



Cheating behaviors of college students
by Kathryn Louise Holleque

A thesis submitted in partial fulfillment of the requirements for the degree of Doctor of Education
Montana State University

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Abstract:

The purpose of this study was to determine the proportion of college students who cheated when allowed to correct their own examinations, to determine factors associated with cheating behavior among freshman college students, and to determine the proportion of college students who would admit to cheating.

Data from the sample of 158 students enrolled in three general psychology courses at a small, Midwestern, public college, during fall quarter, 1981, were obtained from a questionnaire developed by the researcher, from observed cheating behavior, from a modification of Warner's randomized response technique, and from a direct question method regarding cheating.

Cheating was defined as changing one or more answers when correcting own examination and/or not marking two or more incorrect responses. Forty-three percent of the students cheated. Although no significant difference existed between the proportions of males and females who cheated, 50 percent of the males cheated compared to 38.3 percent of the females. Students at the lower end of the grade scale tended to cheat more than those at the upper end of the grade scale. Students were more likely to cheat as a result of perceived importance of grades to parents than importance of grades to themselves. Among the selected variables investigated, anticipated college success was found to be significantly related to cheating at the .05 level, using a Chi Square Test of Independence. Those students who anticipated being "very successful" cheated more than was expected based on a true null hypothesis. Other variables from the questionnaire were not found to be related significantly to cheating, except for students' specific plans for training/education after college. The randomized response procedure was not found to have utility in group settings. Recommendations for action and further study included 1) further study regarding the usefulness of the Warner technique is warranted, particularly where the actual incidence of a sensitive behavior can be determined and compared to the estimated proportions for the sake of validation, and 2) further studies should be conducted to clarify the relationship between cheating and anticipated success.

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CHEATING BEHAVIORS OF COLLEGE STUDENTS

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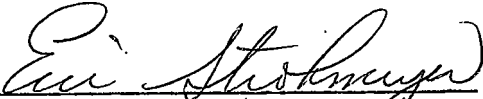
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ABSTRACT

The purpose of this study was to determine the proportion of college students who cheated when allowed to correct their own examinations, to determine factors associated with cheating behavior among freshman college students, and to determine the proportion of college students who would admit to cheating.

Data from the sample of 158 students enrolled in three general psychology courses at a small, Midwestern, public college, during fall quarter, 1981, were obtained from a questionnaire developed by the researcher, from observed cheating behavior, from a modification of Warner's randomized response technique, and from a direct question method regarding cheating.

Cheating was defined as changing one or more answers when correcting own examination and/or not marking two or more incorrect responses. Forty-three percent of the students cheated. Although no significant difference existed between the proportions of males and females who cheated, 50 percent of the males cheated compared to 38.3 percent of the females. Students at the lower end of the grade scale tended to cheat more than those at the upper end of the grade scale. Students were more likely to cheat as a result of perceived importance of grades to parents than importance of grades to themselves. Among the selected variables investigated, anticipated college success was found to be significantly related to cheating at the .05 level, using a Chi Square Test of Independence. Those students who anticipated being "very successful" cheated more than was expected based on a true null hypothesis. Other variables from the questionnaire were not found to be related significantly to cheating, except for students' specific plans for training/education after college. The randomized response procedure was not found to have utility in group settings. Recommendations for action and further study included 1) further study regarding the usefulness of the Warner technique is warranted, particularly where the actual incidence of a sensitive behavior can be determined and compared to the estimated proportions for the sake of validation, and 2) further studies should be conducted to clarify the relationship between cheating and anticipated success.

Chapter 1

Introduction

Academic integrity in students has been recognized as a fundamental objective of higher education. Traditionally, it has been a highly regarded ideal in colleges and universities, one which symbolized the essence of learning. Honest endeavor on the part of students was the expected norm, even though infractions did occur. Although academic integrity is still an objective in theory, it loses ground to academic dishonesty in actual practice. Higher education is not synonymous with academic integrity. The problem of academic dishonesty is a disturbing trend that is difficult to accept, much less to understand and explain.

Academic dishonesty among college students is a perplexing phenomenon. Its occurrence has been documented and publicized. Although college and university administrators admit that academic dishonesty is a problem on campus, they often lack effective policies and procedures to deal with it. In addition, ambivalent perceptions regarding academic dishonesty advance this paradoxical situation.

Commonly called "cheating," academic dishonesty takes many forms. Among them are copying from another's test, stealing examinations, using crib notes, turning in inauthentic term papers, plagiarizing, sabotaging laboratory experiments, dry-labbing, padding bibliographies, theft and stashing of library materials, stealing lecture notes, and falsifying transcripts and letters of recommendation. Whenever and

however it occurs, academic dishonesty is a problem, not only for faculty and institutions of higher education, but also for students. This study examined one aspect of academic dishonesty, that of cheating on examinations.

Statement of the Problem

Cheating on examinations occurs at the college level. This research investigates the problem among freshmen at a small, Midwestern, public college, during fall quarter, 1981. The problem of this study was three-fold:

1. to determine the proportion of college students who cheat when allowed to correct their own examinations.
2. to determine factors associated with cheating behavior.
3. to determine the proportion of college students who admit to cheating in correcting their own examinations.

Contribution to Educational Theory

Since cheating is a serious disciplinary problem on college campuses and shows little sign of diminishing in the near future, it was appropriate and essential that more research be completed in this area. Only a more transparent perception of the problem will enable institutions of higher education to deal with it effectively. Some students do cheat. The reasons they do are somewhat obscure. Although "fear of failure" and "too lazy to study" are plausible explanations,

other factors may be involved. Research can help determine these.

In order to address the problem of cheating, an understanding of it is essential. Bowers identified two important considerations:

1) we must determine the extent of the problem; and 2) we must identify the pressure and sources which contribute to the problem (1964: 5).

These factors have not been adequately researched. They must be investigated, however, if academic integrity is to have any chance of becoming operational, rather than remaining just a theoretical concept. This study offered these insights into the problem of cheating.

General Questions to be Answered

1. Is a student's gender related to cheating?
2. Are plans for further training or education after college related to cheating?
3. Are students' perceptions of home environment related to cheating?
4. Are students' perceptions of disciplinary measures taken by parents related to cheating?
5. Is birth order related to cheating?
6. Are study habits related to cheating?
7. Are students' perceptions of parental values regarding school related to cheating?
8. Are students' values regarding school related to cheating?
9. Is perceived difficulty of school work related to cheating?

10. Are students' perceptions of parental attitudes toward grades related to cheating?
11. Are students' attitudes toward grades related to cheating?
12. Is religious background related to cheating?
13. Is frequency of church attendance related to cheating?
14. Are reasons for being in college related to cheating?
15. Is perceived importance of high grades to occupational plans related to cheating?
16. Is anticipated success in a given class related to cheating?
17. Is anticipated success in college related to cheating?
18. Is past test performance in general psychology related to cheating?
19. What proportion of students cheat when allowed to correct their own examinations?
20. What proportion of students admit to cheating?
21. Does the Warner technique have utility in group settings?

General Procedure

This study was conducted during fall quarter, 1981, at a Mid-western, public, four-year college with an enrollment of approximately one thousand students. Students in three 100-level, general psychology courses were selected to participate in the study.

At the beginning of the quarter, an informational questionnaire

was administered to students of the designated classes. The individual surveys were coded so that the investigator would know the identity of each respondent. Information regarding the student's gender, rank, ACT composite score, name, and first test grade was subsequently added to the questionnaire. The data on the questionnaires were later analyzed with respect to actual cheating behavior by students to determine factors associated with cheating.

One way to approach the extent to which college students cheat on examinations is to allow them to correct their own tests. The test chosen for self-grading in each class was the second of three major exams administered during the quarter. Without the students' knowledge, the answer sheets were photocopied prior to students grading their tests. Students "cheated" when they changed one or more answers and/or failed to mark two or more incorrect responses. The researcher also corrected the exams and then made subsequent comparisons of the original responses to the student-graded answers to determine which students engaged in cheating and which did not. Prior to the comparisons, the questionnaire had been recoded by two other faculty. These faculty also coded the actual test answer sheets and the photocopies of these answer sheets to correspond to the questionnaire, and removed students' names, so that the researcher was not able to identify specifically the students who cheated. The grades students received on the examination were those they calculated when they corrected their tests.

In order to collect data on students' admitted cheating practices, a modification of the Warner proposal, using two unrelated questions, was employed in each of the classes (see Williams, 1978: 73). The question which realized the researcher's intent was: "Did you cheat in correcting your own exam in this class?" The other question was neither controversial nor threatening: "Is the coin you just tossed a head?" In one of the classes, students were also asked directly if they cheated in grading their own exams. The results of these procedures were compared to the actual incidence of cheating to determine whether or not the Warner technique has utility in group settings.

Limitations and Delimitations of the Study

1. The study was conducted at a small, Midwestern, public, four-year college, during fall quarter, 1981.
2. No random sample of students, instructors, or courses was drawn for the study.
3. The study was limited to three 100-level, general psychology courses.
4. The study was limited to students enrolled in the above-mentioned courses.
5. The study did not deal with all forms of academic dishonesty.

Definition of Terms

Academic integrity. Academic integrity is a fundamental value of students which constitutes all forms of scholastic honesty at institutions of higher education.

Academic dishonesty. Academic dishonesty is that form of student behavior which contradicts the fundamental value of academic integrity.

Cheating. Cheating, as defined in this study, is one form of academic dishonesty that refers to deceptive student practices in grading their own examinations in classes. These practices include changing one or more answers and/or not marking two or more incorrect responses. Cheating will be associated with college students, unless otherwise indicated.

Admitted practices. Admitted practices are those cheating behaviors that were acknowledged by students.

Summary

Although academic integrity has been recognized as a fundamental objective of colleges and universities, it is not synonymous with higher education. Academic integrity is a sound philosophical ideal; in actual practice among college students, however, it gives way to academic dishonesty. Academic dishonesty is a problem for students, faculty, administrators, and perhaps society itself. Its presence on campus is difficult to comprehend and explain.

Academic dishonesty is a perplexing phenomenon which can take many forms. Although its occurrence has been documented and publicized as a campus problem by administrators, academic dishonesty is not dealt with appropriately, and, often, policies and procedures regarding this phenomenon are lacking or ineffective. Further compounding the matter are the ambivalent perceptions held toward academic dishonesty by administrators, faculty, and students. Clearly, it is appropriate and essential that research be completed to shed light on this growing concern, for only a more transparent perspective of the problem will enable institutions of higher education to deal with academic dishonesty effectively.

Cheating on examinations is one aspect of academic dishonesty. Before the problem can be remedied, the extent of the problem, as well as the pressures and sources which contribute to it, must be determined (Bowers, 1964: 5). The purpose of this study was to consider and clarify these factors. Academic integrity must grow toward operationalism, rather than remain only a theoretical principle at institutions of higher education.

Chapter 2

REVIEW OF LITERATURE AND RELATED RESEARCH

Introduction

In order to understand more fully the problem of academic dishonesty, a review of literature and related research was essential and helpful. Although the review revealed varied perceptions concerning academic dishonesty, one matter seemed certain: academic dishonesty showed no signs of disappearing. It has been a problem on college campuses throughout the century and remains a major concern, a concern that represents a serious disciplinary problem.

For the purpose of presenting a clearer perspective of academic dishonesty, several areas needed exploration. The following major topics are developed in this chapter:

1. Historical background
2. Prevalence of academic dishonesty
3. Variables associated with academic dishonesty
4. Student attitudes toward academic dishonesty
5. Institutional policies and procedures
6. The randomized response technique

Historical Background

From the perspective of the present, Lansing Lamont (1979: 72) offered several reasons why academic dishonesty did not seem to be a major problem during colonial times and throughout most of the first

half of the twentieth century. Maintaining that academic integrity was synonymous with higher education during this time, Lamont stated that colleges and universities were cohesive, the faculty-student ratio was relatively small, faculty served as mentors to their students, honor codes were prevalent, the opportunity for cheating was not so great, and the threat of being expelled was a powerful deterrent. Lending credence to Lamont's rationale were Sidney Forman's remarks (1965: 490) regarding the historical record of the West Point honor code. Prior to World War I, "the honor code was encompassed in the educational purpose of the institution and was buttressed by a pervasive curricular and extracurricular program" (1965: 490). According to Forman, the traditional nineteenth-century supports for the honor code included voluntary compliance on the part of the students and the example and teaching of ethical standards on the part of the officers. Forman believed that these supports for the honor code had eroded and that "increases in the size and heterogeneity of the student body" coupled with administrative coercion had contributed to the undermining of the honor code's success.

Perhaps academic dishonesty was kept at a minimum during colonial times and throughout the nineteenth century when student populations were smaller and more homogeneous and where honor codes were encompassed in the overall missions of institutions. Evidence indicates, however, that academic dishonesty has been a continuing

problem at colleges and universities for quite some time. In 1932, Hawkins asserted that objective evidence could not support the inference that students of that time were more dishonest than past generations (1932: 786). Clearly, academic dishonesty was not a new problem on campus. Hawkins further stated that the reported estimates for extremely prevalent cheating behavior probably understated the cheating actually taking place. Estimates ranging from approximately nine percent to seventy-eight percent were reported, derived from percentages of students who changed their answers in scoring objective tests. Further evidence of academic dishonesty was Henry Ford II's separation from Yale during his senior year, 1939-1940, for turning in a ghost-written paper (Lamont, 1979: 72). The registrar's office personnel at Yale stated that Ford never received his degree. In the early 1950's, Harvard expelled, but later reinstated, future Senator Edward Kennedy because he had a friend take a Spanish examination for him during his freshman year (Lamont, 1979: 72).

A disillusioning report, "Cheats on the Campuses," was printed by Newsweek (1949: 74). It recounted the experiences of Dr. Charles E. McAllister, former president of the Governing Boards of State Universities and Allied Institutions, during his tour of eighty-nine colleges and universities across the country, visiting with presidents, faculty, and board members. At almost all the institutions he visited,

McAllister found a "marked increase" in academic dishonesty. He believed that stealing, lying, and cheating were greater problems on campus than Communism and attributed the increase in cheating "to the mishandling of so-called progressive education, disrupted family life, and the inordinate attention paid to grades of those who wish to go on to graduate school" (Newsweek: 74).

In the last half of this century, the problem of academic dishonesty took on more complicated dimensions. During the 1950's, fraternity houses had term papers on file for widespread student use (Connell, 1981: 24). Student unrest during the 1960's helped set a different moral tone on campus: "The do-your-own thing syndrome that caused cheating to be more readily tolerated by the succeeding generation" (Lamont, 1979: 73). Investigations during the early 1970's revealed that professional term paper writers had found a widespread student market for their services from Cambridge to Berkeley. Ghost writing firms sold countless numbers of term papers at approximately three dollars a page (Trachtenberg, 1972: 45). Partially as a result of courtroom litigation, fewer advertisements for these kinds of services appeared in the early 1980's (Connell, 1981: 19). However, conditions remained ripe for this type of academic dishonesty, particularly on larger campuses where risk of detection was not so great (Connell, 1981: 24).

Cheating was widely publicized after the cheating scandal at

West Point in 1951. Despite a growing awareness of the prevalence of cheating, however, most administrators did not treat it as serious a problem as they had in the past. Rather, they regarded using drugs or destroying college property as more troublesome concerns (Lamont, 1979: 73). Further clouding the moral climate on campus were the political and corporate Watergates of the 1970's (Lamont, 1979: 73). Academic integrity seemed less important than it had in earlier years. Some students increasingly utilized cheating to retain a competitive edge over their classmates, and cheating had become a desperation tactic for others in order to survive at all (Levine, 1980: 66). In addition, Levine reported, the rivalry to be admitted to professional schools increased, and with that rivalry came a greater incentive to cheat. Levine maintained that the situation in the early 1980's was not so bad as it was during the Roaring Twenties when rates of seventy percent were found. Nevertheless, he said, it was not a tolerable state of affairs (Connell, 1981: 28).

Throughout the twentieth century, then, academic dishonesty has been a problem, and it grew in terms of sophistication, particularly with regard to the professional writing firms. Gary Pavela, director of judicial programs at the University of Maryland at College Park, was quoted as saying that cheating has always existed but the nature of it has changed. "More serious cases involving organized activity" characterize the present situation (Connell, 1981: 20). Pavela

maintained that the nature of cheating was of greater concern than the simple fact that cheating existed (Connell, 1981: 20).

Prevalence of Academic Dishonesty

The literature revealed varied reported incidences of academic dishonesty. Parr (1936: 318), for example, wrote that students willingly admitted that cheating occurred in most college classes but that how much students cheated was a debatable point. Parr conducted a study to determine the frequency of cheating and found that forty-two percent of his sample of four hundred and nine students cheated. Since little or no incentive for this behavior was offered in the investigation, he believed that the forty-two percent should be regarded as a conservative estimate of those who would cheat when a pay-off existed (1936: 320). Williams (1969: 184) conducted a study among thirty-seven sophomores and juniors at a religiously-oriented college to determine if students would cheat given the opportunity to correct their own tests. The results were not significant; only six students exhibiting cheating behavior on one of three examinations. The investigation by Hetherington and Feldman (1964: 214) demonstrated that fifty-nine percent of the students enrolled in two child psychology courses at a state university exhibited some form of cheating behavior on academic examinations. Further, the problem was not limited to undergraduates. Zastrow (1970: 157-8) found that, of forty-five first-year social work graduate students enrolled in a

required course at a large Midwest university, at least forty percent cheated when allowed to correct their own examinations.

Academic dishonesty on term papers was also found to be a prevalent problem. Harp and Taietz (1966: 366) conducted a study among a stratified random sample of male students in the three largest colleges of an Ivy League university to determine the incidence of this behavior. These researchers noted a statistically significant difference in the incidence between the freshman and senior years. For the College of Agriculture, an increase from eighteen and four-tenths percent to fifty-five and seven-tenths percent was found; for the College of Arts and Sciences, an increase from twelve and three-tenths percent to twenty-nine and nine-tenths percent; and for the College of Engineering, an increase from twenty-six and one-tenth percent to fifty-nine and seven-tenths percent. The incidence in all three of these colleges was highest in the junior and senior years (Harp, Taietz, 1966: 367).

The incidence of academic dishonesty varies from campus to campus. William Bowers published a major study, Student Dishonesty and Its Control in College, in 1964. He collected data by means of a questionnaire sent to a nationwide representative sample of deans of students, student body presidents, and students from ninety-nine institutions of higher learning. Deans of students in the study reported that academic dishonesty was considered a serious problem at

institutions of higher education, ranked second to drinking, partying, and disorderly conduct (Bowers, 1964: 15). During the 1950's, Cornell personnel conducted a survey of eleven colleges and reported that forty percent of the students had cheated at least once (Lamont, 1979: 73). In 1974, a survey at Amherst indicated that forty-three percent of the students had cheated on an examination or paper (Peterson, 1974: 1). In a survey of twenty university student body presidents, over seventy-five percent of them believed cheating to be declining. However, forty percent of those interviewed admitted to having cheated on at least one examination in college (Budig, 1979: 754). Bowers reported that at least fifty percent of the 5,000 students he polled admitted to academic dishonesty while they were college students. Bowers concluded that students' dishonesty was grossly underestimated by educators (1964: 193).

Those institutions with honor codes also experienced the cheating problem. In a 1941 study among one hundred and twenty-six sophomores and juniors at a women's college where the honor system had been in effect for ten years, thirty students cheated when allowed to correct their own exams (Drake, 1941: 419). After adopting an honor code, another institution found that thirty percent of the students still engaged in cheating (Canning, 1956: 292). In 1914 and again in 1927, a cheating scandal occurred at the Naval Academy in Annapolis (Forman, 1965: 490). Cadets at the United States Military Academy,

West Point, were sworn to abide by the honor system, yet ninety cadets were expelled from West Point in 1951, charged with cribbing on examinations (Newsweek, August 13, 1951: 78). One hundred and five cadets were separated from the Air Force Academy at Colorado Springs, charged with cheating (Forman, 1965: 485). In a 1976 survey, fifty percent of the students at Stanford admitted to having seen another student cheat on a test or examination. In a 1980 survey, also at Stanford, thirty-nine percent reported having copied from another student during an examination, and twenty-seven percent admitted to having used crib notes for a test (Cole, 1981: 11). Though the Stanford administration credited the honor code for a stabilizing effect on academic standards, cheating nonetheless remained a problem on campus ("Survey Finds Honesty Level About Same as 20 Years Ago," 1981: 1).

Academic dishonesty does not manifest itself first at the college level. Although cheating exists at the college level, it appears to be even more prevalent at the high school level. Ellenburg reported that many high school teachers believed that some students cheated on tests to obtain a higher grade. A study completed among forty-seven ninth grade students revealed that eighty and nine-tenths percent of the students cheated when allowed to correct their own examinations (Ellenburg, 1973: 428). This was a greater proportion than any reported at the college level. The primary question examined in Ellenburg's study was, "Who is more likely to cheat? Students with

GPA's below eighty-five or students with GPA's of eighty-five and above?" (1973: 427). The data indicated that cheating took place in both groups: forty-four and seven-tenths percent of those with GPA's below eighty-five cheated and fifty-five and three-tenths percent of those with GPA's of eighty-five and above cheated (Ellenburg, 1973: 429).

Fred Schab conducted surveys of more than 1,000 high school students from twenty-two schools in Georgia to learn about their cheating behavior. Males appeared to cheat more often than females (1980b: 959). "Too lazy to study" was the primary reason offered by both males and females in the study, with "fear of failure" identified as the second choice. In 1969, the same survey revealed "fear of failure" as the number one choice among the males. Respondents also indicated that more cheating occurred under female teachers than male teachers (1980b: 965).

In another article, Schab indicated differences between college bound and non-college bound students in regard to cheating practices. Over a ten-year period, students going to college reported an increase in cheating from sixteen and eight-tenths percent to twenty-seven and six-tenths percent and those not intending to go to college an increase of nineteen and one-tenth percent to thirty-two and eight-tenths percent. In 1979, of those students intending to go to college, seventy-eight and seven-tenths percent admitted to plagiarizing. In

addition, fifty-six percent of them admitted to cheating on tests. Of the college bound students in Schab's survey, sixty-two and four-tenths percent agreed that it was necessary to be dishonest occasionally (1980a: 379).

William Bowers' study yielded similar findings. He reported that fifty-three percent of academically oriented high school students had cheated on examinations, as compared to thirty-three percent of college students. Bowers concluded that the situation appeared to be worse at the high school level than at the college level (1964: 125).

Variables Associated With Academic Dishonesty

Vitro and Schoer (1972) wrote that evidence tends to be inconsistent and fragmentary regarding the relationship between cheating and other variables. "In view of the seemingly complex nature of the phenomenon of cheating, it would be unreasonable to assume that a single variable would be solely responsible for determining whether or not a child cheats" (1972: 269). Even though it was written in reference to fifth and sixth graders, the truth inherent in that statement will be demonstrated with regard to college students.

John Houston (1976d: 374) conducted a study among thirty-two University of California, Los Angeles, undergraduates in a required course, to determine the relationships between previous success-failure experiences and cheating. The primary result of this study using .01 as a level of rejection, was that "significant cheating

followed initial success but not initial failure." Houston concluded that the "subjects in the success condition may have been motivated to cheat because failure following initial success may be perceived as more repugnant . . . than failure following initial failure" (1976d: 374). Further, he suggested that "the subjects in the failure condition may have perceived final failure as likely" and perhaps saw cheating as relatively useless in that situation (1976d: 374).

Jacobson, Berger, and Millhan (1970: 50) conducted a study investigating similar variables at the University of Miami in an introductory psychology course. One hundred and twenty-one males and one hundred and fifty-five females comprised the sample. An analysis of variance ($p < .04$) indicated that when confronted with failure, "subjects of high self-satisfaction were found to cheat but subjects of low self-satisfaction did not cheat." Further, "subjects with a low expectancy of success did not cheat but subjects with a high expectancy of success cheated" (1970: 54). Jacobson, Berger, and Millhan (1970: 54) maintained that these findings support the notion that individuals strive to:

. . . bring congruence between their self-presentation and their failure in the experimental situation. Individuals who evaluate their lives as successful may be expected to react more strongly to the disconfirming information of failure than those who evaluate themselves as less successful. Thus, the person with high self-satisfaction may be expected to cheat in order to maintain for himself and others his image as a successful person. The present conceptualization suggests that individuals of high self-satisfaction may be

expected to cheat when the image they present to themselves and others is threatened and when cheating provides an effective way of reducing such a threat.

Pressure for grades has been found to be related to cheating behavior. Contributing to this pressure is the implication that grades define students as either successes or failures (Shirk, Hoffman, 1961: 131). Zastrow (1970: 159) wrote that pressure to get good grades was by far the most frequently mentioned reason for cheating among graduate students at a large Midwest university. As a result of a survey of Iowa State University faculty and students on academic dishonesty, Barnett and Dalton (1981: 549) reported that "competition and pressure for good grades is unquestionably the single most important cause of academic dishonesty." Houston (1976c: 301) reported that significant copying occurred among three hundred and twenty-three introductory psychology students when they took an exam which counted toward their grade. In a second experiment where test performance did not contribute to course grade, no significant copying occurred. Houston concluded that the grading system may be an important cause of the copying effect (1976c: 310).

According to Zastrow, students place great value on receiving good grades. Grades seem to have psychological meaning to students, and students view good grades as a requirement for eventual job opportunities in addition to academic advancement. "Such reasons as 'fear of self-devaluation in competition' and 'lack of confidence in

own abilities' suggest that students judge, to some extent, their abilities (i.e., their worth) by the grades received in competition with other students" (1970: 159).

The relationship between cheating and intelligence was studied and varied reports were noted in the literature. Some research claimed no relationship between cheating and intelligence. Howells (1938: 99) discounted the relationship between honesty and intelligence, although he found when high school students graded their own history tests, those who actually scored well demonstrated less need for cheating. Johnson and Gormly (1972) determined that cheating was a way of avoiding failure but found no relationship between cheating and intelligence when the risk of detection was low. They wrote that "high intelligence may function as an adaptive mechanism for evading obvious detection devices, but it is not associated with reduced motivation to cheat" (1972: 324).

Most of the literature indicated that poor students tend to cheat more than good students. True-false tests were given to one hundred and twenty-six women whose distribution of mental ability was normal (Drake, 1941: 418). None of the students from the highest quarter of a freshman intelligence test cheated when allowed to correct her own exam; nine from the second quarter cheated; six from the third quarter cheated; and fifteen from the last quarter cheated. Drake concluded that "cheating tends to be more prevalent among the

less intelligent students, as one would expect" (1941: 419). Further indication that poor students tend to cheat the most were the percentages of students who cheated in relation to the true grades: no A students cheated, four percent of the B students cheated, twenty-three percent of the C students, seventy-five percent of the D students, and sixty-seven percent of the F students cheated (Drake, 1941: 419).

Further evidence suggests that cheating occurs more among academically weak students than among good students. In a study by Hetherington and Feldman (1964: 213), thirty-nine females and thirty-nine males, enrolled in two child psychology courses at a state university, served as subjects. One of the important findings was that students "with lower intelligence and lower grades" tended to cheat more on exams than those with higher intelligence and grades (1964: 215). Parr's study revealed that students with lower scholastic ratings tended to cheat more on tests: eighteen percent of the A students cheated when given the opportunity to correct their own vocabulary test of proficiency, thirty-five percent of the B students cheated, forty-four percent of the C students cheated, and fifty-eight percent of the D students cheated. No reliable data were found for the F students, since most of them had dropped the course (1936: 324). As a result of a survey taken, Faia (1976: 114) reported that cheating was most likely to occur among those upper division students who are academically weak. Finally, research by Bronzaft, Stuart, and Blum

(1973) demonstrated that students with low grades were more likely to cheat. "When class standing and cheating were compared, the resulting X^2 of 11.87 ($p < .01$) indicated good students cheated the least and poor students the most" when they were allowed to grade their own tests (1973: 149).

Although documentation is inconsistent, researchers have found a relationship between cheating and gender. The research completed by Jacobson, Berger, and Millhan (1970) indicated that women tended to cheat more when confronted with failure. "Sex was found to be significantly related to both expectancy of success ($p < .001$) and level of aspiration ($p < .03$)" (1970: 53). Faia determined through students' self reports on a survey that cheating was more likely to occur among male students (1976: 114). Based on actual incidence, Parr found that forty-five percent of the males in his sample cheated, compared to thirty-eight percent of the females. Most of these students were freshmen (1936: 320). Using Chi square analysis and a .02 level of significance, Hetherington and Feldman found a higher incidence of males among those students who cheated (1964: 214). Canning determined that females cheated more than males, fifty-six percent compared to forty-four percent (1956: 292).

Roskin and Dizney (1966) conducted surveys among recent college graduates and recent pre-college students and found significant differences between males and females (1966: 231-2). Among the college

graduates, significantly related to sex were the kinds of academic dishonesty in which students reportedly engaged. The hypothesis of no relationship between indicated variables was found to be significant at the .01 level using Chi square analysis of the data. Males reported less than "expected" cribbing. Responses of the females indicated the opposite findings. "Further analyses suggested that, in general, females express greater concern about cheating than males" (1966: 232). Among the pre-college students, "Chi square analyses indicated that males differ significantly from females in amount of self-reported cheating, and in the extent to which they were concerned about cheating." The data showed less expressed concern regarding cheating among the males and "revealed a higher proportion of cheating among males than females" (1966: 232).

Bronzaft, Stuart, and Blum (1973) conducted a study to determine the relationship between college cheating and test anxiety (1973: 149). Among a sample of one hundred and seventeen students who had taken the Alpert-Haber Achievement Anxiety Test (AAT) and then corrected their own examinations, no relationship between test anxiety and cheating was found (1973: 149). AAT+ referred to facilitating test anxiety and AAT- referred to debilitating test anxiety. The mean AAT+ score for noncheaters was 23.37 (SD=5.17) and for cheaters 22.42 (SD=4.53). "The difference between these means ($t=.92$) was not significant." The mean AAT- score for noncheaters was 28.92 (SD=5.74) and for cheaters 30.33

(SD=4.63). "The difference between these means ($t=1.42$) was not significant." In test anxiety, noncheaters and cheaters did not differ (1973: 149). The researchers noted that their findings differed from previous research that correlated test anxiety with cheating but concluded that the discrepancy may have been due to the measures of cheating utilized. The research by Bronzaft, Stuart, and Blum related actual cheating behavior to test anxiety, while previous research had related test anxiety to students' self reports of how often they had cheated on tests (1973: 150).

Certain classroom variables were correlated with cheating. Houston found that copying tended to occur among individuals seated next to one another (1976c: 301). In another experiment, Houston concluded that spacing students when they take exams reduced copying. "A repeated measure analysis of variance indicated that the difference scores were greater in the crowded than in the spaced condition, $F(1,48) = 13.30, p < .01$ (1976a: 732). Houston also reported that a significant decrease in copying occurred when a single exam form was used under spacing conditions (alternate columns), but that overall copying was not reduced in the spaced conditions when two different test forms were used. In fact, the latter situation was associated with significant front copying which led Houston to conclude "that the use of two forms might possibly lead to an overall increase in copying" (1976a: 734).

Researchers reported relationships between cheating and general student characteristics. Parr's study demonstrated that fifty-nine percent of those students who cheated took part in the political affairs on campus. They showed the highest percentage of cheating, with athletes ranking second. Fifty-three percent of those students who were self-supporting cheated compared to thirty-four percent of those who were non-self-supporting. Parr also noted that those students who reported to be of Scandinavian descent cheated less than those of any other nationality classification (1936: 321, 324). A higher incidence of cheating on term papers was found to exist among fraternity members than non-fraternity members (Harp, Taietz, 1966: 368). Among students given to study, thirty-one percent cheated compared to forty-one percent of those who did not see themselves given to study ($p < .01$ using Chi square analysis) (Harp, Taietz, 1966: 370). "Poor study conditions and concomitant reductions in learning may constitute important determinants of cheating behavior" (Houston, 1976b: 249).

Hetherington and Feldman (1964: 214) compared California Personality Inventory results with cheating behavior and found the following:

. . . cheaters appear to exhibit a set of behaviors similar to those produced by maternal overprotection. Cheaters seem to manifest a passive-dependent mode of adjustment giving little of themselves in either intellectual endeavors

or social relationships. They appear to seek out people, but lack an awareness of their general social immaturity and irresponsibility.

DeVries and Ajzen (1971) reported that indices of types of college, grade point average, years in school, and religiosity indicated little or no effect on self-reported cheating behaviors or intentions. They noted, however, that measures of actual observed cheating behavior have been found to correlate with these indices (1971: 206). Parr (1936: 322) found that a student's age position in the family did not have a significant relationship to dishonesty. Cambell and Koch (1930: 239) did not find significant differences between cheating behavior and the variables of intelligence, GPA, age, or course grade.

The honor system was also studied with regard to cheating behavior. To determine what effect an honor system would have on cheating, Canning (1956) conducted a five-year experiment among five lower-division sociology classes. Cheating behavior was eighty-one percent before the honor system was established, forty-one percent during the introduction and revision of the honor code, and thirty percent after the honor code had been established. These results were found to be significant at the .001 level using Chi square analysis. Not only had the proportion of students engaging in cheating decreased significantly, but the average number of items changed by students on tests was reduced from twelve and three-tenths to eight and three-tenths

(1956: 292). Canning emphasized that although the study did not prove a causal relationship between a reduction in cheating and the establishment of a honor system, the likelihood should be noted (1956: 292).

Campbell and Koch (1930) found that "relatively more students trained under an honor system in high school cheated on their education course examinations in college than students who had been more closely supervised in their secondary school days" (1930: 240). Miner (1930) reported that it was a dangerous practice to abandon policing in favor of an honor system at the University of Kentucky (1930: 201). Because students came to college from backgrounds differing in moral training, Miner believed the faculty must guard against cheating, even though policing duties were unpleasant (1930: 201).

More recently, Tittle and Rowe (1974) reported a study in which students in three college sociology classes were given the opportunity to cheat when they graded their own quizzes. No significant differences existed among the groups. The incidence of cheating was noted under three different conditions, one for each class. The first class operated under the condition of trust. No mention was made regarding cheating. The second class operated under the condition of moral principle. Time was spent talking with students about why cheating is undesirable. The third class operated under the condition of sanction. Students were threatened with penalties if they were caught cheating.

(1974: 47). Tittle and Rowe found that under the condition of trust, students cheated one-third of the time. Under the condition emphasizing the moral principle, cheating increased from thirty-one percent to forty-one percent after the moral appeal was made; in short, emphasizing the moral principle did not result in less cheating. Under the condition of sanction, cheating was reduced from thirty-four percent to twelve percent, after students were faced with the threat of being caught and punished (1974: 47). The authors concluded that "fear of sanction has a greater influence on classroom honesty than does simple trust or a moral appeal" (1974: 48). Tittle and Rowe presented other findings of this research. Females cheated less than males and were far more responsive than males to the threat of sanction. Least responsive to the threat of being caught and punished were those who were not succeeding in their expectations and those who were doing the worst in the course. The researchers concluded that those students in greatest need of points were most willing to risk sanction (1974: 48).

Although reports from the literature were inconsistent with respect to variables associated with academic dishonesty, greatest consistency was noted in the relationship between cheating and the following variables: pressure for grades, low grade point average, and high expectancy of success. Parr stated that the findings indicate "that any factor which serves as a handicap to an individual or brings pressure to bear upon him is likely to produce dishonest behavior"

(1936: 326). The nature of academic dishonesty and variables associated with it are thus exceedingly complex.

Student Attitudes Toward Academic Dishonesty

Based primarily on survey responses, the literature revealed student attitudes toward various aspects of academic dishonesty. Barnett and Dalton (1981) surveyed a random sample of 1,500 Iowa State University freshmen and seniors to determine behaviors and attitudes related to academic dishonesty (1981: 545). Among the main findings was that students perceived that other students, including their own close friends, do not strongly disapprove of cheating (1981: 547). Faia's study revealed similar attitudes: a high degree of tolerance of cheating was reported among students. Little or no stigma was attached to known offenders (1976: 115). Drake had found the same thirty-five years earlier. In 1941, he wrote that cheaters are well-known to the students who generally "have no strong sentiments against classroom cheating and will not cooperate to control it" (1941: 420). In their study comparing attitudes of students from a Midwest Calvinist college with attitudes of students from a Midwest state university, DeVries and Ajzen found that Calvinist college students had more negative attitudes toward cheating than those students from the university. These results were significant using Pearson product moment correlations ($p < .05$) (1971: 203).

In a survey of forty-five, first-year, social work graduate

students at a large Midwest university, ninety-five percent admitted to having used previous papers to help them with assignments and did not consider it cheating behavior. Seventy-four percent did not think it was cheating to read a condensation of a novel when they were assigned the full version. Fifty-two percent thought it was acceptable not to show up for a scheduled examination. Twenty-three percent did not find it objectionable to list unread primary sources on the bibliography when writing a paper (Zastrow, 1970: 159). Anderson (1957) reported that students saw some situations as legitimate, desirable ways of behaving rather than as forms of cheating. Two most notable situations were: 1) finding someone who had completed the course and would help students cram for a test, and 2) using old test files to study for an upcoming examination (1957: 585). The same study revealed behaviors students rated as highly objectionable. Among those were using notes under the honor system and paying someone else to take an examination (1957: 585). Connell (1981) reported on a survey which indicated that having someone else take an exam or taking an exam for someone else were ranked most serious of various types of academic dishonesty (1981: 20). Some situations were found to be puzzling to students: using the same term paper for credit in more than one class; and asking other students who have already completed an exam what was covered and the nature of the questions (Anderson, 1957: 585). Students were discriminating in their attitudes regarding academic

dishonesty (Anderson, 1957: 585). Barnett and Dalton (1981: 549) found that "the more students feel a particular cheating behavior occurs, the less likely it is that they will view it as academic dishonesty." This finding was based on the survey results of 1,500 students at Iowa State University.

Anderson (1957: 586) found that, in general, male students had less strict or moralistic attitudes toward cheating than did women. DeVries and Ajzen reported similar results from their survey: "male students tended to have a more positive attitude toward cheating behavior than did female students" (1971: 203).

Rowe (1970) recounted the experience of a male freshman who doubted that he could make it through college and maintain his athletic status and academic standing unless he cheated. The young man was struggling with his dedication to "honesty" and its possible destruction (1970: 88-89). To a greater extent than may be realized, students feel academic pressure (Barnett, Dalton, 1981: 545).

Institutional Policies and Procedures

Institutional policies and procedures regarding academic dishonesty have changed throughout the years. During the early 1900's, students caught cheating on examinations were expelled permanently (Lamont, 1979: 72). At the University of Kentucky in the 1930's, stiff penalties were in force for controlling cheating. A first offense meant failure in a given course. The second offense meant

automatic suspension from the University (Miner, 1930: 199). When ninety cadets were charged with cribbing on examinations at West Point, they were expelled (Newsweek, 1951: 78). It was reported by Newsweek that General Irving regretted having to take such drastic measures but "there could be no compromise solution that would preserve the vital honor system of West Point which is the very heart of the academy" (1951: 78). Students found guilty of plagiarism on English term papers were given grades of F in the course and a reprimand from the administration at the University of California, Los Angeles. Following this, policy was set to dismiss from the University any student found guilty of plagiarism or cheating ("Student Cheating," 1960: 383). Harvard expelled two students, and the University of Michigan put students on academic probation for plagiarism (Trachtenberg, 1972: 46).

More recently, students who cheated were not found to be at high risk for suspension or expulsion. In fact, most of them were never reported, much less caught. In the mid-1970's, a survey reported that over a three-and-one-half-year period, less than three-and-a-half percent of Dartmouth students who had violated the honor code appeared before the college disciplinary committee. Half of the teachers did not even report violations to the administration (Lamont, 1979: 83). Disciplinary policies on college campuses were often lenient. Eighty percent of student body presidents surveyed by Budig felt that penalties for cheating at their institutions were not severe enough to

discourage cheating (1979: 754).

Roskens and Dizney (1966: 231) wrote that

. . . the impelling need is the development of a concept of academic ethics including appropriate penalties for violators. In addition, and related, is the requirement of a realistic orientation to existing methods of, attitudes toward, and environmental influences upon, unethical behavior.

A clear commitment to academic integrity must be demonstrated by institutions of higher education, and every effort to publicize policies designed to control academic dishonesty should be made (Barnett, Dalton, 1981: 550). Pavela maintained that the various policies and procedures on campus often compound the problem of academic dishonesty: lack of precise definition of "academic dishonesty"; not explaining to students the importance of academic integrity; and negligent procedures followed by administrators and faculty members (1981: 64). While admitting that students are in the wrong when they are academically dishonest, Pavela charged that faculty and administrators must accept responsibility for allowing such practices to occur wittingly (1981: 64).

Rowe (1970: 89) raised three questions which face institutions of higher education:

Is our educational system so entwined with and so beholden to the greater social structure that it can neither practice nor even propose ideal behavior? Do we continue to indicate to our youth that college is merely more of the same, a slightly more precarious obstacle course, which, when completed, proves that one is capable of adapting to the existing society? Or do we indicate through deeds that colleges can play a

vital role in the life of a student as he prepares to mold a better society? (1970: 89).

Changes are needed, and the area of academic integrity needs attention (Rowe, 1970: 89).

Rowe pointed out that institutions of higher education need "to clean house" so that their actions match their professional obligations to seek the truth and so their behaviors correspond to their admissions of only ethical practices (1970: 89). Institutions need to acknowledge, first of all, that they have erred. Honesty can evolve from this beginning. "Before we can effectively suggest to youth new or revamped ethical ways to meet life's challenges, we had better behave ethically ourselves. Ethics are useless or self-destructive if they are not based on honesty" (1970: 89). Connell (1981: 23) reported on a comment made by Arthur Levine that depicts a grim picture of the disinterest that exists:

Most schools show by their indifference that engaging in gross forms of cheating is not inappropriate behavior. The penalties are minimal, and students are unlikely to get caught anyway. That's a sure sign that cheating is reasonably acceptable behavior.

Pavela maintained that the practice of simply giving a failing grade for a course was probably not severe enough to deter the practice of cheating. He would have the guilty students removed from the university and/or a permanent notation made on his or her transcript indicating academic dishonesty (1981: 64).

Some institutions have attempted to maintain academic integrity.

University faculty, administrators, and students together with government officials began a campaign against professional term paper companies in New York, Ohio, and California (Trachtenberg, 1972: 47). Huntington College published reasons why cheating is disapproved: "it is detrimental to individual academic achievement; it tends to destroy the character of the person cheating; it undermines the foundation of a free democratic society; and it is a direct violation of the law of God" (Williams, 1969: 183). Connell reported that Berkeley is adopting the semester system in order to allow faculty more time to check students' work. In addition, Berkeley uses more competency-based methods of learning and has adopted an absolute grading system, hoping to reduce the level of competition among students (Connell, 1981: 28). The University of Maryland produced a workable code of student conduct (Connell, 1981: 22). The institution defined which behaviors were considered intolerable, identified the consequences for engaging in these behaviors, and carried out the consequences when necessary (Connell, 1981: 23). In spite of declining enrollments and discouraging demographic conditions, institutions of higher education should attempt to maintain high standards of academic integrity (Connell, 1981: 23).

Faculty bear a responsibility for minimizing academic dishonesty while simultaneously restoring academic integrity. "No educator can ignore factors which may potentially sabotage evaluation without

debasing the prerogative to evaluate" (Roskens, Dizney, 1966: 231). Wright and Kelly (1974: 34) reported that faculty were willing to accept some blame for the cheating problem, since many were not being careful enough in their classroom practices.

Specific suggestions have been made to assist faculty in the task of reducing academic dishonesty. Ault stated that faculty could do a great deal to lower the incidence of cheating by giving examinations that do not require precise answers. In order to diffuse cheating practices, he favored the essay format over multiple-choice items and true/false type questions (1981: 27). Trachtenberg maintained that faculty should exercise greater care in going over students' papers (1972: 46). Throughout the course of a writing assignment, faculty involvement and concern regarding the students' work is essential (Connell, 1981: 25). New tests should be constructed which minimize the use of past exam questions (Barnett, Dalton, 1981: 550). The possibility of making old tests public and writing new ones entirely would lessen the necessity of fraternity files containing old exams (Connell, 1981: 28). Other suggestions were offered in Connell's article: allow plenty of space between exam takers and consider giving alternate test forms (1981: 28). Parr wrote that "cheating in the classroom could be . . . reduced if teachers would use greater care in setting up their work, seeing to it that, whenever possible, the

educational program fits the needs, interests, and abilities of the students" (1936: 326).

Since pressure for grades has been linked to academic dishonesty, faculty must come to grips with the deficiencies and merits of the grading system and lessen the pressure to obtain good grades as a measure of one's worth (Shirk, Hoffman, 1961: 132). Concentrating on competency levels and removing grades may be one means whereby incentive for cheating could be reduced (Parrott, 1972: 128).

At most institutions, individual faculty members decided on disciplinary measures for academic dishonesty (Bowers, 1964: 20). Since faculty considered cheating something to be settled between student and instructor, only a small percentage reported infractions to the academic dean or other administrative officer (Wright, Kelly, 1974: 34).

Although the goal in education is to teach the learner rather than to catch the cheater (Connell, 1981: 28), teachers must bear a greater responsibility to see that cheating does not happen (Hawkins, 1932: 782) and remain "diligent in their observation of academic dishonesty" (Barnett, Dalton, 1981: 550). Confronting students with academically dishonest work is a duty of faculty, one which requires courage. Faculty must be clear in their own beliefs and values and demonstrate a willingness to thwart behavior that is unethical (Connell, 1981: 28).

The Randomized Response Technique

The randomized response technique was developed by Stanley L. Warner to increase cooperation from subjects in giving truthful responses to controversial or personal questions (Warner, 1965: 63). Warner's method consisted of items with two complementary statements, such as 1) I am a member of group A, and 2) I am not a member of group A (Wise, 1980: 4). Respondents answered one of the two questions, selected by random and known only to themselves. An estimated proportion of how many respondents answered "yes" to question 1 could be derived (Wise, 1980: 5). Warner's procedure was modified by pairing the sensitive question with an unrelated question with the hope that suspicion among respondents might be alleviated and more truthful answers be given (Greenberg et al., 1969: 522). Dowling and Shackman reported that this modification was an improvement over Warner's original technique (1975: 84).

The randomized response technique's utility has been investigated. Among a group of one hundred and fifty-eight college students, Wise found that the self-reports to five sensitive questions were of lesser proportions than those yielded by the Warner method (1980: 22), despite the fact that half of the students expressed a lack of confidence in the randomization device (1980: 16). Wiseman, Moriarty, and Schafer applied a modification of the Warner technique to a sample of three hundred and forty, in order to gauge public opinion of five

sensitive issues. They compared these results to those obtained from one hundred and ninety-eight self-administered questionnaires and one hundred and ninety-eight direct personal interviews. Significant differences between responses of the self-administered questionnaire group and the randomized response group were found at the .05 level on two issues. At the .01 level, significant differences between the same two groups were found on two other issues. "Unexpectedly, on four of the five issues, the randomized response estimate was closer to that obtained in the personal interview than in the self-administered questionnaire. Thus, it appears that the randomization procedure was not successful in reducing the total amount of response bias in this survey" (1975-1976: 511). Lack of confidence in the randomizing device (p. 512) and misunderstanding of the procedure (p. 513) were cited as possible reasons for Warner's technique being unsuccessful. Further testing was recommended to determine utility of the model (1975-1976: 513). Rider et al. found that the randomized response technique gave an estimate of twenty-eight percent from a sample of 1,000 in Taiwan regarding the prevalence of induced abortion compared to thirteen and fourteen-one-hundredth percent from an interview sample of 1,000 (1976: 37). It was recommended by the authors that randomizing devices be refined to promote better understanding and trust or secrecy among participants and that further testing be done on individual versus group testing (p. 48).

Zdep and Rhodes tested the randomized response technique individually among 2,000 adults (1976-1977: 532). "Extensive pretesting of the questions revealed that the success of the randomized response technique depended heavily on the respondent's understanding and confidence about the method" (1976-1977: 533). The researchers paired the sensitive question with a socially positive questions, which they discovered to work better. "The positive questions, it would seem, results in the further removal of stigma associated with a 'yes' response to the question chosen by the randomizing device" (1976-1977: 533). Before asking the respondent to do anything or presenting any materials, the researchers carefully explained the randomized technique, including the nature of the questions used. This proved to be a desirable practice (1976-1977: 533). When compared to results obtained from the self-administered technique, the randomized response method was found to be more successful (1976-1977: 536).

Goodstadt and Gruson used the responses of eight hundred and fifty-four high school students to compare drug-use estimates derived from either the randomized response procedure or direct questioning. The randomized response technique showed significantly higher drug use and produced fewer response refusals than did direct questioning (1975: 814). Incidence of drug use derived from standard forms of questioning may be underestimated (1975: 814). In another study, the randomized response procedure was found to be more effective than self-administered

forms in reducing under-reporting to sensitive questions regarding socially undesirable acts. However, the randomized response technique was ineffective in "reducing" over-reporting of socially desirable acts among a sample of eight hundred (Locander, Sudman, Bradburn, 1976: 272). In addition, the randomized response technique does not assure that answers are unbiased. Although lower than the face-to-face, telephone, and self-administration models, the thirty-five percent understatement of drunken driving reported by the randomized response procedure was a major response bias. "The use of randomized response procedures requires very large samples for any multivariate analysis of the relation between the threatened question and independent variables" (Locander, Sudman, Bradburn, 1976: 273).

For Warner's randomized response technique or its modifications to be successful, "a great deal of care must go into designing both questions and methodology" (Zdep, Rhodes, 1976-1977: 536). Warner himself wrote that "the question is still open as to what methods of randomized response will prove the most useful" (1965: 68).

Summary

Academic dishonesty has been a concern on college and university campuses throughout the twentieth century. Reported incidence varied somewhat from campus to campus, but researchers stated consistently that estimates of academic dishonesty were probably lower than actual occurrence. Honor codes did not immune colleges to the problem.

Although not all writers agreed, many researchers found the following to relate to cheating behavior: previous success-failure experiences, high self-satisfaction, pressure for grades, low intellectual ability, low grades, gender, and crowded classrooms. Students exhibited a high degree of tolerance toward academic dishonesty, even though their attitudes toward types of academic dishonesty were discriminating.

Institutions of higher education did not always treat academic dishonesty as a serious problem on campus. Policies and procedures dealing with it have been lacking, though progress toward these ends is being made. Faculty bear an important responsibility in reducing academic dishonesty. "As a problem for the individual, for the society, and for the system of higher education, academic dishonesty merits our attention" (Bowers, 1964: 5). Only by recognizing that it exists can institutions of higher education effectively deal with it. Further, before academic integrity can be restored, academic dishonesty must be more fully understood.

The randomized response technique, developed by Warner and modified by others, has proven to be useful in estimating proportions of responses to sensitive questions such as "Did you cheat?". The procedure has yielded higher response rates than other data gathering methods, although responses were still found to be biased in some cases.

Chapter 3

PROCEDURES

Introduction

As one form of academic dishonesty, cheating represents a problem at colleges and universities across the country. The extent of this problem, as well as the pressures and sources which contribute to it, must be investigated (Bowers, 1964: 5). It was the purpose of this study to consider these factors and help to clarify them. This research investigation focused on factors associated with cheating, the proportion of college students who alter their answers when allowed to correct their own examinations, and college students' admitted cheating practices.

Population Description and Sampling Procedure

The population of the study consisted of three hundred and eighty-seven full-time, freshman students enrolled at a small, Mid-western, public college during fall quarter, 1981. The sample was comprised of one hundred and fifty-eight students enrolled in three general psychology courses offered during the same quarter. These three were the only general psychology courses offered during fall quarter, and all three were taught by the same instructor. General psychology is a general education requirement at the college. The percentage of freshmen in these classes was seventy-five, or one hundred and eighteen students. The sample was contaminated by

twenty-three sophomores, three juniors, one senior, eleven part-time students, and two high school students. In order to assume representativeness of the sample, the proportion of freshman males and females in the general psychology classes was compared to that of the remaining two hundred and sixty-nine freshman males and females in the population. In addition, the available ACT composite scores of two hundred and twenty-four students in the population were compared to the available ACT composite scores of one hundred freshman students in the sample. Table 3.1 indicates these comparisons.

Table 3.1

Sample and Population by Representative Factors

Representative Factors	Sample	Population
Proportion of males	.43	.52
Proportion of females	.57	.48
Average ACT standard composite score	16.40	16.96

A greater proportion of females was present in the sample than in the population and a lesser proportion of males was present. However, the average ACT composite scores were close enough to assume representativeness, since achievement has been found a more important variable than gender regarding cheating. The percentile rank for a standard

score of seventeen is fifty (College Student Profiles, 1978: 24). Through interpolation, a difference of approximately two and five-tenths percentile points existed between the sample and the population.

The Investigation

Though the researcher controlled the setting and participants of the study, she did not manipulate the environment as in an experimental design. Rather, the study was investigative in nature.

The following categories were investigated in this study of freshman students: actual cheating demonstrated by students; students' perception of their home environment; students' reported study habits; students' attitudes toward grades and school; students' reported religiosity; and students' admitted vocational plans. One of the purposes of the study was to determine if selected variables were related to cheating.

Prior to the investigation, an attorney was consulted regarding legal ramifications of the research for the investigator. The attorney stated that as long as "cheaters" could not be identified by name by the researcher, no legal problems would result. In addition, the researcher met with the institution's Academic Affairs Council to secure their approval in conducting the study on campus. The Council approved the study and written permission was granted by the Vice President of Academic Affairs to conduct the study on campus during fall quarter, 1981.

Method of Collecting Data

The researcher developed a questionnaire designed to obtain various personal information from students. The instrument was pre-tested for clarity among a group of students in a freshman summer school class at the small, Midwestern college. Using the refined questionnaire, a test-retest procedure was conducted in another freshman class at the same institution during a two-and-one-half week period. The reliability of each of the items included in the instrument was determined by a Pearson product-moment correlation (Ferguson, 1976: 107) after assigning consecutive numerical values, beginning with "one," to each of the items' responses. Following is a presentation of the questionnaire items, their corresponding reliabilities, as well as the proportions of students who gave identical responses during the test-retest procedure:

1. Do you plan to take further education or training after college:

Yes	No	Undecided
-----	----	-----------

$r = .95$

$p = .91$

If yes or undecided, do you think you will go to:

Graduate School	Business or Professional School	Other (please identify)
-----------------	---------------------------------	-------------------------

$r = .66$

$p = .55$

2. How would you characterize your home environment?

Choose one:

- | | |
|-------------------------|--------------------------|
| a. Very understanding | c. Not too understanding |
| b. Fairly understanding | d. Not understanding |

$$r = 1.00$$

$$p = 1.00$$

Choose one:

- | | |
|-----------------|------------------|
| a. Very close | c. Fairly remote |
| b. Fairly close | d. Very remote |

$$r = .90$$

$$p = .82$$

Choose one:

- | | |
|----------------|----------------|
| a. Very warm | c. Fairly cold |
| b. Fairly warm | d. Very cold |

$$r = .58$$

$$p = .64$$

3. In your family, are you:

An only child? The oldest child? The youngest child?

A child in-between?

$$r = .95$$

$$p = .82$$

4. How would you characterize the disciplinary measures taken by your parents?

Choose one:

- | | |
|-------------------|------------------|
| a. Very lenient | c. Fairly severe |
| b. Fairly lenient | d. Very severe |

$$r = .52$$

$$p = .73$$

Choose one:

- | | |
|----------------------|--------------------|
| a. Very corrective | c. Fairly punitive |
| b. Fairly corrective | d. Very punitive |

$$r = .18$$

$$p = .64$$

Choose one:

- | | |
|----------------|------------------|
| a. Very just | c. Fairly unjust |
| b. Fairly just | d. Very unjust |

$$r = .92$$

$$p = .91$$

5. How would you characterize your study habits?

Very Studious Studious Somewhat studious Not studious

$$r = .62$$

$$p = .82$$

6. How important is it to your parents that you graduate from college?

Very important Important Somewhat important Not important

$$r = .78$$

$$p = .64$$

7. How important is it to you that you graduate from college?

Very important Important Somewhat important Not important

$$r = .20$$

$$p = .73$$

8. How do you perceive school work?

Very difficult Difficult Somewhat difficult Nor difficult

$$r = .92$$

$$p = .92$$

9. How important is it to your parents that you get good grades?

Very important Important Somewhat important Not important

$$r = .90$$

$$p = .82$$

10. How important is it to you that you get good grades?

Very important Important Somewhat important Not important

$$r = 1.00$$

$$p = 1.00$$

11. What is your religious background?

Protestant Catholic Jewish Other _____

$$r = .95$$

$$p = .91$$

12. Approximately, how often do you attend church?

Once a week Once a month A few times a year Never or nearly
never

$$r = .69$$

$$p = .70$$

13. How important are high grades to your future occupational plans?

Very important Important Somewhat important Not important

$$r = .35$$

$$p = .20$$

14. How successful do you anticipate being in this class?

Very successful Successful Somewhat successful Not successful

$$r = .56$$

$$p = .70$$

15. How successful do you anticipate being in college?

Very successful Successful Somewhat successful Not successful

$$r = .56$$

$$p = .70$$

16. College students have different ideas about the main purpose of a college education. Statements of some purposes are listed below.

As you read this list, indicate how important each of the purposes

is to you by rank ordering them, 1 to 6. 1 will be most important to you and 6 least important.

- a. Provide vocational training; develop skills and techniques directly applicable to my career.
- b. Develop my ability to get along with different kinds of people.
- c. Provide a basic general education and appreciation of ideas.
- d. Develop my knowledge and interest in community and work problems.
- e. Help develop my moral capacities, ethical standards and values.
- f. Prepare me for marriage and family life.

for the first choice,

$$r = .78$$

$$p = .80$$

The median r for the questionnaire was .78. Although ipso facto validity was present in the instrument, predictive validity was established during the course of the study. One item, "Do you have a scholarship?" was deleted from the instrument after the researcher and her doctoral committee deemed it an insignificant question.

The researcher distributed the questionnaire to students in the sample at the beginning of fall quarter, 1981. The questionnaires were collected during the same class period. Since each one was coded, the

researcher was able to identify each respondent. Information regarding the student's gender, rank, ACT composite score, name, and first test grade was subsequently added to the questionnaire.

On the second of three major course examinations, students were allowed to grade their own tests. Students received the grade they calculated. This was the only major exam in general psychology that they graded themselves. Previously, however, students were allowed to correct one of their quizzes, so the practice was not foreign to them. During the taking of the exam, seating was spaced and students used blank sheets of paper to cover their answers. The instructor kept a watchful eye to discourage dishonest behavior.

Without the students' knowledge, the answer sheets were photocopied prior to students' grading them in the next class period. These xeroxed copies were remanded to two other faculty members, along with the questionnaire. When the original answer sheets had been graded by the students, they, too, were entrusted to the two faculty members. Unaware of the researcher's intent, these faculty recoded the questionnaires, coded the actual test answer sheets and the copies to correspond to the questionnaires, and removed students' names. Thus, the researcher was unable to identify by name those specific students who cheated.

When the above papers were returned to her, the researcher corrected the exams herself and also made subsequent comparisons of the

original responses to the student-graded answers to determine what proportion of students had engaged in cheating. This procedure was done twice to insure accuracy. All data collected, including those on the questionnaire, were then transferred to computer coding sheets and double-checked for accuracy by the researcher. After cards were punched by a computer operator, responses were verified by machine to assure accuracy. Chi square analysis of the data was accomplished by computer in an attempt to determine whether selected variables on the questionnaire were related to cheating.

In order to collect data on the proportion of students' admitted cheating practices, a modification of Warner's randomized response technique was utilized in the classes within two weeks of the second examination (Williams, 1978: 73). The Warner technique is a randomized response procedure designed to reduce the number of untruthful responses to sensitive questions. Respondents are able to maintain the privacy of their answers through this device of randomization. The sensitive question, A, which was intended to realize the researcher's intent was, "Did you cheat in correcting your own exam in this class?" Paired with this was an unrelated question, question B: "Is the coin you just tossed a head?" A randomizing technique was utilized by the respondents to determine which of them would answer question A and which would answer question B (Williams, 1978: 74). Only the respondents knew which question was being answered. Sheets of paper

were distributed, on which was a place for the student's name and a "yes" or "no" response (see Appendix A). After a careful explanation of how the Warner technique worked and assurances that the researcher was not trying to find out specifically who cheated, students were asked to write their names on the paper and answer the determined question by checking either "yes" or "no." These response sheets were then collected by the researcher. The researcher did not know which question was answered by each student; she knew only the "yes" or "no" answer. The statistical formula for determining an estimated proportion of yes responses to question A is presented later the chapter. Nonetheless, the accuracy of the results was determined by comparing the derived proportion to the actual incidence of cheating in the classes.

In order to determine further whether or not the Warner technique has utility in group settings, students in the third class not only participated in the Warner procedure but also were asked directly if they cheated in correcting their exams. Students turned in papers on which they had again written their names and checked either "yes" or "no." A student collected the papers and placed them in an envelope which he then sealed and gave to the instructor. She gave students her word that another faculty member, who was not aware of the question, would separate their names from the papers before the instructor looked at these papers. Anonymity regarding cheating behavior was thus

assured. The number of "yes" responses given by students was compared to the proportion determined by the Warner proposal, as well as to actual incidence of cheating on the exam in this class.

Method of Organizing Data

The collected data were organized into frequency and contingency tables. Frequency distribution tables were used to illustrate the proportion of those who engaged in cheating as distinguished from those who did not, and to indicate the proportion of those students who admitted to cheating through the Warner proposal and the direct question. Contingency tables were utilized in comparing cheating and noncheating behaviors to the variables identified on the questionnaire, including students' past test performance in the class and their gender.

Statistical Hypotheses

The following null hypotheses were tested at the .05 level of significance:

1. (H_0) Cheating is independent of gender.
2. (H_0) Cheating is independent of plans for further training or education after college.
3. (H_0) Cheating is independent of students' perceptions of home environment.
4. (H_0) Cheating is independent of students' perceptions of disciplinary measures taken by parents.

5. (H_0) Cheating is independent of birth order.
6. (H_0) Cheating is independent of study habits.
7. (H_0) Cheating is independent of students' perceptions of parental values regarding school.
8. (H_0) Cheating is independent of students' values regarding school.
9. (H_0) Cheating is independent of perceived difficulty of school work.
10. (H_0) Cheating is independent of students' perceptions of parental attitudes towards grades.
11. (H_0) Cheating is independent of students' attitudes toward grades.
12. (H_0) Cheating is independent of religious background.
13. (H_0) Cheating is independent of frequency of church attendance.
14. (H_0) Cheating is independent of reasons for being in college.
15. (H_0) Cheating is independent of perceived importance of high grades in occupational plans.
16. (H_0) Cheating is independent of anticipated success in the general psychology course.
17. (H_0) Cheating is independent of anticipated success in college.
18. (H_0) Cheating is independent of past test performance in the general psychology course.

General Questions

1. What is the proportion of students who cheat when allowed to correct their own examinations?

2. What is the proportion of students who admit to cheating?
3. Does the Warner technique have utility in group settings?

Analysis of Data

The Chi Square Test of Independence was used to determine if cheating was independent of each of the selected variables identified in hypotheses 1 through 18. Contingency tables are presented to illustrate the data. Column variables refer to information from the questionnaire. Row variables refer to whether or not students cheated when correcting their own tests. All hypotheses were tested at the .05 level of significance.

The following modified Warner technique formula determined the estimated proportion of admitted cheating practices (Williams, 1978: 73):

$$\begin{array}{rcl}
 \text{Proportion} & & \text{Proportion} & & \text{Proportion of} \\
 \text{of all yes} & = & \text{of yes responses} & \times & \text{times question} \\
 \text{answers} & & \text{to question A} & & \text{A is asked} \\
 & & & & \\
 & + & \text{Proportion} & \times & \text{Proportion of} \\
 & & \text{of yes responses} & & \text{times question} \\
 & & \text{to question B} & & \text{B is asked}
 \end{array}$$

The proportion of students who actually engaged in cheating when allowed to correct their own examinations was reported and compared to the results obtained through the modified version of Warner's randomized response technique.

Summary

This study was conducted at a small, Midwestern college, during fall quarter, 1981. The research determined: 1) the proportion of students who engaged in cheating; 2) if selected variables are related to cheating; and 3) admitted practices in regard to cheating behavior. The population was all full-time freshmen, registered at the college during the quarter. The sample consisted of those students, primarily freshmen, enrolled in general psychology courses at the college during the same quarter.

The researcher developed a questionnaire and established test-retest reliability after pretesting the questionnaire for clarity and making a few minor changes. The Academic Affairs Council gave permission to conduct the study on campus, and the Vice President for Academic Affairs gave written notification of this permission.

Data were collected by the researcher herself, through a questionnaire distributed to students, by observation of actual cheating behavior, and by a modified version of Warner's randomized response technique. Hypotheses, to be tested at the .05 level of significance, and general questions to be answered were identified. Analysis of data was accomplished using Chi Square Tests of Independence, frequency distributions, and a randomized response formula.

Chapter 4

ANALYSIS OF DATA

Introduction

The purpose of this study was three-fold:

1. to determine the proportion of college students who engage in cheating behavior when allowed to correct their own examinations.
2. to determine factors associated with cheating behavior.
3. to determine the proportion of college students who admit to cheating behavior.

The analysis of data is presented under three major headings. First, the researcher discusses the population description and sampling procedure. Second, the results of the eighteen null hypotheses tested at the .05 level using Chi Square Tests of Independence are presented. Third, the answers to the general questions to be answered are discussed.

Population and Sample

The population of this study consisted of three hundred and eighty-seven full-time freshman students enrolled at a small, Mid-western, public four-year college during fall quarter, 1981. The sample was comprised of one hundred and fifty-eight students enrolled in three general psychology courses offered during the same quarter. The proportion of freshmen in these classes was .75, or one hundred and eighteen students out of the one hundred and fifty-eight. The sample

was contaminated by twenty-three sophomores, three juniors, one senior, eleven part-time students, and two high school students. In order to assume representativeness of the sample, the proportion of freshman males and females in the general psychology classes was compared to the remaining freshman males and females in the population. In addition, the available ACT composite scores of those students in the population were compared to the available ACT composite scores of freshmen in the sample. These comparisons were discussed in detail in Chapter 3 and depicted in Table 3.1.

Statistical Hypotheses

The eighteen statistical hypotheses in this study were tested using Chi Square Tests of Independence. The null hypotheses were tested at the .05 level of significance. The contingency tables presented identify the relationship between cheating and other variables. The row variables refer to cheating behavior. The numbers in the upper right-hand corners of the cells are the expected values which are based on independence between row and column variables. The other numbers refer to actual count. The reader is reminded that students who changed one or more answers and/or did not mark two or more incorrect responses when correcting their own examinations were identified as cheaters in this study.

Null Hypothesis One: Cheating is independent of gender. Table 4.1 identifies the relationship between cheating and gender.

Table 4.1
Cheating and Gender

Cheating Behavior	Male	Female	Row Total
Yes	32 27.5	36 40.5	68
No	32 36.5	48 53.5	90
COLUMN TOTAL	64	94	158

df = 1; Critical $X^2 = 3.84$; Calculated $X^2 = 1.68$; Probability = .20

Table 4.1 indicates that, at the .05 level, cheating is independent of gender. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Two: Cheating is independent of plans for further training or education after college.

Table 4.2 identifies the relationship between cheating and student responses to the following questionnaire item:

Do you plan to take further education or training after college?

Yes No Undecided

Table 4.2

Cheating and Further Education/Training

Cheating Behavior	Further Education/Training			Row Total
	Yes	No	Undecided	
Yes	16.8 11	23.2 23	28 34	68
No	22.2 28	30.8 31	37 31	90
COLUMN TOTAL	39	54	65	158

df = 2: Critical $\chi^2 = 5.99$; Calculated $\chi^2 = 5.78$; Probability = .06.

Table 4.2 indicates that, at the .05 level, cheating is independent of plans for further training or education after college. Those students who were undecided tended to cheat more than expected, but insufficient evidence exists to reject the null hypothesis.

Table 4.3 identifies the relationship between cheating and the second part of the previous questionnaire item:

If yes or undecided, do you think you will go to:

Graduate
School

Business or
professional
school

Other (please identify)

Table 4.3

Cheating and Specific Plans for
Training/Education after College

Cheating Behavior	Training/Education			Row Total
	Graduate School	Business or Professional School	Other	
Yes	19 20	16.5 12	5.5 9	41
No	26 25	22.5 27	7.5 4	56
COLUMN TOTAL	45	39	13	97

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = 6.07$; Probability = .05.

Table 4.3 indicates that, at the .05 level, sufficient evidence exists to reject the null hypothesis. Cheating is related to specific plans for further training or education after college. More students (of those who responded to "other" on the questionnaire) cheated than were expected. "Other" responses included uncertain plans, refresher courses, workshops, trade school, different school, the military, work, and hair design.

Null Hypothesis Three: Cheating is independent of students' perceptions of home environment.

Tables 4.4, 4.5, and 4.6 identify the relationship between cheating and student responses to the following questionnaire items:

How would you characterize your home environment?

Choose one:

- a. Very understanding c. Not too understanding
b. Fairly understanding d. Not understanding

Choose one:

- a. Very close c. Fairly remote
b. Fairly close d. Very remote

Choose one:

- a. Very warm c. Fairly cold
b. Fairly warm d. Very cold

Table 4.4

Cheating and Home Environment--Understanding

Cheating Behavior	Home Environment--Understanding				Row Total
	Very	Fairly	Not Too	Not	
Yes	28 31.4	33 28.8	7 6.9	0 0.9	68
No	45 41.6	34 38.2	9 9.1	2 1.1	90
COLUMN TOTAL	73	67	16	2	158

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 3.22$; Probability = .36.

Table 4.4 indicates that, at the .05 level, cheating is independent of students' perceptions of "understanding" within the home environment. Insufficient evidence exists to reject the null hypothesis.

Table 4.5

Cheating and Home Environment--Closeness

Cheating Behavior	Very Close	Fairly Close	Fairly Remote	Very Remote	Row Total
Yes	27.1 25	33.6 37	6 5	1.3 1	68
No	35.9 38	44.4 41	8 9	1.7 2	90
COLUMN TOTAL	63	78	14	3	158

df = 3; Critical $\chi^2 = 7.82$; Calculated $\chi^2 = 1.33$; Probability = .72.

Table 4.5 indicated that, at the .05 level, cheating is independent of students' perceptions of "closeness" within the home environment. Insufficient evidence exists to reject the null hypothesis.

Table 4.6

Cheating and Home Environment--Warmth

Cheating Behavior	Very Warm	Fairly Warm	Fairly Cold	Very Cold	Row Total
Yes	32 32.7	33 30.6	3 4.3	0 0.4	68
No	44 43.3	38 40.4	7 5.7	1 0.6	90
COLUMN TOTAL	76	71	10	1	158

$df = 3$; Critical $X^2 = 7.82$; Calculated $X^2 = 1.82$; Probability = .61

Table 4.6 indicates that, at the .05 level, cheating is independent of students' perceptions of "warmth" within the home environment. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Four: Cheating is independent of students' perceptions of disciplinary measures taken by parents.

Tables 4.7, 4.8, and 4.9 identify the relationship between cheating and student responses to the following questionnaire items:

How would you characterize the disciplinary measures taken by your parents?

Choose one:

- | | |
|-------------------|------------------|
| a. Very lenient | c. Fairly severe |
| b. Fairly lenient | d. Very severe |

Table 4.8

Cheating and Parental Discipline--Correctiveness

Cheating Behavior	Very Corrective	Fairly Corrective	Fairly Punitive	Very Punitive	Row Total
Yes	13 15.5	44 42.6	11 9.5	0 0.4	68
No	23 20.5	55 56.4	11 12.5	1 0.6	90
COLUMN TOTAL	36	99	22	1	158

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 1.98$; Probability = .58

Table 4.8 indicates that, at the .05 level, cheating is independent of students' perceptions of disciplinary measures taken by parents, in terms of correctiveness. Insufficient evidence exists to reject the null hypothesis.

Table 4.9

Cheating and Parental Discipline--Justness

Cheating Behavior	Very Just	Fairly Just	Fairly Unjust	Row Total
Yes	24 24.5	40 39.2	4 4.3	68
No	33 32.5	51 51.8	6 5.7	90
COLUMN TOTAL	57	91	10	158

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = .09$; Probability = .96.

Table 4.9 indicates that, at the .05 level, cheating is independent of students' perceptions of disciplinary measures taken by parents, in terms of justness. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Five: Cheating is independent of birth order.

Table 4.10 identifies the relationship between cheating and students' responses to the following questionnaire item:

In your family are you:

An only child? The oldest child? The youngest child? A child in-between?

Table 4.10

Cheating and Birth Order

Cheating Behavior	Only Child	Oldest Child	Youngest Child	Child in-between	Row Total
Yes	0 1.7	20 18.5	23 20.7	25 27.1	68
No	4 2.3	23 24.5	25 27.3	38 35.9	90
COLUMN TOTAL	4	43	48	63	158

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 3.99$; Probability = .26.

Table 4.10 indicates that, at the .05 level, cheating is independent of birth order. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Six: Cheating is independent of study habits.

Table 4.11 identifies the relationship between cheating and students' responses to the following questionnaire item:

How would you characterize your study habits?

Very studious Studious Somewhat studious Not studious

Table 4.11

Cheating and Study Habits

Cheating Behavior	Very Studious	Studious	Somewhat Studious	Not Studious	Row Total
Yes	1 0.9	34 32.7	28 30.6	5 3.9	68
No	1 1.1	42 43.3	43 40.4	4 5.1	90
COLUMN TOTAL	2	76	71	9	158

df = 3; Critical $\chi^2 = 7.82$; Calculated $\chi^2 = 1.08$; Probability = .78.

Table 4.11 indicates that, at the .05 level, cheating is independent of study habits. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Seven: Cheating is independent of students' perceptions of parental values regarding school.

Table 4.12 identifies the relationship between cheating and student responses to the following questionnaire item:

How important is it to your parents that you graduate from college?

Very important Important Somewhat important Not important

Table 4.12

Cheating and Parental Values--Graduation

Cheating Behavior	Very Important	Important	Somewhat Important	Not Important	Row Total
Yes	25 22.4	30 27.1	11 13.3	2 5.2	68
No	27 29.6	33 35.9	20 17.7	10 6.8	90
COLUMN TOTAL	52	63	31	12	158

$df = 3$; Critical $\chi^2 = 7.82$; Calculated $\chi^2 = 5.20$; Probability = .16

Table 4.12 indicates that, at the .05 level, cheating is independent of students' perceptions of parental values regarding school, in terms of college graduation. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Eight: Cheating is independent of students' values regarding school.

Table 4.13 identifies the relationship between cheating and student responses to the following questionnaire item:

How important is it to you that you graduate from college?

Very important Important Somewhat important Not important

Table 4.13

Cheating and Students' Values--Graduation

Cheating Behavior	Very Important	Important	Somewhat Important	Not Important	Row Total
Yes	47 39.6	17 21.9	3 4.7	1 1.7	68
No	45 52.4	34 29.1	8 6.3	3 2.3	90
COLUMN TOTAL	92	51	11	4	158

df = 3; Critical $\chi^2 = 7.82$; Calculated $\chi^2 = 6.04$; Probability = .11.

Table 4.13 indicates that, at the .05 level, cheating is independent of students' values regarding school, in terms of college graduation. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Nine: Cheating is independent of perceived difficulty of school work.

Table 4.14 identifies the relationship between cheating and student responses to the following questionnaire item:

How do you perceive school work?

Very difficult Difficult Somewhat difficult Not difficult

Table 4.14

Cheating and Difficulty of School Work

Cheating Behavior	Difficult	Somewhat Difficult	Not Difficult	Row Total
Yes	13 14.2	50 46.5	5 7.3	68
No	20 18.8	58 61.5	12 9.7	90
COLUMN TOTAL	33	108	17	158

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = 1.93$; Probability = .38.

Table 4.14 indicates that, at the .05 level, cheating is independent of perceived difficulty of school work. Insufficient evidence exists to reject the null hypothesis:

Null Hypothesis Ten: Cheating is independent of students' perceptions of parental attitudes toward grades.

Table 4.15 identifies the relationship between cheating and student responses to the following questionnaire item:

How important is it to your parents that you get good grades?

Very important Important Somewhat important Not important

Table 4.15

Cheating and Parental Attitudes--Grades

Cheating Behavior	Very Important	Important	Somewhat Important	Not Important	Row Total
Yes	18 17.2	39 32.7	9 14.2	2 3.9	68
No	22 22.8	37 43.3	24 18.8	7 5.1	90
COLUMN TOTAL	40	76	33	9	158

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 7.12$; Probability = .07.

Table 4.15 indicates that, at the .05 level, cheating is independent of students' perceptions of parental attitudes toward grades. Insufficient evidence exists to reject the null hypothesis. Students who perceived grades to be important to parents cheated more than expected.

Null Hypothesis Eleven: Cheating is independent of students' attitudes toward grades.

Table 4.16 identifies the relationship between cheating and the student responses to the following questionnaire item:

How important is it to you that you get good grades?

Very important Important Somewhat important

Table 4.16

Cheating and Student Attitudes--Grades

Cheating Behavior	Very Important	Important	Somewhat Important	Row Total
Yes	31 28.0	33 34.4	4 5.6	68
No	34 37.0	47 45.6	9 7.4	90
COLUMN TOTAL	65	80	13	158

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = 1.48$; Probability = .48.

Table 4.16 indicates that, at the .05 level, cheating is independent of students' attitudes towards grades. Insufficient evidence exists to reject the null hypothesis. A lesser relationship exists between students' attitudes toward grades and cheating behavior than exists between cheating and students' perceptions regarding parental attitudes toward grades.

Null Hypothesis Twelve: Cheating is independent of religious background.

Table 4.17 identifies the relationship between cheating the the student responses to the following questionnaire item:

What is your religious background?

Protestant Catholic Jewish Other _____

Table 4.17

Cheating and Religious Background

Cheating Behavior	Protestant	Catholic	Other	Row Total
Yes	41 40.0	26 26.7	1 1.3	68
No	52 53.0	36 35.3	2 1.7	90
COLUMN TOTAL	93	62	3	158

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = .19$; Probability = .91.

Table 4.17 indicates that, at the .05 level, cheating is independent of religious background. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Thirteen: Cheating is independent of frequency of church attendance.

Table 4.18 identifies the relationship between cheating and the student responses to the following questionnaire item:

Approximately, how often do you attend church?

Once a week Once a month A few times a year Never or
nearly never

Table 4.18

Cheating and Frequency of Church Attendance

Cheating Behavior	Once a Week	Once a Month	Few Times a Year	Never or Nearly Never	Row Total
Yes	27 28.0	18 14.2	18 20.2	4 4.7	67
No	38 37.0	15 18.8	29 26.8	7 6.3	89
COLUMN TOTAL	65	33	47	11	156

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 2.47$; Probability = .48

Table 4.18 indicates that, at the .05 level, cheating is independent of frequency of church attendance. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Fourteen: Cheating is independent of reasons for being in college.

Table 4.19 identifies the relationship between cheating and the students' first choice responses to the following questionnaire item and Table 4.20 identifies the relationship with their second choice.

College students have different ideas about the main purpose of a college education. Statements of some purposes are listed below. As you read this list, indicate how important each of the purposes is to

you by rank ordering them, 1 to 6. 1 will be most important to you and 6 least important.

- ___ a. Provide vocational training; develop skills and techniques directly applicable to my career.
- ___ b. Develop my ability to get along with different kinds of people.
- ___ c. Provide a basic general education and appreciation of ideas
- ___ d. Develop my knowledge and interest in community and work problems.
- ___ e. Help develop my moral capacities, ethical standards and values.
- ___ f. Prepare me for marriage and family life.

Table 4.19

Cheating and Primary Reason for College

Cheating Behavior	Training	Ability	Education	Problems	Values	Life	Row Total
Yes	52 48.2	4 4.3	4 8.6	0 1.7	4 3.9	3 1.3	68
No	60 63.8	6 5.7	15 11.4	4 2.3	5 5.1	0 1.7	90
Column Total	112	10	20	4	9	3	158

df = 5; Critical $X^2 = 11.07$; Calculated $X^2 = 10.22$; Probability = .07.

Table 4.20

Cheating and Second Reason for College

Cheating Behavior	Training	Ability	Education	Problems	Values	Life	Row Total
Yes	8 11.6	7 10.3	24 25.8	12 8.6	13 9	4 2.6	68
No	19 15.4	17 13.7	36 34.2	8 11.4	8 12	2 3.4	90
Column Total	27	24	60	20	21	6	158

df = 5; Critical $\chi^2 = 11.07$; Calculated $\chi^2 = 10.85$; Probability = .05.

Table 4.19 indicates that, at the .05 level, cheating is independent of students' primary reason for being in college. Insufficient evidence exists to reject the null hypothesis. Students who ranked vocational training number one demonstrated greater than expected cheating behavior.

Table 4.20 indicates that, at the .05 level, cheating is independent of students' second reason for being in college. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Fifteen: Cheating is independent of perceived importance of high grades to occupational plans.

Table 4.21 identifies the relationship between cheating and the

student responses to the following questionnaire item:

How important are high grades to your future occupational plans?

Very important Important Somewhat important Not important

Table 4.21

Cheating and Occupational Plans--Grades

Cheating Behavior	Very Important	Important	Somewhat Important	Not Important	Row Total
Yes	25 18.9	32 36.5	8 9.9	2 1.7	67
No	19 25.1	53 48.5	15 13.1	2 2.3	89
COLUMN TOTAL	44	85	23	4	156

df = 3; Critical $X^2 = 7.82$; Calculated $X^2 = 5.14$; Probability = .16.

Table 4.21 indicates that, at the .05 level, cheating is independent of perceived importance of high grades to occupational plans. Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Sixteen: Cheating is independent of anticipated success in the general psychology course.

Table 4.22 identifies the relationship between cheating and the student responses to the following questionnaire item:

How successful do you anticipate being in this class?

Very successful Successful Somewhat successful Not successful

Table 4.22

Cheating and Anticipated Course Success

Cheating Behavior	Very Successful	Successful	Somewhat Successful	Row Total
Yes	9 10	46 46	12 11	67
No	12 11	61 61	16 17	89
COLUMN TOTAL	21	107	28	156

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = .34$; Probability = .84.

Table 4.22 indicates that, at the .05 level, cheating is independent of anticipated success in the general psychology course.

Insufficient evidence exists to reject the null hypothesis.

Null Hypothesis Seventeen: Cheating is independent of anticipated success in college.

Table 4.23 identifies the relationship between cheating and the student responses to the following questionnaire item:

How successful do you anticipate being in college?

Very successful Successful Somewhat successful Not successful

Table 4.23

Cheating and Anticipated College Success

Cheating Behavior	Very Successful	Successful	Somewhat Successful	Row Total
Yes	11 7.3	49 48.1	7 11.6	67
No	6 9.7	63 63.9	20 15.4	89
COLUMN TOTAL	17	112	27	156

df = 2; Critical $X^2 = 5.99$; Calculated $X^2 = 6.51$; Probability = .04.

Table 4.23 indicates that, at the .05 level, cheating is related to anticipated success in college. Sufficient evidence exists to reject the null hypothesis. Students who anticipated being very successful cheated more than expected.

Null Hypothesis Eighteen: Cheating is independent of past test performance in the general psychology course.

Table 4.24 identifies the relationship between cheating and past test performance in the class.

Table 4.24

Cheating and First Examination Grade

Cheating Behavior	First Examination Grade					Row Total
	A	B	C	D	F	
Yes	1 3	16 18	29 26.7	17 15.9	5 4.3	68
No	6 4	26 24	33 35.3	20 21.1	5 5.7	90
Column Total	7	42	62	37	10	158

df = 4; Critical $X^2 = 9.49$; Calculated $X^2 = 3.5$; Probability = .48.

Table 4.24 indicates that, at the .05 level, cheating is independent of past test performance in the general psychology course. Insufficient evidence exists to reject the null hypothesis. Fourteen and three-tenths percent of the A students cheated, thirty-eight and one-tenth percent of the B students, forty-six and eight-tenths percent of the C students, forty-five and nine-tenths percent of the D students, and fifty percent of the F students cheated.

Regarding actual grades on the second examination, which was corrected by students, none of the A students cheated, thirty-one and four-tenths percent of the B students cheated, fifty-two and seven-

tenths of the C students cheated, fifty-six and eight-tenths of the D students cheated, and seventy-five percent of the F students cheated. Twenty-four and seven-tenths percent of the students received at least one higher letter grade as a result of cheating behavior.

Fifty-two and two-tenths percent of the students from the lowest quartile of the ACT composite score cheated, forty-five and nine-tenths percent of the students from the second quartile cheated, forty-four percent from the third quartile cheated, and fifty-three and three-tenths percent of the top quartile cheated.

General Questions

Three general questions were answered in this study. They are:

1. What is the proportion of students who cheat when allowed to correct their own examinations?
2. What is the proportion of students who admit to cheating?
3. Does the Warner technique have utility in group settings?

Each of these three questions is dealt with separately.

General Question One. What is the proportion of students who cheat when allowed to correct their examinations?

Twenty-eight out of fifty-nine students in Section A cheated, thirty out of sixty students in Section B cheated, and ten out of thirty-nine students in Section C cheated. Out of a total of one hundred and fifty-eight students, sixty-eight engaged in cheating behavior. The reader is reminded that cheating refers to changing one

or more answers and/or not marking two or more incorrect responses.

Table 4.25 summarizes the overall results.

Table 4.25

Proportion of Students Who Cheated

Section A	Section B	Section C	All Sections
.475	.500	.256	.430

Table 4.25 indicates that forty-three percent of the students cheated. Section C showed the smallest proportion of cheaters, which may be partially accounted for by a larger number (nine) of older, part-time students in the class, only one of whom cheated. This class met in the evening, once a week. Table 4.26 shows a breakdown of the students who did or did not cheat by class standing.

Table 4.26

Cheating Behavior by Class Standing

Cheating Behavior	Number of Students at Class Standings					
	Freshman	Sophomore	Junior	Senior	Part-Time	High School
Yes	56	8	2	0	1	1
No	62	15	1	1	10	1

Table 4.27 reveals the proportion of these students who cheated by class standing.

Table 4.27
Proportion of Cheaters by Class Standing

Freshman	Sophomore	Junior	Senior	Part-time	High School
.475	.348	.666	0.000	.091	.500

Because of the smaller numbers of students at class standings other than freshman, Table 4.27 should be interpreted with caution.

Table 4.28 presents a breakdown of specific cheating behaviors: those students who changed answers, those who did not mark two or more answers, and those who engaged in both behaviors. The overall incidence is included for the sake of comparison.

As depicted in Table 4.28, a greater proportion of students cheated by changing an answer or answers than by not marking two or more incorrect responses. Students in Section C, the evening class with a greater proportion of older, part-time students, cheated less in all instances.

By definition, students who cheated changed one or more answers and/or did not mark two or more incorrect responses. The number of items that students changed and/or did not mark two or more incorrect responses ranged from one to fifteen, with an average of five and

Table 4.28

Specific Cheating Behaviors

Cheating Behaviors	Number and Proportion of Cheaters							
	Section A 59 Students		Section B 60 Students		Section C 39 Students		All Sections 158 Students	
	Number	Proportion	Number	Proportion	Number	Proportion	Number	Proportion
Changed answer	17	.288	19	.317	8	.205	44	.279
Did not mark 2 or more incorrect responses	5	.085	5	.083	1	.026	11	.070
Engaged in both changing and not marking	6	.102	6	.100	1	.026	13	.082
Total	28	.475	30	.500	10	.256	68	.430

four-tenths items.

Other behaviors by students, including not marking one incorrect response and making a subtraction error in determining the final score, created a discrepancy between the student-determined grade and the actual grade. Seven students did not mark one incorrect response. Four students made a subtraction error. One student did not mark one incorrect response and made a subtraction error. Five students who changed answers did not mark one incorrect response. Three students who changed answers made a subtraction error. Four students who did not mark two or more incorrect responses made a subtraction error. Table 4.29 reveals what the proportions would have been if cheating had been defined as "any discrepancy between the student-determined grade and the actual grade."

Table 4.29

Proportion of Test Discrepancies

Section A	Section B	Section C	All Sections
$\frac{32}{59} = .59$	$\frac{32}{60} = .53$	$\frac{16}{39} = .41$	$\frac{80}{158} = .51$

General Question Two: What is the proportion of students who admit to cheating?

The primary purpose of this question was to validate the Warner

technique, since in this instance, the actual proportion of cheaters could be determined. The reader is reminded that a modification of Warner's randomized response technique was utilized in each of the three sections to derive the estimated proportion of those students who cheated. This technique offers the possibility of reducing untruthful responses. In one of the sections, students were also asked directly if they cheated in correcting their own exams.

The following modified Warner technique formula was used (Williams, 1978: 73):

$$\begin{array}{rcl} \text{Proportion} & & \text{Proportion} & & \text{Proportion of} \\ \text{of all yes} & = & \text{of yes responses} & \times & \text{times question} \\ \text{answers} & & \text{to question A} & & \text{A is asked} \\ & & & & \\ & + & \text{Proportion} & & \text{Proportion of} \\ & & \text{of yes responses} & \times & \text{times question} \\ & & \text{to question B} & & \text{B is asked} \end{array}$$

Data from each class were entered into the formula, as follows:

$$\text{Section A: } \frac{17}{51} = X \text{ times } \frac{4}{10} \text{ plus } \frac{1}{2} \text{ times } \frac{6}{10}$$

$$\text{Section B: } \frac{25}{55} = X \text{ times } \frac{4}{10} \text{ plus } \frac{1}{2} \text{ times } \frac{6}{10}$$

$$\text{Section C: } \frac{8}{35} = X \text{ times } \frac{4}{10} \text{ plus } \frac{1}{2} \text{ times } \frac{6}{10}$$

$$\text{Total: } \frac{50}{141} = X \text{ times } \frac{4}{10} \text{ plus } \frac{1}{2} \text{ times } \frac{6}{10}$$

Table 4.30 presents the results of the Warner procedure used to determine the estimated proportion of students who admit to cheating, as well as the actual incidence of cheating in each section.

Table 4.30

Proportion of Students Who Admit to Cheating--Warner Technique

	Section A	Section B	Section C	Total
Warner	.080	.386	-.178	.137
Actual	.475	.500	.256	.430

Table 4.30 illustrates the difference between the proportions of actual cheating behavior and those estimates derived through Warner's technique. Students did not give probability a chance through the randomized response technique. The researcher notes that the procedure was used first in section C, then A, and lastly, B, and with each trial, results became more favorable.

Table 4.31 presents a comparison of the Warner technique to the direct question in Section B.

Table 4.31

Proportion of Students Who Admit to Cheating
Warner Technique--Direct Question

Proportion of Students: Section B	
Warner	Direct Question
.386	.266

On the surface, it appears that the Warner technique comes closer to estimating the actual incidence of cheating in Section B. However, the researcher notes that on the day the direct question was asked, three people were absent, none of whom cheated. On the day the Warner technique was utilized, five people were absent, four of whom cheated. The following procedure determine whether or not those absent students cheated. The instructor of the class took roll and gave names of absent students to the two faculty members assigned by the researcher to give code numbers to students' questionnaires and exams. These faculty members determined each of the absent students' code numbers and gave these to the researcher. By checking the raw data corresponding to these code numbers, the researcher determined whether or not those absent students cheated. Table 4.32 indicates a comparison of admitted cheating practices through the Warner technique and the direct question method to actual cheating behavior engaged in only by those present on the days these procedures were utilized.

Table 4.32

Proportion of Admitted Cheating--Revised
Warner--Direct

Technique	Actual Cheating
Warner .386	.473
Direct Question .266	.526

A greater proportion of students admitted to cheating under the Warner technique than under the direct question method in section B.

General Question Three: Does the Warner technique have utility in group settings?

Table 4.33 indicates comparisons between actual proportions of those students who cheated and proportions derived by the modified Warner technique and direct question method.

Table 4.33

Comparison of Admitted Cheating Practices
to Actual Cheating Behavior

Method of Determining Cheating	Proportions by Section			
	Section A	Section B	Section C	Total
Warner	.080	.386	-.178	.137
Actual	.475	.500	.256	.430
Direct		.266		

The data cast doubt on the utility of the Warner proposal, especially with small groups where randomization does not have a chance to take effect. The Warner technique was of greatest value in section B. The researcher notes that this procedure was used first in the other two sections and that it was used in Section B after the direct question was asked. What impact these two factors made is open to speculation.

The researcher also noted that when the Warner technique was used, eight of fifty-nine students were absent from section A, five of sixty from section B, and four of thirty-nine from section C. Three of sixty students from section B were absent on the day the direct question was asked. In section A, three of those who were absent

cheated. The procedure described prior to Table 4.32 determined whether or not those absent students cheated. Table 4.34 indicates a comparison of admitted cheating practices to actual cheating behavior engaged in only by those present on the day the Warner technique was utilized.

Table 4.34

Comparison of Admitted Cheating Practices to
Actual Cheating Behavior--Revised

Method of Determining Cheating	Proportions by Section			
	Section A	Section B	Section C	Total
Warner	.08	.386	-.178	.137
Actual	.49	.473	.20	.41

Table 4.34 indicates the Warner technique is of questionable value in estimating cheating incidence.

The randomized response technique was not useful in obtaining accurate estimates of cheating within a group setting. Actual cheating was higher than the estimate. That the participants may have had a lack of confidence in the randomizing device may explain why it did not yield more accurate estimates.

Interpretation of Data

From the analyzed data, the researcher found that anticipated

college success was significantly related to cheating. Students who anticipated being very successful cheated more than expected. This finding lends support to the research results of Jacobson, Berger, and Millhan (1970: 54) which also indicated that subjects with a high expectancy of success cheated more than subjects with a low expectancy of success. However, the present research found no relationship between cheating and anticipated course success, which confuses the issue. The researcher did not find other variables from the questionnaire significantly related to cheating, except for students' specific plans for training/education after college.

Although a greater proportion of males than females cheated in this study, no significant difference between them was found. Analyzed data revealed fifty percent of the males cheated compared to thirty-eight and three-tenths percent of the females. Although documentation is inconsistent with regard to who cheats more, males or females, most research seems to indicate that a greater proportion of males cheat than females. The present study confirms the findings of other researchers. Higher incidence of cheating among males was also reported by Faia (1976), Parr (1936), Hetherington and Feldman (1964), and Roskens and Dizney (1966).

Although no significant difference was found between cheating and general psychology grades in this study, students at the lower end of the grade scale tended to cheat more than those at the upper end.

Comparing cheating behavior to the first examination grade, fourteen and three-tenths of the A students cheated while fifty percent of the F students cheated. Regarding cheating and actual grades on the second examination which was corrected by students, none of the A students cheated, while seventy-five percent of the F students cheated. These results concur with the findings of Drake (1941), Hetherington and Feldman (1964), Parr (1936), Faia (1976), and Bronzaft, Stuart, and Blum (1973). Similar results were not found in this study comparing cheating to ACT percentile ranks of students. The proportion of cheaters was distributed fairly evenly across all four quartiles of the ACT composite scores.

This study demonstrated that a lesser relationship existed between students' attitudes toward importance of grades and cheating than existed between cheating and students' perceptions regarding parental attitudes toward grades. Students who perceived grades to be important to their parents cheated more than expected. The analyzed data suggest that a student is more likely to cheat as a result of perceived parental importance toward grades than as a result of importance of grades to self.

By definition, students who cheated changed an answer and/or did not mark two or more incorrect responses. The analyzed data revealed that forty-three percent of the students cheated. Section C had the smallest proportion of cheaters, which may be partially accounted for

by a larger number of older, part-time students in the class, only one of which cheated. This class met in the evening once a week, compared to the other two sections which met four times a week during the day. This research suggests that a significant difference in the extent of cheating may exist between traditional and older-than-average students.

This study considered students' admitted cheating practices and compared them to actual incidence. A greater proportion of students admitted to cheating under a modification of Warner's technique than under the direct question method in Section B. However, the proportion of students who admitted to cheating through the Warner technique was lower than the actual proportion who cheated in each section of general psychology. The researcher did not find the Warner technique, a randomized response procedure designed to reduce untruthful responses, to have utility in group settings. This finding conflicts with other studies which demonstrate the effectiveness of the Warner technique.

Summary

The purpose of this study was three-fold: to determine the proportion of college students who engage in cheating behavior when allowed to correct their own examinations, to determine factors associated with cheating behavior, and to determine the proportion of college students who admit to cheating behavior. The researcher described the population and sample, presented the results of the null hypotheses tested at the .05 level using Chi Square Tests of Independence, and

discussed the general questions.

From the data, the researcher found that anticipated college success was significantly related to cheating. She did not find other variables from the questionnaire significantly related to cheating, except for students' specific plans for training/education after college. No significant difference existed between the proportions of males and females who cheated. Forty-three percent of the students engaged in cheating behavior; fifty percent of the males cheated compared to thirty-eight and three-tenths percent of the females. Students at the lower end of the grade scale tended to cheat more than those at the upper end. The proportion of students who admitted to cheating through the randomized response technique and the direct question method was lower than the actual proportion who cheated. The researcher did not find the Warner technique, a randomized response procedure designed to reduce untruthful responses, to have utility in group settings.

Chapter 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the research, "Cheating Behaviors of College Students." In addition, the chapter presents conclusions drawn from the data and makes recommendations for further action and study.

Summary

Traditionally, academic integrity has been a highly regarded ideal at colleges and universities, one which symbolized the essence of learning. Although academic integrity is still an objective in theory, it loses ground to academic dishonesty in actual practice. The problem of academic dishonesty among college students is a perplexing phenomenon. This study examined one aspect of academic dishonesty, that of cheating on examinations. The problem of the study, as defined in Chapter 1, was three-fold: (1) to determine the proportion of college students who engage in cheating; (2) to determine factors associated with cheating behavior; and (3) to determine the proportion of college students who admit to cheating.

A review of literature and related research was presented in Chapter 2. Major areas covered include: historical background, prevalence of academic dishonesty, variables associated with academic dishonesty, student attitudes toward academic dishonesty, institutional policies and procedures, and the randomized response technique.

The literature revealed that academic dishonesty has been a concern on college and university campuses throughout the twentieth century. Although reported incidence varies, investigators agreed that estimates of academic dishonesty were probably lower than actual occurrence. The present research confirms this fact. In the last half of the century, the problem of academic dishonesty took on more complicated and sophisticated dimensions. Cheating seemed to be readily tolerated by students when, for example, professional term paper writers found a ripe market for their services among college students. Academic dishonesty has been a problem on campuses throughout the century, and it remains a major concern, a concern that represents a serious disciplinary problem, even at colleges that operate with honor codes.

The research revealed that some specific variables are related to academic dishonesty among students. Investigators reported, although inconsistently, these variables to relate to cheating: previous success-failure experiences, high self-satisfaction, pressure for grades, low intellectual ability, low grades, gender, and crowded classrooms. Researchers found no single variable to relate to cheating behavior, thus confirming the perplexing nature of academic dishonesty.

The literature indicated that students exhibited a high degree of tolerance toward academic dishonesty, even though their attitudes toward types of academic dishonesty were discriminating. By their own

reports, students perceived that other students do not stigmatize cheaters and are not likely to report them. Further, students tolerated some forms of academic dishonesty more so than others. For example, paying someone else to take an examination was considered a far worse offense than using previous papers to help complete assignments, and the more a particular cheating behavior occurs, the less students view that behavior as academically dishonest (Barnett, Dalton, 1981: 549).

Contrary to policies of the earlier half of the twentieth century, more recent policies and procedures regarding academic dishonesty have been lacking, very lenient, or simply not enforced. If colleges are to renew their commitment to academic integrity, policies and procedures must be stated more clearly, and administrators and faculty must take responsibility for minimizing academic dishonesty. Although indifference toward academic dishonesty still exists, concerted efforts toward operationalizing academic integrity on some campuses constitute an encouraging sign.

The randomized response technique, developed by Warner and modified by others, has proven to be useful in estimating proportions of responses to sensitive questions. This procedure has yielded higher response rates than other data gathering methods, although responses were still found to be biased in some cases. For Warner's randomized response technique or its modifications to be successful, "a great deal

of care must go into designing both questions and methodology" (Zdep, Rhodes, 1976-1977: 536). Warner himself said that "the question is still open as to what methods of randomized response will prove the most useful" (1965: 68).

Procedures of the study were outlined in Chapter 3. The population consisted of three hundred and eighty-seven, full-time freshman students enrolled at a small, Midwestern, public college during fall quarter, 1981. The sample was comprised of one hundred and fifty-eight students, one hundred and eighteen of which were freshmen, enrolled in the three general psychology courses offered during the same quarter. A questionnaire was developed and used to secure information on selected variables from participants at the beginning of the quarter. This information was later compared to cheating behavior to determine the degree of relationship. Students were given the opportunity to correct one of their own exams. Subsequent comparisons of the photocopies to those original answer sheets corrected by students, as well as a rechecking of answer sheets by the researcher, yielded information regarding cheating behavior. Because the answer sheets and the questionnaire had been recoded, the researcher was not able to identify the specific students who cheated. In Chapter 3, the researcher also stated eighteen null hypotheses and three general questions to be answered in the study. In addition, the analysis of data was described.

In Chapter 4, the data collected in this study was presented.

Statistical hypotheses were tested at the .05 level of significance, using Chi Square Tests of Independence. The general questions were answered by (1) determining proportions of actual cheating incidence and (2) noting students' self-reports of cheating through randomized response techniques and a direct question method. Frequency distribution tables were used (1) to illustrate the proportion of those who engaged in cheating as opposed to those who did not; and (2) to indicate the proportion of those students who admitted to cheating through the Warner technique and the direct question method. The researcher utilized contingency tables to compare cheating and non-cheating behaviors to the variables identified on the questionnaire, including students' gender and their past test performance in the class. The researcher found that anticipated college success was significantly related to cheating. Other variables from the questionnaire did not significantly relate to cheating, except for students' specific plans for training/education after college. No significant difference existed between the proportions of males and females who cheated. Forty-three percent of the students engaged in cheating behavior; fifty percent of the males cheated compared to thirty-eight and three-tenths percent of the females. Students at the lower end of the grade scale tended to cheat more than those at the upper end. The Warner technique, a randomized response procedure designed to reduce untruthful responses, was not found to have utility in group settings.

Conclusions

Based on the review of literature and the analysis of data collected in this study, the researcher derives the following conclusions:

1. Forty-three percent of the students cheated when they corrected their own examinations.
2. Cheating is independent of gender.
3. Cheating is independent of any plans for further training/education after college, but cheating is related to specific plans for such training/education.
4. Cheating is independent of students' perceptions of home environment.
5. Cheating is independent of students' perceptions of disciplinary measures taken by parents.
6. Cheating is independent of birth order.
7. Cheating is independent of study habits.
8. Cheating is independent of students' perceptions of parental values regarding school.
9. Cheating is independent of students' values regarding school.
10. Cheating is independent of perceived difficulty of school work.
11. Cheating is independent of students' perceptions of parental attitudes toward grades.
12. Cheating is independent of students' attitudes toward grades.

13. Cheating is independent of religious background
14. Cheating is independent of frequency of church attendance.
15. Cheating is independent of students' primary reason for being in college.
16. Cheating is independent of perceived importance of high grades to occupational plans.
17. Cheating is independent of anticipated success in the general psychology course.
18. Cheating is related to anticipated success in college. Students who anticipate being very successful cheat more than expected.
19. Cheating is independent of past test performance in the general psychology course.
20. Students with low grades tend to cheat more than students with high grades.
21. Part-time, older students tend to cheat less than younger, full-time students.
22. In this study, the Warner technique did not have utility in group settings.
23. Students do not readily admit to cheating.
24. Students are more likely to cheat as a result of perceived importance of grades to parents than stated importance of grades to themselves.
25. Teachers who allow students to correct their own tests run

the risk of students' cheating.

26. Students can improve their grades by cheating.
27. Classroom procedures can deter or encourage cheating.
28. An honor system will not automatically reduce academic dishonesty.
29. Any researcher attempting to use the Warner technique should have sufficient practice in using it before testing its utility. Although this researcher believed the procedure was conducted in the same manner in all three sections, the results were more favorable each time. Perhaps unwittingly, students in the last section were assured that they could trust the method. Or perhaps the students in that section trusted the researcher more after the direct question method, when a student sealed their responses in an envelope for another faculty member to remove names from the response sheets.

Recommendations for Action

Based on the review of literature and the analysis of data collected in this study, the researcher recommends the following:

1. Since research has demonstrated that some students cheat when they are allowed to correct their own examinations, teachers, rather than students, should grade course tests. If faculty members bear a certain degree of responsibility toward fostering academic integrity among students, it is incumbent upon them to reduce the

opportunity for academic dishonesty. The present study underscores the necessity of faculty members guarding against negligent classroom practices.

2. In an effort to further reduce the opportunity for academic dishonesty, faculty members must take preventative measures in the classroom, such as spaced seating during exams and giving essay-type tests. They must also carefully review students' written work, checking for plagiarism. Further, faculty members could allow students to use old exams in studying for upcoming tests.

3. Emphasis on grades as a means of determining one's worth needs to be reduced. One's worth is intrinsic and does not depend on such an external criterion as a grade. Teachers should promote a sense of well-being and worth in all their students, regardless of the grades they receive.

4. Institutions of higher education must define academic dishonesty and academic integrity, and they must implement policies and procedures regarding violations of academic integrity. If academic integrity is to become operational, academic dishonesty must be discouraged by the administration, by the faculty, and by the students themselves.

Recommendations for Further Study

Based on the review of literature and an analysis of data in

this study, the researcher recommends the following:

1. In order to establish similarities and/or significant differences in the research findings, this study should be replicated at other institutional types. Comparisons among small, public, four-year colleges, community colleges, private colleges, and universities would allow greater understanding of the dimensions and character of cheating behavior by college students.
2. In order to establish similarities and/or differences in the research findings, this study should be replicated among upperclassmen and graduate students. Comparisons would promote understanding of cheating.
3. Further studies comparing the nature and extent of academic dishonesty on campuses using an honor system to campuses which do not should be conducted. Whether an honor system supports academic integrity or detracts from it is still open to speculation.
4. Since students appear to cheat less than usual under fear of sanction, further studies should examine the nature of the sanction and its propensity for reducing the amount of cheating.
5. Since the present research casts doubt on the utility of the Warner technique in group settings and since this doubt conflicts with other studies demonstrating the effectiveness of the Warner technique, further study regarding the usefulness of this procedure is warranted, particularly where the actual incidence of a sensitive behavior can

be determined and compared to the estimated proportions for the sake of validation.

6. Apparently, the Warner technique is of questionable value in estimating true proportions when the subjects do not trust that their randomized responses will be interpreted as randomized responses by the researcher. Therefore, studies should be conducted to determine how participants may be led to have greater confidence in the randomized response technique in order to further that procedure's utility.

7. Faculty members bear an important responsibility in promoting academic integrity among their students. In order to further that end, more studies should be conducted to determine the extent to which certain teacher behaviors and practices may encourage academic dishonesty at the college level. An awareness and correction of these behaviors and practices can inhibit academic dishonesty and help foster academic integrity among students.

8. This study indicates a significant relationship between cheating and anticipated success in college. Since other research has also demonstrated similar relationships, further studies should be conducted to clarify the relationship between cheating and anticipated success and to refine understanding of that relationship.

9. In the present study, the part-time, older-than-average students cheated less than the traditional, full-time students. Since

greater proportions of these older, non-traditional students are enrolling in college, studies can and should be conducted to compare the extent and nature of academic dishonesty between them and the traditional college-age students. If research demonstrates significant differences between the two groups, then research must also determine why those differences exist.

10. Researchers should seek to determine how standards of academic integrity can be internalized by students, so that students do not have to be moved toward that integrity by fear of sanction. Simply imposing certain standards upon students is unacceptable and falls short of fulfilling institutional responsibilities.

11. Studies should be conducted to determine reasons for the confusion in the literature, part of which states that students cheat because of pressure to be admitted to graduate school and part of which confirms that students with low grades and low intellectual ability cheat more than students who do well academically. Supposedly, the academically strong student is the one to go on to graduate school, yet this student does not cheat so much as those students who are academically weak.

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3. In your family, are you:

An only child? The oldest child? The youngest child?

A child in-between?

4. How would you characterize the disciplinary measures taken by your parents?

Choose one:

a. Very lenient

c. Fairly severe

v. Fairly lenient

d. Very severe

Choose one:

a. Very corrective

c. Fairly punitive

b. Fairly corrective

d. Very punitive

Choose one:

a. Very just

c. Fairly unjust

b. Fairly just

d. Very unjust

5. How would you characterize your study habits?

Very studious Studious Somewhat studious Not studious

6. How important is it to your parents that you graduate from college?

Very important Important Somewhat important Not important

7. How important is it to you that you graduate from college?

Very important Important Somewhat important Not important

8. How do you perceive school work?

Very difficult Difficult Somewhat difficult Not difficult

- ___c. Provide a basic general education and appreciation of ideas.
- ___d. Develop my knowledge and interest in community and work problems.
- ___e. Help develop my moral capacities, ethical standards and values.
- ___f. Prepare me for marriage and family life.

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NAME _____

YES

NO

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