

ACADEMIC MISCONDUCT AMONG TEACHER EDUCATION STUDENTS: A DESCRIPTIVE-CORRELATIONAL STUDY

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Results of a study to determine the extent to which teacher education students perceive their student peers to engage in various forms of academic misconduct are reported. A thirty-seven-item instrument was used to collect data from ninety-seven teacher education students at a southern comprehensive university. Items addressed the frequency of various cheating behaviors, the perceived maturity level of the persons most likely to cheat, and the degree to which respondents felt cheaters "neutralized" their cheating behaviors. Although cheating was not perceived as a major problem among teacher education students, a definite relationship between perceived neutralization and academic misconduct was noted.

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Academicians have long recognized cheating as a serious problem in higher education. Cheating has been regarded as "a form of deviancy . . . resulting from an acceptance of the institutionalized goals but not the institutionalized means" (Harp and Taietz, 1966, p. 366). In a survey of college deans and student body presidents, Bowers (1964) found that academic dishonesty was considered second only to disorderly conduct as the most serious student discipline problem. As early as 1936, Parr conceded it was common knowledge that "cheating occurs in most college classrooms" (Parr, 1936, p. 318). Fifty years later, Haines, Diekhoff, LaBeff, and Clark (1986, p. 342) echoed these sentiments, noting that "it is unlikely that those associated with academia for any length of time would deny the presence of student cheating." Likewise, Michaels and Miethe (1989, p. 870) assert that "cheating is considered a significant problem because of its frequency, and because it interferes with conventional learning and evaluation processes."

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TABLE 1. Incidence of Self-Reported Cheating in Various Studies¹

Study	Population	n	Incidence (%)
Bowers, 1964	Random sample of students in 99 institutions	5280	50
Harp & Taietz, 1966 ²	Students from a selected Ivy League university	1929	38.9
Smith et al., 1972 ³	Undergraduate students in two large urban colleges	112	66
Baird, 1980	"College students"	200	75.5
Sierles et al., 1980	Medical school students at two U.S. medical schools	44	87.6 (college) 58.2 (med. school)
Singhal, 1982	Engineering students at a selected U.S. university	364	56
Haines et al., 1986	Undergraduate students at a small state university in the Southwest	380	54.1
Stern & Havlicek, 1986	Students at a large Mid-western university	314	82
Nelson & Schaefer, 1986	Students at a private liberal arts college	69	50
Tom & Borin, 1988	Marketing students	149	49
Michaels & Miethe, 1989	Undergraduate students at a large state university	623	85.7

¹This is not an exhaustive listing of studies of this type, but serves as a representative list. All studies reported here used anonymous surveys as the data collection technique.

²This study was limited to cheating on term papers.

³This study was limited to cheating on tests during the current or previous semester.

As to the magnitude of the cheating problem, studies of students' self-reported cheating behaviors generally show that at least half of the college students anonymously surveyed report to have cheated at least once during their college career. Findings across a number of these "self-report" studies are presented in Table 1. Generally, these figures indicate a tendency toward an increase in the number of students cheating over time. Roizen, Fulton, and Trow (1975) report that approximately 8 to 9 percent of students in higher education admit to the necessity of cheating in order to obtain desirable grades, a trend consistent with the perception that competition among college students has greatly increased in recent years (Lamont, 1979; Levine, 1980; Stern and Havlicek, 1986). Consequently, Haines et al. (1986, p. 342) have noted that "there seems to be general agreement that cheating is endemic to education in the secondary schools as well as at the college level."

As a possible explanation for the proliferation of college cheating, Fass (1986, p. 32) notes:

Unfortunately, this generation of students . . . has become inured to several widely publicized examples of unethical behavior within academe: major cheating scandals at U.S. service academies, exposure of fraudulent fabrication of data by scientific researchers, and revelations about recruiting violations and drug abuse in college athletics. . . . *Some of today's students may well conclude from these examples that cheating in college is just another generally accepted way of getting ahead, akin to overstating the virtues of a commercial product or exaggerating personal accomplishments on a resume.* (emphasis added)

Public concern over breaches in ethical behavior has been heightened in recent years by exposed scandals involving prominent individuals (Fass, 1986; Pratt and McLaughlin, 1989). Nucci and Pascarella (1987) note that higher education is often expected to take a leading role in promoting the improvement of ethical standards and behavior; hence, control of cheating may currently be perceived as a more urgent problem than in years past.

Research literature for some sixty years has focused on the nature of college students' academic misconduct (e.g., Bowers, 1964; Campbell, 1933; Drake, 1941; Haines et al., 1986; Harp and Taietz, 1966; Kirk, 1971; McQueen, 1957; Parr, 1936; Sherrill, Salisbury, Horowitz, and Friedman, 1971; Stafford, 1976; Stern and Havlicek, 1986). Even popular magazines have occasionally presented articles on the topic (e.g., "Cheating in Colleges," 1976; Mano, 1987; Selwall, Drake, and Lee, 1980; Wellborn, 1980).

Many researchers have sought to determine various correlates of college students' academic misconduct. In one of the earliest published studies on student dishonesty, Hartshorne and May (1928) focused on the academic ability of those students aged eight to sixteen who were most likely to cheat. These researchers found that cheating was more prevalent in academically less able students. Applying the same logic to the study of college students, Campbell (1933), Parr (1936), and Howells (1938) found consistently that the less able student was more likely to cheat. More recently, these findings were corroborated by Bowers (1964) and Hawley (1984). Wilkinson (1974) found that students with low SAT verbal scores cheated no more frequently than those with higher scores, but students with lower SAT math scores cheated more frequently than higher scorers.

Interestingly, however, Houston and Ziff (1976) found that students who had experienced initial success in a given academic task were more likely to cheat on a successive task than those experiencing initial failure. Similarly, it has been found that students who anticipated being successful in academic tasks (Holleque, 1982) and who present themselves as being self-satisfied (Jacobson, Berger, and Millham, 1970) are prone to high levels of cheating.

Several studies have focused on the incidence of academic misconduct when

students are given various cheating opportunities. Parr (1936), Hetherington and Feldman (1964), Morris (1967), Sherrill et al. (1971), and Wilkinson (1974) noted a proclivity toward students' cheating given such opportunities as inattentive proctoring of tests and use of self-scoring. Harp and Taietz (1966) found that fraternity members were more likely to cheat than students who were not fraternity members, suggesting that the fraternity offered an opportunity structure for deviant behavior. Baird (1980) noted this same trend among both fraternity and sorority members.

Studies using demographic variables such as students' sex, age, birth order, religiosity, and GPA have produced mixed results. In a study of 39 male and 39 female psychology students, Hetherington and Feldman (1964) found that males and firstborns were more likely to cheat. By contrast, Sierles, Hendrick, and Circle (1980), in a study of 428 medical school students, found only a negligible correlation between incidence of cheating and a number of demographic variables including age, religion, religiosity, marital status, grades, and race. Similarly, Wilkinson (1974) found that age and sex were not related to instance of students' cheating on tests.

Haines et al. (1986) studied the relationship between incidence of cheating and the "neutralizing attitude," that is, the degree to which the persons cheating attempted to rationalize or "neutralize" their cheating behaviors. The researchers found a statistically significant correlation between incidence of self-reported cheating behaviors and the level of neutralization reported by the individual, concluding that where cheating exists, neutralization will be its "common denominator" for reducing the effects of cheating (p. 350). In the same study students' maturity level and degree of commitment to academics were also noted as factors underlying cheating behavior.

To date, most studies involving higher education students' academic misconduct have dealt with university students in general. More specialized studies to determine the nature of academic misconduct among students in particular fields have also been conducted. To date, these studies include investigations of misconduct among students in psychology (Hetherington and Feldman, 1964), medicine (Sierles, Hendrick, and Circle, 1980), marketing (Tom and Borin, 1988), communication (Pratt and McLaughlin, 1989), nursing (Harnest, 1986; Hilbert, 1985), and engineering (Singhal, 1982).

Other studies have focused on more general academic interests of students who engage in academic misconduct. Bowers, (1964, pp. 105–106) noted incidence of self-reported cheating among 5,280 students across academic majors. Of the nine majors represented among the sample, incidence of cheating was highest for students in business and commerce (66%), engineering (58%), education (52%), and social science (52%). Art majors fell at the mean of 50 percent, followed by persons majoring in physical science (47%), history

(43%), humanities (39%), and language (37%). In a similar study, Baird (1980) found that business majors reported to have cheated more frequently than students majoring in either education or liberal arts. In a study of 1,929 college students, Harp and Taitz (1966) found that undergraduate students who reported aspirations to attend graduate school were less likely to cheat than students who did not plan to attend graduate school.

Cheating among students in programs leading to certification in the "helping professions" is especially problematic. For instance, Stern and Havlicek (1986, p. 129) note: "Educators in health-related fields are particularly sensitive to academic misconduct because undergraduate students who falsify academic work in such fields can go on to endanger the health and well-being of the very people they are meant to assist." The same concern holds for students in teacher education programs. Naturally, college faculty would be wary of placing in the classroom a recent graduate who had purchased a prewritten term paper for a foundations of education course or who had plagiarized the teaching unit developed in the methods of teaching social studies class. Obviously, the knowledge base and skill levels of such individuals would be held suspect.

As a part of the present study, the investigators conducted an extensive search of previous literature to determine if there had been any studies of this nature aimed particularly at students in education. A computer search of the ERIC database from 1966 to 1990, the PsychLIT database from 1983 to 1990, and the Dissertation Abstracts database from 1970 to 1990 indicated that only one previous study of this nature had been conducted (i.e., Wilkinson, 1974). In that study, the investigator found that approximately one-fourth of a sample of 137 teacher education students at a midwestern university engaged in opportunistic cheating when grading their own tests, and that various demographic variables were generally not related to cheating behavior.

The apparent dearth of studies dealing with academic dishonesty among teacher education students is surprising considering the relatively large amount of attention given to the professional ethics of teachers in recent years (e.g., Rich, 1984, 1985; Soltis, 1986; Strike and Soltis, 1985; Sichel, 1990). Rich (1985) asserts that the development of a generally accepted code of professional ethics will aid teaching in its quest to become a "true" profession. As future professionals, it is therefore important that graduating teacher education students bring to their career their own personal standards of integrity. Ellis, Cogan, and Howey (1991, pp. 37-38) note, "There is something implicit in the role of a teacher that calls for high moral character and positive social values. . . . [A] true professional aspires to conduct of the highest ethical standards, shunning even the hint of impropriety."

Soltis (1986) further elaborates the need for beginning teachers to possess a general sense of moral propriety:

When a person becomes a member of a profession, he or she joins a historical community of practice with a telos, a general purpose, that one must be committed to in order to be a professional. . . . [I]n the tradition of a practice like teaching, certain standards of conduct and of manner develop in support of the telos and become recognized as a desirable part of the moral climate of the practice. In the treatment of students, of subject matter, and of colleagues, *honesty, truth, and justice become central virtues of the practice.* (p. 2, emphasis added)

Considering the importance of the personal integrity of teachers to the future of teaching as a profession, a concern for the academic behavior of teacher education students is warranted. Therefore, the purposes of the present study were (1) to assess the degree to which undergraduate teacher education students at a selected university would perceive various types of academic misconduct to exist among their peers, and (2) to determine whether factors recognized by Haines et al. (1986) (neutralization, maturity, and academic commitment) would correlate with perceived academic misconduct as measured in the present study.

INSTRUMENTATION

An anonymous questionnaire (see Table 2) consisting of three sets of items was developed. First, a set of twenty-two Likert-type items was developed for the purpose of measuring incidence of various types of academic misconduct. Items appearing in this set were adapted from a pool of items from Stern and Havlicek (1986). The questionnaire also included an eleven-item "neutralization scale" adapted from items developed by Haines et al. (1986). The response format for items in these two sets was a five-point Likert scale, with response options ranging from "seldom or never occurs" (1) to "frequently occurs" (5).

Even though instruments similar to the "academic misconduct" and "neutralization" measures used in the present study have been employed in previous studies with some frequency, very little psychometric data supporting these instruments' validity and reliability have been provided. No construct validity studies were found on either of the instruments; however, internal consistency reliability for the "neutralization" scale was found to be adequate (coefficient alpha = .93) using data from 380 college students (Haines et al., 1986).

In addition to the academic misconduct and neutralization scales, a third set of items was developed to measure the respondents' perception of the maturity and academic commitment levels of persons most likely to engage in cheating behaviors. Specifically, respondents were asked to respond to four items distinguishing whether they felt cheating occurs more frequently among students who are married versus single, younger versus older, less serious versus more serious, and able versus less able. Respondents were given three response options for these four items; for instance, on the "married versus single" item, responses included "single students cheat more frequently than married students"

TABLE 2. Academic Misconduct Survey

This is a survey to determine the degree to which you perceive certain behaviors to go on among teacher education students. The survey includes three parts, and should take only about 10 minutes to complete. Your voluntary cooperation is requested in completing this survey. Your anonymity is assured as there are no personal questions about your background included.

PART I: INSTANCE OF VARIOUS BEHAVIORS

To the best of your ability, indicate the degree to which you perceive the following behaviors to go on among **TEACHER EDUCATION STUDENTS** at **THIS INSTITUTION**. Use the following answer choices:

AS FAR AS I KNOW . . .

- 1 this behavior **NEVER** occurs among teacher education students at this institution.
 - 2 this behavior **RARELY** occurs among teacher education students at this institution.
 - 3 this behavior **OCCASIONALLY** occurs among teacher education students at this institution.
 - 4 this behavior **FREQUENTLY** occurs among teacher education students at this institution.
 - 5 this behavior **VERY FREQUENTLY** occurs among teacher education students at this institution.
1. A student copies answers from another student during a quiz or exam.
 2. A student copies from a "crib sheet" during a "closed book" quiz or exam.
 3. A student creates or makes use of a "test file" when the teacher does not permit keeping copies of exams.
 4. A student has another student write a paper or assignment which is presented as his/her own work.
 5. A student presents a paper obtained from an on-campus "term paper file" as his/her own work.
 6. A student presents a paper purchased from a "term paper company" as his/her own work.
 7. A student writes up fictitious accounts of "observation" assignments without genuinely completing required observations.
 8. A student asks another student who has previously taken an exam for the answers prior to his/her taking the test.
 9. A student "pads" the bibliography of a paper with sources which he/she has not read in order to make the effort expended in writing the paper seem more intensive.
 10. A student makes up sources for bibliographic citation in a paper.
 11. A student copies directly large sections of a published work for inclusion in a written assignment without giving credit to the author.
 12. Students work in groups on a homework assignment that was assigned as individual work.
 13. A student takes an exam for another student.

TABLE 2. (Continued)

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14. A student obtains access to an unauthorized copy of a test prior to the test being given.
 15. A student delays taking an exam or turning in a paper due to a false excuse.
 16. A student tears parts of pages or removes pages from an exam when the instructor does not allow students to keep the exam.
 17. A student removes pages from a reserved reading file rather than making copies for his/her own use.
 18. A student tears pages out of journals or books in the college/university library.
 19. A student changes a response after a paper or exam is returned to him/her, and then reports to the instructor that there has been an error in his/her grade.
 20. A student permits another student to look at his/her test paper or answer sheet during an exam.
 21. A student claims to have turned in an assignment when he/she really has not.
 22. A student assigned to a group for a group project claims authorship or participation when he/she has made no contribution.

PART II: WHO CHEATS?

Respond to the following items regarding who you perceive cheats most often:

23. Regarding older versus younger teacher education students at this institution, I feel that
 - 1 Younger students cheat more frequently than older students.
 - 2 Older students cheat more frequently than younger students.
 - 3 Younger and older students cheat with about the same level of frequency.
24. Regarding the marital status of teacher education students at this institution, I feel that
 - 1 Single students cheat more frequently than married students.
 - 2 Married students cheat more frequently than single students.
 - 3 Single and married students cheat at about the same frequency.
25. Regarding the seriousness of teacher education students at this institution, I feel that
 - 1 Less serious students cheat more frequently than more serious students.
 - 2 More serious students cheat more frequently than less serious students.
 - 3 More and less serious students cheat with about the same level of frequency.
26. Regarding the ability levels of teacher education students at this institution, I feel that
 - 1 Less able students cheat more frequently than more able students.
 - 2 More able students cheat more frequently than less able students.
 - 3 Students at different ability levels cheat with about the same level of frequency.

PART III: RATIONALES FOR ACADEMIC MISCONDUCT

Often when students engage in academic misconduct, they tend to give various rationales for their behavior. To what extent do you perceive the following statements to

serve as rationales TEACHER EDUCATION STUDENTS AT THIS INSTITUTION use to justify various academic misbehaviors? Use the following answer choices:

- 1 This rationale is NEVER used.
 - 2 This rationale is RARELY used.
 - 3 This rationale is OCCASIONALLY used.
 - 4 This rationale is FREQUENTLY used.
 - 5 This rationale is VERY FREQUENTLY used.
27. The material is too hard. No matter how much I study, I cannot understand the material.
 28. I might lose my scholarship/right to participate in athletics if I get low grades.
 29. I do not have time to study because I have a job and/or family responsibilities in addition to school.
 30. The instructor doesn't care if I learn the material or not.
 31. The instructor acts like this is the only course I'm taking. He/she assigns too much work.
 32. Everyone else in the class seems to be cheating.
 33. My cheating doesn't hurt anyone.
 34. People sitting around me during a test make no attempt to cover their answers.
 35. My friends ask me to help them cheat and I can't say no.
 36. The instructor encourages cheating by leaving the room during tests.
 37. The course is required, but the material seems useless. It's not really worth my time studying for this course.
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(1), "married students cheat more frequently than single students" (2), and "single and married students cheat at about the same frequency" (3).

Scheers and Dayton (1987) have empirically demonstrated that anonymous questionnaires dealing with self-reporting of a person's own sensitive behaviors may result in underreporting of these behaviors; hence, items used in the present study were worded to measure the extent to which students perceived certain behaviors to occur among other teacher education students at the selected university. Similar procedures have been employed in studies by Bowers (1964) and Sherrill et al. (1971). It was hoped that this shift of emphasis from self to others would enhance the accuracy of the results. It is conceded, however, that sensitive behaviors may also be underreported using this method. The perpetrators of these behaviors may perform them cautiously and secretly, resulting in "pluralistic ignorance" of the true extent of the problem (Bowers, 1964, p. 44).

PROCEDURES

Ninety-eight undergraduates enrolled in the teacher education program at a comprehensive university in the southern United States completed the instru-

ment. No demographic data were collected in order to assure subjects complete anonymity. However, the investigators noted that the bulk of the sample were white females. Data were collected during a regular class session of an educational foundations or a tests and measurements course by two of the investigators.

Following a brief explanation of the purpose of the study, the respondents voluntarily completed the instrument. To assure accuracy in coding the data, all responses were recorded on an opti-scan sheet. The approximate time required by the respondents for this task was ten minutes. Usable data were returned by ninety-seven (99%) of the ninety-eight subjects.

RESULTS

Preliminary Measurement Integrity Testing

Preliminary studies to determine the psychometric properties of the measures employed in the present study were conducted prior to their substantive use. Alpha reliability coefficients were computed in order to determine the degree of internal consistency among the items in the "academic misconduct" and "neutralization" scales. In addition, exploratory principal components factor analyses were used to determine whether underlying constructs measured by the items on the two scales could be identified.

Reliability Analyses

Alpha reliability estimates for the "academic misconduct" and "neutralization" scales included in the instrument were computed using the SPSSx RELIABILITY procedures. Coefficient alpha for the 22-item "academic misconduct" scale was .9258. The "neutralization" scale had a coefficient alpha of .8324, which is rather high considering that the scale included only 11 items, though not nearly as high as the alpha of .93 obtained by Haines et al. (1986) with similar items. Subsequent coefficient alphas computed with each item separately deleted from each of the two scales indicated that internal consistency could not be improved by deleting any particular item(s) from either scale. These data indicated that the two scales were highly internally consistent.

Factor Analyses

Principal components factor analyses were conducted using data from the ninety-eight respondents on the "cheating" and "neutralization" scales. A separate analysis was run for each of the subscales using the SPSSx FACTOR procedure. The purpose of these exploratory analyses was to determine whether

TABLE 3. Rotated Factor Matrix for Academic Misconduct Scale*

	Factor I	Factor II	Factor III	Factor IV
Item1	.00661	<u>.75665</u>	.41344	.01262
Item2	.17672	<u>.77347</u>	.23682	-.05040
Item3	.11130	<u>.47101</u>	<u>.58213</u>	.22427
Item4	.17073	.17036	<u>.77286</u>	.06025
Item5	.32311	.21041	<u>.73146</u>	.15779
Item6	<u>.52657</u>	.21026	<u>.44847</u>	.07609
Item7	<u>.65106</u>	.03159	.23497	.15170
Item8	<u>.53770</u>	.29907	.22140	.14486
Item9	<u>.73897</u>	.07818	.31081	.11226
Item10	<u>.64109</u>	.10031	.45433	.14839
Item11	<u>.59936</u>	.23380	.10656	.16576
Item12	<u>.52849</u>	.44158	.29027	-.03409
Item13	<u>.36106</u>	.42075	.23054	.01111
Item14	.29728	<u>.59945</u>	.20770	.27092
Item15	<u>.64696</u>	<u>.32519</u>	.06490	.18359
Item16	.16178	<u>.55733</u>	.09590	.40183
Item17	.21050	<u>.06234</u>	.17676	.89112
Item18	.18496	.06798	.08777	<u>.88598</u>
Item19	.46787	.43185	-.00337	.35532
Item20	.37669	<u>.70116</u>	.22955	.02178
Item21	.46864	<u>.64287</u>	-.21474	.12616
Item22	<u>.62619</u>	.36895	-.14932	.12528

*Coefficients greater than .5 are underlined indicating the factor with which items are most highly correlated. The complete text of the items is provided in Table 2.

underlying constructs measured by the two scales could be identified. As noted by Daniel (1989, p. 5), "exploratory factor analysis is useful in helping researchers to assess the nature of relationships among variables within a given set, and, consequently, to establish the construct validity of tests."

The first exploratory principal components factor analysis was run using the data from the twenty-two-item "academic misconduct" scale. The analysis yielded five components with prerotational eigenvalues greater than unity. An analysis of the "scree" plot (Cattell, 1966) of the eigenvalues indicated an initial break between Factors I and II, and a flattening out of the eigenvalues between Factors IV and V. On the basis of the scree plot, four factors were extracted and rotated to the varimax criterion. These four factors accounted cumulatively for 65.7 percent of the variance across the solution. The resultant rotated factor matrix is presented in Table 3. These four factors were inter-

TABLE 4. Rotated Factor Matrix for Neutralization Scale*

	Factor I	Factor II
Ration1	-.00933	.71257
Ration2	.14149	.67301
Ration3	.11451	.80606
Ration4	.33090	.58412
Ration5	.10728	.74878
Ration6	.67741	.25084
Ration7	.84219	.07798
Ration8	.73754	.15614
Ration9	.74119	-.00423
Ration10	.71315	.11379
Ration11	.51412	.44012

*Coefficients greater than .5 are underlined indicating the factor with which items are most highly correlated. The complete text of the items is provided in Table 2.

preted as representing four factors of academic misconduct as explained in the following discussion.

Factor I had a prerotational eigenvalue of 8.79, and accounted for 40.0 (8.79/22) percent of the variance across the solution. It was most highly saturated with Items 6, 7, 8, 9, 10, 11, 12, 15, and 22 using a minimum factor saliency criterion of $|.50|$. These items dealt with cheating behaviors likely to take place outside the classroom relative to inappropriate help or dishonesty in completing required assignments. Hence, the factor might be named "out-of-class cheating."

Factor II had a prerotational eigenvalue of 1.76, and accounted for 8.0 (1.76/22) percent of the variance. Items 1, 2, 14, 16, 20, and 21 were most highly correlated with Factor II using a minimum factor saliency criterion of $|.50|$. Most of these items dealt with misconduct that goes on either inside or outside of the classroom relative to test taking. Hence, the factor was named "cheating on tests."

Factor III, with a prerotational eigenvalue of 1.50, accounted for 6.8 (1.50/22) percent of the variance. It was most highly saturated with Items 3, 4, and 5 using a minimum factor saliency criterion of $|.50|$. These three items addressed academic misconduct via the student's use of test or term paper files, or by having another person write an assignment that the student claimed was his or her own work. This factor could be appropriately named "use of illegal resources."

Finally, Factor IV had a prerotational eigenvalue of 1.35, and accounted for 6.1 (1.35/22) percent of the variance. Its factor space was saturated (structure coefficients $>|.50|$) with Items 17 and 18. These two items dealt with tearing

pages or portions of pages from reserve readings or from library materials. The factor could be appropriately named “mutilation of materials.”

The second principal components factor analysis was run using data from the 98 subjects on the 11-item “neutralization” scale. The analysis yielded two components with prerotational eigenvalues greater than unity. These two components were extracted and rotated to the varimax criterion. The resultant factor structure matrix, as presented in Table 4, highlights factor structure coefficients greater than $|.50|$. The first of the two neutralization factors had an eigenvalue of 4.13, and accounted for 37.5 (4.13/11) percent of the variance. It was most highly saturated with Items 1 through 5, and indicated neutralization centered on the student’s own incapacity or inability to complete coursework. Hence, it might be named “disabling neutralization.” The second factor, which had an eigenvalue of 1.88, accounted for 17.0 (1.88/11) percent of the variance. This second factor was most highly saturated with Items 6 through 11, and indicated neutralization based on opportunities for cheating. This factor could be appropriately named “opportunistic neutralization.”

Analysis of Frequency Data

Since the primary purpose of the present study was to determine the frequency of various types of academic misconduct reported to exist among teacher education students, data from the academic misconduct survey were analyzed using descriptive statistics. Means and standard deviations for each of the items appearing on the “academic misconduct” and “neutralization” scales, as well as for the overall scaled scores, are presented in Table 5.

As a whole, respondents did not perceive academic misconduct to be a major problem among teacher education students at the university. Of the 110 points possible, the mean score on the academic misconduct scale was only 48.7. Only three of the individual items (Items 15, 12, and 8) had mean scores greater than 3, indicating that these behaviors were commonly perceived as occurring “occasionally.” Two of these items (Items 15 and 8) dealt with behaviors occurring outside of class, and the third item (Item 12) dealt with students making excuses to delay turning in an assignment or taking an exam. Ten items (Items 5, 10, 3, 11, 7, 20, 11, 22, 9, and 4) had mean scores between 2 and 3, indicating that the behaviors expressed in the items were perceived as occurring “rarely.” Six of these ten items dealt with instances of misconduct involving written assignments, three dealt with deviant behaviors associated with tests, and one dealt with unfair distribution of work within groups.

The mean score for the group on the “neutralization” subscale was 28.7 on a possible scale of 55 points. All but one of the eleven items on the scale received a mean rating in excess of 2, and three of these items received mean ratings greater than 3. Interestingly, the three items receiving the highest mean

TABLE 5. Descriptive Statistics for Questionnaire Items*

Variable	Mean	Std Dev	Minimum	Maximum	Valid N
<i>Cheating Variables</i>					
Item1	2.429	.974	1	5	98
Item2	1.796	.849	1	5	98
Item3	2.245	1.167	1	5	98
Item4	2.571	1.045	1	5	98
Item5	2.051	1.009	1	5	98
Item6	1.663	.824	1	5	98
Item7	2.408	.972	1	5	98
Item8	3.786	1.028	1	5	98
Item9	2.531	1.123	1	5	98
Item10	2.092	1.141	1	5	98
Item11	2.378	1.031	1	5	98
Item12	3.102	1.144	1	5	98
Item13	1.357	.763	1	5	98
Item14	1.908	.909	1	5	98
Item15	3.092	1.244	1	5	98
Item16	1.541	.762	1	4	98
Item17	1.755	.964	1	5	98
Item18	1.776	1.031	1	5	98
Item19	1.724	.917	1	5	98
Item20	2.408	1.024	1	5	98
Item21	1.602	.858	1	5	98
Item22	2.500	1.124	1	5	98
Cheating	48.714	13.824	25.00	99.00	98
Total					
<i>Neutralization Variables</i>					
Neut1 (I27)	3.204	1.035	1	5	98
Neut2 (I28)	2.898	1.098	1	5	98
Neut3 (I29)	3.439	.931	1	5	98
Neut4 (I30)	2.495	1.042	1	5	97
Neut5 (I31)	3.673	1.082	1	5	98
Neut6 (I32)	2.061	.929	1	5	98
Neut7 (I33)	2.041	1.025	1	5	98
Neut8 (I34)	1.898	1.020	1	5	98
Neut9 (I35)	2.133	.981	1	5	98
Neut10 (I36)	2.153	1.029	1	5	98
Neut11 (I37)	2.704	1.160	1	5	98
Neutral	28.673	6.913	11.00	46.00	98
Total					

*The exact text of each of the items is given in Table 2. Frequency data for the maturity/commitment variables (Items 23–26) are presented in Table 6.

ratings (Items 29, 27, and 31) revolve around the issue of available time versus the amount and difficulty of the material. Overall, the neutralization data indicate that a notable amount of neutralization or rationalization is perceived to accompany cheating behaviors among teacher education students.

Descriptive data for the five maturity/commitment variables are presented in Table 6. Among those expressing a preference for one group over another as being more likely to cheat, the common perception was that the less mature, less able student was more likely to cheat. Younger and less serious students were perceived as somewhat more likely to cheat than older, more serious students. Opinions were more divided on whether marital status or student ability was related to cheating behavior.

Multiple Regression Analysis

In fulfilling the second purpose of the study, determining whether the neutralization variable and the various maturity/commitment variables could be used to predict academic misconduct as measured by the misconduct scale, multiple regression analysis was used. Since both the academic misconduct and neutralization scales were shown via the factor analytic procedures presented above to consist of more than one subscale, canonical correlation analysis could have been considered as a viable alternative to regression analysis. However, as empirically shown by Thompson (1990), canonical correlation analysis tends to produce biased estimates of variable effects when there are fewer than ten subjects per variable, thus minimizing the likelihood that results will generalize. In the present case, if canonical correlation had been employed, the four maturity/commitment variables and the two neutralization subscale scores would have served as the predictor variable set, and the four academic misconduct subscale scores would have served as the dependent variable set. Since this would have involved a total of ten variables, the minimum sample size needed would have been 100. Although the present n of ninety-eight approaches this minimum, potential bias in the results would have been likely.

Hence, as previously noted, multiple regression was employed. The below-diagonal portion of the square correlation matrix showing the bivariate correlations between each pair of the six variables used in the regression analysis is presented in Table 7. Predictor variables were entered into the regression equation one at a time using the SPSSX REGRESSION procedure in order to observe the change in the multiple R value at each step of the analysis. Although this approach does not provide information about the relative importance of variables, it does allow the researcher to determine the effect of a particular predictor variable having controlled for one or more additional variables (Pedhazur, 1982, Chapter 7).

TABLE 6. Frequencies for the Five Maturity/Commitment Variables

Age					
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Younger students cheat more	1	73	74.5	74.5	74.5
Older students cheat more	2	1	1.0	1.0	75.5
Young/older about same	3	24	24.5	24.5	100.0
Total		98	100.0	100.0	

Marital					
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Single students cheat more	1	54	55.1	55.1	55.1
Married students cheat more	2	1	1.0	1.0	56.1
Single/married about same	3	43	43.9	43.9	100.0
Total		98	100.0	100.0	

Serious					
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less serious students cheat more	1	77	78.6	78.6	78.6
More serious students cheat more	2	5	5.1	5.1	83.7
Less/more serious about same	3	16	16.3	16.3	100.0
Total		98	100.0	100.0	

Ability					
Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Less able students cheat more	1	48	49.0	49.0	49.0
More able students cheat more	2	6	6.1	6.1	55.1
Less/more able about same	3	44	44.9	44.9	100.0
Total		98	100.0	100.0	

TABLE 7. Correlation Matrix for Variables Included in the Regression Analysis

	Cheating	Age	Marital	Serious	Ability
Age	-.1251 (98) P = .110				
Marital	.1080 (98) P = .145	.1740 (98) P = .043			
Serious	-.0480 (98) P = .320	.1504 (98) P = .070	.1536 (98) P = .065		
Ability	.1685 (98) P = .049	-.0123 (98) P = .452	.1552 (98) P = .064	.2604 (98) P = .005	
Neutral	.6190 (98) P = .000	-.0069 (98) P = .473	-.0264 (98) P = .398	-.0949 (98) P = .176	.0946 (98) P = .177

Results of the regression analysis are presented in Table 8. Since it might be argued that the relatively large number of independent variables (five) in relation to the size of the sample (ninety-eight) will produce a biased estimate of the degree of correlation between the predictors and the independent variable (Montgomery and Morrison, 1971), both R^2 and more conservative adjusted R^2 values are included in Table 8.

TABLE 8. Multiple Regression Results

Variable	MultR	Rsq	AdjRsq	RsqCh	FChange	Correl
Age	.1336	.0179	.0075	.0179	1.727	-.1336
Marital	.2014	.0406	.0202	.0227	2.225	.1238
Serious	.2092	.0438	.0129	.0032	.312	-.0548
Ability	.2573	.0662	.0256	.0224	2.209	.1581
Neutral	.6558	.4301	.3987	.3639	58.097*	.6179

Analysis of Variance

	DF	SOS	Mean Sq	F
Regression	5	7850.21	1570.04	13.73320*
Residual	91	10403.54	114.32	

* $p < .0001$

The four maturity/commitment variables served as rather poor predictors of perceived academic misconduct. At the end of Step 4 (all four maturity/commitment variables entered), the analysis yielded a multiple R of only .2573 ($R^2 = .0662$; adjusted $R^2 = .0256$; $F(4,93) = 1.63$; $p = .173$), suggesting that these variables explained only a negligible amount of the dependent variable variance. However, the addition of the neutralization variable into the predictive equation in Step 5 resulted in an R -square change of .36836, and a multiple R at the end of the analysis of .65579 ($R^2 = .43006$; adjusted $R^2 = .39874$; $F(5,91) = 13.7332$; $p < .0001$). Hence, neutralization is the only variable that makes a noteworthy contribution in predicting perceived academic misconduct.

DISCUSSION

The results of the present study suggest that academic misconduct was not perceived to be extremely prevalent among teacher education students at this university. Only three of the twenty-two academic misconduct items included in the survey were perceived to occur as often as "occasionally." These three items were as follows:

Item 8: A student asks another student who has previously taken an exam for the answers prior to his/her taking the test.

Item 12: Students work in groups on a homework assignment that was assigned as individual work.

Item 15: A student delays taking an exam or turning in a paper due to a false excuse.

Two of these items (Items 8 and 12) dealt with behaviors that might be only marginally considered as misconduct. Stern and Havlicek (1986) found that these items were considered as academic misconduct, respectively, by only 45 and 27 percent of the students they surveyed. Interestingly, in the same study over three-fourths of the students admitted having engaged in these two behaviors. In another study, Tom and Borin (1988) found that students did not regard the former of these two behaviors as very severe, giving it a mean rating of only 2.4 on a five-point "cheating severity" scale.

The third of the three items rated most highly by the present sample (Item 15) deals with the issue of students making up excuses to avoid taking an exam or turning in an assignment. In Tom and Borin's (1988) study, students regarded this behavior as being of about average severity, rating it at 2.9 on the five-point severity scale. Interestingly, however, in the Stern and Havlicek

(1986) study, 71 percent of students and 90 percent of faculty surveyed agreed that this behavior constituted academic misconduct, although only 41 percent of the students admitted having engaged in this behavior.

Hence, academic misconduct is not considered a major problem among teacher education students at this university. However, it is perceived that those students who do engage in misconduct tend to neutralize their deviant behaviors, with excuses related to the difficulty of coursework and lack of time being most prevalent. As noted by Haines et al. (1986, p. 346), "neutralization . . . is presumed to free the individual to deviate without considering himself or herself a deviant, thus eliminating or reducing the sense of guilt or wrongdoing." That teachers are regarded as role models for their students could be one explanation for the high instance of perceived neutralization among teacher education students. However, as previously noted, Haines et al. (1986) perceive that *all* cheating is accompanied by neutralization.

The rather negligible performance of the four maturity/ability demographic variables as predictors of perceived academic misconduct was not surprising. Most other studies have shown that these variables tend not to distinguish cheaters from noncheaters, notwithstanding the findings of Haines et al. (1986). The rather notable predictive power of the neutralization score again affirms the assumption that academic misconduct and neutralization are inherently related, and suggests that neutralization is a variable worthy of further study in research on academic misconduct.

Based on the findings of the present study, additional research on the nature of academic misconduct among students in education is warranted. Similar studies using larger, more representative samples with which multivariate methods may be appropriately utilized are needed. Comparison of teacher education students across institutions of different types would also be beneficial. The validity of the peer perception technique as used in the present study is another promising area of research. As reported in the present study, the validity and reliability of the instrumentation used to measure both cheating and neutralization were supported. However, further refinement of these instruments is warranted. Furthermore, comparison of the peer perception technique using these instruments with other viable data gathering techniques—for example, randomized response procedures, self-reporting, faculty perceptions—would help determine the best methodology for addressing this sensitive area of research.

Finally, other measures of academic misconduct as proposed in previous research studies need to be employed in studies of misconduct among education students. For instance, researchers need to incorporate more studies focusing on the behavior of students in opportunistic cheating situations. Also, if it is assumed that students who cheat will be poorly prepared for their life's work, the

relationship between academic misconduct in college and the ultimate job performance of teacher education graduates needs to be explored.

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