judgment task of estimating dot numerosity on tachistoscopically presented slides in a continuous interaction situation. The results indicated that the intertrial effects of commitment were significantly greater than the intratrial effects. On the initial interaction, subjects who committed themselves immediately prior to the influence attempt were less influenced; however, the overall influence scores accumulated from the outset of the interactions were not significantly different for the committal and noncommittal groups. These results are interpreted as indicating that committal seems to produce "resistance to change" only from the committal response to the post-influence response; the subject may still be heavily influenced in the situation and this effect may be reflected in subsequent committal response. The greater task ambiguity in this latter study should be noted; it may be that the highly ambiguous nature of the task can account for the failure of the self-committal subjects to maintain their independence as they did in the Asch (1956) study which used the far less ambiguous Asch situation.

A series of studies by Cervin has indicated that the relationship between conformity and commitment may also be qualified by other personality characteristics. Cervin (1957a) has constructed a 10-item scale of "emotional responsiveness" and has related this variable to the degree of opinion change in a two person interaction in which the participants were selected on the basis of opposing initial opinions. In one study in which the subjects did not commit themselves publicly to their opinions prior to the interaction, Cervin (1957b) found that high emotional subjects participated more and showed significantly fewer opinion changes than did the low emotional subjects. However, when the situation was repeated except that subjects made prior public commitment of their opinions, Cervin, Joyner, Spence, and Heinzl (1961) found the opposite result; under public commitment high emotional subjects participated less and tended to change their opinions more frequently.

Recently Gerard (1964) has attempted to understand the paradoxical effects of commitment by studying the nature of the Asch situation. Gerard has hypothesized that the subject responds not only to the apparent discrepancy in information about the stimulus, but also to what he believes are the expectations of the others as to what his response should be. In the face-to-face situation an avowal of a discrepant stand is a public commitment to the group of one's stalwartness ... any change in the direction of yielding would violate this image not only to oneself but to the group. Gerard (1964) tested this explanation using an Asch-type situation with
an anonymous and a public response. He found both greater yielding and greater independence in the public condition; he also found an increased change toward yielding in the anonymous condition. These results are interpreted as supporting the theory that commitment to a behavior serves to fix the cognitions associated with the behavior, and in the Asch situation taking an independent stand in public tends to fix that stand due to the negative consequences attendant to changing it. It should be noted that this analysis of the Asch situation by Gerard (1964) is consistent with the recent review and critique of work in dissonance theory by Brehm and Cohen (1962) in which these authors stress the importance of commitment for dissonance arousal.

It would appear that this area of research has important practical and social implications and that it merits further study. At the present time, when many social thinkers are becoming alarmed about the increasing trend toward conformity in our social society, a phenomena like commitment, which tends to decrease conformity, would appear to merit more thorough investigation than it has received to date.

Motivation to be correct: The motivation to be correct, or to do the best job possible, a variable which has been called "task set" or "task orientation" by a number of investigators, has been found to influence conformity behavior.

Asch (1951, 1952) observed that a subject was much less likely to yield to group pressure to make an erroneous judgment about the length of two lines when the subject maintained a feeling of necessity for dealing adequately with the task and avoiding an erroneous defective solution. Thibaut and Strickland (1956) report a similar finding; when they gave their subjects a "task set," when the subjects were told to do the best job possible in an Asch-type situation, conformity decreased significantly from what it was in the usual situation which these investigators terms the "social set." In a previously cited study Samelson (1957) showed that the amount of conformity to erroneous majority opinion was reduced by instructions that implied individual subjects might be more accurate than the majority opinion. Similarly, Tuddenham (1958b) found a marked reduction in conformity when subjects were told that the group norm in a simulated group situation might be wrong occasionally. Both of the latter studies can be interpreted as indicating that conformity behavior resulted from an attempt to be correct; when the accuracy of the group norm was questionable, conformity would be less likely to produce the correct response. The effect of the motivation to be correct was also demonstrated in an experiment by Jones, Wells, and Torrey (1958). When the experimenter fed back information to the subjects (female undergraduates in a Crutchfield apparatus with perceptual items) supporting the correct answer and opposing the incorrect solution
reached by the simulated majority, conformity to the simulated majority was significantly decreased. However, when the experimenter added his weight to supporting the incorrect majority, the experimenter's influence was significantly decreased. These results are interpreted as indicating that a strong motivation to be correct was manifest in the subjects. When the experimenter entered the scene with the correct solution, subjects were ready to reject the majority opinion; however, when the experimenter joined forces with the clearly erroneous majority, he gave the majority little extra weight. Tuddenham (1958a) has cited the desire to be correct to account for the tendency of both "yielders" and "independents" in the Asch-type situation to try to compromise between reality and social demands. Thus, the extreme "yielders" in Tuddenham's (1958a) study were found to chose the more reasonable of the two false norms.

On the other hand, Crutchfield (reported in Krech, Crutchfield, and Ballachey, 1962) has reported several studies which contradict the finding that intensified striving to be right reduces conformity. In one of Crutchfield's studies 12 five-man groups tested in his usual conformity apparatus were told that they would compete for a $50 prize, to be divided equally among the five members of the group which got the highest number of items correct in a series of judgments involving matters of fact and logic. Instead of showing the expected reduction in conformity, these groups showed greater conformity than did control groups run under standard instructions. One possible explanation of this paradoxical finding was that each individual, not wishing to reduce his group's chances of winning the prize, decided to go along with the group when there was a discrepancy. However, this explanation ought not to apply in noncooperative situations where the individual's dissident judgment would not interfere with the group welfare. Consequently, Crutchfield conducted a second experiment with 12 other five-man groups in which each person was told he was competing for a $10 prize against just those individuals in the 11 other groups who had occupied his position in the booths. Under these conditions, in which the subject was neither cooperating nor competing with the members of his own group, there was just as much conformity in these individually motivated subjects as there was in control subjects run under the standard procedure. Thus Crutchfield points out that motivating the subject to be right did not, under these conditions, make him less conforming to the bogus and incorrect group consensus. It should be noted that the latter study did not involve direct competition for the prize between members of the same group; a study by DiVesta (1958) has indicated that where there is such direct competition, the amount of yielding is decreased.

From a practical point of view, the relationship between conformity and the motivation to be correct appears to be another area which merits further research. Many social scientists are currently
interested in creativity, in ways to increase creativity, and in the relationship between creativity and conformity. A better understanding of the relationship between conformity and the motivation to be right would also enhance our understanding of the group processes which promote creativity.

Self-confidence: Self-confidence (or certainty of judgment) can result from skills which a subject brings with him to the experimental situation, or it can be built up by manipulating success or failure in a prior situation. The latter type of experiment has been reviewed earlier; the present section will review results from the former type of experiment. Table 7 summarizes five experiments each of which has found that self-confident subjects tend to resist pressures to conform. Moreover, Tuddenham and MacBride (1959), in their study of the reaction of adult subjects to the conformity situation from the "subject's point of view," found that lack of confidence in the accuracy of answers was a major factor in yielding. This relationship between low self-confidence and conformity is also consistent with Campbell's (1961) hypothesis that conformity may reflect in part a subject's frequent past experience of finding his judgments wrong.

The above relationship between conformity and confidence has also been demonstrated in two additional experiments which were difficult to summarize and will therefore be presented textually. Kelley and Lamb (1957), in an experiment on taste, used phenylthiouria (PTU) which is a tasteless substance to some individuals but tastes extremely bitter to others. It was found that non-tasters were significantly more susceptible to majority influence concerning the taste of PTU than were individuals for whom PTU was tasteless. Kelley and Lamb (1957, p. 139) note that the taster's greater resistance to social influence "may be attributable to the stronger reactions tasters have to PTU and the resulting greater certainty they have about their judgments of the substance." In a recent noteworthy study Crowne and Liverant (1963) compared conformity in the usual Asch-type situation with two experimental variants representing increasing degrees of self-confidence. In addition to the usual condition, these investigators created an expectancy condition in which subjects indicated their certainty of being right on a ten point scale while the confederates made confidence statements of a prearranged magnitude, and they created a betting condition in which the subject could bet nothing, $.25, or $.50 on each judgment while the confederates made prearranged bets in such a way that the subject could not

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5The writer is implicitly assuming a relationship between creativity (i.e., creative problem-solving) and the motivation to be correct.
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<thead>
<tr>
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<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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</thead>
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<tr>
<td>Boomer (1959)</td>
<td>Simulated group interaction</td>
<td>Similar to Cruchtfeld's Group Squares Test assembling a number series</td>
<td>Undergraduates (36 male; 36 female)</td>
<td>Self-ratings from 0 to 100 on the degree of certainty that the transaction had been the &quot;best thing to do.&quot; Subjects who expressed 100% certainty were significantly less likely to yield than subjects who expressed some certainty</td>
</tr>
<tr>
<td>Burdick (1955)</td>
<td>Simulated group discussion</td>
<td>Group decision about a case of juvenile delinquency</td>
<td>38 undergraduates</td>
<td>Self-ratings of certainty before influence attempts and after final influence attempt. Persons less certain of their original position on the issue were significantly more conformant than persons who were more certain</td>
</tr>
<tr>
<td>Fisher, Williams, and Lubin (1957)</td>
<td>Simulated group judgments</td>
<td>Numerosity judgments</td>
<td>Not specified</td>
<td>Self-ratings of certainty constituted a fair degree of predictive power for conformity scores; certainty positively related to resistance to conformity pressures</td>
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### TABLE 7
(continued)

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<tr>
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<th>Situation</th>
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<tr>
<td>Meyers and Hohle</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>Undergraduates (17 male; 23 female)</td>
<td>Self-ratings of confidence in judgments taken during the course of the experiment; a significant negative correlation between conformity and certainty (−.57; p less than .05)</td>
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<tr>
<td>Wiener</td>
<td>Paper and pencil test—naming 10 ambiguous designs with two alternatives provided</td>
<td>Initial naming; then naming again with false norms written into test booklet</td>
<td>116 undergraduates</td>
<td>Self-ratings for each judgment (absolutely certain, fairly certain, uncertain); subjects who were absolutely certain of their judgments showed significantly less conformity to bogus norms than did subjects who expressed some uncertainty</td>
</tr>
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</table>
form his own betting pattern on the basis of consistent group behavior. Using a relatively large sample (110 undergraduates; 40 male, 70 female), Crowne and Liverant (1963) were then able to examine the confidence of conformers and independents by comparing their expectancy statements and their bets as well as their conformity behavior. It was found that conformers tended to express a lesser degree of confidence than independents and this difference was significant on trials on which subjects remained independent. Conformers and independents did not differ in their declarations of confidence on conforming trials and significantly less confidence was expressed by both conformers and independents on the conforming trials.

The relationship between conformity and self-confidence appears to be one of the most unequivocal relationships reviewed to date. In reviewing some of the results of his many conformity experiments, Asch (1955, p. 33) has written an appropriate summary of this relationship:

> Among the independent individuals were many who held fast because of staunch confidence in their own judgment. The most significant fact about them was not absence of responsiveness to the majority, but a capacity to recover from doubt and to reestablish equilibrium.

Ability: A number of laboratory experiments have indicated that conformity is inversely related to ability and that one member of a group will conform to the influence of another if the other has demonstrated his ability to solve the first member's problems (e.g., Kelman, 1950; Mausner, 1954b; Mausner and Bloch, 1957; Smith, 1961).

However, other research evidence indicates that the above results, which were derived in "rigged" laboratory studies, cannot be generalized to situations where true answers and true group opinions are involved. When a norm is developed freely in a group, it will be subject to the greater influence of the more able members, and in such situations the above ability-conformity relationship is obscured. Among 350 adult subjects working in small groups on ten judgmental problems, Bass (1955b) found small but significant positive correlations between the initial accuracy of the subjects and their tendency to accept the group decision and to be in agreement with the other members following interaction with them. Another study by Bass (1959b) produced a significant positive correlation between the initial accuracy of a subject and his relative successful leadership as measured by the greater tendency of other members to shift toward his initial judgment rather than vice versa. Similarly, Thorndike (1938) demonstrated that the closer a participant was to the correct answer initially on matters of fact, the less he was influences to change his
judgment by a subsequent majority vote. These latter experiments can be interpreted as indicating that where group opinion develops freely and is true group opinion rather than simulated opinion, those members with more ability are likely to contribute more to the group decision and to accept this decision to a greater extent. Thus the group decision is more like the original opinion of the most able members so that, in reality, other members have shifted more to the most able member rather than vice versa.

A study by Flint (1960) has demonstrated an important distinction between actual ability and perceived ability. For a sample of 120 adult subjects working in small groups on judgmental problems, Flint supplied feedback to some of the subjects that their opinions were more accurate and more correct than the opinions of the average other member of their groups. Flint found that whether or not a subject knew about his ability relative to the others in the group was critical in determining the degree to which he would maintain his original position; subjects who were more accurate and learned of their ability were much more likely to hold to their own positions and less likely to conform than correspondingly able subjects who did not receive information about their ability. It was also found that a member's knowledge of his ability carried much more weight than did knowledge of his deviation from the rest of the group in determining whether or not he would try to influence others in the group rather than remain passive. Similarly, Wilson (1959) found that when an individual is confronted with disagreement from others perceived to be less intelligent than himself, resistance to group pressure is strengthened.

The complexity of the ability-conformity relationship is further demonstrated by an observation made by Levi, Torrance, and Pletts (1954). While conducting a series of sociometric studies of air crew trainees during an advanced survival training course conducted by the Air Force, these researchers observed that if an individual does not possess the necessary skills or characteristics which would make it possible to conform, he may fall behind and remain a deviant much like the recruit who lags behind on a long infantry march.

The above studies which have related conformity and ability appear to suggest a number of important methodological implications for future research. Vroom (1964) has noted that behavior is a function of both motivation and ability and that the latter variable has often been neglected in contemporary social psychological research. Vroom's observation finds confirmation in conformity research; the ability variable has indeed been neglected, and this review appears to suggest that in conformity research, at least, the ability factor merits more research effort in the future than it has received to date. Another implication of these studies is the important distinction between "laboratory" experimentation and "natural" or "field" experiments. It will be noted later in this review that some prominent contemporary social scientists, notably
Sherif, have been critical of conformity research because it has focused too heavily on laboratory control, thereby sacrificing external validity. Not only is the internal validity-external validity conflict heightened in the experiments relating conformity to ability, but these experiments suggest clearly the need for more "natural" or "field" experiments in all areas of conformity research, and particularly in the area of the ability-conformity relationship.

Pathological trends in personality: A relatively large number of investigators have related conformity behavior to various measures and degrees of personality pathology, and a potpourri of 21 such experiments is presented in Table 8. (The reader will recall that experiments relating conformity specifically to the MMPI have been reviewed earlier and are summarized in Table 5.)

As Table 8 indicates, persons who do not conform tend to show some deficiency or deviation from the normal and extreme nonconformity to social norms and social standards may be seen as a measure of abnormal function. It is important to note that a basic relationship between nonconformity and personality pathology has been demonstrated only for schizophrenic pathology. The results of experiments attempting to relate psychoneurotic tendencies to conformity have produced only equivocal results and have demonstrated no basic relationships. Failure to establish a relationship between the various measures of anxiety, neuroticism, nervousness, etc. may reflect inadequacies in the measuring instruments as well as an inadequate operationalization of conformity; however, these results also suggest that the relationship between conformity and psychoneurotic tendencies may be a secondary one which may be mediated by other personality or situational variables.

Fear of public disclosure of position: The threat of public disclosure of one's position after a social influence attempt experimentally manipulates fear and tends to increase conformity to social pressure; this explains the use of the secret ballot as a basic instrument of personal expression. Five experiments which have related public disclosure to conformity are summarized in Table 9. Robbins' (1961) failure to find the expected results may be due in part to the attitudinal and ambiguous nature of the task; unfortunately Robbins does not interpret his contradictory finding.

Rating and check list procedures: A number of investigators have found that staff-rating and self-rating procedures comparing conformers and independents tend to produce differential personality descriptions. Block (1955) assessed the child-rearing attitudes of 100 military officers on a "Child-Rearing Attitude Inventory"; the 20 highest and the 20 lowest scorers on this inventory were classified as "restrictive" and "permissive," respectively, and
<table>
<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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<tbody>
<tr>
<td>Beloff (1958)</td>
<td>Simulated group</td>
<td>Attitude toward war, aesthetic preference, social, religious, and political items</td>
<td>Undergraduates at Queen's University, Belfast (Ireland) (35 male; 25 female)</td>
<td>Neuroticism measured by the Maudsley Personality Inventory (Eysenck, 1956). For men, conformity is positively related to neuroticism; for women conformity is negatively related to neuroticism</td>
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<tr>
<td>Cervin (1955a, 1955b, and 1956)</td>
<td>Group discussion with two same-sex confederates</td>
<td>Opinion change measured under conditions of approval and disapproval in the social interactions</td>
<td>64 Canadian undergraduates</td>
<td>Anxiety measured by the Taylor (1953) Manifest Anxiety scale; neuroticism measured by the Pd scale of the MMPI. Under disapproval, the high neurotic are more rigid in holding their opinions, especially when they are also more anxious (1955a, 1956). Under conditions of approval and praise, no difference in behavior between subjects high or low on either measure or both (1955b)</td>
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<tr>
<td>Investigator</td>
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<tr>
<td>Crutchfield</td>
<td>Crutchfield</td>
<td>Perceptual, opinion, and</td>
<td>50 military officers</td>
<td>Conformers consistently more anxious; scores on the Taylor MAS correlate in the range of .30 to .40 with conformity scores</td>
</tr>
<tr>
<td>(1962)</td>
<td>apparatus</td>
<td>informational items</td>
<td></td>
<td></td>
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<tr>
<td>Diamond</td>
<td>Autokinetic</td>
<td>Judge movement with one partner</td>
<td>30 male hospitalized</td>
<td>Convergence of the schizophrenics was significantly less than that of the controls. When responding alone after partner interaction, convergence of schizophrenics was again significantly less</td>
</tr>
<tr>
<td>(1956)</td>
<td>task</td>
<td></td>
<td>schizophrenics; 30 male</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>hospitalized drug addicts as control group</td>
<td></td>
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<tr>
<td>Didato</td>
<td>Autokinetic</td>
<td>Judge movement with groups of</td>
<td>32 schizophrenics; 32</td>
<td>Results similar to those of Diamond (1956) above. Normals showed significant convergence to the group norm; schizophrenics showed no such convergence</td>
</tr>
<tr>
<td>(1955)</td>
<td>task</td>
<td>four-six</td>
<td>normals (equated for age and education)</td>
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<td>Investigator</td>
<td>Situation</td>
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<tr>
<td>Janis (1954)</td>
<td>Opinion change to persuasive communications</td>
<td>Read three communications about general informational items</td>
<td>78 male undergraduates</td>
<td>&quot;Three pertinent sets of personality inventory items indicate that feelings of social inadequacy, inhibition of aggression, and depressive affect are associated with high persuasibility.&quot; (p. 512)</td>
</tr>
<tr>
<td>Janis (1955)</td>
<td>Opinion change to persuasive communications</td>
<td>Read five articles published in fictitious journals</td>
<td>53 male undergraduates</td>
<td>Measured neurotic anxiety, socially-oriented anxiety, and test anxiety. No relationship between persuasibility and neurotic anxiety; positive relationship to socially-oriented anxiety; low test anxiety related to low persuasibility</td>
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<td>Investigator</td>
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<tr>
<td>Kelman (1950)</td>
<td>Autokinetic task</td>
<td>Judge movement with confederates; with success, failure, ambiguous and control conditions</td>
<td>Undergraduates (18 male; 30 female)</td>
<td>Used N scale of Guilford-Martin Inventory Factors GAMIN (1945) to assess lack of nervous tension. Lack of nervous tension positively related to conformity in success condition; negative relationship for the other three conditions</td>
</tr>
<tr>
<td>Levine et al. (1954)</td>
<td>Autokinetic task</td>
<td>Group judgments of movement</td>
<td>Hospitalized VA patients (10 nonpsychotic psychiatric patients; 7 medical ward patients)</td>
<td>Psychiatric patients more variable in their judgments and showed less convergence toward group norm than did the &quot;control group&quot; of medical ward patients</td>
</tr>
<tr>
<td>Mangan, Quartermain, and Vaughan (1960)</td>
<td>Group interaction</td>
<td>Dot numerosity counting with four confederates</td>
<td>Undergraduates (12 high scorers 12 low scorers on Taylor MAS taken from a class of 160)</td>
<td>Significantly less conformity shown by high anxious subjects; created a &quot;strong pressure&quot; condition where one confederate criticized another confederate prior to judgment of naive subject. Under these conditions, high anxious again less conformant</td>
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<td>Investigator</td>
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<tr>
<td>Meyers and Hohle (1962)</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>Undergraduates (17 male; 23 female)</td>
<td>Anxiety assessed by the Sarason-Mandler (1952) Test Anxiety Questionnaire (TAQ). Positive correlation between conformity and anxiety ($r = .33; p &lt; .05$)</td>
</tr>
<tr>
<td>Rath and Misra (1963)</td>
<td>Group discussion</td>
<td>Compared individual decision with group decision after discussion (political and social items)</td>
<td>105 Indian undergraduates (90 male; 15 female)</td>
<td>Neuroticism measured by the Eysenck scale (1956). Neurotics less prone to change their opinion toward the group norm</td>
</tr>
<tr>
<td>Sarbin and Hardyck (1955)</td>
<td>Perceptual responses to a set of schematized human figures</td>
<td>Identify the posture of the figures</td>
<td>30 schizophrenics compared to 91 undergraduates</td>
<td>Schizophrenics made significantly more non-conforming perceptual responses as compared to the college group</td>
</tr>
<tr>
<td>Investigator</td>
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<td>Subjects</td>
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<tr>
<td>Schooler and Spohn (1960)</td>
<td>Asch situation</td>
<td>Judging line lengths</td>
<td>48 regressed schizophrenics; 48 partially remitted schizophrenics; 48 hospitalized TB patients (controls)</td>
<td>Schizophrenics conformed with frequency equal to the normals; no peer effect of whether confederates were normals or other schizophrenics; as schizophrenics became more responsive, their behavior became more bizarre (response did not conform to either social or physical reality)</td>
</tr>
<tr>
<td>Spohn (1956)</td>
<td>Group interaction</td>
<td>Perceptual judgments (length of rectangles)</td>
<td>Moderately regressed schizophrenics and markedly regressed schizophrenics (number not specified)</td>
<td>Moderately regressed schizophrenics showed some motivation to conform to group estimates; markedly regressed schizophrenics showed only very slight tendencies to conform</td>
</tr>
<tr>
<td>Tuddenham (1959)</td>
<td>Crutchfield apparatus</td>
<td>Perceptual comparisons, information and opinion items</td>
<td>Adult sample, age about 35 (27 male; 39 female)</td>
<td>For both male and female subjects, a negative but nonsignificant correlation between conformity and anxiety as measured by the Taylor MAS</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
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<td>Subjects</td>
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<tr>
<td>Walters, Marshall, and Shooter (1960)</td>
<td>Autokinetic task</td>
<td>Judge movement with conferee</td>
<td>36 high school boys</td>
<td>Anxiety measured by two scales suggested by Schachter (1959). Judgments made under four conditions: isolated anxious; isolated non-anxious; nonisolated anxious; nonisolated nonanxious. Anxious subjects showed more susceptibility than non-anxious; no difference in susceptibility between isolated and nonisolated (isolation experimentally manipulated)</td>
</tr>
<tr>
<td>Weiss and Emmerich (1962)</td>
<td>Asch situation</td>
<td>Judging line lengths</td>
<td>Male VA patients (14 ulcer patients; 9 non-ulcer psychosomatic; 14 non-psychosomatic)</td>
<td>Ulcer group yield more frequently than the other two groups; the other two groups did not differ from each other in conformity behavior</td>
</tr>
<tr>
<td>Investigator</td>
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<td>Task</td>
<td>Subjects</td>
<td>Finding</td>
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<tr>
<td>Wilson (1960)</td>
<td>Simulated group</td>
<td>Auditory click</td>
<td>80 male high school students</td>
<td>&quot;Nonconformity revealed one class of variables centered around such qualities as irritability, high anxiety, chronic derogatory, and inability to establish effective relationships with peers.&quot; (p. 198)</td>
</tr>
<tr>
<td>Investigator</td>
<td>Situation</td>
<td>Task</td>
<td>Subjects</td>
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<tr>
<td>Argyle (1957)</td>
<td>Aesthetic judgment with confederate</td>
<td>Judge the aesthetic quality of a picture</td>
<td>27 English high school boys</td>
<td>Initial and final judgments of the picture were made on a six point scale; significantly more conformity to confederate opinion when judgment was stated publicly</td>
</tr>
<tr>
<td>Asch (1956)</td>
<td>Asch situation</td>
<td>Judging line lengths</td>
<td>123 male undergraduates (14 in the private judgment variation)</td>
<td>Conformity of 14 Ss under private judgment condition was significantly less frequent than in the usual public disclosure condition</td>
</tr>
<tr>
<td>Mouton, Blake, and Olmstead (1956)</td>
<td>Simulated group</td>
<td>Auditory click counting</td>
<td>48 male undergraduates</td>
<td>24 Ss gave names before judging; other 24 Ss made judgments anonymously. A significant increase in conformity in the personal identification condition</td>
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TABLE 9
(continued)

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<thead>
<tr>
<th>Investigator</th>
<th>Situation</th>
<th>Task</th>
<th>Subjects</th>
<th>Finding</th>
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</thead>
<tbody>
<tr>
<td>Raven (1959)</td>
<td>Opinion change after group discussion</td>
<td>Wrote descriptions about case of juvenile delinquency</td>
<td>344 undergraduates (10-14 in each experimental group)</td>
<td>In some groups the written descriptions of the case were passed to the other group members; in other groups descriptions remained private; significantly more opinion change when the opinions were made public</td>
</tr>
<tr>
<td>Robbins (1961)</td>
<td>Opinion change to bogus group norms</td>
<td>Watch movie about case of juvenile delinquency, and make judgments about remedial action</td>
<td>110 undergraduates</td>
<td>Threat of public exposure of opinion did not increase conformity to the bogus group norm</td>
</tr>
</tbody>
</table>
their conformity behavior was assessed in a Crutchfield apparatus with the usual perceptual, informational, and opinion items. Block found that the yielding scores of the restrictive fathers were significantly higher (p less than .001) than the yielding scores of the permissive fathers. Barron (1953a) used the Asch situation to select extreme groups in susceptibility and then compared their self-ratings on the Gough Adjective Check List (1960b). Subjects low in conformity significantly more often perceived themselves to be artistic, emotional, original (.01 level of confidence), demanding, excitable, fairminded, logical, moody, rational, reckless, and tactless (.05 level of confidence). Yielders considered themselves to be more determined, efficient, kind, obliging, optimistic, patient (.01 level of confidence), affected, considerate, dignified, friendly, helpful, modest, stable, tactful, and wise (.05 level of confidence).

The relationship between conformity behavior and personality ratings has been of continuing interest to Crutchfield, and he has reported results from a number of studies comparing the personality descriptions of independents and yielders. In an early study by Crutchfield (1953) staff ratings on an adjective check list described those subjects most responsive to social pressure as fluid, impulsive, disturbed, and tense; those least responsive were described as conventional, calm, careful, rigid, serious, intelligent, stable, and quiet. On self-ratings, those who were most responsive agreed with the staff assessment, those least responsive tended to overrate themselves, and those intermediately responsive tended to underrate themselves. In a later study (Crutchfield, 1955) self-ratings characterized the independent individual as one who is adventurous, possessed of self-respect, free from compulsion about rules, and self-assertive; conformers characterized as rigid, externally sanctioned, anxious, inconsistent, and possessing moralistic attitudes and conventional values.

Crutchfield (reported in Krech, Crutchfield, and Ballachey, 1962) assessed the conformity behavior of 50 military officers and 68 medical school applicants, each of whom had also been observed and interviewed by a staff of expert psychological observers over a three-day assessment period. Each subject was rated on a long list of personality traits and these ratings were made by the staff raters in complete ignorance of the performance of the subjects in the conformity task. A relatively large number of traits were found to differentiate persons with high conformity scores from those with low conformity scores; the results of this study are presented in Table 10. Crutchfield (in Krech et al., 1962, p. 527) interprets the results in Table 10 as follows: "It is clear that the same picture of the personality of the conformist and the independent individual described by objective test data is revealed in these ratings.

In his various studies Crutchfield (reported in Krech et al., 1962) has also found significant differences in occupational interest patterns as measured by the Strong Vocational Interest Blank
<table>
<thead>
<tr>
<th>Description of Independents</th>
<th>Description of Conformists</th>
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<tbody>
<tr>
<td>Military officers (N = 50)</td>
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<tr>
<td>Is an effective leader.</td>
<td>With respect to authority, is</td>
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<td>Takes an ascendant role</td>
<td>submissive, compliant, and</td>
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<td>in his relations with others.</td>
<td>overly accepting.</td>
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<td>Is persuasive; tends to win</td>
<td>Is conforming; tends to do the</td>
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<td>other people over to his</td>
<td>things that are prescribed.</td>
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<td>point of view.</td>
<td>Has a narrow range of interests.</td>
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<td>Is turned to for advice and</td>
<td>Overcontrols his impulses; is</td>
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<tr>
<td>reassurance.</td>
<td>inhibited; needlessly delays or</td>
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<td>Is efficient, capable, able</td>
<td>denies gratification.</td>
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<td>to mobilize resources easily</td>
<td>Is unable to make decisions</td>
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<tr>
<td>and effectively.</td>
<td>without vacillation or delay.</td>
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<td>Is active and vigorous.</td>
<td>Becomes confused, disorganized,</td>
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<td>Is an expressive, ebullient</td>
<td>and unadaptive under stress.</td>
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<td>person.</td>
<td>Lacks insight into his own</td>
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<td>Seeks and enjoys aesthetic</td>
<td>motives and behavior.</td>
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<td>and sensuous impressions.</td>
<td>Is suggestible; overly responsive</td>
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<td>Is natural; free from</td>
<td>to other people's evaluations</td>
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<tr>
<td>pretense, unaffected.</td>
<td>rather than his own.</td>
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<tr>
<td>Is self-reliant; independent</td>
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<td>in judgment; able to think</td>
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<td>for himself.</td>
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<th>Applicants to medical school (N = 68)</th>
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<tr>
<td>Values his own independence and</td>
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<tr>
<td>autonomy.</td>
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<tr>
<td>Is original and imaginative.</td>
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<tr>
<td>Thinks and associates to ideas</td>
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<tr>
<td>in unusual ways, has unconven-</td>
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<tr>
<td>tional thought processes.</td>
</tr>
<tr>
<td>Is concerned with philosophical</td>
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<tr>
<td>problems.</td>
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<tr>
<td>Appears straightforward, forth-</td>
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<tr>
<td>right, and candid in relations</td>
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<td>with others.</td>
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<tr>
<td>Is masculine in style of behavior.</td>
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<tr>
<td>Expresses his hostilities directly.</td>
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<tr>
<td>Is self-reliant, independent in</td>
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<td>judgment, able to think for himself.</td>
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*Adapted from Krech, Crutchfield, and Ballachey, 1962.
Conformers tend to have interest patterns which are similar to those generally regarded as placing more stress on conventional values. Conformers scored relatively higher than independents on scales for policemen, office men, real estate salesmen, and morticians. Interest patterns of the independents tend to be similar to those persons in occupations calling for artistic and scientific originality, e.g., artist, musician, author-journalist, mathematician, and architect.

It can be seen that self-ratings and staff-ratings, as well as objective experimental data, are indeed able to differentiate between some of the personality traits which characterize the conformer and the independent. Nonetheless, these rating procedures appear to produce a potpourri of different descriptions which are complicated, confusing, and sometimes contradictory.

THEORETICAL AND METHODOLOGICAL IMPLICATIONS OF THIS REVIEW

Theoretical implications: More than 200 experiments have been reviewed, yet few basic relationships between personality and conformity have been identified. Even a cursory examination of the research reviewed shows that much of the work in this area has been based on previous empirical work, on intuition, or on "hunch." Our theoretical understanding of conformity is not impressive. After more than 50 years of research effort, conformity is still a phenomenon in search of a theory. The writer's dour view is more than a raillery of the accomplishments of his professional elders; it is a statement of the major need in this important area of social psychological research, and the reader will recall that an exposure of this need constituted the major heuristic purpose of this review. Cohen's (1964, pp. 139-140) recent and posthumous book ends with the following remarks, an eloquent statement of the need for theoretically directed research:

Progress in research is guided by and benefits from being based on adequate theory. The development of a theoretical structure makes it increasingly likely that the experimenter can select beforehand the appropriate variables that affect the acceptance of a communication . . . the application of theory results in an enhanced understanding of what goes on in a real-life situation and has implications for practical action with regard to it . . . . The increasingly more complicated spiral of theory, hypothesis, research, application, and new theory represents the best strategy for uncovering the psychological processes underlying attitude change and social influence.
If this review has any theoretical implication whatsoever, it is to underscore Cohen's view as it applies to an understanding of the conformity-personality relationship.

The previous comments are not intended to suggest that there are no theoretical conceptualizations of conformity, indeed there are. However, the various theories appear to be divisive rather than integrative, and few experiments have been based on theory. Walker and Heyns (1962) have proposed a conceptualization of social influence which contrasts conformity with nonconformity while others, such as Asch (1956) and Jahoda (1959), prefer to contrast conformity with independence. In either case, it is assumed that reactions to social pressures can be described in terms of a single response dimension. While such unidimensional approaches have dominated the thinking in the areas of social influence and attitude change, recently several researchers have expressed dissatisfaction with a unidimensional model. Krech, Crutchfield, and Ballachey (1962, p. 507) have introduced the concept of counter-conformity in writing: "Conformity, independence, and counter-conformity are thus not to be thought of as three points along a single continuum. Rather they represent vertices of a triangle." Willis (1963) has recently proposed a two-dimensional model of social influence in which one dimension is dependence-independence (or independence) and the other dimension is conformity-anti-conformity (or net conformity). In the Willis model conformity, independence, and anti-conformity are seen as the three basic response modes to felt social pressures. In a recent statement Willis and Hollander (1964, p. 151) have delineated these three response modes as follows:

Pure conformity behavior is defined as a completely consistent attempt on the part of the individual to behave in accordance with the normative expectations of a specified group, as he sees them. Pure independence behavior occurs whenever the individual perceives the relevant normative expectations, but gives zero weight to them as guides to his behavior . . . . The person capable of acting independently is able to resist social pressures, rather than being unaware of them or ignoring them. In the case of anticonformity the response is directly antithetical to the norm prescription . . . . Pure anticonformity behavior, like pure conformity, is pure dependent behavior.

Finally, it should be noted that Videbeck and Bates (1959) have conceptualized conformity in terms of role expectations in which the concept of role expectation is multidimensional and intensity and consensus appear to be two major dimensions which determine conforming behavior. Thus we see that despite the great concern at present with the phenomena of conformity and social influence, many basic theoretical questions such as how conformity is conceptualized and what are the alternatives to conformity and the possible ways to respond to felt social pressures, have not been answered.
Closely allied to the conceptualization problem is the question of the theoretical and methodological distinction between various kinds of conformity. Deutsch and Gerard (1955) have made a distinction between "normative" and "informational" sources of influence in the conformity situation. A person may conform because he wishes to satisfy the positive expectation of others (normative) or he may conform because he regards the judgments of others as superior to his own. With the notable exception of the study by Becker, Lerner, and Carrol (1964), the differential effects of different sources of social influence have not been investigated. Recently, Milgram (1964) has distinguished between what he terms signal conformity and action conformity. In the case of signal conformity, the immediate consequence is purely informational, the subject states his opinion or reports on his perception of some feature of the environment. Action conformity refers to the elicitation of a deed by group forces with the induction of an act being more than communicative in its effects. There appears to be no a priori reason why the same conformity-personality relationships can be assumed to exist for these various types of conformity. The differences and similarities can be established only by empirical findings, and here again we see a further need for theoretically oriented research.

Methodological implications: The major methodological question arising from this review is whether or not one can consider the various measures of conformity comparable. Unfortunately, the writer thinks not and it is for this reason that this review has been so excessively long and detailed. Details concerning the situation, task, items, sample, etc. have been meticulously mentioned, thereby placing an oppressive burden on the reader. However, the alternative appears to be no better. Unsound inferences could have been made, various methodologies could have been combined, and a much shorter review could have been presented by recourse to presenting the combined studies in percent form. But to do so is a most questionable expedient. For example, Levy (1960) investigated the question of whether subjects who are placed in the electrically simulated Crutchfield situation are exposed to the same degree of social pressure as subjects who give their answers in the face-to-face Asch situation. With a sample of 96 subjects ranging in age from 17 to 38 years (median age of 20) Levy found that in the Crutchfield situation conformity responses accounted for 19.10 percent of the total number of responses as compared to Asch's (1956) reported 36.86 percent. Moreover, Levy found that the tendency to conform was not stable in the Crutchfield situation, conformity decreased significantly a second block of trials. Such a finding is particularly unsettling because much of the research reported in this review is based on the significance of the difference between conformers and independents. Are the reported personality correlates of conformity merely an artifact of the strength of the social inductions in the various situations? In any case, the writer could not bring himself to the point of abstracting and inferring to a degree common in most literature reviews. Details have been retained and mentioned because they represent differences which make a difference.
A number of other unsettling methodological questions are raised by this review. The literature in the area reviewed is laden with "one-shot" studies which make the acceptance of any conclusion tenuous, and replication experiments are needed to insure that the conclusions from single studies will stand. Moreover, when fairly similar situations, tasks, sample, and methodologies have been used, the results have often been contradictory. The use of paper-and-pencil measures of conformity raises special questions. Most of these measures have been used only once or twice with the result that very little comparison between findings is possible and that frequently these measures have no known validity. The writer has particularly criticized the "social conformity" scale used by Bernberg (1954, 1955) but many of the other paper-and-pencil measures of conformity appear to be equally suspect.

Experiments utilizing some type of social influence interaction situation with either perceptual items or attitudinal, information, or opinion items were common throughout this review. Consequently, it is particularly disturbing to note that serious questions have been raised about the experimental methods used with either of these types of items. The importance of assessing the subject's initial accuracy in the making of even simple perceptual discriminations was demonstrated in the study by League and Jackson (1964). Failure to control for initial accuracy, and unfortunately most of the experiments utilizing perceptual items have failed to do so, subjects many of the reported findings in this review to question and to an alternative interpretation based on the rival hypothesis of initial difference. A more complex question has been raised by experiments using attitudinal or opinion items and by those experiments which have used attitude shift or opinion change as an index of conformity. Scott's (1959) finding that cognitive consistency influences attitude change suggests that more than attitude valence must be assessed in the pre-influence condition. Few attitudes or opinions exist in a state of isolation; consequently the structural elements of the attitudes and opinions which are later subjected to social pressure, such structural components as consistency, multiplexity, and interconnectedness, must be assessed. Failure to control for all aspects of attitude and opinion structure, and again few of the experiments cited in this review have used such controls, suggests that some of the findings cited may be artifactual; they may reflect differences in the subjects' initial attitude structure rather than a relationship between the independent variable and conformity.
Throughout this review the writer has cited specific research areas which he believes merit intensified empirical investigation; these suggestions need not be repeated again. However, in addition to the suggestions already made, the writer wishes to propose three further directions which future research could profitably take.

Most present research designs make it most difficult to generalize from laboratory situations to "real life." The Asch situation, the Crutchfield apparatus, and the simulated group have served well and faithfully for over a decade, but now new and more life-like designs are needed. This need is cogently stated by Kahn and Mann (1957, p. 14) who write as follows:

... the world of social reality has important contributions to make to the quality of social science. Studying and living in the real-life field situation provide important learning and insight for the social scientist. To the extent that he operates in isolation, deprived of these insights and self-correcting experiences in the field, he runs the constant risk of making his contrived laboratory situations unreal, of failing to capture in the laboratory the essential forces and variables which are operating in the field.

The writer would argue that many of the experiments reviewed have failed to "capture the essential forces" in real life, and a few suggestions for possible new design directions are in order.

Crutchfield's (1951, 1953) use of quasi-group interaction techniques (i.e., The Group Squares Test and the "Bingo Game" task) could be expanded and modified to be used with in situ groups. For example, some type of a realistic business situation could be developed and used in conjunction with management seminars. Perhaps various decision alternatives could be presented to the naive subject in terms of preestablished norms and a series of real-life problems could be subjected to quasi-interaction control. These problems could vary in difficulty as well as in subject content. It would be possible to assess commitment, self-confidence, and ability in each specific situation; perhaps a limited number of personality traits could also be assessed, and the results from the quasi-interaction situation might be compared with a brief assessment of conformity in one of the standard laboratory devices. The various human relations training programs conducted by the National Training Laboratories offer another possible opportunity where new experimental techniques could be applied to in situ groups. Not only would such experimentation increase the accuracy and the scope of generalization, but such research would no doubt demonstrate that personality variables which are relevant to the conformity behavior of undergraduates judging the length of lines
would have little relevance to the conformity behavior of businessmen engaged in a quasi-interaction problem relating to questions of finance, merchandising, labor relations, etc. For example, the sex variable is very important to the experimenter who recruits undergraduate subjects from the departmental subject pool; however, the sex variable is of little importance, to date at least, in the business community, most business decisions are still made by male groups. On the other hand, in real-life groups, one would expect to find much greater variance in ability, self-confidence, and perhaps in motivation than one finds in undergraduate groups who have been selected for university attendance because of equally high high-school grades and equally high entrance test scores, whereas real-life groups are often based on special heterogeneity; executive committees and boards of directors are often selected to represent different abilities and experiences. The instrumental value of need achievement may also be much greater for many real-life groups than it is for the typical undergraduate sample. Current knowledge should make it possible to design experiments with lifelike settings and the development of such new designs poses a major challenge to a better understanding of the personality-conformity relationship.

Science consists very largely of determining the relationships among variables, and science progresses by going from a gross demonstration that A effects B to a more precise specification of the conditions which influence the relationship. Most of the studies reviewed have been of the former type; they have been content with demonstrating that "X has an effect." Experiments are now needed which demonstrate the function of the relationship between variables as well as demonstrating the conditions under which the relationship exists. For example, the relationship between conformity and various personality variables may not be linear, it may be curvilinear. The relationships may also be nonmonotonic, they may take various forms depending upon the level of operation of the various other factors (e.g., stimulus and group factors) that may intervene and interact (i.e., personality factors such as ability, intelligence, and self-confidence may interact with variables such as group size, prior interactions, type of situation, etc.). Moreover, as noted earlier, time has been a neglected variable, but the relationships, whatever their nature, may vary over time and the time dimension should be considered in future research. Our present knowledge of the personality-conformity relationship indicates that the interactions between variables are complex in nature, and what is needed is an experimental approach which simultaneously within the design of a single experiment considers the various factors that interact and intervene to affect conformity behavior.

A third direction for future research, one which promises to enhance greatly our understanding of the psychodynamics of conformity, is an expansion of the pioneering work of the Duke group in which continuous physiological assessment is related to ongoing conformity
behavior. The mere collaboration of medical researchers with social scientists to conduct sophisticated social psychological research in medical settings and under careful medical control appears to be an innovation. The writer would also suggest that such research be published in journals more accessible to social psychologists; these investigations do not appear to have received the recognition and the dissemination which they merit. Ongoing physiological assessment would appear to offer a new avenue of approach to search for answers to some of the questions raised in this review. For example, FFA levels indicating central nervous system arousal could help answer some of the questions concerning the sex difference-conformity relationship. Physiological measures could identify different psychodynamic patterns and help explain the meaning of the conformity situation in terms of nervous system arousal. The psychodynamics of different levels of self-confidence, ability, commitment, etc. could also be assessed physiologically. Such assessments could answer some of the questions about the function of the relationships, perhaps different levels of personality characteristics interact to produce different levels of arousal for different situations. Physiological assessments could also be used in conjunction with personality tests to answer such questions as under what conformity conditions do high anxious individuals manifest more arousal, under what conditions is anxiety negated by other factors, etc. Moreover, use of FFA as an arousal index is merely the first of several other possible physiological indices which are currently being perfected. Cobb\(^6\) has stated that continuous measures of skin potentials and heart rate, as well as urine analyses before and after conformity behavior, are other physiological indices which might be used in addition to FFA level. Self-reports and post-experimental questionnaires have never adequately answered that important question of "What's going on in the subject?"; the use of continuous physiological measures appears to be a new and almost untapped area for answering this question and for significantly increasing our knowledge about the psychodynamics of the personality-conformity relationship.\(^7\)

It seems altogether appropriate to conclude a literature review of the personality correlates of conformity by citing the views of two men whose work has "fathered" much of the research reviewed. A symposium was held in 1959 at which papers were read on the subject of "conformity and deviation." Pepinsky (1960, p. 144) has summarized this symposium as follows:

\(^6\)Sidney Cobb, personal communication, 1965.

\(^7\)Schachter's (1964) recent work on the interaction of cognitive and physiological determinants of emotion, and the work of Schachter and Latané (1964) on the cognitive and physiological correlates of crime are other areas where physiological measures are making important research contributions.
 Appropriately enough, two of the most distinguished students of the problem, Solomon Asch and Musafer Sherif, were participants at the symposium. Both reported feelings of pessimism about the current status of 'conformity' research. Asch, for example, was distressed over the tendency to equate conformity with an entire range of social influence, whereas he believes what appears to be a homogeneous psychological category is actually a diverse and complex array of emotional-cognitive phenomena. What seem to be conforming responses, in the latter view, may be motivated by such diverse psychological states as fear, trust, concern for personal ties, etc. What is at stake here, in the failure to understand what phenomenal processes are operative, is the ability to predict behavior . . . Sherif's pessimism took another turn. To him the bulk of research on conformity has been mistakenly cloistered in the laboratory, centered on trivial issues, and misleading in outcome. And so Sherif has turned increasingly to sociological studies of small groups in natural settings for substantive ideas and for research procedures.

The writer shares these views; his own thoughts about the theoretical and methodological implications of this review and his suggested directions for future research reflect his concern for the issues raised by Asch and Sherif.

In concluding his summary of the symposium, Pepinsky (1960, p. 146) has written:

It is ironic that Asch and Sherif, having sired much of the psychological research on conformity that is now available to us, should have voiced at the symposium their despair over how their children have turned out. Yet one hopes that these two eminent scholars could leave the 'conformity and deviation' symposium, as I did, heartened by the thought that innovative and productive inquiry was being directed at a critical social problem.

Like Pepinsky, the writer concludes this review both heartened and challenged; this is indeed a critical problem which demands the best that contemporary social psychology can offer. The demands are great and, hopefully, this review has added even a small contribution to the inquiry.
REFERENCES


Barron, F. and Welsh, G. S. Artistic perception as a factor in personality style: its measurement by a figure-preference test, J. Psychol., 1952, 33, 199-203.


Bray, D. W. The prediction of behavior from two attitude scales, *J. abnorm. soc. Psychol.*, 1950, 45, 64-84.


Cervin, V. B. Personality dimensions of emotional responsiveness and rigidity, and scales for measuring them, *J. Pers.*, 1957a, 26, 626-642.

Carvin, V. B., Joyner, R. C., Spence, J. M., and Heinzl, R. Relationship of persuasive interaction to change of opinion in dyadic groups when the original opinions of the participants are exposed privately and publicly, J. abnorm. soc. Psychol., 1961, 62, 431-432.


Crutchfield, R. S. Assessment of persons through a quasi group-interaction technique, J. abnorm. soc. Psychol., 1951, 46, 577-588.

Crutchfield, R. S. Correlates of individual behavior in a controlled group situation, Amer. Psychologist, 1953, 8, 338.


DiVesta, F. J. Susceptibility to pressures toward uniformity of behavior in social situations: a study of task, motivational, and personal factors in conformity behavior. Contract AF 18 (603)-20, Syracuse University, 1958.


Harvey, O. J. and Rutherford, Jeanne. Gradual and absolute approaches to attitude change, Sociometry, 1958, 21, 61-68.


Izard, C. E. Personality characteristics associated with resistance to change, *J. consult. Psychol.*, 1960, 24, 114-120.

Jacubczak, L. F. and Walters, R. H. An experimental investigation of suggestibility in terms of dependency behavior, Amer. Psychologist, 1958, 13, 328.


Levinson, D. J. and Sanford, R. N. A scale for the measurement of anti-Semitism. J. Psychol., 1944, 17, 339-370.


Likert, R. A. A technique for the measurement of attitudes, Arch. Psychol., 1942, No. 140.


McQueen, R. Examination deception as a function of residual, background, and immediate stimulus factors, *J. Pers.*, 1957, 25, 643-650.


Marple, Clare H. The comparative susceptibility of three age levels to suggestion of group versus expert opinion, *J. soc. Psychol.*, 1933, 4, 176-186.


Milgram, S. Group pressure and action against a person, *J. abnorm. soc. Psychol.*, 1964, 69, 137-143.


Scott, W. A. Attitude change through reward of verbal behavior, *J. abnorm. soc. Psychol.*, 1957, 55, 72-75.


Thorndike, R. L. The effect of discussion upon the correctness of group decisions when the factor of majority influence is allowed for, J. soc. Psychol., 1938, 9, 343-362.


Triplett, N. The dyamogenic factors in pacemaking and competition, American J. Psychol., 1897, 9, 507-533.

Triplett, N. The psychology of conjuring perceptions, Amer. J. Psychol., 1900, 11, 439-510.


Tuddenham, R. D. Correlates of yielding to a distorted group norm, J. Pers., 1959, 27, 272-284.


Willis, R. H. Two dimensions of conformity-nonconformity, Sociometry, 1963, 26, 499-513.


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