

A scale for measuring attitude toward cheating

WILLIAM M. GARDNER

Jacksonville State University, Jacksonville, Alabama

and

KENNETH B. MELVIN

University of Alabama, Tuscaloosa, Alabama

A "study guide technique" that successfully detected cheating in college students is described. Also, details of the construction of an attitude toward cheating (ATC) scale are presented. The ATC scale was found to have adequate reliability. Preliminary evidence of scale validity was provided by (1) a correlation of $-.30$ between ATC scores and cheating on the study guide and (2) a more negative attitude toward cheating (as measured by the ATC scale) exhibited by faculty than by students.

Academic ability and academic honesty are two of the most important and desirable characteristics of college students. There exist reams of research on ability, including a host of standardized tests of aptitude and achievement. In contrast, there is a dearth of research on academic honesty. Since measurements of academic honesty are typically determined by incidents of cheating, confidentiality and ethical considerations pose problems for the researcher.

Given the difficulties of directly studying classroom cheating, researchers have tended to investigate other variants of veracity. For example, cheating by children has been studied through the use of games (e.g., Hill & Kochendorfer, 1969), a word-construction task (e.g., Shelton & Hill, 1969), and workbook mathematics problems (Winston, 1978). With college students, researchers have used anonymous questionnaires to investigate data fabrication in self-modification projects (e.g., Barton, 1982; Worthington, 1977). Another method has been through the use of a test in a laboratory setting combined with a "found" answer key (Forsyth, Pope, & McMillan, 1985; Forsyth & Scott, 1984).

Barlow (1967) analyzed students' cheating through the use of a programmed book that inadvertently contained two inappropriate answers. In the present study, we used a more systematic variant of this method in conjunction with a study guide.

Along with difficulties in measuring observable cheating, there is no valid standardized scale of attitude toward cheating. An early attempt to construct such a scale (Mills, 1958) was not successful.

The present research addresses two issues: (1) the development of a systematic approach to measure cheating on study guide assignments, and (2) the development and

validation of a standardized attitude toward cheating (ATC) scale.

METHOD

The ATC scale was administered to 42 students enrolled in two introductory psychology courses during a summer semester at Jacksonville State University (JSU). During the first class day, the students were asked to complete the "Opinion Questionnaire" (i.e., the ATC scale). A blank was provided at the end of the questionnaire for the student number. The students were told that the questionnaire was part of a research project and that answering it was totally voluntary. All 42 students completed the questionnaire, but 8 subjects did not give their student numbers.

One hundred five copies of the questionnaire were distributed to four JSU deans (from the colleges of Science and Mathematics, Business, Humanities and Social Science, and Education). The deans were requested to distribute the copies to as many of their faculty members as possible and to ask them to mail the completed forms back to the psychology department. Completed ATCs were returned by 50 faculty members.

ATC Scale Construction

In the construction of the ATC scale (see Appendix), efforts were made to sample attitudes along the continuum of equivocal to unequivocal incidents of cheating. Some selected items addressed contingencies placed on cheating (e.g., "Students should report by name anyone seen cheating"), whereas other items dealt with specific instances that may or may not be regarded as cheating (e.g., "If a student is offered a copy of a stolen test, the offer should be refused"). Some items assessed attitude toward the cheater (e.g., "Most students who cheat are unethical people"), toward the morality of cheating (e.g., "Cheating on colleges tests is morally wrong"), and toward the teacher's behavior (e.g., "If a teacher leaves the room during a test, that teacher is in effect okaying cheating"). An item analysis was performed using data from 42 students and 50 faculty.

Fourteen of the 34 items condemned cheaters. These items were interspersed among 20 items that expressed tolerance for cheaters.

Because cheating is generally regarded in a negative fashion, students may tend to conceal their true feelings. To promote objectivity and honesty, items were worded without reference to the readers; that is, no items used personal pronouns. Thus, the readers were not put on the defensive by any statements concerning their own behavior; rather their attitudes were inferred from their judgments of the behavior of others.

Requests for reprints should be sent to William M. Gardner, Department of Psychology, Jacksonville State University, Jacksonville, AL 36265.

Scoring System

The Likert scale response options were *strongly agree* (SA), *agree* (A), *undecided or do not understand* (U), *disagree* (D), and *strongly disagree* (SD). A response blank was provided to the left of each item. To quantify the answers, SA, A, U, D, and SD were scored +2, +1, 0, -1, and -2, respectively. Before summing the 34 item scores to obtain total test scores, we reversed the signs for the 20 tolerant items. Thus, higher overall test scores indicated a less tolerant (i.e., more condemnatory) attitude toward cheating, arguably a better attitude.

Measurement of Cheating

A study guide designed to detect cheating was required in the two courses in which the subjects were enrolled. About 20% of the answers in the answer list in the back of the study guide (Gardner & Roper, 1986) were deliberately worded differently from the textbook. This allowed assessment of the degree to which the students obtained answers from the answer list in violation of the course rules (i.e., cheating).

The first page of the study guide listed the usage rules, among which was this statement:

Once you have written answers to all questions for the chapter, you may—if you wish—check your answers. The answer list is provided in the back of the study guide for that purpose. You should not change (or add) any answer after you have seen the correct answers in the study guide's answer list.

Also, students were instructed as follows: "All entries must be in ink. Slight variations in wording are allowed, but the exact meaning must be retained." These instructions also were read to the students by the research assistant, during the first week of class.

The keyed answers (for detection of unauthorized use of the answer list) were worded differently in some insignificant ways from the wording in the textbook. These wording variations included alterations in word order, substitution of synonyms, and additional insignificant words.

Answers on keyed questions (i.e., questions for which answers in the textbook differed from those in the answer list) were checked. For three to six keyed questions in each chapter assignment, wording agreement between the student's answer and the wording of the answer list was scored as cheating. The students were given an overall score consisting of the number of questions cheated on divided by the total number of questions completed. This score was averaged across four equal time periods to get the mean cheating rate.

RESULTS

Item Analysis

Scores on the 42 student and 50 faculty ATC scales were combined for the item analysis. Correlations between the total ATC scores and each of the 34 test items were calculated. These item/test correlations ranged from +.10 to +.58 ($N=92$).

Split-Half Reliability

Internal consistency of the ATC scale was obtained by correlating the total odd and total even item scores and correcting r with the Spearman-Brown formula. For the 42 students, $r=.82$ ($p < .01$). For the sample of 50 faculty, $r = .83$ ($p < .01$).

Construct Validity

We expected that faculty members would hold more intolerant (or condemnatory) views on cheating and would, therefore, score higher than students on the ATC scale, if the scale validly measured attitude toward cheating. A one-way analysis of variance (ANOVA) revealed that the 50 faculty members scored significantly higher ($M = 25.02$, $SD = 12.60$) than the 42 students ($M = 15.76$,

$SD = 13.19$) on the ATC scale [$F(1,91) = 11.72$, $p < .01$].

Predictive Validity

Condemnatory attitudes toward cheating (i.e., high ATC scores) should be inversely related to actual cheating, presuming that a relationship exists between the attitude (verbal reference) and the referent behavior. The correlation coefficient (r) between ATC scores and mean cheating rates was $-.30$ ($p < .05$, one-tailed) for the 34 students who identified their questionnaires by student number.

Analysis of Faculty/Student Differences

Faculty and student means were significantly different for eight items on the questionnaire, five of which (i.e., Items 1, 4, 6, 18, and 20; see Appendix) dealt with enforcement of honesty, a primary concern of instructors.

Predictably, teachers saw cheaters as more unethical than did students (Item 23). More students than teachers rated getting a degree as the main purpose of going to college (Item 26). However, teachers saw students as more honest than did the students themselves (Item 33).

DISCUSSION

The ATC scale proved to be a reliable measure of attitude toward cheating. More importantly, the scale was shown to have construct validity. As expected, the students' ATC scores indicated that they tended to be more tolerant of cheating than were faculty members.

Mills (1958) constructed a 14-item questionnaire to measure attitude toward cheating. Unfortunately, this scale did not correlate significantly with actual cheating. The 34-item ATC scale described in the present study, however, was predictive of cheating. Although the correlation between ATC scores and cheating rates was not high ($r = -.30$), the upper limit of this predictive validity coefficient is set by the correlation between the true scores for the two variables, attitude toward cheating and actual cheating; that is, someone may cheat even though he/she may be intolerant of cheaters, or, conversely, someone may refrain from cheating but still be tolerant of others who cheat. Furthermore, the observed correlation between ATC scores and cheating rates is comparable to many validity coefficients reported in the literature on predictive validity (Schmitt, Gooding, Noe, & Kirsch, 1984).

The study guide by Gardner and Roper (1986), which was specifically designed to detect cheating, offers a new technology for direct assessment of academic honesty. To ensure high rates of cheating, our students were not threatened with penalties for cheating on their study guide work. Cheating levels were, in fact, very high. Examining the research on academic honesty, our task seems closest to those used by Barton (1982) and Worthington (1977). They studied the falsification of self-modification data—also a widespread (75%) occurrence. The advantage of having high rates of cheating (for research purposes) is the increased measurement sensitivity. We conclude that this study guide technique has potential in the assessment of academic honesty.

REFERENCES

- BARLOW, J. A. (1967). Note: Student cheating in studying programmed material. *Psychological Record*, *17*, 515-516.
- BARTON, E. J. (1982). Facilitating student veracity: Instructor application of behavioral technology to self modification projects. *Teaching of Psychology*, *9*, 99-101.
- FORSYTH, D. R., POPE, W. R., & McMILLAN, J. H. (1985). Students' reactions after cheating: An attributional analysis. *Contemporary Educational Psychology*, *10*, 72-82.

- FORSYTH, D. R., & SCOTT, W. L. (1984). Attributions and moral judgments: Kohlberg's stage theory of taxonomy of moral attributions. *Bulletin of the Psychonomic Society*, *22*, 321-323.
- GARDNER, W. M., & ROPER, J. T. (1986). *CII Study Guide for Principles of Psychology*. Jacksonville, AL: The Psychology Institute, Jacksonville State University.
- HILL, J. P., & KOCHENDORFER, R. A. (1969). Knowledge of peer success and risk of detection as determinants of cheating. *Developmental Psychology*, *1*, 231-238.
- MILLS, J. (1958). Changes in moral attitudes following temptation. *Journal of Personality*, *26*, 517-531.
- SCHMITT, N., GOODING, R. Z., NOE, R. A., & KIRSCH, M. (1984). Meta-analyses of validity studies published between 1964 and 1982 and the investigations of study characteristics. *Personnel Psychology*, *37*, 407-421.
- SHELTON, J., & HILL, J. P. (1969). Effects on cheating of achievement anxiety and knowledge of peer performance. *Developmental Psychology*, *1*, 449-455.
- WINSTON, A. S. (1978). Experimental analysis of admission of cheating: An exploratory study. *Psychological Record*, *28*, 517-523.
- WORTHINGTON, E. L. (1977). Honesty and success in self-modification projects for a college class. *Teaching of Psychology*, *4*, 78-82.

APPENDIX

The Attitude Toward Cheating Scale

Opinion Questionnaire

Rate each item below with the appropriate abbreviation:

- SA for strongly agree
 A for agree
 U for undecided (or if you do not understand the statement)
 D for disagree
 SD for strongly disagree

- * _____ 1. If during a test one student is looking at another student's answer sheet, the teacher should not point this out until after class because it might embarrass the student.
- * _____ 2. If a teacher sees a student cheating, it is just the teacher's word against the student's, unless the student admits he or she was cheating.
- _____ 3. Cheating on college tests is morally wrong.
- * _____ 4. If during a test two students are looking at each other's answer sheet and talking, the teacher should not assume that they are cheating.
- _____ 5. Some sororities and fraternities keep files of old tests to use in predicting what will be on future tests. This is cheating.
- * _____ 6. Only the student knows whether he or she was cheating; therefore, no decision should be made until the student is asked whether he or she cheated.
- * _____ 7. If a student says that he or she did not cheat and gives some explanation for his or her behavior, only an unfair teacher would penalize the student.
- _____ 8. If a term paper includes a series of exact statements from a book which is not listed as a source, the teacher must assume that the student intentionally plagiarized.
- _____ 9. It is cheating to ask another student (from an earlier section) "What was on the test?"
- _____ 10. If a student is offered a copy of a stolen test, the offer should be refused.
- * _____ 11. If a student is caught cheating, that student should plead innocent and force the school to prove the accusation.
- _____ 12. When a student who denies cheating is found guilty, the student should receive additional punishment for lying.
- * _____ 13. If a student accused of cheating admits having cheated, the punishment should be reduced to reward honesty.
- _____ 14. A student who hands in a purchased term paper should be expelled from school.
- * _____ 15. If a teacher leaves the room during a test, that teacher is in effect okaying cheating.
- * _____ 16. Most students who don't cheat are just afraid of getting caught.
- * _____ 17. All tests should be open book, because in real life we can always look in the book.
- * _____ 18. A student who sees another student cheating and reports it should refuse to identify the cheater.
- * _____ 19. If over half the class is cheating on an assignment, the others are justified in cheating also.
- _____ 20. Students should report by name anyone seen cheating.
- * _____ 21. Students are justified in cheating if the teacher's grading system is unfair.
- * _____ 22. Studying usually doesn't result in a better grade.
- _____ 23. Most students who cheat are unethical people.
- _____ 24. Making up an excuse in order to withdraw from a course to avoid failing is cheating.
- * _____ 25. Smart students make good grades without really having to study.
- * _____ 26. The whole purpose of going to college is to get a degree.
- _____ 27. Students who cheat don't learn as much as others.

APPENDIX (Continued)

- * _____ 28. There is really nothing wrong with cheating, other than the risk of being caught.
 - _____ 29. If a student accidentally sees an answer on someone's paper, that answer should not be used.
 - * _____ 30. Testing and grading are just a game with the students on one side and the teachers on the other.
 - * _____ 31. College tests don't measure useful knowledge or ability.
 - * _____ 32. Most students who are accused of cheating are actually innocent.
 - _____ 33. Most college students never cheat.
 - _____ 34. It is lying when a student who cheated denies it.
-

*Reverse scored items ("tolerant").

(Manuscript received for publication March 8, 1988.)