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ABSTRACT

Two achievement-related motives are considered: (1) the motive to achieve so as to obtain a sense of accomplishment; and (2) the motive to avoid failure in order to avoid the negative feelings that accompany failure. It is hypothesized that a student with high achievement motivation should seek the satisfaction of earning a good grade and should tend not to cheat, but rather to prepare for an examination. Motivation to avoid failure is hypothesized to be positively related to frequency of cheating and negatively to advance preparation for an examination. Preliminary studies to determine whether satisfactory self-report measures of cheating could be devised are described. The method, which utilized 44 male and 68 female undergraduates, is described and included administration of a group thematic apperceptive measure of Need for Achievement, the Test Anxiety Questionnaire, and a questionnaire on cheating. Information on age, sex, religion, draft status and grade-point-average was requested, and an index of previous cheating frequency obtained. Among the numerous results, modest support for the hypotheses was provided where male students, but not female students, are concerned. (TL)

Moral Decision Making: Cheating on Examinations[1]

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The present study deals with the determinants of cheating on college examinations. The relative contribution of personality and situational variables to moral behavior has been a persistent theme in morality research. In the present view, personality characteristics are important determinants of moral behavior, but they do not necessarily produce the same behavior in every situation. Even though a person is assumed to bring a set of relatively stable personality characteristics to every situation, he is thought to manifest those characteristics in his behavior only under relevant conditions. For example, moral standards typically do not apply in the same way to every situation. Similarly, the nature of the situation determines what motives are relevant. A person with a strong need for social approval may tell a lie in a situation where lying might lead to approval, but might not lie when lying would be likely to bring loss of approval.

In this investigation the specific personality variables considered are (a) motives and (b) "conscience" (moral standards, guilt, and loss of self-esteem); situational variables include (a) goals, (b) sanctions, (c) facilitating or interfering conditions that affect the probability that an act will lead to the goal (e.g., an informant, a proctor), and (d) the behavior and norms of other persons.

A person tempted to violate a prohibition usually experiences conflicting tendencies. Desire for gratification may conflict with moral constraints or with nonmoral factors, such as fear of punishment, or both. Moral conflict is sometimes discussed in terms of a choice between committing a prohibited act or refraining from action. More often, however, the choice is not simply between action versus inaction but between different courses of action which

lead to the same desired outcome. For example, a person who wants a good grade can attempt to get it by studying or by cheating or both. In such a conflict situation each course of action may have some desirable and some undesirable consequences. In the present view, the tempted person decides what to do after weighing the likelihood of various positive and negative outcomes associated with each alternative way to the desired goal.

Motives Aroused in Evaluative Situations

The situation of interest here, the course examination, is an evaluative setting in which getting a good or bad grade is at stake. Although various motives may contribute to working for good grades, it is assumed that two achievement-related motives are usually aroused--the motive to achieve and the motive to avoid failure. In other words, a student is typically motivated to seek the positive feeling of satisfaction derived from earning a high mark and to avoid the negative feeling of failure that accompanies a low mark.

In the present study, the motive to achieve (assessed by means of a modified thematic apperception test) is conceived as a disposition to approach success in order to obtain a sense of pride in accomplishment. This disposition is manifested in instrumental activity when a situation arouses the expectancy that performance of some act will lead to success (see Atkinson, 1964). The motive to avoid failure (assessed by means of the Test Anxiety Questionnaire) is conceived as a disposition to avoid failure in order to avoid the negative feelings that accompany failure. These achievement-related motives are not regarded as opposite ends of a single continuum, but rather as reflecting two relatively independent dimensions (cf. Smith, 1969,Ch.4).

Prior research has yielded interesting relationships between these motives and cheating behavior. Mischel and Gilligan (1964) predicted that sixth-grade boys would cheat more the higher their achievement motivation if cheating was the only way to obtain objective evidence of accomplishment

(win a badge). Although Mischel and Gilligan did find that boys with high achievement motivation more frequently reported scores that enabled them to win a badge, their conclusions must be regarded as tenuous because of atypical procedures used in assessing achievement motivation. Moreover, Gilligan (1963) in a subsequent study (despite the date), using similar methods, found no relationship between achievement motivation and cheating.

In contrast to Mischel and Gilligan, Schwartz, Feldman, Brown and Heingartner (1969) reasoned that cheating should deprive a person of a sense of personal accomplishment, and that subjects high in achievement motivation would be less likely to cheat than those low in achievement motivation, and their results provided weak support for the hypothesis. However, their measure of achievement motivation was a questionnaire of doubtful validity, and they employed an extrinsic incentive (money) to cheat which can obscure the relationship of achievement motivation to behavior in achievement situations (cf. Smith, 1966).

With reference to the motive to avoid failure, scores on the Test Anxiety Scale for Children were found to be positively related to cheating by Gilligan (1963), and Shelton and Hill (1969) obtained a positive relationship between debilitating anxiety and cheating, but only when knowledge of reference group performance was available to the subjects.

In the present research the role of achievement-related motives in relation to cheating on examinations is reexamined. These motives are measured independently so that predictions can be made concerning the strengths of the conflicting tendencies and their resolution. A secondary concern of the research is the role of moral standards and certain situational factors in determining moral behavior.

Hypotheses

A student with strong achievement motivation should seek the satisfaction

of a good grade earned by his own efforts and should tend not to cheat, since cheating will not provide a sense of accomplishment. In other words, he should select a different instrumental path to good grades such as preparing well and trying hard. On the other hand, a student strongly motivated to avoid failure is assumed to wish to avoid receiving a low grade by whatever means are available, and should resort to cheating as an added protection against failing. In the language of approach-avoidance conflict theory, strong achievement motivation should produce a force away from cheating while strong failure-avoidance motivation should produce a force toward cheating. According to this analysis, motivation toward or away from cheating should be reflected not only in whether or not a person cheats, but also in the extent to which a student prepares for an exam and in the degree to which he is willing to risk detection if he decides to cheat.

Hypothesis 1: Achievement motivation will be related: (a) negatively to frequency of cheating, (b) negatively to degree of risk of detection hazarded, and (c) positively to advance preparation for an examination.

Hypothesis 2: Motivation to avoid failure will be related: (a) positively to frequency of cheating, (b) positively to degree of risk of detection hazarded, and (c) negatively to advance preparation for an examination.

It follows from hypotheses 1 and 2 that when these two motives are considered in combination (a) subjects with strong motivation to achieve and weak motivation to avoid failure should cheat least, those with weak motivation to achieve and strong motivation to avoid failure should cheat most, and those strong in both motives or weak in both motives should be intermediate in frequency of cheating. (b) These four groups of subjects should be ordered in the same way with respect to degree of risk involved. (c) These four groups should be ordered in the opposite way with respect to preparation for an exam. That is, the student with strong motivation to achieve and

weak motivation to avoid failure should be most likely to prepare for an examination in advance and find cheating unnecessary.

Hypothesis 3: Indexes of conscience (moral standards, guilt, potential loss of self-esteem) will be negatively related to frequency of cheating.

In addition to the relationships specified above, the relationship to cheating of a number of situational variables and external pressures is also investigated including the competitiveness for grades of other students, graduate school requirements, the draft, and the type of examination taken.

Preliminary Studies

Because of difficulties involved in measuring actual cheating behavior, two preliminary studies were conducted to determine whether a satisfactory self-report measure of cheating could be devised. It occurred to us that the most authoritative information on cheating could be provided by the subject himself if he would be willing to report his behavior accurately. In order to encourage maximum candor, the experimenter (E.R.), himself an undergraduate, went to great lengths to assure the students that their responses would be completely anonymous and confidential. In the first study 100 percent of the students (N = 18) answered "yes" to the question "Have you ever cheated on an examination?" and 67 percent admitted to having cheated during the current semester. In the second study (N = 27) every subject again admitted to having cheated on an examination, and 48 percent said they had cheated during the current term. Eighty-one percent reported that when they cheated, they did so only on one or a few questions rather than on many questions. The greatest pressure to cheat was felt when a student knew hardly any of the answers, or near the end of the exam if he had blank spaces left. These results assured us that under the right circumstances most students would reveal their cheating, and that the problem was to measure frequency of cheating rather than simply its presence or absence. Consequently, the ques-

tionnaire was further revised for the final study.

Method

Subjects

The subjects, 44 males and 68 females between the ages of 17 and 25, were undergraduates in two large urban colleges.

Measures

Achievement motivation. A group thematic apperceptive measure of Need for Achievement was administered according to procedures described by Atkinson (1958, p. 837). Slides of male figures were shown to all subjects in the following order: numbers 2, 8, 46, and 48 (see descriptions in Atkinson, 1958, pp. 832-33). Stories were scored "blind" for Need for Achievement using the standard coding manual (Atkinson, 1958, Ch. 12). Inter-scorer agreement for a sample of 21 subjects was r = .93.[3]

Test anxiety. Test anxiety scores were obtained from 12 items making up the first third of the Test Anxiety Questionnaire (Mandler & Cowen, 1958). These items correlate between .84 and .90 with scores from the entire Questionnaire (see Smith, 1965) and provide a brief but reliable measure of test anxiety.

Questionnaire on cheating. Information on age, sex, religious affiliation, draft status (for males), and grade-point-average was requested.[4] Additional questions dealt with frequency of cheating on various types of exams, factors causing a person to cheat, factors preventing a person from cheating, degree of risk taken, guilt over transgression, sense of accomplishment obtained after making a good grade, and several other matters. The wording of individual questions will be given as the results are presented.

An index of cheating frequency was obtained as follows: Subjects were asked to write the number of courses taken the preceding and current semesters. Then they were asked to recall carefully in how many of the courses during either semester they had cheated on any examination. The index obtained is

the percentage of courses in which a student cheated.

Procedure

Each instructor introduced the experimenter (E.R.) as an undergraduate conducting honors research and asked the class to cooperate fully. The instructor then left the room for 45 minutes. The experimenter told the students that their cooperation would be extremely helpful for his research. He stressed that all responses would be completely anonymous and that no identification of any kind was requested. No mention of cheating was made until later.

After having the students take alternate seats, the experimenter administered the thematic apperceptive measure (ca. 20 minutes), and the Test Anxiety Questionnaire (ca. 5 minutes). He then said that one purpose of the research was to obtain information on cheating, which, in this case, did not include giving information to others, but referred only to "the obtaining and using of information from prohibited sources in an attempt to improve an examination grade." The experimenter distributed the questionnaire and requested truthful answers to questions about cheating behavior, emphasizing that: (a) cheating is a common occurrence, (b) the research would make no value judgments, (c) the identity of individuals and classes would be completely concealed, and (d) honest answers were essential.

Results

Frequency of Reported Cheating

As in the preliminary studies, a startlingly high amount of cheating was acknowledged. In answer to the question "Have you ever cheated on an examination?" 91 percent of the men and 97 percent of the women replied "yes," and 70 percent of the males and 63 percent of the females said they had cheated on at least one exam in either the current or the preceding semester. Scores

on the index of cheating frequency (the percentage of courses cheated in) ranged from 0 to 100 percent for males with a mean of 25.5 percent (SD = 26.51). Female scores ranged from 0 to 80 percent with a mean of 17.6 percent (SD = 17.00). There is a near significant tendency for women to report less cheating than men ($t = 1.92$, $df = 110$, $p < .10$). (All probability values reported in this paper are two-tailed.)

Subjects were also asked to estimate the percentage of students in their college who cheated on examinations. Those who reported frequent cheating estimated that a higher percentage of their fellow students cheated than those who reported infrequent cheating. The correlation between reported self-cheating and estimated cheating by others is .45 ($p < .01$) for males and .23 ($p < .10$) for females. Although the result may indicate projection, it happens that subjects who report the highest self-cheating also make the most accurate estimates simply becuase the actual frequency of cheating is so high.

Risk of Detection

Subjects were asked to indicate on a nine-point scale the greatest risk of detection they would take for different types of exams (quizzes, mid-terms, finals, important finals). Scale values ranged from 1 (slight) to 5 (moderate) to 9 (great). The means for the different types of exams were all below the "moderate" level, ranging from 2.95 to 3.23 for males and from 3.53 to 4.34 for females. The means for males and females are not significantly different. Analyses of variance reveal no differences among the means within either sex in the amount of risk specified for different types of exams. That is, for both males and females roughly the same degree of risk would be taken for quizzes,mid-terms, or finals.

The index of risk derived from these data is the sum of each subject's scale values for each of the four types of exams--a "total" risk score. The correlation between this index of risk and the index of cheating frequency is

.45 for males ($p < .01$) and .15 for females (n.s.). In other words, greater cheating goes with greater willingness to risk detection.

Achievement-Related Motives and Cheating

Achievement motivation and cheating.--Hypothesis 1a concerning the relationship between Need for Achievement and cheating frequency is supported by one measure of cheating but not by another. As Table 1 indicates, correlations between Need for Achievement and the index of cheating frequency do not support the expectation that there would be a significant negative relationship between these variables ($r = -.09$ for males and .14 for females). However, for males, the hypothesis is supported by answers to the question "Did you cheat on an exam in any course this term?" Men with Need for Achievement scores below the median significantly more often answered "yes" than those with scores above the median ($X^2 = 5.87$, $df = 1$, $p < .02$). Women's answers to this question are also in the expected direction but are not significant ($X^2 = 1.89$).

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Insert Table 1 about here.
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Support for the rationale of the hypothesis is provided by answers to a question prefaced by the statement: "Recall the feeling you have experienced when you have received a good grade in a course without cheating." The subject indicated on a nine-point scale the degree to which he felt a "sense of personal accomplishment" as a result of getting a good grade without cheating. As expected, Need for Achievement was positively related to sense of accomplishment (for males $r = .33$, $p < .05$; for females $r = .19$, n.s.). In other words, the higher the motivation to achieve, the higher the sense of personal accomplishment experienced. These results confirm the Lewinian notion that the valence or attractiveness of a goal is a function of the tension in the person and the properties of the goal. In terms of Atkinson's

formulation, valence = motive X incentive (see Atkinson & Feather, 1966, p.329).

The expectation of a negative relationship between Need for Achievement and degree of risk taken (Hypothesis 1b) was not supported (r = .01 for males and .14 for females).

Test anxiety and cheating.--Hypotheses 2a and 2b state that motivation to avoid failure (measured by the Test Anxiety Questionnaire) should be positively related to frequency of cheating and to degree of risk taken. As Table 1 shows, the results support both of these expectations. The correlation between test anxiety and cheating frequency for males is .34 ($p < .05$) and for females is .38 ($p < .01$). The correlation between test anxiety and degree of risk of detection is .31 ($p < .05$) for males and .32 ($p < .01$) for females. These results indicate that as test anxiety increases, the amount of cheating increases and the amount of risk of detection a person is willing to run increases.

The joint relationship of achievement-related motives to cheating.--The correlations between Need for Achievement and test anxiety of .16 for males and .13 for females are consistent with the assumption that achievement motivation and motivation to avoid failure are independent dimensions.

Subjects were classified high or low in each motive by means of a median split (separately within each sex). Joint classification results in the four groups listed in Table 2. The results for males support the expectation that cheating frequency would be least for subjects high in Need for Achievement and low in test anxiety, and greatest for subjects low in Need for Achievement and high in test anxiety. The difference between the means of these two groups is significant ($t = 2.45$, $N = 22$, $p < .05$),[5] and the means of the high-high and low-low groups are intermediate as expected.

Insert Table 2 about here.

For women, there is only a slight tendency for subjects high in Need for Achievement and low in test anxiety to cheat less than those low in Need for Achievement and high in test anxiety ($t = .67$, $df = 26$, n.s.). The results for women parallel those for men quite closely for the first three motive groups. The only substantial difference between males and females occurs in the low achievement-high anxiety group where females cheat considerably less than was expected.

Table 2 also shows that the means for risk of detection are ordered as expected for males, and the low achievement-high anxiety groups tends, as expected, to take a higher risk than the high achievement-low anxiety group ($t = 1.94$, $N = 22$, $p < .10$).[5] The risk means for the women are not ordered as expected, and the difference between the high achievement-low anxiety group and the low achievement-high anxiety group is not significant ($t = .54$).

Preparation for examinations.--In the questionnaire students indicated on a nine-point scale how influential various factors were in preventing them from cheating. The item: "I usually know the material well enough to make cheating unnecessary" was rated as the most important of the reasons for not cheating by both sexes. On a scale with "9" as "very influential," the mean for males was 7.14 and the mean for females was 6.47. These means are not significantly different ($t = 1.68$, $df = 110$, $p < .10$). This item was not significantly correlated with Need for Achievement (Hypothesis 1c) for either sex. It was significantly correlated with test anxiety (Hypothesis 2c) for males ($r = -.30$, $p < .05$) but not for females. In other words, the higher the test anxiety, the less likely a male student was to know the material well enough to make cheating unnecessary. This result is contrary to the common assumption that a student anxious about failure will spend more time preparing for an exam.

Results for subjects classified as high or low on both achievement

motivation and test anxiety are presented at the bottom of Table 2. Males with high achievement and low anxiety endorse this item significantly more strongly than males with low achievement and high anxiety ($t = 2.77$, $N = 22$, $p < .02$).[5] A similar comparison for females is not significant ($t = 1.07$).

Conscience as a Deterrent to Cheating

Among the items dealing with factors preventing cheating were "my personal moral code," and "cheating would make me think less of myself" (potential loss of self-esteem). Each item was accompanied by a nine-point scale. As Table 1 shows, potential loss of self-esteem was significantly related to cheating frequency in the expected direction for both men ($p < .01$) and women ($p < .01$) and the relationship of cheating frequency to "personal moral code" was significant for men ($p < .01$) and nearly significant for women ($p < .10$). That is, the more influential a person rated moral code or potential loss of self-esteem as a deterrent to cheating, the lower was his reported cheating frequency. There are no sex differences between the means for "personal moral code" or potential loss of self-esteem.

On a separate question students were asked to check on a nine-point scale the extent to which they felt guilty after cheating on an exam. As Table 1 shows, for both sexes, the greater the guilt experienced, the lower the reported frequency of cheating. The relationship is significant for men but not for women. It is interesting to note, however, from the means in Table 1, that the women report a greater amount of guilt, on the average, than the men ($t = 2.20$, $df = 107$, $p < .05$).

The intercorrelations among "personal moral code," potential loss of self-esteem, and guilt are given in Table 1. Of these variables, guilt and

potential loss of self-esteem are most highly correlated for both sexes ($r = .65$ for men and .56 for women). It is also of interest to note the extent to which the two achievement-related motives and the three indexes of conscience predict cheating frequency. The multiple correlation (R) is .62 for men and .51 for women.

Scores from another of the items dealing with factors preventing cheating, "my religious viewpoint," were not related to cheating frequency. The low means for this item suggest that subjects did not regard religion, per se, as an important deterrent to cheating (for males, $M = 2.32$; for females, $M = 2.01$). Data on religious affiliations were also obtained. For males, 66 percent were Jewish, 9 percent Roman Catholic, 5 percent Greek Orthodox, and 20 percent had no affiliation. For females, 76 percent were Jewish, 9 percent Roman Catholic, 5 percent Protestant, 1 percent Taoist, and 9 percent had no affiliation. A comparison of mean cheating frequencies among Jews, Christians, and "others" revealed no significant differences among males with different religious affiliations ($F = 1.20$, $df = 2/41$). For females, Jews reported significantly more cheating than Christians or "others" ($F = 4.48$, $df = 2/65$, $p < .05$).

Other Pressures toward Cheating

Although no hypothesis was stated, it might be expected that, on the average, students with lower grades would feel more pressure to avoid a poor grade than those with higher grades and would, therefore, cheat more frequently. This tends to be the case for both males ($r = -.20$, n.s.) and females ($r = -.21$, $p < .10$), though the relationships are not significant. Previous research also indicates that, on the average, cheating is more frequent among students with low grades (cf. Hetherington & Feldman, 1964).

One section of the cheating questionnaire asked the students to indicate the extent to which a number of considerations caused them to cheat.

Each item was accompanied by a nine-point scale indicating a weak (1) to strong (9) degree of pressure to cheat. (Four males and two females who said they had never cheated in college did not answer this question.)

The items are listed in Table 3 in the order of their importance for males as indicated by the values of the means. The three strongest external sources of pressure to cheat for men are graduate school requirements, competition among students for grades, and large work load; for women they are large work load, insufficient time to study, and competition among students. Graduate school requirements are rated as significantly less influential by women than by men ($t = 2.67$, $df = 104$, $p < .01$). It seems likely that men experience more pressure to cheat deriving from long-term vocational goals than women. The only other significant sex difference between means is for "desire for regard of instructor" which the women rate as a stronger pressure to cheat than the men ($t = 2.16$, $df = 104$, $p < .05$). The correlations between item scores and the index of cheating frequency are also reported in Table 3. All correlations are positive indicating that the stronger the pressure, the higher the frequency of cheating.

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Insert Table 3 about here.
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A final situational factor relevant to cheating is the type of test being taken. Students were asked, on the questionnaire, to indicate on nine-point scales the extent to which they had cheated on "quizzes," "mid-terms," "finals," and "finals in my major." For both sexes cheating was greatest for quizzes and was progressively less through "finals in my major." There was a highly significant difference among the means within each sex (for males, $F = 21.04$, $df = 3/126$, $p < .001$; for females, $F = 29.54$, $df = 3/192$, $p < .001$). In other words, for both men and women the more important the test, the less the cheating. It may be that students are better prepared for finals, that

finals are proctored more carefully, or that punishment is thought to be more severe for cheating on finals.

Discussion

Amount of Cheating

In the present study 70 percent of the males and 63 percent of the females admitted cheating on at least one college exam during the current or preceding semester. Why is cheating so pervasive? When students were asked in a preliminary study whether "in the world of today cheating is a normal part of life," 93 percent answered "yes." Although this may be a rationalization, it may also be a veridical perception of contemporary norms. In informal conversation some students said they had grown up believing that cheating was an acceptable way of getting ahead.

Frequencies of cheating derived from most other studies are not directly comparable, since such studies typically deal with a single test, provide easy access to answers, and greatly reduce the perceived risk of detection. The proportion of subjects cheating in a sample of such studies using college students or college graduates ranges from 20 percent (Schachter & Latané, 1964) to 46 percent (MacKinnon, 1938), to "approximately 50 percent" (Hetherington & Feldman, 1964). In comparison, the amount of cheating reported in the present study seems somewhat higher.

Evaluation of Questionnaire Measure of Cheating

A self-report measure is potentially subject to distortion due to lying, defensiveness, and/or social desirablility. However, the high proportion of students in the preliminary and final studies who admitted cheating suggests that concealment or under-reporting was not common, and the similarity between the present results concerning test anxiety and those of other studies in which a behavioral measure of cheating was employed suggests that the obtained relationship between test anxiety and cheating frequency is not due simply to

a subject's willingness to admit negative things about himself. Nevertheless, some of the low cheating scores may have resulted from some form of biased reporting. It is also likely that questions about specific past behavior (e.g., Did you cheat in a particular course?) elicit more accurate information than questions requiring a subjective judgment (e.g., How much guilt did you feel?). On the other hand, the questionnaire method has a number of important advantages: It is comparatively easy to administer; it deals with "real life" cheating situations which have involved authentic risk of detection and strong sanctions; and it can provide information about behavior over an extended period of time. In sum, while the question of validity is not answered completely, the results are promising.

Personality Variables and Moral Behavior

Two classes of personality variables are dealt with: motives and "conscience." Failure to take account of motivational factors may explain the typically small relationships obtained between behavioral conformity to a prohibition (e.g., "One should not cheat.") and strength of belief in the rule. Clearly moral rules are not the only determinants of moral behavior; expectations of gain or punishment also play an important role. A person who believes cheating is immoral may nevertheless cheat if the expected gain is sufficiently great, while a person who does not regard cheating as wrong may, nevertheless, refrain from cheating because of fear of punishment.

Achievement motivation and cheating. The achievement motive is hypothesized to dispose a person to seek a good grade without resorting to cheating since cheating would deprive him of a sense of accomplishment. For male students the results provide modest support for both aspects of the hypothesis, that is, the higher the achievement motivation, (1) the lower the cheating (significant for only one of two measures of cheating), and (2) the greater the feeling of personal accomplishment when a good grade is obtained

without cheating. An alternative interpretation is that males with high Need for Achievement were better prepared and cheated less because they were under less pressure to cheat.

For female students the results do not support the hypothesis. This may mean the hypothesis is incorrect for women, or that for the female subjects the achievement motive was not properly measured. For example, there are problems in assessing female achievement motivation using pictures of men (Lesser, Krawitz & Packard, 1963). In addition, the contribution of achievement motivation to cheating behavior may be diminished or obscured by the effects of other relevant motives which may be relatively strong in women, such as need for approval or fear of success. For example, the only major sex difference in cheating frequency occurs between the low achievement-high anxiety groups where women cheat substantially less than men. If women in this motivational group are particularly high in fear of success, this motive could reduce attempts to get good grades and offset the expected effects of test anxiety. It will be important, in future research, to assess such additional relevant motives.

An important consideration for both sexes is that certain conditions that increase cheating, such as poor teaching, boring assignments, and trivial tests (cf. Steininger, Johnson & Kirts, 1964) are the very circumstances in which the achievement motive would not be aroused. In such situations, which essentially preclude pride in accomplishment, a person with strong achievement motivation would have less reason to refrain from cheating. The implication for future research is that the strongest relationship between achievement motivation and cheating should be obtained in those academic situations that most effectively arouse achievement motivation.

A major unresolved question concerns whether achievement motivation causes a person to seek overt evidence of success (cf. Mischel & Gilligan, 1964) or a covert sense of pride in accomplishment. Does the person with strong

motivation to achieve need only favorable self-evaluation, or also favorable social evaluation? Could another motive, namely need for approval, account for the results of the Mischel and Gilligan study? What does the person who strives for inner satisfaction do when the situation is rigged to prevent a high score unless cheating is resorted to? Further research is needed in which both kinds of motivation are measured and both kinds of situations are presented (i.e., accomplishment possible without cheating or only with cheating).

Anxiety and cheating. The results for both sexes support the hypothesis that motivation to avoid failure will be positively related to frequency of cheating behavior and to degree of risk hazarded. Although the present interpretation views test anxiety as initiating active attempts to avoid failure through cheating, there are other possible interpretations of the results. For example, Atkinson (1964, p. 244) emphasizes the inhibitory effect of motivation to avoid failure. That is, he thinks of it as a tendency not to undertake actions that are expected to lead to failure. From that point of view, resistance to undertaking an achievement activity would account for not studying, which in turn would mean inadequate preparation and increased external pressure to cheat. Alternatively, Mandler and Sarason (1952) emphasize the debilitating effects of the stressful test situation. The student with high test anxiety may panic or be unable to concentrate and may resort to cheating because more constructive responses are not available to him. In actuality, a combination of factors may operate: Anxiety about failure may make preparation repugnant and impair performance under stress, so the student may cheat, be reinforced with a passing grade, and employ the same response in subsequent exams as a means of coping with test anxiety.[6]

Conscience and cheating. The negative relationships obtained between cheating frequency and self-report items assessing different aspects of conscience are consistent with those of most other studies (e.g., MacKinnon, 1937; Kohlberg, 1964). However, not all investigators have obtained relation-

ships between guilt and moral infractions, possibly because of differences in the seriousness of the infraction, the method of assessing guilt, the age of the subjects, or the fact that self-recrimination may be learned as a more or less independent response following transgression without preventive implications for future behavior (Aronfreed, 1968).

Violation of a prohibition has been viewed as the outcome of a decision process involving personality and situational components. The situation presents pressures and possibilities for action which engage a person's motives, expectancies and moral standards. Action follows the weighing of positive and negative outcomes associated with alternative responses. In this instance, morally-relevant choices are explained in terms of the theory of achievement motivation. The college student most likely to cheat is male, has weak achievement motivation and strong test anxiety, has few moral scruples about cheating, is unprepared for exams, perceives other students as competitive, and...plans to go to graduate school.

Footnotes

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2. Now at the University of Michigan.
3. The authors are indebted to Dr. Joel O. Raynor for providing a check on interscorer agreement.
4. Since no identification was obtained, there was no way to obtain a student's grade-point-average from the college records. However, Nichols and Holland (1963) report a correlation of .96 between the average grade reported by the student and the average grade as calculated from the transcript.
5. Calculation of t and df based on formula for unequal variances (see Edwards, 1954, p. 273ff.).
6. It is important to specify the kind of fear or anxiety being discussed. For example, fear of external punishment is negatively related to cheating (Kohlberg, 1964; Rettig and Rawson, 1963; Schachter & Latané, 1964) as is "moral anxiety" or fear of self-condemnation, according to both Kohlberg and the psychoanalytic point of view, whereas, anxiety about failure is positively related to cheating.

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Table 1

Intercorrelations among Variables

Variable	Females[1] M	Females[1] SD	Males[1]	n Ach	Test Anxiety	Moral Code	Guilt	Self-Esteem	Freq. of Cheating	Risk of Detectn
			M =	12.68	33.32	5.38	3.88	4.91	25.50	12.50
			SD =	5.57	9.90	2.57	2.56	2.81	26.51	8.57
n Ach	14.10	4.76			.16	-.09	.25	.09	-.09	.01
Test Anxiety	34.78	8.63		.13		-.24	-.02	-.05	.34*	.31*
Moral Code	5.99	2.52		.15	-.06		.41**	.32*	-.46**	-.35*
Guilt	5.03	2.72		.17	.20	.19		.65**	-.40**	-.13
Self-Esteem	5.49	2.83		.13	-.08	.46**	.56**		-.44**	-.13
Freq. of Cheating	17.62	17.00		.14	.38**	-.23	-.12	-.32**		.45**
Risk of Detectn	15.77	9.15		.14	.32**	-.21	.10	-.08	.15	

*p <.05 (two-tailed test)
**p <.01 (two-tailed test)

[1] Males above the diagonal; N = 44 except N = 42 for variable 4.

Females below the diagonal; N = 68 except N = 67 for variable 4 and N = 64 for variable 7.

Table 2

Joint Relationship of Need for Achievement and Test Anxiety to Cheating Frequency, Risk of Detection and Preparation for Exams

			Motive Group			
			High Ach-Low Anx	Low Ach-Low Anx	High Ach-High Anx	Low Ach-High Anx
Cheating Frequency[a]	Males	N	10	10	12	12
		Mean	14.4	20.0	26.5	38.3
		SD	13.82	18.20	29.65	30.16
	Females	N	15	19	21	13
		Mean	12.6	16.5	22.9	16.5
		SD	14.00	13.50	20.60	15.27
Risk of Detection[b]	Males	N	10	10	12	12
		Mean	8.6	12.0	13.9	14.8
		SD	5.02	9.34	7.53	9.64
	Females	N[c]	14	17	20	13
		Mean	14.8	11.8	19.3	16.6
		SD	7.72	7.80	9.40	9.16
Preparation for Exams[d]	Males	N	10	10	12	12
		Mean	8.1	7.1	7.3	6.3
		SD	0.83	1.86	1.30	2.13
	Females	N	15	19	21	13
		Mean	6.9	6.6	6.2	6.2
		SD	1.73	2.16	2.58	1.99

[a] Percentage of courses cheated in.

[b] Scale values ranged from slight risk (1) to great risk (9).

[c] Four females with cheating frequency scores of zero omitted this questionnaire item.

[d] Subjects indicated how influential in preventing them from cheating the following item was: "I usually know the material well enough to make cheating unnecessary." Scale values ranged from "not at all influential" (1) to "very influential" (9).

Table 3

External Pressures to Cheat and Their Correlation with the Index of Cheating Frequency

Item[1]	Males (N = 40)			Females (N = 66)		
	Mean	SD	r	Mean	SD	r
Graduate school requirements	5.53	3.14	.38*	3.91	2.94	.11
The competition among students for grades	5.48	2.50	.49**	5.38	2.61	.35**
The large work load	5.28	2.66	.26	5.73	2.71	.38**
Insufficient time to study	5.23	2.42	.34*	5.71	2.60	.30*
The draft	3.28	2.98	.17	----	----	----
My parents	3.23	2.55	.33*	3.47	2.74	.17
The influence of my friends	3.03	2.42	.22	3.27	2.46	.38**
Desire for regard of instructor	2.78	2.12	.34*	3.82	2.58	.23

[1] Each item was rated on a nine-point scale of "degree of pressure to cheat ranging from weak (1) to moderate (5) to strong (9).

*$p < .05$ (two-tailed)

**$p < .01$ (two-tailed)