Academic Dishonesty and Cognitive Dissonance

by

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Abstract

ACADEMIC DISHONESTY AND COGNITIVE DISSONANCE

By

Edward J. Vinski

Advisor: Professor Georgiana S. Tryon

This dissertation attempted to decrease students' attitudes and behaviors regarding academic dishonesty. 113 students from a small Catholic junior/senior high school on Long Island took part in the study. One day after recruitment, students in the experimental group left their classes during their religion period completed the Academic Honesty Scale (AHS) as a pretest and were asked how many tests they took since the beginning of the term and how many of these tests they cheated on to assess their rate of cheating. The following day, these participants again left their religion classes and took part in the policy development focus group activity. One day later, after participating in the policy group, participants in the experimental group went to the separate location and completed the AHS again. The students in the control group completed the AHS and the two cheating rate questions at the same times and in the same locations as the experimental group, but did not take part in the focus groups. Ten weeks later, all students in the study were again asked how many tests they took since the beginning of the term and how many of these tests they cheated on to reassess their rate of cheating.

By having the students take an active role in addressing academic dishonesty, I

predicted that cognitive dissonance would be created between their attitudes toward academic dishonesty as well as their own history of academic dishonesty and their active role against academic dishonesty (i.e., establishing the school policy). The results of this did not support the hypotheses. Psychometric analyses appear to support the use of the AHS as a research tool. Additionally, several relationships emerged between subject descriptor variables and self-reported academic honesty.

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CHAPTER ONE

Introduction

Academic dishonesty, or cheating, has negative consequences for the individual, school, and society. Academic dishonesty can tarnish students' and schools' reputations (Fass, 1986). Students who cheat in high school are more likely to continue cheating throughout their academic and work lives (Keith-Spiegel & Whitley, 2001), and although most students believe that cheating is wrong, a large percentage of them engage in this behavior (Davis, Grover, Becker, & McGregor, 1992) for a variety of reasons (McCabe & Trevino, 1997).

Students' attitude toward academic dishonesty is related to cheating, with students who cheat viewing academically dishonest behavior more positively than students who do not (Jordan, 2001). Students who cheat often justify their behavior by attributing it to external factors such as teacher characteristics (McCabe, 1992) and job-related responsibilities (Evans & Craig, 1990). These justifications may serve to reduce students' cognitive dissonance between their beliefs that cheating is wrong and their academically dishonest behavior (Festinger, 1957).

Cognitive dissonance theory states that when there is an inconsistency between two cognitive elements, or between one's cognitions and one's behavior, there is pressure to make these two elements consonant (Sears, Peplau, & Taylor, 1991). This theory has lead to a number of studies that used cognitive dissonance to effect both behavioral and attitude changes (Aronson, 1992). The induced hypocrisy paradigm represents a relatively recent cognitive dissonance paradigm that researchers have used to

increase condom use (Aronson, Fried, & Stone, 1991; Stone et al., 1994) and recycling behavior (Fried & Aronson, 1995) in college students. Induced hypocrisy experiments ask participants to advocate a position with which they agree while reminding them of their failure to act in a manner consistent with this position. This dissertation presents a study that used an induced hypocrisy condition to address high school students' cheating attitudes and behavior. Students completed a questionnaire about their attitudes toward cheating and past cheating behavior and then took part in a focus group to advocate a school policy for academic dishonesty. A control group of students completed the questionnaire, but did not participate in the focus group.

This chapter introduces this study by providing a review of the issues involved in academic dishonesty, beginning with information on the definition and prevalence of cheating. The chapter then reviews several factors related to cheating and presents research on students' attitudes toward cheating. A chapter on cognitive dissonance theory follows that introduces the induced hypocrisy paradigm and the dissertation study.

Definition and Prevalence of Academic Dishonesty

Genereux and McLeod (1995) defined academic dishonesty as "the attempt by students to obtain a desired outcome through prohibited or unauthorized means" (p. 687). Academic dishonesty may take many forms. For instance, copying exam answers from a peer, using unauthorized cheat sheets, and submitting the work of another as one's own are all examples of academic dishonesty (Fass, 1986). Failure of students to follow and internalize the ethics codes of their academic settings bodes ill for society as "we can hardly expect them to exhibit much greater respect for ethics in their future professional

communities" (Fass, 1986, p. 35). Indeed, students who cheat in high school and college often continue to do so in graduate school as well as in their work practices (Keith-Spiegel & Whitley, 2001). Beyond the societal consequences, cheating threatens the very core of our academic institutions that hold academic integrity among their highest values (Fass, 1986). Frequent academic dishonesty can tarnish an institution's reputation and may ultimately lead to a loss of support for education (Keith-Spiegel & Whitley, 2001). Given the importance of academic honesty to the integrity of learning institutions, trends in cheating have been widely studied. McCabe (1999) reported that academic dishonesty is a "widespread and growing" (p. 681) problem among high school and college students. Indeed, estimates of the prevalence of cheating have risen considerably since Drake (1941) reported a cheating rate of 23%. In 1960, for instance, the reported rate of cheating among college students was 49%. By the 1980s, the rate of cheating among college students was reported to be between 40% and 60% (Jendreck, 1989). However, rates as high as 88% among premedical students have also been reported (Sierles, Hendrickx, & Circle, 1980). Given such prevalence rates, it is important that academic dishonesty be studied further so that educators may be better equipped to address and prevent such behaviors.

Schab (1991) developed a survey instrument to assess high school students' "opinions about the amount of cheating going on, who was most guilty, the reasons for it, the courses most often involved, and how to punish cheaters and who should administer such punishment" (pp. 839-840). The survey was administered to a sample of high school students in each of the following years: 1969, 1979, and 1989. More than 20% of 1,629

respondents surveyed in 1969 believed that three-fourths of the students in their high schools were guilty of cheating, and this percentage rose with each decade (1969, 20.3%; 1979, 27.2%; 1989, 29.9%). An even greater percentage of students believed that everyone in their schools cheated at one time or another (1969, 22.8%; 1979, 31.7%; 1989, 37.6%). While these reported student attitudes may be quite discouraging to educators, more troubling findings were reported concerning the dishonest behavior in which the respondents had actually engaged (Schab, 1991). In 1969, 33.8% of students surveyed reported that they had used an unauthorized cheat sheet when taking an exam. This grew to 59.5% in 1979 and 67.8% in 1989.

Davis, et al. (1992) examined the prevalence, causes, techniques, and punishments of academic dishonesty. Administering a 21-item survey to 6,000 college students, the authors assessed the following: students' attitudes toward cheating in general, students' personal history of cheating, their intent in letting others cheat from their work, their opinion of how concerned their instructors were with cheating, and students' opinions for preventing cheating and punishing the behavior when it occurred (Davis et al., 1992).

The authors found that at least 90% of students reported that it is wrong to cheat. However, the average percentage of students who reported having cheated in either college, high school, or both was 76%. This finding is in sharp contract to the percentage of students who believed that such behavior is wrong (Davis et al., 1992).

Davis and Ludvigson (1995) provided additional data on academic dishonesty. They administered a seven-item questionnaire to 2,153 undergraduate students in 71 samples to further assess the frequency of cheating, "reasons for cheating, and influence

of penalties on cheating" (p. 119). They also assessed "the number of repeat offenders" (p. 119), which had not been addressed in the Davis et al. (1992) study. More than 70% of respondents in each sample reported that they had cheated at least once in high school. The percentages of students reporting that they had cheated in college ranged from 42% to 64%. In addition, more men reported cheating in college than women. Of the students who admitted cheating at least one time during their high school years, more than 80% reported that they had done so on several occasions (Davis & Ludvigson, 1995). Nearly 50% of students who had cheated during college reported that they had done so multiple times.

The studies cited above support the contention that academic dishonesty is presently a widespread problem in schools in the United States. In order to solve this problem, it is important that educators become more knowledgeable about this issue. The next section discusses several studies that have examined factors related to academic dishonesty.

Factors Related to Academic Dishonesty

Hartshorne and May (1928) conducted an early study of deceit. Data were derived from over 11,000 students who were subjected to a number of different tests of dishonesty. These tests measured dishonesty in academic, athletic, and game-playing situations. The authors reported a number of factors that appeared related to dishonesty overall. Among the factors reported, deceit was found to be most common among older students, those who self-report lower levels of honesty, those demonstrating symptoms of emotional maladjustment, those of lower socioeconomic status, and those acquainted

with factors associated with culture and refinement. Additionally, students in progressive schools, those for whom the teacher-student relationship was free and cordial, and those enrolled in Sunday school programs were less likely to cheat (Hartshorne & May, 1928). The results did not indicate that there is a unified honesty or dishonesty personality trait.

Drake (1941) examined intelligence, sorority membership, and course grades as factors for cheating on exams among 126 students at a women's college. Weekly exams (12 in all) were administered over the course of a semester. These exams assessed recently covered material. Statements were read to the students who wrote their true or false responses on a separate slip of paper. Following the exam, the papers were collected and scored by the instructor. Some of the tests were marked by the instructor and returned. Others were scored, but left unmarked. These were returned to the students for scoring. The students were asked to mark their own papers while the correct responses were read aloud. Thus, the students had the opportunity to change their responses and improve their scores. Later, the students' marks were compared to the scores obtained by the investigator (Drake, 1941).

The results indicated that 24% of the students in the study cheated at least once. When the results were cross referenced with the participants' scores on the freshman intelligence test, no cheater fell in the 75th percentile for IQ. One half of the students who cheated fell at or below the 25th percentile, while the remaining 50% fell between the 25th and 75th percentiles (Drake, 1941). Drake (1941) concluded that cheating seemed to be more prevalent among less intelligent students.

Drake (1941) also examined the relationship between the students' grades for the

course and their likelihood of cheating. Sixty-seven percent of students who received a D cheated on the exams. Among C students, 23% of the participants cheated, while among B students, 4% of the participants cheated. No student who received an A cheated. Drake (1941) interpreted these results as indicating that students tend to cheat according to their needs. In terms of sorority membership, 36% of members cheated while only 16% of non-members did so. Drake (1941) suggested that sorority demands for good marks accounted for this difference. Drake (1941) concluded that "the crux of the situation is the competition for marks, and the remedy must reduce the temperature of this competition" (p. 420).

Zastrow (1970) examined "the incidences of cheating, reasons for cheating, kinds of behaviors considered cheating and differences in personality characteristics between cheaters and non-cheaters" (p. 157). Forty-five first year graduate students enrolled in a required social work course at a large mid-western university took part in the study. Participants took three unannounced quizzes during the semester. On the first page of the quiz were several true and false questions. On the second page was an essay question. After each quiz was completed, students were asked to detach the two pages, turn in page two, and take page one home where they were to grade it. They were asked to return the graded true-false items within six days. Unbeknownst to the participants, the first page was coded with a material enabling the original page one answers to be copied onto page two. Thus, the answers could be compared with those from the participants' returned papers (Zastrow, 1970).

After all three quizzes were graded, the investigator administered a questionnaire

to the participants asking if they had ever cheated on tests. If the participants responded affirmatively, they were then asked to provide reasons for cheating. Finally, the participants were asked questions about the types of behaviors they considered to be cheating. Additionally, participants completed the group form of the MMPI (Zastrow, 1970).

Zastrow (1970) reported that at least 40% of the participants cheated on at least one of the three quizzes. Further, the result of the questionnaire indicated that all participants cheated at some point or another in their academic careers. In terms of the reasons for cheating, participants responded in a manner that indicated a desire for good grades (e.g., pressure to obtain a good grade, "being unprepared for a test" (p. 159), etc.) was the primary reason for cheating. Other responses revealed rationalizations for cheating (e.g., unfair tests, poor teachers, etc.). Finally, the result of the MMPI revealed no specific personality differences between students who cheated and those who did not cheat (Zastrow, 1970).

Barnett and Dalton (1981) also examined factors that influenced cheating in college students. The authors described the results of a survey completed by 802 students and 678 faculty at Iowa State University. They also reviewed previous research on the subject; however, only the results of their original work will be reviewed here. Participants responded to several statements related to reasons for cheating. There were several differences between faculty responses and those of the students. Faculty tended to endorse statements suggesting that students typically have enough time to finish exams (45%) and that students are able to keep up with assignments (59%). Only 33% and 29%

of students endorsed these statements respectively. The authors suggested that faculty may underestimate the extent to which students experience academic pressure (Barnett & Dalton, 1981).

In terms of environmental factors, students were less likely than faculty members to endorse statements indicating that exam proctors remained alert and were more likely to report that graduate assistants frequently proctored exams. Additionally, 60% of students reported that faculty tended to give the same test to several sections of a class, while only one third of the faculty agreed. On items assessing student perceptions of peer approval, 19% of the student participants endorsed a statement that "a close friend would strongly disapprove of cheating" (Barnett & Dalton, 1981, p. 547), and most (83%) believed that students tended not to report others who cheat on exams (Barnett & Dalton, 1981).

Finally, Barnett and Dalton (1981) reported their findings that students and faculty often defined cheating differently. Less than half of the students believed that it was wrong to work on homework assignments together when the professor had forbidden doing so, or to copy sentences without citing the appropriate source. Seventy-five percent of faculty members believed that getting information on an exam from others who had already taken it was dishonest, while only 60% of students agreed. The authors concluded that there is no clear consensus among faculty and students as to what constitutes dishonest behavior. The authors suggested that several factors influence students' decisions to cheat, and that these factors often interact in complex ways (Barnett & Dalton, 1981).

McCabe and Trevino (1997) examined contextual and personal variables influencing academic dishonesty. Students at nine public institutions were randomly selected and mailed a survey that assessed 12 different cheating behaviors. Participants were asked to report how often they had engaged in each behavior. A five-point scale (1 = Never, 5 = Many Times) was used to obtain this information. The individual items were summed to obtain a composite score that ranged from 12 to 60 for participants (McCabe & Trevino, 1997).

A variety of measures were used to assess individual and contextual factors. Participants responded to items regarding chronological age, gender, GPA, parent education, and extracurricular activities. Contextual factors measured included participants' fraternity/sorority membership, perceptions of peer cheating behavior, perceptions of peer disapproval of cheating, perceptions of whether peers were likely to report cheating, perceptions of how serious their schools' penalties for cheating were, and perceptions of how well their schools' faculty understood and supported their institutions' policies.

Correlations between cheating and gender, age, GPA, extracurricular activities, peer behavior, peer disapproval, fraternity/sorority membership, and participation in intercollegiate athletics were significant at the $p < 0.01$ level (McCabe & Trevino, 1997). The correlation between cheating and peer reporting, severity of school penalties, parent education, and faculty understanding/support of policies were significant at the $p \leq 0.05$ level. It should be noted that although these correlations were significant, many were of small to modest size, and the large sample size may have accounted for their significance.

The relative influence of the individual and contextual factors on academic dishonesty was assessed through two multiple regression analyses. Individual variables were found to explain nine percent of the total academic dishonesty variance. Three contextual variables (peer behavior, peer disapproval, and fraternity/sorority membership) that met the authors' entry criterion explained 21% of the variance (McCabe & Trevino, 1997). Stepwise regression where contextual factors were first entered indicated that these factors accounted for 27% of the total academic dishonesty variance. Four individual variables (age, GPA, gender, and extracurricular activities) were entered that explained 3% of the total variance (McCabe & Trevino, 1997).

McCabe and Trevino (1997) concluded that academic dishonesty is influenced by several factors both contextual and individual. The study clearly demonstrated the relative importance of contextual factors. Although only a small amount of the variance was explained by individual factors, the findings were consistent with previous research findings and indicated that these variables played a role in students' cheating behavior.

Student attitude toward academic dishonesty is one factor related to cheating (McCabe, Trevino, & Butterfield, 2001). Students who cheat tend to view academic dishonesty behavior more positively than those who do not (Jordan, 2001). As student attitudes toward cheating hold particular relevance for the proposed study, the next section will provide findings regarding how student attitudes toward cheating are related to their behavior.

Student Attitudes Toward Academic Dishonesty

Ward and Beck (1990) sought to explain the fact that some women engage in

academic dishonesty even though sex-role socialization seems to discourage such behavior among females. The authors examined the relationship between neutralizing attitudes and cheating while controlling for gender. Neutralization attitudes are "excuses that individuals invoke that help deflect commitments to conventional norms" (p. 334). One-hundred-sixty-five students enrolled in a social psychology course took part in the study. Participants ranged in age from 18 to 37, and 65.4 % of the participants were women. Participants completed an opinion questionnaire "containing a techniques of neutralization scale" (p. 335). Eight weeks later, the participants took a 50-item multiple choice midterm exam. Their exams were collected, graded, photocopied, and the scores were recorded in a grade book. During the next class session, students were told that they would be self-grading the exams. After the students graded the exams, their scores were compared with the photocopies of the original gradings.

Of 128 participants who completed the questionnaire and took the midterm, 38 cheated. No difference was noted between men who rated high and men rated low on neutralization. For women, a significant difference was noted between high and low neutralizers, with more women rated as high on neutralization engaging in cheating (Ward & Beck, 1990). The authors concluded that "dishonesty among women was highly correlated with excuse-making, whereas dishonesty among men was relatively independent of tendencies to neutralize" (p. 337).

Jendreck (1992) examined students' reactions to observing cheating in others as well as their attitudes toward the person who committed the offense. A six-section questionnaire was mailed to 2000 undergraduates at a midwestern public university with

a formal academic honesty policy. The questionnaire asked students if they had witnessed cheating by another student. Participants who responded affirmatively were then asked to indicate their overall attitudes toward cheating, their opinion as to what behaviors constituted cheating, and their own academic dishonesty.

Forty percent of the participants believed that cheating was a problem at their university. Jendreck (1992) found that more than one third of the participants reported that "they were indifferent to the student they had observed cheating" (p. 264). This was particularly the case among participants with lower GPAs. A majority of students (84%) disagreed with the statement that cheating is sometimes justified, while 92% disagreed with the statement that cheating is justified when one "needs to pass a course" (Jendreck, 1992, p. 268). Most participants disagreed with statements regarding whether reporting someone who cheats is worse than cheating itself (81% overall, 62% when the cheater is a friend). Jendreck (1992) cited the indifference of students to cheating and cheaters as well as students' attitudes toward cheating as reasons for the high prevalence rates of cheating even among students at schools with detailed academic honesty codes.

Evans and Craig (1990) compared student and teacher attitudes toward cheating. They administered a 109-item Likert scale measuring four main aspects of cheating (i.e., problem awareness and seriousness, knowledge about cheating, causal attributions about teaching, and beliefs about the efficacy of preventative strategies) to 107 teachers and 1763 middle and high school students in Washington State. There were many similarities and differences between student and teacher perceptions of cheating.

Teachers were significantly more likely to consider cheating a problem in schools

in general, while students were more likely to report it as a problem at their own school. A majority of both students and teachers indicated that students rarely report cheating or complain to fellow students who cheat even though they usually are aware when cheating occurs. Additionally, both groups agreed that students who engage in cheating typically do not see it as wrong (Evans & Craig, 1990).

Teachers had a more sophisticated knowledge of cheating. They were more likely than students to understand that cheaters give unauthorized information as well as receive it and to acknowledge that being absent from tests without a legitimate excuse is also a type of academic dishonesty. Overall, high school students were found to be no more sophisticated about forms of dishonesty than their middle school counterparts (Evans & Craig, 1990).

Evans and Craig (1990) found that students were more likely than teachers to cite teacher characteristics as factors in cheating. For instance, students reported that teachers who they perceived as boring, unfriendly, and as having high expectations for students were more likely to encounter cheating in the classroom. In addition, students showed a stronger tendency than teachers to attribute cheating to classroom factors such as the amount of material covered and its difficulty. Teachers and students agreed that cheating is more likely in classes that were mandatory and where the learning objectives were unclear (Evans & Craig, 1990).

In terms of cheater characteristics, students tended to attribute cheating to a variety of personal factors (e.g., students whose financial situation requires them to hold part- or full-time jobs; Evans & Craig, 1990). Both students and teachers agreed on some

characteristics. For instance, both groups agreed that students who have a low academic self-concept, poorly budget their time, are afraid of failing, and receive parental pressure to do well are more likely to cheat (Evans & Craig, 1990). Finally, Evans and Craig (1990) examined attitudes toward the effectiveness of cheating prevention strategies. Several individual items yielded significant differences. For instance, students tended to believe that cheating would decrease with the relaxation of academic standards, while teachers tended to emphasize situational tactics such as the use of different exam formats to deter cheating (Evans & Craig, 1990). While the authors did not attempt to establish prevalence rates for cheating, they suggested that if the issue is perceived as a problem for students and teachers alike, "the consistency and magnitude of cheating-problem perception...lends credence to a real (vs. imagined) problem" (p. 49). This is particularly so in light of the prevalence data reported above.

LaBeff et al. (1990) examined situational ethics and cheating among college students. The authors were particularly interested in the neutralizing attitude in which "individuals justify violation of accepted behavior" (p. 191). A questionnaire consisting of 49 items was given to 380 undergraduates at a small university in the southwest. Of the 54% who reported cheating, several neutralizing justifications were reported. The most common neutralizing response involved denial of responsibility. That is, students acknowledged that cheating is wrong, but suggest that, had circumstances been different, they would not have cheated. Thus, they placed the blame for their actions on situational factors. Another method used by cheaters to neutralize their behaviors was to appeal to higher loyalties. In such cases, students suggested that, although cheating is wrong, they

engaged in the behavior to help a friend. Since loyalty to a friend takes precedent over academic honesty, their cheating was justified. In addition, cheaters also engaged in condemning their condemners. In these instances, students criticized authority figures as being unfair or unethical, complained about being overworked, or described perceived external pressures. In this way, students again shifted responsibility for their actions from themselves to other persons or situations. The authors concluded that students who utilize these neutralizing attitudes justify their cheating behavior while still acknowledging that the behavior is wrong (LaBeff et al., 1990). McCabe (1992) mailed a 72-item questionnaire to more than 15,000 college students and received 6,096 responses. Over two thirds of the participants reported engaging in academic dishonesty at least once during college. Those who reported engaging in academic dishonesty rated factors that may have influenced their decision to do so. Sixty-one percent of students who reported cheating cited forces outside of their control as factors in their behavior. They reported peer behavior, possibility of failure, and an unreasonable workload as reasons for cheating. A number of students (28%) shifted the focus from their own behaviors to those of their instructors and society. That is, they described professors as engaging in favoritism and being uncaring, unprofessional, unfair, and negligent. Additionally, they cited beliefs about society in general as factors (i.e., that society does not frown on dishonesty; civic leaders are dishonest; etc.). Approximately 7% of those who reported cheating suggested that they did so because no one was hurt by their offense. Finally, approximately 4% of students cited the demands of the social groups to which they belonged (e.g., to help a friend, fellow fraternity member, etc.). The above-cited attitudes

functioned to help students rationalize their dishonest behavior (McCabe, 1992).

Whitley (1998) reviewed the results of 107 studies on cheating among college students. The studies sampled were published between 1970 and 1996. While Whitley noted several correlates of cheating, only those having to do with student attitudes are presented here.

Several findings emerged from Whitley's (1998) analysis regarding attitudes toward academic dishonesty. Whitley (1998) found that students who held favorable attitudes toward academic dishonesty were more likely to cheat than students who held unfavorable attitudes. Cheating was also more common among students who perceived social norms as permitting such behavior and who perceived themselves as effective cheaters. Students were less likely to cheat if they had a strong moral obligation not to do so (Whitley, 1998).

McCabe (1999) attempted to more fully understand students' attitudes toward academic dishonesty through the use of focus group discussions. Several findings emerged from these discussions. For most students, deciding whether or not to cheat was motivated by school and societal norms as well as by teacher and peer attitudes toward cheating. Focus group students viewed cheating as being a part of life, and believed that engaging in such behaviors "does not weigh heavily on the conscience of high school students" (p. 682). Additionally, the focus group students did not feel that they were likely to be caught cheating nor did they expect that they would be punished if caught. Therefore, these attitudes when coupled with the fact that most students believed that teachers were not concerned with cheating, lead students to believe that threats about the

consequences of cheating were not likely to be effective deterrents (McCabe, 1999).

More recently, Jordan (2001) examined attitudes toward cheating by 175 students at a small liberal arts college. Ten percent of the participants indicated that cheating is occasionally justified in college, and 15% felt that it was justified when a "friend asks for help" (p. 243). However, there were significant differences between students who had cheated and those who had not. Students who had cheated were more likely to justify cheating and to endorse those justifications (Jordan, 2001). Additionally, students who had cheated made higher estimates of peer cheating behavior.

As is the case with the other factors cited above, attitudes often interact in complex ways when it comes to academic dishonesty. Instructors and students differ in terms of how serious they believe the problem of academic dishonesty is, as well as what behaviors constitute cheating. One finding that holds relevance for the proposed study is the fact that students often attribute their academic dishonesty to external factors such as teacher characteristics (McCabe, 1992) and job-related responsibilities (Evans & Craig, 1990). By doing so, the students are using justification methods that resemble those discussed by Festinger (1957) for reducing cognitive dissonance between their beliefs and their behavior. The next chapter discusses cognitive dissonance theory in more detail. However, given the above findings, it seems that cognitive dissonance theory may provide a method to stem the tide of academic dishonesty that will be explained in the next chapter.

Conclusion

Clearly the issue of academic dishonesty is complex. Given the widespread prevalence of

such behaviors, new methods of prevention are necessary. Whitley's (1998) review demonstrated that students' attitudes toward cheating are related to their likelihood of engaging in academic dishonesty. Additionally, the findings show that students often are unaware of behaviors that are dishonest and have a tendency to endorse or tolerate academic dishonesty in themselves and others. An intervention that focuses on clearly defining academic dishonesty as well as using students' attitudes to change their behaviors may be a viable approach to this problem. The so-called induced hypocrisy paradigm that has developed from cognitive dissonance theory may provide such an intervention. Therefore, the next chapter will discuss research on cognitive dissonance theory and its effectiveness in changing attitudes and behavior.

CHAPTER TWO

This chapter presents cognitive dissonance theory and presents an overview of studies examining the effectiveness of dissonance induction in attitude and behavior change. The chapter then presents cognitive dissonance studies addressing academic dishonesty and concludes with a rationale and hypotheses for an induced hypocrisy intervention to reduce cheating.

Cognitive Dissonance Theory

Cognitive dissonance theory (Festinger, 1957) is a theory of motivation that states that when there is an inconsistency between two cognitive elements, or between one's cognitions and behaviors, there is a pressure to make these two elements consonant (Sears, et al., 1991).

According to Festinger (1957), individuals strive for internal consistency in their opinions, attitudes, and behaviors. However, there are times when behaviors and/or cognitions do not relate to each other in ways that are internally consistent. In these situations, cognitive dissonance occurs. Festinger (1957) stated that "the existence of dissonance, being psychologically uncomfortable, will motivate the person to try to reduce the dissonance and achieve consonance" (p. 3). That is, the person is motivated to make the cognitions, behaviors, and so forth consistent once again.

Several factor affect cognitive dissonance. First, two cognitive elements are dissonant if "the obverse of one element would follow from the other" (Festinger, 1957, p. 13). According to Festinger (1957), this could occur in several ways. It could result from a logical inconsistency between the two elements. For instance, a person may

believe that mankind will engage in interplanetary travel by the end of the century, but also believe that mankind will not be able to produce the necessary technology to do so. Dissonance could also result from cultural mores (e.g., eating with one's fingers at a formal dinner). Additionally, dissonance may be produced from one specific opinion being included in a more general opinion (e.g., a registered Republican may prefer a specific Democrat candidate in a particular election). Finally, past experience may lead to dissonance. For instance, a person who is standing in the rain, but sees no evidence of being wet will experience dissonance (Festinger, 1957).

A second factor affecting cognitive dissonance is the magnitude of the dissonance (Festinger, 1957). Not all dissonant relations are of the same magnitude. Thus, Festinger (1957) proposed that the more two dissonant elements are valued by the person, the greater the dissonant relationship will be. For instance, if a student knows that he or she is unprepared for an important test, but still does not study for it, he or she may experience a great deal of dissonance. However, this dissonance would not be as great if the student's fund of knowledge of the test material was sufficient to allow him or her to pass the exam without studying. As stated previously, the presence of dissonance motivates a person to reduce or eliminate the dissonance. The amount of pressure to reduce dissonance is a function of the dissonance's magnitude (Festinger, 1957).

A person experiencing dissonance between two elements may eliminate or reduce it by changing one of the elements (Festinger, 1957). When dissonance is between an environmental and a behavioral element, dissonance may be eliminated by changing the behavioral element in a way that makes it consistent with the environmental element. For

example, a person who smokes may stop smoking so that his or her behavior is consistent with his or her knowledge that such behavior is unhealthy (Festinger, 1957).

There are, however, situations in which it is difficult or impossible to reduce dissonance by changing one's behavior. In such cases, a person may attempt to reduce dissonance by changing environmental cognitions (Festinger, 1957). For instance, a person who tends to be hostile toward others may reduce dissonance by spending time with persons who tend to trigger hostility. In this way, the hostile person's cognitions about the environment would be consistent with his or her hostile behavior (Festinger, 1957).

A third method for reducing dissonance is to add new cognitive elements (Festinger,1957). For example, a smoker may reduce dissonance by reading material that debunks research findings that identify the health risks of smoking. Additionally, the person would avoid research supporting such findings. It would also be possible to reduce dissonance by adding information that reduces its importance. The smoker may read material on the death rates from car accidents and determine that the health risks from smoking are relatively negligible (Festinger, 1957).

Finally, new cognitive elements may be added to reconcile dissonant elements (Festinger, 1957). As an example, Festinger (1957) presented the example of a non-literate society called the Ifaluk. Persons in this culture firmly believed that people are good. Yet, the Ifaluk observed that their children often went through a period of destructive, hostile, and aggressive behavior. Rather than modify their beliefs about human nature (e.g., only people who have reached maturity are wholly good), the Ifaluk

believed that malevolent ghosts enter people and cause them to engage in bad behaviors. Thus the Ifaluk reconciled their dissonant elements (Festinger, 1957).

Cognitive dissonance theory has inspired a great deal of research (Aronson, 1992). Studies have supported the use of dissonance motivation to change attitudes and behaviors in areas as diverse as weight reduction, energy conservation, cessation of smoking, and group membership (Stone, et al., 1994). The next section presents an overview of studies examining the effectiveness of dissonance induction in attitude and behavior change. Because of their relationship to the dissertation study, the studies reviewed involve the forced compliance paradigm and a newer paradigm that brings about dissonance by inducing hypocrisy (Fried & Aronson, 1995). The dissertation study used hypocrisy to induce dissonance.

Cognitive Dissonance-Based Research

Forced compliance studies are those in which "dissonance is aroused by getting subjects to 'freely' do something they would not otherwise do, such as advocate a position they do not support, or work hard to obtain something that is not valuable" (Fried & Aronson, 1995, p. 925). An early example of such a study was conducted by Aronson and Mills (1959), and examined the affect of initiation severity on participants' liking of a group. Sixty-three college women were randomly assigned to one of three conditions: a mild initiation, a severe condition, and a control condition. Participants in the mild condition were asked to read some rather innocuous material (i.e., non-obscene sex words) prior to joining a group that was ostensibly discussing the psychology of sex. Participants in the severe condition were asked to read embarrassing material (i.e., 12

obscene words) before joining the group, and the control group was not asked to read any material before joining (Aronson & Mills, 1959).

After this, each participant put on ear-phones that allowed her to listen to a pre-recorded discussion about a book on animal sexual behavior. The pre-recorded discussion ensured that the conditions were standardized. However, experimenters led the participants to believe that the voices they heard were those of live people actively discussing animal sexual behavior in a boring manner (e.g., using dry, halting speech, nonsequitors, self-ontradictions, etc.; Aronson & Mills, 1959).

When the recording ended, experimenters asked participants to complete a 14-item questionnaire and a three-question oral interview about their reaction to the discussion group members. Participants in the severe condition rated both the group members and the discussion itself more positively on these questions than did those in the control and mild conditions. The authors concluded that "the results clearly substantiate the hypothesis: persons who undergo a severe initiation to attain membership in a group increase their liking of the group" (Aronson & Mills, 1959, p. 122). The authors interpreted the results as supporting Festinger's (1957) theory of cognitive dissonance.

Axsom and Cooper (1985) examined weight reduction through the use of a similar effort justification technique. Fifty-two women ages 18 and older who were 10%-20% above their desired body weight were recruited for the program. Participants were assigned to one of five conditions and took part in five sessions over three weeks. In the high choice-high effort condition, participants engaged in a difficult task for 20 minutes and were given several opportunities to discontinue their participation. In the low choice-

high effort condition, participants engaged in the same difficult task for the same amount of time, but were not given repeated opportunities to withdraw. In the high choice-low effort condition, repeated opportunities to withdraw were presented, but the task was easy and the duration was only 10 minutes. In the low choice-low effort condition, participants engaged in an easy task without repeated opportunities to withdraw. Finally, participants in the control group were simply weighed in at each session. It should be noted that none of the conditions were pecifically designed for weight loss, but were based solely on the amount of effort expended and the choice to continue participation (Axsom & Cooper, 1985).

At the immediate conclusion of the experiment, no significant weight changes were noted among all of the participants, although slight differences were noted in the expected direction (i.e., the high effort groups exhibited a greater weight loss). However, at 6-month follow-up, participants in the two high effort groups had lost significantly greater weight than those in the other groups. This finding was still evident one year from the date of the initial session. In fact, participants in the high effort conditions continued to lose a significantly greater amount of weight during this time (Axsom & Cooper, 1985). Axsom and Cooper (1985) concluded that the results supported the use of an effort justification procedure, similar to that of Aronson and Mills (1959), to induce weight loss.

Although the popularity of cognitive dissonance theory began to wane in the late 1970s, the 1990s saw the development of a new paradigm, the induced hypocrisy paradigm that brought about a renewed interest in the theory (Aronson, 1992). Research

participants in hypocrisy experiments are asked to advocate a position with which they agree and are also made mindful of their failure to act in a manner consistent with this position. This hypocrisy (i.e., the inconsistency between attitudes and behavior) produces dissonance (Fried & Aronson, 1995).

Aronson et al. (1991) used an induced hypocrisy procedure to increase condom use in college students. Using a two by two laboratory experimental design, the researchers randomly assigned 80 sexually active college students to one of four conditions. In the Preach Only condition, participants were asked to compose a short speech advocating the use of condoms and to deliver the speech before a T.V. camera. Participants in the High Mindful, Preach (Hypocrisy) condition were asked to describe recent situations in which they had failed to use condoms. Then, they composed and recorded their speech advocating condom use. In the Low Mindful, No Preach condition, participants composed a pro condom speech but did not deliver it, and had no reference made to their own history. Finally, those in the Mindful Only condition were asked to describe recent situations in which they did not use condoms and to develop a pro condom speech without delivering it. After completing the requirements of their conditions, all participants answered questions about their past condom use and their intentions for future condom use (Aronson et al., 1991).

Participants in the Hypocrisy (High Mindful, Preach) condition were more likely to admit their failure to use condoms than were members of the other conditions. Additionally, “the hypocrisy condition yielded a better index of improvement” (Aronson et al., 1991, p. 1637) based upon the participants’ reported future intentions. It should be

noted that due to a ceiling effect, differences in future intentions were not documented by the authors. Three months after the completion of the experiment, the experimenters contacted the participants to assess their recent use of condoms. The results indicated that "hypocrisy might be the most effective route to long-term behavior change" (p. 1637). However, the follow-up findings could not be analyzed statistically due to participant attrition. Based upon these findings, the authors concluded that hypocrisy awareness curricula (Aronson et al., 1991).

In an extension of the study by Aronson et al. (1991), Stone and colleagues (1994) used the hypocrisy paradigm to further examine condom use among college students. Seventy-two non-HIV tested undergraduates (between the ages of 18-25) were assigned to one of two conditions. In the first condition, the Commitment condition, participants were told that the researchers were attempting to find the best person to communicate a safe-sex message to high school students. Participants were then required to develop a presentation on safe sex from a "standardized menu of facts about AIDS" (Stone et al., 1994, p. 119), and then proceed to another room where they videotaped the presentation. In the second group, the No Commitment group, participants wrote a persuasive speech, but did not videotape it. These participants "were led to believe that the purpose of developing their speech was to test a hypothesis about the relationship between developing persuasive material and memory for content-related information" (Stone et al., 1994, p. 119). After the participants completed their commitment exercises they "were introduced to the levels of mindful manipulation" (Stone et al., 1994, p. 119). Participants taking part in the Mindful condition were asked to discuss the reasons why condoms were

not easy to use. These participants reviewed a list of circumstances under which using condoms might be difficult, then created a list describing the circumstances under which they failed to use condoms themselves. Participants in the Unmindful condition were not exposed to the list or asked to generate their own (Stone et al., 1994).

Stone et al. (1994) used behavioral and self-report measures of condom use. The self-report measure consisted of two interview questions that measured participants' future intent to use condoms as well as their past use of condoms. Behaviorally, the participants were given $4 each for participating in the study and provided the opportunity to purchase pamphlets about AIDS and condoms (both at a reduced price), ostensibly donated by the university health center. The experimenter then left the room so that the participants could purchase the materials if they wished (Stone et al., 1994).

Using a gender x commitment x mindful log-linear ANOVA, Stone et al. (1994) reported that participants in the Commitment/Mindful condition (the hypocrisy condition) bought significantly more condoms than all other groups. This result was explained by the investigators in terms of cognitive dissonance theory. Participants in the hypocrisy condition experienced dissonance because their public commitment to safe-sex practices were inconsistent with their past behavior. Additionally, participants in the Commitment condition provided higher future estimates of condom use than participants in the No Commitment group (Stone et al., 1994). The hypocrisy and commitment-only groups did not differ significantly. However, those in the hypocrisy condition reported higher future estimates of condom use than participants in the mindful-only and information-only groups.

Participants in the hypocrisy condition also purchased more condoms than those in the commitments-only and mindful-only conditions. The difference between the hypocrisy and information only groups was in the predicted directions but was not significant (Stone et al., 1994). Overall, Stone et al. interpreted these results as supporting a cognitive dissonance approach, particularly through induced hypocrisy, to increasing safe-sexual practices.

Fried and Aronson (1995) further examined the induced hypocrisy paradigm. The authors attempted to rule out alternative explanations for the reduced hypocrisy findings by allowing participants to misattribute their arousal to factors other than hypocrisy. If the behavior changes resulting from an hypocrisy study are reduced when external factors are introduced, as would be predicted by Festinger (1957), these results would strengthen the argument that hypocrisy is a form of dissonance (Fried & Aronson, 1995).

Seventy-six undergraduates at the University of California, Santa Cruz took part in the study to fulfill a course requirement (Fried & Aronson, 1995). Experimenters told the participants that they would be developing and videotaping a speech about the merits of recycling. After participants wrote speeches that were videotaped, experimenters asked participants in the Hypocrisy/Misattribution condition to think of times in the past month that they had failed to recycle. These participants had been previously told that several factors in the laboratory where they were may have an affect on people using that laboratory. Finally, after the videotaping condition, the experimenters asked the participants to fill out a short questionnaire rating the effects of the laboratory (e.g., lighting, temperature, etc.) in which the study took place. By doing so, the researchers

hoped to give the participants an opportunity to misattribute their dissonance to external factors (Fried & Aronson, 1995).

Participants in the Hypocrisy/No-Misattribution condition developed the speech, videotaped it, were made aware of their failing to recycle, and completed the misattribution questionnaire. However, they had not been previously made aware of the potential effects of the laboratory environment. Participants in the No-Hypocrisy/Misattribution condition were told of the potential laboratory effects, composed their speech, videotaped it, and completed the questionnaire. However, no mention was made of their past behavior. Finally in the No-Hypocrisy/No-Misattribution condition, participants were not told of the potential laboratory effects, developed and videotaped a speech, and completed the questionnaire (Fried & Aronson, 1995).

As a dependent measure, the participants completed a form inquiring about their willingness to make phone calls to others about the importance of recycling and providing information on how to do so (Fried & Aronson, 1995). To decrease the possibility that demand characteristics played in participants' responses, Fried and Aronson (1995) told the participants that this was not directly related to the experiment.

A Hypocrisy x Misattribution ANOVA found "a significant main effect for hypocrisy and a significant interaction" (p. 929) in terms of the number of phone calls for which the participants volunteered. No significant main effect was found for misattribution. The authors suggested that these results support the hypothesis that hypocrisy participants experienced arousal. Allowing the subjects who took part in an hypocrisy condition the opportunity to misattribute this arousal to other factors decreased

"their tendency to engage in dissonance reduction behavior" (p. 930). Fried & Aronson (1995) suggested that these findings support the use of the induced hypocrisy paradigm to increase recycling. The results also supported the hypothesis that hypocrisy produces dissonance arousal (Fried & Aronson, 1995).

The induced hypocrisy paradigm has developed from the rebirth of cognitive dissonance theory in the past 15 years. It provided the framework for the dissertation study. Before discussing hypotheses for this study, I will present a brief summary of cognitive dissonance-based research into academic dishonesty.

Cognitive Dissonance and Academic Dishonesty

Academic dishonesty has not been extensively studied from a cognitive dissonance perspective. Aronson and Mettee (1968) examined giving people information that lowered their self-esteem and raised their likelihood of non-academic cheating. Forty-five female participants enrolled in an introductory psychology class were told that they would take part in a study examining the connection between extra sensory perception (ESP) and personality. After participants completed the self-esteem scales of a personality test, experimenters gave participants false positive, negative, or neutral feedback about their personalities. Experimenters then told participants that their ESP abilities would be assessed through a modified blackjack game. While taking part in the game, participants "were faced with the dilemma of either cheating and winning or not cheating and losing" (Aronson & Mettee, 1968, p. 199). That is, they were dealt an extra card that, if used, would cause them to lose the game. If participants opted not to use the card, they would win the game. Participants were falsely lead to believe that cheating

would not be detected. The number of times a participant did not return the extra card was recorded as the dependent variable (Aronson & Mettee, 1968).

Aronson and Mettee (1968) found that the cheating behavior of an individual was influenced by the feedback she received. Persons in the low self-esteem group were more likely to cheat than those in the high or neutral self-esteem groups. Additionally, participants in the high self-esteem group were more likely to engage in non-cheating behavior than those in the other two groups. From a cognitive dissonance theory perspective, the authors concluded that "people who have a high opinion of themselves are less prone to perform any activities which are generally dissonant with their opinion" (Aronson and Mettee, 1968, p. 208) and that "it may be easier for a person with a low self-concept to commit acts of a criminal nature" (p. 208).

Whitley (2001) stated that while "women hold more negative attitudes toward cheating than men" (P. 249), they tend to engage in that behavior at about the same rate as men. Therefore, from a cognitive dissonance theory perspective women should experience greater negative affect than men after they have cheated. One-hundred-seventy introductory psychology students (92 males, 78 females) who had engaged in academic dishonesty during the preceding six months took part in Whitley's (2001) study. Participants answered 18 questions assessing attitudes toward cheating and 27 questions that assessed affective reactions to having cheated. To assess frequency of cheating, participants were asked how often they had cheated on exams during the prior six months. The number of exams on which the students had cheated was divided by the total "number of exams taken" (p. 252) to obtain a cheating rate.

While Whitley (2001) found that although men were more likely to report having cheated than women, the cheating rate of men and women was not significantly different. Women's attitudes toward cheating tended to be more negative than those of men, while men tended to report more positive affect in response to cheating in general. However, no significant gender difference was found in negative affective responses to their own cheating behavior. While the prediction based upon cognitive dissonance theory (i.e., that women would experience more negative affect then men as a result of an attitude-behavior discrepancy) was not supported by these results, Whitley (2001) suggested that cognitive dissonance theory provides two possible explanations for this finding. First, for dissonance to arise from an attitude-behavior discrepancy the behavior must be viewed as voluntary. As college students often attribute their cheating to external factors, they may not experience dissonance. Second, cognitive dissonance theory suggests that persons for whom the discrepancy affects self-esteem will experience dissonance most strongly. If no significant gender difference exists in terms of how dishonesty affects self-esteem, differences in negative affective responses also may not be observed (Whitley, 2001). Whitley's (2001) data did not allow him to either confirm or deny these alternative explanations.

Storch and Storch (2003) studied the relationship between attitudes toward academic dishonesty and self-reported academic dishonesty. They administered a nine-item questionnaire assessing the frequency of dishonest academic behaviors and a second nine-item scale that assessed attitudes toward specific dishonest academic behaviors to 244 college students. Attitudes toward academic dishonesty were significantly correlated

with the frequency of academic dishonesty. The authors suggested that the results "provide evidence for cognitive dissonance theory" (Storch & Storch, 2003, p. 175).

Clearly the research examining academic dishonesty from a cognitive dissonance perspective is quite limited. To date, no studies have attempted to use induced hypocrisy as a means to change students' attitudes and behaviors in this area.

Conclusion

Cognitive dissonance theory has inspired a great deal of research during the last half-century. While academic dishonesty has not been extensively studied from this perspective, the encouraging findings regarding hypocrisy and condom use (Aronson, et al., 1991) suggest that the hypocrisy paradigm may hold promise for changing students' attitudes and behaviors toward academic dishonesty. As such, the next chapter provides methodological information for this study that used a hypocrisy technique similar to that of Stone and colleagues (1994) as a means of changing high school students' attitudes toward academic dishonesty.

Rationale and Hypotheses

According to Festinger (1957),

> There may exist dissonant or 'non-fitting' relations among cognitive elements. The existence of dissonance gives rise to pressures to reduce the dissonance and to avoid increases in dissonance. Manifestations of the operation of these pressures include behavior changes, changes of cognition and circumspect exposure to new information and new opinions. (p. 31)

By having the students take an active role in addressing academic dishonesty and

by having them do so on their own time, it is predicted that cognitive dissonance will be created between their attitudes toward academic dishonesty as well as their own history of academic dishonesty and their active role against academic dishonesty by participation in an academic policy development group. In the present study, participation in the academic policy group was expected to bring about dissonance between students' reported attitudes toward cheating, as measured by a survey (the Academic Honesty Scale), and their overt behavior (i.e., participating in the group). As such, these students were expected to reduce this dissonance by changing their self-reports of behavior and attitudes about academic dishonesty at the time of the post-test, and by cheating at a reduced rate after the dissonance intervention. It should be noted that for the Past Behavior subscale of the Academic Honesty Scale, a change in score would likely produce greater dissonance as the participants would be lying about their past behavior. As such, this set of subscale scores was not expected to change from pre-test to post-test nor to differ between the experimental and control groups.

Based upon this rationale, the following hypotheses were made:

HO1: Both the control participants and participants in the experimental group will have no significant decrease in their Past Behavior subtest scores on the Academic Honesty Scale from pre-test to post-test. This will be shown by a non-significant group difference in how the participants' AHS Past Behavior scores change from pre-test to post-test.

HO2: Relative to participants in the control group, participants in the experimental group will have a significant decrease in their Attitudes subtest

scores on the Academic Honesty Scale from pre-test to post-test. This will be shown by a significant group difference in how the participants' AHS Attitudes scores change from pre-test to post-test.

HO3: Relative to participants in the control group, participants in the experimental group will have a significant decrease in their Future Behavior subtest scores on the Academic Honesty Scale from pre-test to post-test. This will be shown by a significant group difference in how the participants' AHS Future Behavior scores change from pre-test to post-test.

HO4: Relative to participants in the control group, participants in the experimental group will have a significant decrease in the number of tests they cheated on at post-test.

CHAPTER THREE

This chapter presents information about participants and their selection, dependent variables, independent variables, and demographic variables. Additionally, the methodology procedures for the study are presented.

Method

Participants and Their Selection

I introduced the study to all students (approximately 500) enrolled in a private junior/senior high school in Riverhead, NY while they were in a classroom setting. At that time, I explained the purpose of the study and the study's procedures to the potential participants (see Appendix A). Letters and consent forms were distributed to the students (see Appendix B). The students were asked to give the forms to their parents. Only students who signed the assent form and whose parents signed the consent form participated in the study. The privacy of the students was maintained by keeping their names confidential. Each participant was assigned a number from a list, and asked to write that number on the Academic Honesty Scale so that his or her responses from pretest to posttest could be matched. Once the pretest and the posttests were completed and matched, the list of numbers and names was destroyed.

In addition to signing the consent form, each participant's parent or guardian was asked to complete the *Hollingshead Four Factor Index of Social Status* (Hollingshead, 1975). Information regarding age, gender, special education status, athletic participation, academic honors, and ethnicity was solicited from student participants when the Academic Honesty Scale (AHS) was administered at pretest. Questions about

demographic information were asked on the first page of the AHS. The AHS is presented in Appendix C.

One-hundred-thirteen students (approximately 23% of the student body) returned their consent and assent forms prior to the study and took part in it. An additional 29 participants turned in consent forms after the study began. These participants were not able to take part in the entire study, and only completed the Academic Honesty Scale (AHS) one time. Their AHS scores were combined with those of the study participants to assess the reliability of the AHS only.

Demographic information is presented in Table 1.

Table 1

Participant Descriptive Statistics

Descriptor	*N*	*Descriptor*	*N*
Gender		Ethnicity	
Male	53	White/Caucasian	95
Female	60	Asia/Pacific Island	1
		Black/African American	2
Special Education		Puerto Rican	2
Yes	6	Hispanic/Latino	5
No	105	Other	8
Missing	2		
Grade		Number of Sports	
7	15	0	41
8	23	1	25
9	30	2	19
10	19	3	24
11	12	4	2
12	14	Missing	2
National Honor Society		Honor Roll	
Yes	32	Yes	75
No	76	No	34
Missing	5	Missing	3

Of the 113 participants who took part in the entire study, 53 were male (46.9 %) and 60 were female (53.1%). Participants ranged in age from 12 to 18 and in grade from 7-12. Seventy participants reported taking part in one or more interscholastic sport. Six reported receiving special education services. Seventy-five (66%) reported making the honor roll at least once in their academic career, while 32 (28%) reported being members of the National Honor Society. The majority of participants (84%) described themselves as Caucasian. Finally, the participants' average score on the Hollingshead Four Factor Index of Social Status was 48.19. This score fell in the Medium Business/Minor Professional/Technical social strata (Hollingshead, 1975), with a range from 18 to 67.

The additional 29 participants, whose data were only used for AHS reliability calculations, ranged in age from 12-18 and in grade from 7-12 (although grade 8 was not represented). Eleven of these participants (38%) were male while 18 (62%) were female. In terms of ethnicity, one participant reported being Other Hispanic and one reported being Other. The remaining 27 classified themselves as White/Caucasian. Fifteen participants played at least one sport, 9 were National Honor Society members, and 21 reported making the honor roll at least once in their academic career. This group's average Hollingshead score was 47.62 that also fell within the Medium Business/Minor Professional/Technical social strata (Hollingshead, 1975). The range for this score was from 34.5 to 63.

Dependent Variables

Cheating rate. To assess frequency of participants' cheating behavior, two open-ended items ask for the number of tests the individual has taken since the beginning of the

semester, and the number of those tests on which the student cheated. The number of tests cheated on was divided by the number of test taken to obtain a cheating rate. Whitley (2001) used similar items to obtain a cheating rate. The questions used to assess cheating rate are presented in Appendix D. I attempted to get evidence of actual cheating from the school's principal. However, I was informed that incidents of cheating were typically addressed informally by the classroom teachers, and that no formal records of such behavior were kept.

Academic Honesty Scale. I developed the Academic Honesty Scale (AHS), a 17-item Likert-Scale survey, for this study. The survey assesses student attitudes toward cheating, past history of cheating, and projected future dishonest academic behavior. Students rate their attitudes and behaviors on a four-point scale for each item. The AHS is presented in Appendix C. Eleven of the 17 items are worded so that higher scores indicate more positive attitudes toward cheating, and six items are worded so that lower scores indicate more positive attitudes toward cheating. In scoring, however, these latter six items (items 4, 5, 8, 11, 13, and 14) are scored in the opposite direction so that higher scores are indicative of more positive attitudes toward cheating. I developed the items based upon similar items used in studies of college students from the Davis and Ludvigson (1995), McCabe and Trevino (1997), and Schab (1991) surveys; however, the items were re-worded and/or re-scaled for use in the AHS. A definition of academic dishonesty that was developed from articles by Fass (1986) and Evans and Craig (1990) as well as from the Honor Code of the United States Military Academy (Bennett & Monbeck, 1978) is written on the front page of the scale so that students may have a clear understanding of

the behavior being assessed.

The scale generates three subscale scores and an overall total score. The Past Behavior subscale score is comprised of six item scores reflecting participants' past cheating behavior. The Attitude subscale score is comprised of five item scores reflecting participants' attitudes toward cheating, while the Future Behavior subscale score is comprised of six item scores reflecting participants' projected future cheating behavior. The Behavior and Future Subscale scores each range from 6 to 24, and the Attitude Subscale ranges from 5 to 23. The Total scale score ranges from 17 to 63 with higher scores reflecting more favorable attitudes toward cheating.

A pilot study (Vinski, 2004) using 16 high school students found the following internal consistency coefficient alphas: Past Behavior, $\alpha = .78$; Attitudes, $\alpha = .63$; Future Behavior, $\alpha = .76$; Total Scale, $\alpha = .87$. One-week test-retest reliabilities were .83, .81, .38, and .84 for Past Behavior, Attitudes, Future Behavior, and Total Scale respectively. Because of the low test-retest reliability of the Future Behavior subscale, for the dissertation, the items on this subscale were changed to ask students about their predicted cheating behavior "in the next year" rather than "in the future". I believed that this wording change would focus student raters on a more specific future time rather than a vague future reference, and hopefully, result in a higher test-retest reliability.

A second study (Vinski, 2005) further examined the reliability of the AHS, and also examined its validity. The following alpha coefficients were found: Past Behavior. $\alpha=.68$; Attitude, $\alpha=.69$; Future Behavior, $\alpha=.59$; Total Scale, $\alpha=.83$. One-week test-retest reliabilities were .88, .82, .74, and .89 for the Past Behavior, Attitudes, Future

Behavior, and Total Scale score respectively. The test-retest reliability of the Future Behavior subscale was higher than that found in the first pilot study (.38 vs. .74), indicating that the change in wording to a more specific future time may have increased this subscale's stability. As a form of criterion-related validity, the subscale scores and total score for the AHS were correlated with the answers to two questions assessing cheating rate (see below). Correlation coefficients between participants' cheating rates and AHS scores were as follows": Past Behavior, r = .61; Attitudes r= .76; Future Behavior, r = .36; Total Scale, r = .67. Based upon the results of these two studies, I removed Item 11 due to poor test-retest reliability. These results further supported the use of the AHS as a research tool.

One purpose of this dissertation was to provide additional reliability data for the AHS. Table 2 presents alpha coefficients for both the AHS pre-test and post-test administrations. The pre- and post-test alpha coefficients were consistent across administrations. While the internal consistency of the Total Scale was adequate, the reliabilities for the subscales, particularly the Attitude and Behavior subscales, were quite low. These results are similar to those found in the pilot studies mentioned above.

Table 2

Alpha Coefficients for the Academic Honesty Scale

AHS Scale	Pretest (*N*)	Post-test (*N*)
Behavior	.5921	.5522
	(108)	(104)
Attitude	.5923	.5793
	(108)	(102)
Future	7369	.7202
	(109)	(104)
Total	8480	.8454
	(107)	(102)

I used Pearson product moment correlation coefficients to assess the two-day test retest reliability of the AHS as well as to correlate AHS scores with students' reported cheating rates at pretest. These coefficients were calculated using scores from the forms of control group participants ($n = 64$). The test-retest coefficients for the AHS scale and total scores ranged from $r = .83$ (Attitudes) to $r = .96$ (Past Behavior and Total) with an average of $r = .91$. All test-retest coefficients were significant at the $p \leq .01$ level. The results indicate good stability of scores particularly for the Total Scale and the Behavior Subscale, and are similar to those found in the pilot studies reviewed before. It should be

noted, however, that the time between test and retest was only two days. Table 3 presents these test-retest correlations.

Table 3

Test-Retest Correlation Coefficients for the Academic Honesty Scale

AHS Scale	*r*
Behavior	.96**
Attitudes	.83**
Future Behavior	87**
Total	.96**

**p ≤ .01

I used Pearson Product-moment correlation coefficients to assess the test-retest reliability of the individual AHS items using the control participants responses. All correlations were significant at $p < .01$ and ranged from $r = .45$ for Item 11 to $r = .92$ for Item 4. The results of this analysis indicate acceptable test-retest reliability for the individual items. Again, it should be noted, that the time between test and retest was only two days. Table 3 presents these test-retest correlations. Table 4 presents the results of these analyses.

Table 4

Test-retest Coefficients for the Individual Items of the AHS

AHS Item	*r*
1	.82**
2	.90**
3	.85**
4	.92**
5	.91**
6	.77**
7	.83**
8	.65**
9	.77**
10	.78**
11	.45**
12	.74**
13	.67**
14	.70**
15	.74**
16	.71**
17	.78**

**$p < .01$

As a form of criterion-related validity, the pretest and post-test subscale and total scores for the AHS were correlated with the control participants' cheating rate scores (i.e., the number of tests cheated on divided by the number of tests taken). For the pretest, correlation coefficients ranged from .35 (cheating rate and Past Behavior) to .46 (Total Scale). For the post-test, correlation coefficients ranged from .35 (Attitudes) to .48 (Future Behavior). For both administrations, all coefficients were significant at the $p \leq .01$ level with the exception of the post-test Attitudes scores that were significant at the $p \leq .05$ level. Thus, attitudes toward cheating were moderately related to self-reporting cheating behavior. The results of these analyses are presented in Table 5. The correlations are in the expected direction, with higher scores on the AHS, indicating a more favorable attitude toward cheating, significantly associated with higher cheating rates. Overall, reliability and criterion-related validity analyses did yield significant results in the expected directions supporting the use of the AHS as a research tool.

Table 5

AHS and Cheating Rate Correlation Coefficients

	Cheating Rate	
AHS Scale	Pre-test *r*	Post-test *r*
Behavior	.35**	.41**
Attitudes	.42**	.35*
Future Behavior	43**	.48**
Total	46**	.45**

*p ≤ .05
**p ≤ .01

I used Pearson product moment correlation coefficients to assess the item-total reliabilities for the individual AHS items and the AHS total score. The correlations ranged from *r* = .72 to r = .18 at pre-test and from *r* = .80 to r = .13 post-test. All coefficients were significant at at least the p < .05 with the exception of Item 8 which was not significant at either pre-test or post-test. The results indicate good item-total reliability for all items with the exception of Item 8. It should be noted that when Item 8 was removed, the alpha coefficient for the AHS Total score increased slightly to .8615 at pre-test and .8608 at post-test. Table 6 presents these item-total correlations.

Table 6

AHS Item-Total Correlation Coefficients Pretest

	Total Score	
Item	Pre-test *r*	Post-test *r*
1	.72**	.70**
2	.59**	.60**
3	.66**	.68**
4	.34**	.27**
5	.21*	.22*
6	.43**	.40**
7	.67**	.69**
8	.18	.13
9	.66**	.66**
10	.54**	.66**
11	.46**	.37**
12	.71**	.80**
13	.56**	.34**
14	.43**	.44**
15	.70**	.64**
16	.64**	.73**
17	.66**	.61**

*p ≤ .05
**p ≤ .01

Socioeconomic Status

Hollingshead Four Factor Index of Social Status (**Hollingshead, 1975**). To determine the socioeconomic status (SES) of the participants, I used the *Hollingshead Four Factor Index of Social Status*. The *Hollingshead Index* "is based on the view that social status is a multidimensional concept" (Gottfried, 1985, P. 86). The four factors comprising social status are: occupation, education, marital status, and gender. However, gender is not used for the computation of social status, and therefore only three factors are considered in the computation of the composite score. Scores range from 8 to 66 with higher scores being indicative of higher SES. A test-retest reliability coefficient of .78 has been reported (Gottfried, 1985). Additionally, a correlation coefficient of .73 has been reported between the *Hollingshead* and the *Siegel 1965 NORC Prestige Scale* (as cited in Gottfried, 1985), and a correlation coefficient of .79 was reported between the *Hollingshead* and the *Revised Duncan Socioeconomic Index* (as cited in Gottfried, 1985). The *Hollingshead* may be found in Appendix E.

Procedure

Participants were randomly assigned to one of two conditions based on their religion classes. Specifically, students were recruited in religion classes, and every student who volunteered to participate from a particular religion class was assigned along with all other student volunteers from that class to either the experimental or control group. Thus, 44 students were assigned to the experimental group and 65 were assigned to the control group. It should be noted that there are approximately 20 more control participants than experimental participants. This is due to the fact that the experimental

focus groups needed to be kept relatively small to ensure that everyone would get to participate. As a result, I limited the focus group participants to one randomly selected religion class per period. However, while I was meeting with one religion class as a focus group, there might have been 2 or 3 other sections of religion classes in session at that time. These classes, therefore, became the control participants, and because there were often multiple "control classes" to one "experimental class" each period, there were more control participants overall. Tables 7 and 8 provide descriptive characteristics of the participants in each group.

Table 7

Participant Descriptive Statistics for the Experimental Participants

Descriptor	*N*	*Descriptor*	*N*
Gender		Ethnicity	
Male	20	White/Caucasian	38
Female	4	Asia/Pacific Island	0
		Black/African American	0
Special Education		uerto Rican	1
Yes	0	Hispanic/Latino	3
No	43	Other	2
Grade		Number of Sports	
7	5	0	12
8	15	1	14
9	6	2	5
10	13	3	11
11	3	4	1
12	2		
National Honor Society		Honor Roll	
Yes	16	Yes	32
No	26	No	10

Table 8

Participant Descriptive Statistics for the Control Participants

Descriptor	*N*	*Descriptor*	*N*
Gender		Ethnicity	
Male	32	White/Caucasian	55
Female	3	Asia/Pacific Island	0
		Black/African American	2
Special Education		uerto Rican	0
Yes	6	Hispanic/Latino	2
No	58	Other	6
Grade		Number of Sports	
7	9	0	25
8	7	1	11
9	24	2	14
10	6	3	13
11	8	4	1
13	11		
National Honor Society		Honor Roll	
Yes	15	Yes	41
No	47	No	22

Of the 44 experimental participants who took part in the entire study, 20 were male (45.5 %) and 24 were female (54.5%). Participants ranged in age from 12 to 17 and in grade from 7-12. Thirty-one participants reported taking part in one or more interscholastic sport. None reported receiving special education services. 32 (74.4%) reported making the honor roll at least once in their academic career, while 16 (38.1%) reported being members of the National Honor Society. The majority of participants (86.4%) described themselves as Caucasian. Finally, the participants' average score on the Hollingshead Four Factor Index of Social Status was 46.02. This score fell in the Medium Business/Minor Professional/Technical social strata (Hollingshead, 1975), with a range from 18 to 61.

Of the 65 control participants who took part in the entire study, 32 were male (49.2%) and 33 were female (50.8%). Participants ranged in age from 9 to 18 and in grade from 7-12. 39 participants reported taking part in one or more interscholastic sport. Six reported receiving special education services. Forty-one (65.1%) reported making the honor roll at least once in their academic career, while 15 (24.2 %) reported being members of the National Honor Society. The majority of participants (84.6 %) described themselves as Caucasian. Finally, the participants' average score on the Hollingshead Four Factor Index of Social Status was 49.77. This score fell in the Medium Business/Minor Professional/Technical social strata (Hollingshead, 1975), with a range from 30 to 67.

I used χ^2 analyses and a *t*-test to determine whether or not the experimental and control participants differed from each other on descriptive variables. The experimental

and control participants significantly differed on two descriptive variables: special education {$\chi^2(1, N = 107) = 4.27, p = .04$} and grade {$\chi^2(5, N = 109) = 22.73, p \leq .001$). Although only six students reported that they received special education services, all six of these students were in the control group. Additionally, the experimental group had more students in eighth and tenth grades while the control group had more students in ninth grade. No significant findings were noted between the experimental and control groups on the following descriptive variables: gender {$\chi^2(1, N = 109) = .15, p \leq .70$); age {$\chi^2(7, N = 109) = 10.58, p \leq .16$); number of sports played {$\chi^2(4, N = 107) = 5.45, p \leq .25$); Honor Roll {$\chi^2(2, N = 106) = 2.94, p \leq .23$); and National Honor Society membership {$\chi^2(1, N = 104) = 2.31, p \leq .13$). Chi-square analysis could not be conducted on ethnicity due to the fact that all ethnic groups, with the exception of White/Caucasian, had expected counts of less than five. The results of a *t*-test comparing the mean SES of the two groups are reported in Table 9. The results of this analysis are also not significant.

Table 9

Results of t-Tests for SES Using Group as the Independent Variable

Variable	Group	*N*	*Mean*	*SD*	*t*	*df*	*p* =
SES	E	41	46.02	10.42	-1.81	95	.073
	C	56	49.77	9.79			

Note. E = Experimental, C = Control

One day after recruitment, students in the experimental group left their classes

during their religion period and came to either the school auditorium or cafeteria depending on the school's schedule. Once there, they completed the AHS as a pretest and were asked how many tests they took since the beginning of the term and how many of these tests they cheated on to assess their rate of cheating. The following day, these participants again left their religion classes and took part in the policy development focus group activity (see below). One day later, after participating in the policy group, participants in the experimental group went to the separate location and completed the AHS again. The students in the control group completed the AHS and the two cheating rate questions at the same times and in the same locations as the experimental group, but did not take part in the focus groups.

Focus Group. To achieve cognitive dissonance about academic dishonesty, students in the experimental group took part in a focus group activity with the purpose of establishing a school policy regarding academic dishonesty. There were eight groups consisting of between 3-11 students each. The mean number of students per group was 6.25 and the standard deviation was 2.49. The number of students in each of the eight groups was 6, 6, 4, 3, 11, 7, 9, and 5, respectively. Sessions were held during students' religion class periods. The students were asked to generate solutions for preventing and addressing cheating in their school. I acted as a moderator for these group discussions (e.g., writing down the students' ideas, answering questions, etc.), but did not direct the students in generating their solutions. I wrote down the solutions generated and presented them to the school administrator for possible implementation in the school. I developed a script for the focus groups based upon suggestions by Krueger (1994). Specifically, open-

ended, and focused questions (i.e., those following a general to specific sequence) were used. Given the time constraints (i.e., the fact that the students' class periods were only 45 minutes long), Litosseliti's (2003) suggestion that the focus groups last from 1.5 to 2 hours was modified for the present study, and the focus groups lasted for 45 minutes. Appendix A presents the script for the policy development group.

By having the students take an active role in addressing academic dishonesty, I predicted that cognitive dissonance would be created between their attitudes toward academic dishonesty as well as their own history of academic dishonesty and their active role against academic dishonesty (i.e., establishing the school policy). Ten weeks later, all students in the study were again asked how many tests they took since the beginning of the term and how many of these tests they cheated on to reassess their rate of cheating.

CHAPTER FOUR

Results

This chapter presents information about the results of the study's data analysis. The chapter presents descriptive statistics for dependent variables and statistics examining pre-post changes in experimental and control groups. This is followed by statistics relating participant descriptors to dependent variables to identify covariates. The chapter then presents results of the inferential statistical analyses testing the hypotheses.

Descriptive Statistics

Table 8 presents means and standard deviations for the AHS scale and total scores for both administrations of the survey, as well as the number of tests cheated on. It should be noted that the means and standard deviations presented in Table 10 are for the experimental and control participants combined.

Table 10

Total Sample Descriptive Statistics for the AHS Subscales, AHS Total, and Number of Tests Cheated On

	Pre-test				*Post-test*			
Score	*N*	*M*	*SD*	*Range*	*N*	*M*	*SD*	*Range*
AHS Behavior	108	16.24	.79	6-24	104	16.16	2.71	6-24
AHS Attitude	108	11.74	89	5-20	102	12.03	2.93	5-20
AHS Future	109	15.81	.45	6-24	104	16.09	3.51	6-24
AHS Total	107	43.81	.02	20-68	02	44.30	8.13	20-68
# Tests Cheated On	106	1.04	.01	0-12	89	5.25	9.10	0-50

On the whole, participants tended to endorse items related to past cheating behavior (16.24 pre-test and 16.16 post-test out of a possible 24) most highly. Participants were somewhat less definitive in agreeing with statements favoring academic dishonesty (11.74 pre-test and 12.03 post-test out of a possible 24). Students had cheated on slightly more than one test at pre-test and slightly more than five tests at post-test. It should be noted that, because students reported the number of tests on which they cheated from the beginning of the semester at both pre- and post-test, the post-test number of tests cheated on includes the number of tests cheated on at pre-test as well as the number of tests cheated on since the pre-test.

Table 11 presents the experimental participants' means and standard deviations for both administrations of the AHS as well as the number of tests cheated on, while Table 12 does the same for the control participants. Table 11 also presents the results of paired samples *t*-tests comparing the experimental participants' AHS subscale and total scores from pre-test to post-test. Table 12 does the same for the control participants' scores. The experimental group showed no significant pre-test-post-test change in the AHS Past Behavior and Attitude subscale scores. Changes in experimental group scores on AHS Future and Total were significant, however, with the average post-test scores being higher than the average pretest scores for both subscales. These changes were not in the direction that would be predicted by cognitive dissonance theory, as they reflect an increase in cheating tendency on these subscales from pre-test to post-test among these participants. For the control participants, there were no significant differences from pre-

test to post-test on the AHS subscale and total scores. Both groups showed a significant increase in the number of tests cheated on from pre-test to post-test: however, this finding is the result of the fact that the number of tests cheated on at post-test includes the number of tests cheated on at pre-test.

A better way to determine whether or not participants cheated more or less at post-test than at pre-test is to compare the pre- and post-test cheating rates. Tables 9 and 10 present information on the cheating rates of the experimental and control participants respectively. The pretest cheating rate was calculated by dividing the number of tests cheated on by the number of tests taken. The post-test cheating rate was calculated in a similar fashion, but because of how the questions were worded, I used the pretest-post-test differences for the number of tests cheated on and the number of tests taken in the numerator and denominator respectively. No significant differences were noted in cheating rate for either the control or the experimental groups.

Table 11

Means, Standard Deviations, and Results of Paired Samples t-Tests for the Experimental Participants' AHS Subscale and Total Scores Comparing Pre-test Scores with Post-test Scores

Score	Administration	N	*Mean*	*SD*	*t*	*df*	*p* =
AHS Behavior	Pre-test	42	16.38	2.51	-.70	41	.49
	Post-Test	42	16.50	2.16			
AHS Attitude	Pre-test	41	11.60	2.88	-1.25	40	.22
	Post-test	41	11.92	3.08			
AHS Future	Pretest	42	15.81	3.18	-1.99	41	.05
	Post-test	42	16.31	3.09			
AHS Total	Pre-test	41	43.76	7.23	-2.04	40	.05
	Post-test	41	44.68	7.25			
Number of Tests Cheated On	Pre-test	34	.44	.96	-4.89	33	.01
	Post-test	34	3.16	3.35			
Cheating Rate	Pretest	30	.09	.21	-1.82	29	.08
	Post-test	30	.18	.21			

Table 12

Means, Standard Deviations, and Results of Paired Samples t-Tests for the Control Participants' AHS Subscale and Total Scores Comparing Pre-test Scores with Post-test Scores

Score	Administration	N	*Mean*	*SD*	*t*	*df*	*p* =
AHS Behavior	Pre-test	61	16.10	2.98	1.98	60	.05
	Post-Test	61	15.89	3.03			
AHS Attitude	Pre-test	60	11.82	2.88	-1.54	59	.13
	Post-test	60	12.15	2.85			
AHS Future	Pretest	62	15.72	3.57	-.88	61	.38
	Post-test	62	15.94	3.79			
AHS Total	Pre-test	60	43.78	8.39	-.85	59	.40
	Post-test	60	44.05	8.79			
Number of Tests Cheated On	Pre-test	52	1.19	1.94	-7.35	51	.01
	Post-test	52	6.38	11.36			
Cheating Rate	Pretest	44	.18	.24	1.10	43	.28
	Post-test	44	-.05	1.35			

To determine the magnitude of findings presented, I converted the *t*'s in Tables 7 and 8 to effect sizes (*r*'s) using the following formula provided by Rosenthal and Rosnow (1991): $r = \sqrt{\frac{t^2}{t^2 + df}}$

As indicated above, the experimental group's scores changed in the opposite direction that that predicted by dissonance theory. Effect sizes for the AHS Future, r = .30, and Total scores, r = .31, and cheating rate, r = .32, are in the medium range (Cohen, 1992). Cohen indicates that medium effect sizes "approximate the average size of observed effects in various fields" and "are likely to be visible to the naked eye of a careful observer" (p. 156). The effect sizes for the AHS Behavior, r = .11 and Attitude, r = .19, subscales are smaller, but also in the opposite direction of what would be predicted by dissonance theory. Taken together, these results indicate that the intervention was associated with more favorable attitudes toward cheating and a higher cheating rate.

Control participants' scores on the AHS Behavior subscale, r = .25, as well as their cheating rate, r = .17, decreased. The effect sizes for these findings are between small and medium. Thus, without intervention, control participants indicated that they would cheat less in the future and actually did report a lower cheating rate. Control participants' Future and Total subscales scores increased slightly, r = .11 in both cases, as did AHS Attitude, r = .20, indicating that their attitudes toward cheating were slightly more favorable at post-test.

Identification of Covariates

Before testing the hypotheses, to identify possible covariates of pre-post change

scores on the dependent measures from among the participant descriptor variables, I used Pearson product-moment correlation coefficients (for continuous variables), independent samples *t*-tests (for categorical variables), and a one-way ANOVA (for ethnicity). To determine if the experimental and control groups differed significantly in terms of the number of tests they cheated on, I used an independent samples *t*-test to compare the groups on that variable. Tables 13-19 report the results of these analyses. It should be noted that Table 17 presents means and standard deviations for the pre-test-post-test change scores based on participants' reported ethnicity.

Table 13

Pearson Product-Moment Correlation Coefficients Between Dependent Variables (i.e., Pre-Post Change Scores) and Continuous Descriptor Variables

Score	Age (*N*)	Grade (*N*)	Sports (*N*)	SES (*N*)
# Tests Cheated On	-.17	.02	.07	-.02
	(86)	(84)	(86)	(84)
Change in AHS Behavior	-.10	-.14	-.09	.03
	(103)	(103)	(101)	(93)
Change in AHS Attitude	-.05	-.15	-.07	-.03
	(101)	(101)	(99)	(91)
Change in AHS Future	-.05	.08	.03	-.11
	(104)	(104)	(102)	(94)
Change in AHS Total	.08	-.18	-.06	-.04
	(101)	(101)	(99)	(91)

Table 14

Results of t-Tests for the AHS Pre-test-Post-test Change Scores Using Gender as the Independent Variable

Score	Gender	*N*	*Mean*	*SD*	*t*	*df*	*p* =
Behavior Change	M	47	.043	1.08	1.15	101	.25
	F	56	-.18	.86			
Attitude Change	M	47	.64	1.72	1.80	99	.08
	F	54	.05	1.53			
Future Change	M	47	.21	1.71	-.59	102	.56
	F	57	.42	1.85			
Total Change	M	47	.89	2.53	1.28	99	.20
	F	54	.22	2.71			
Tests Cheated On	M	41	5.34	5.40	.09	87	.93
	F	48	5.17	11.41			

Note. M = Male, F = Female

Effect sizes for the statistics in Table 9 are: Behavior Change $r = .11$, Attitude Change, $r = .18$, Future Change $r = .06$, Total Change $r = .13$, and Tests Cheated on $r = .01$. The effect size for Attitude Change is between small and medium. All other effect sizes are small to very small (Cohen, 1992).

Table 15

Results of t-Tests for the AHS Pre-test-Post-test Change Using Special Education as the Independent Variable

Score	SPED	*N*	*Mean*	*SD*	*t*	*df*	*p* =
Behavior Change	Y	6	.00	1.26	.261	99	.80
	N	95	-.11	.94			
Attitude Change	Y	6	1.00	1.55	1.03	97	.31
	N	93	.28	1.66			
Future Change	Y	6	-1.17	1.47	-2.21	100	.03*
	N	96	.46	1.76			
Total Change	Y	6	-.17	2.13	-.677	97	.50
	N	93	.59	2.68			
Tests Cheated On	Y	6	1.5	1.97	-1.01	85	.31
	N	81	5.46	9.46			

Note. SPED = Special Education, Y = Yes, N = No

Effect sizes for statistics in Table 13 are as follows: Behavior Change $r = .03$, Attitude Change $r = .10$, Future Change $r = .71$, Total Change $r = .07$, and Tests Cheated On $r = .11$. With the exception of Future Change, these effect sizes are small (Cohen, 1992). The effect size for Future Change is quite large, with students taking special education indicating that they will cheat less in the future than students who are not in special education. This finding is also statistically significant at the $p = .03$ level.

Table 16

Results of t-Tests for the AHS Pre-test-Post-test Change Using Honor Roll as the Independent Variable

Score	Honor	*N*	*Mean*	*SD*	*t*	*df*	*p* =
Behavior Change	Y	72	-.01	.96	1.28	97	.20
	N	27	-.30	1.03			
Attitude Change	Y	70	.37	1.52	.39	95	.69
	N	27	.22	2.01			
Future Change	Y	72	.36	1.76	.10	98	.92
	N	28	.32	1.85			
Total Change	Y	70	.74	2.54	1.19	95	.24
	N	27	.04	2.83			
Tests Cheated On	Y	61	5.36	10.56	.18	84	.86
	N	25	4.96	4.77			

Note. Honor = Honor Roll, Y = Yes, N = N

Effect sizes for the calculations in Table 14 are: Behavior Change $r = .13$, Attitude Change $r = .04$, Future Change $r = .00$, Total Change $r = .12$, and Tests Cheated On $r = .02$. These effect sizes range from small to very small (Cohen, 1992).

Table 17

Descriptive Statistics for the AHS Pre-test-Post-test Change by Ethnicity

	Change Score									
	AHS Past Behavior		AHS Attitudes		AHS Future Behavior		AHS Total		Tests Cheated On	
Group	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Black/African American	.00	.00	-.50	2.12	.00	1.41	-.50	.71	.00	.00
Puerto Rican	-2.00	*	-4.0	*	1.0	*	-5.0	*	6.00	*
Other Hispanic/Latino	-.67	1.15	.67	.58	2.75	2.50	1.67	3.21	1.80	.84
White/Caucasian	.01	.96	.39	1.64	.27	1.75	.69	2.63	4.63	8.98
Other	-.63	.74	.25	1.28	-.25	1.17	-.63	2.07	2.33	3.39

Note. * = one participant. Thus, there is no standard deviation

Table 18

Results of Analyses of Variance for the AHS Pre-test-Post-test Change Using Ethnicity as the Independent Variables

Source	*N*	*df*	*F*	*p*=
Change in AHS Behavior	103	4	2.2	.08
Change in AHS Attitude	101	4	2.01	.10
Change in AHS Future	104	4	2.24	.07
Change in AHS Total	101	4	1.83	.13
Tests Cheated On	89	4	.27	.90

I calculated effect sizes (*d*) for the statistics in Table 12 using the following formula from Murphy and Myors (2004, p. 30): $d = \sqrt{\frac{4F}{df_{err}}}$. Effect sizes are: Behavior Change *d* = .30, Attitude Change *d* = .29, Future Change *d* = .30, Total Change *d* = .28, and Tests Cheated On *d* = .11. Cohen (1992) indicated that a medium effect size for *d* is .50, while .20 represents a small effect size. The effect sizes for Behavior Change, Attitude Change, Future Change and Total Change are small. The effect size for Tests Cheated On is very small.

Table 19

Results of t-Tests for Number of Tests Cheated on at Pre-test Using Group as the Independent Variable

Score	Group	*N*	*Mean*	*SD*	*t*	*df*	*p* =
Tests Cheated On	E	43	.55	1.02	-2.44	89.29	.02
	C	63	1.38	2.43			

Note. E = Experimental Group, C = Control

For the *t*-test in Table 18, I used the separate variance *t*-test because I could not assume homogeneity of variance. The effect size for Tests Cheated On at pre-test is r = .25, between a small and a medium effect size (Cohen, 1992). This effect is also significant at the p = .02 level. Control participants reported that they had cheated on more tests at pre-test than did experimental participants.

To summarize, while most participant descriptor variables were not significantly related to the dependent measures, two significant covariates emerged from these analyses. For pre-test scores, tests cheated on covaried with group with control participants reporting having cheated on more tests than experimental participant (with an effect size between small and medium). For the pre-test-post-test difference scores, the AHS Future subscale score was found to covary with special education (a large effect size). Special education students had a negative difference score and typical students showed a positive difference score, indicating that special education students expected to cheat less in future.

Inferential Results

Table 20 presents experimental and control group means and standard deviations for all the dependent variables. I used independent samples *t*-tests to compare the means for the experimental and control groups on the pre-test-post-test change scores (Behavior Change and Attitude Change) that did not covary significantly with descriptor variables. There were no significant differences between the experimental and control groups on these variables. Thus Hypothesis 1 (i.e., that there would be no significant group difference in how the participants' Past Behavior subscale changed from pre-test to post-test) was confirmed while Hypothesis 2 (i.e., that there would be a significant group difference in how the participants' Attitudes subscale score changed from pre-test to post-test) was not confirmed. Table 21 presents the results of these *t*-tests.

Effect sizes showed that the difference between experimental and control group change scores for the Attitudes subscale has a very small effect size, $r = .01$, but the effect size for the difference in group change scores on the Behavior subscale is $r = .17$, about midway between a small and a medium effect size (Cohen, 1992). Cohen indicated that small effect sizes are "not so small as to be trivial" (p. 156). So while the difference in Behavior subscale change scores between groups was not significant at the customary $p < .05$ level, the effect size calculation indicates that the increase in cheating attitudes on the Behavior subscale by the experimental group coupled with the decrease in cheating attitudes by the control group (see Tables 10 and 11 for group means) is an important effect. This finding is the opposite of that predicted by cognitive dissonance theory.

Table 20

Means and Standard Deviations for the AHS Pre-test-Post-test Change Scores by Groups

Score	Group	*N*	*Mean*	*SD*
Behavior Change	E	42	.12	1.11
	C	61	-.21	.84
Attitude Change	E	41	.32	1.62
	C	60	.33	1.67
Future Change	E	42	.50	1.62
	C	62	.21	1.88
Tests Cheated On	E	35	3.35	3.50
	C	54	6.47	11.21

Note. E = Experimental Group, C = Control Group

Table 21

Results of t-tests for the AHS Pre-test-Post-test Change Scores Using Groups as the Independent Variable

Score	Group	*N*	*Mean*	*SD*	*t*	*df*	*p* =
Behavior Change	E	42	.12	1.11	1.70	101	.09
	C	61	-.21	.84			
Attitud Change	E	41	.32	1.62	-.05	99	.96
	C	60	.33	1.67			

Note. E = Experimental Group, C = Control Group

I used an analysis of covariance to compare the experimental and control groups on the pre-test-post-test changes for Future Behavior controlling for special education status. Table 11 presents means and standard deviations for experimental and control groups for this variable. There were no significant differences between the experimental and control groups on this variable. Thus, Hypothesis 3 (i.e., that there would be a significant group decrease in experimental participants' Future Behavior subscale scores from pre-test to post-test relative to scores of control participants) was not confirmed. Table 22 presents results of this analysis. It should be noted that without correction for covariates, there was also no significant difference between group scores for this variable.

Table 22

ANCOVA for Future Behavior Change with Special Education as the Covariate

Source	*df*	*F*	*p*<
SPED	1	4.32	.04
Group	1	.14	.71
Error	99	(3.07)	

Note. SPED = Special Educarion

I used an analysis of covariance to compare the incidence of reported cheating between the experimental and control groups. To remove skewness, the number of tests cheated on at pre-test and post-test was transformed by taking its square root (Glass & Hopkins, 1996). The post-test transformation score was then used as the dependent variable. Because the two groups differed on their reported cheating behavior at pre-test with control participants reporting almost twice as many tests cheated on as experimental participants, $M = 6.47$, SD 11.21 vs. $M = 3.35$, $SD = 3.50$, the square root of the number of tests cheated on at pre-test was used as a covariate in the ANCOVA. There were no significant difference between the experimental and control groups in terms of the number of times the participants reported having cheated at post-test. Thus, Hypothesis 4 (i.e., relative to participants in the control group, participants in the experimental group will have a significant decrease in the number of tests cheated on) was not confirmed. Results of this analysis are presented in Table 23.

Table 23

ANCOVA for Reported Post-test Cheating Using Pre-test Cheating as a Covariate

Source	*df*	*F*	*p* =
Pre-test Cheating	1	45.06	.000
Group	1	.160	.690
Error	83	(1.6)	

Effect sizes (*d*'s) for the control-experimental change scores for Future subscale and reported post-test cheating behavior are .08 and .09 respectively. These are very small effects.

As a final analysis of whether the groups differed I used χ^2 analyses to determine whether or not the experimental and control participants differed significantly when cheating was measured dichotomously. Participants who's responses indicated that they cheated on one or more tests in were coded as having cheated while those whose responded that they did not cheat were coded as having not cheated. When examined dichotomously, no significant group differences were noted at pretest $\{\chi^2 (1, N = 106) = 1.51, p = .15\}$ or at post-test $\{\chi^2 (1, N = 89) = 1.13, p = .21)$.

Summary

The above analyses yielded no significant differences between the experimental and control groups on any of the dependent variables. Thus, three of the four hypotheses were not confirmed at the customary $p < .05$ level. It should be noted, however, that the effect size for experimental and control group change scores on the Behavior subscale, although small, indicated that relative to the control group, the experimental group increased their acceptance of cheating behavior. This finding is the opposite of what would be predicted by cognitive dissonance theory. Furthermore, effect sizes for pre-post scores on the AHS subscales as well as pre-post self-reported cheating rate indicated that, contrary to cognitive dissonance theory expectations, the experimental group's attitudes toward cheating and cheating behaviors increased post intervention. These findings and their implications will be discussed further in Chapter 5.

CHAPTER FIVE

Discussion

This chapter discusses the results and limitations of the study. The chapter also presents areas for future research.

Discussion of the Findings

Reliability and validity of the Academic Honesty Scale. The results of the test-retest reliability analysis appear to support the use of the AHS as a research tool; however, the test-retest period was only two days. A longer test-retest period may have yielded lower correlations. Coefficient alphas supported the internal consistency of the full scale but not the subscales. So, future researchers should probably confine themselves to the use of just the full scale. Finally, significant results were found for the content validity of the AHS. The correlations between the AHS scales and cheating rate were in the predicted direction and ranged from low to moderate. These low to moderate correlations might be explained by the fact that the AHS measures several types of academically dishonest behaviors and attitudes, while the cheating rate measures only self-reported cheating on tests. Significant item-total correlations were found for all AHS items from pre-test to post-test with the exception of Item 8. When this item was removed, the AHS Total score alpha improved slightly. As such, this item will be removed from future versions of the AHS.

Intervention findings. The results of this study indicate that an induced hypocrisy paradigm did not significantly affect high school students' attitudes toward cheating in the predicted direction, or their self-reported cheating behavior, compared to the attitudes

and self-reported cheating behavior of high school students who were not exposed to the intervention. This finding was consistent when the dependent variable was examined dichotomously. Students exposed to the induced hypocrisy paradigm, however, had more favorable attitudes toward cheating in total after exposure to the intervention than before exposure and showed an increase in their self-reported cheating rate. In contrast, control participants, who did not participate in any intervention, indicated at post-test that they would cheat less in the future and, indeed, reported a lower cheating rate at follow-up. These results indicate that the intervention and the administration of the AHS could have sensitized students to cheating.

In the case of control participants, completing the AHS may have directed participants' attention to their own cheating attitudes and behavior. This reflection may have led them to indicate two days later at post-test that they would cheat less in the future and subsequently, resulted in a lower self-reported cheating rate at the end of the academic term. Also, there results are similar to the findings of Stone et al (1994) who reported that their "mindful-only" condition was the second most effective procedure for promoting safe sex. The control participants in the present study most closely resemble Stone et al.'s "mindful-only" participants in that they were made aware of their past cheating behavior by means of the AHS and cheating rate questions, but did not make a public commitment to this issue through taking part in the focus groups. As a result, the change in the control participants' self-reported behaviors cheating behaviors, while not necessarily predicted by the induced hypocrisy paradigm, might be more clearly understood.

Experimental participants, on the other hand, took part in a group that focused on addressing cheating behavior. This group may have served as an education in cheating behavior for some students, providing them with information about the ways that students cheat. At the conclusion of this group, their attitudes toward cheating were more favorable than they had been before the group, and they reported a higher cheating rate at the end of the term. These findings are similar to the reports by Hughes and her colleagues (Ang & Hughes, 2002; Arnold & Hughes, 1999) that group interventions designed to decrease antisocial behavior sometimes have the opposite effect. Hughes found that placing antisocial youth in groups together can result in the mutual education in aggressive behaviors of members by each other.

Another possible explanation of the results is that since experimental participants spent more time discussing and considering academic dishonesty by virtue of their participation in the focus group, they may have had a clearer understanding than control participants of what constitutes such behavior. With their presumably greater knowledge of the subject, the experimental participants might have been able to report their cheating behaviors more accurately, even if they were not compelled to change them. The limitations section below presents other possible explanations for the results.

Participant characteristics and cheating attitudes and behavior. Several relationships emerged between subject descriptor variables and self-reported academic honesty. Traditionally, the literature examining gender differences in cheating behavior and academic dishonesty has generally found that men report cheating more than women (e.g., Davis et al., 1992; Baird, 1980). However, more recent studies have found no

gender difference (McCabe et al., 2001). The present study result is consistent with this more recent trend: No significant difference between the sexes in terms of the number of tests cheated on was found. A possible reason for this shift in reporting of cheating behavior by gender is that these seemingly contradictory results are simply due to variability between the institutions at which the research relating to gender and academic honesty was conducted (McCabe & Trevino, 1997). Another reason for the lack of gender differences could be that boys and girls nationwide have become more similar in their cheating attitudes and behavior than they were 10 or 20 years ago.

Students who reported receiving special education services tended to report having cheated less often than those students who did not receive such services. This finding may be explained by the fact that students receiving special education services very often have accommodations and modifications made to their academic work. Because these students feel that they are receiving support, they may feel less pressure for good grades than their non-disabled counterparts. Barnett and Dalton (1981) called such pressure “the single most important cause of academic dishonesty” (p.549). With that pressure diminished, students in special education may not feel compelled to rely on dishonest means to perform well. Readers are cautioned, however, that the current findings were based on a sample that included only six special education students and that all of these students were control group members.

There was a low, but significant, positive correlation between grade level and the AHS Future Behavior scale. This would indicate that students at higher grade levels are more likely to report that they will engage in academic dishonesty in the future. On the

one hand, this result is not surprising, because students may be anticipating the future need to cheat in order to get good grades to enter or stay in college. On the other hand, the result is somewhat odd given that age, which is related to grade level, was not significantly correlated with this variable. Baird (1980) suggested that "year in school may be related to cheating, but probably in more complex ways than would be described by some linear relationship" (p. 520). Perhaps is it the relationship of just one of the grade levels to estimates of future cheating that led to this finding. It may also be due to some interaction between grade and another descriptor variable (e.g., age) that accounts for this significant correlation. Further research is needed to assess these possibilities fully.

Limitations and Future Research

The external validity of this study is limited to individuals with demographic characteristics that are similar to the characteristics of the participants. Further research is necessary to determine if similar results are found among persons with different demographic characteristics (e.g., public school students, adults, different SES status). This is particularly important since the participants were drawn from a private Catholic school. Davis et al. (1992) reported lower percentages of cheating among students at small private colleges. It is possible that such findings would emerge at small private high schools as well. It is also important to examine this issue given the potential local variability observed in some studies (McCabe & Trevino, 1997). Also, the school's principal reported that there is a code of conduct reviewed with and agreed to by the students and their parents at the start of each year. This may have resulted in the participants' cheating rates not being typical of schools without such a policy.

Related to this issue is the fact that the number of participants was below the recommendations of Cohen (1992). Only about 23% of the students recruited took part in the study. Obviously, future research should consider ways to increase student participation to improve the statistical power of the study. Perhaps stronger incentives than the pizza party and the opportunity to get out of class for a time are required.

Another consideration has to do with the students receiving special education services. Although there were a very limited number of such students in this study, they tended to report having cheated less often than those students who did not receive such services. However, it is possible that the type of accommodations the students received might have been related to their reported cheating behaviors. For instance, a student who receives extended time to take exams would certainly feel less pressure to do well than would a student who's services do not include such test accommodations. Future studies should take the type of services received into consideration rather than viewing students in special education as a homogeneous group. Additionally, since it is my experience that many students in special are not aware it, external verification of their services (i.e., through review of their records) should be conducted.

Due to scheduling constraints at the school, the pretest, intervention, and retest occurred within two days. The intervention had only a day to affect a difference in participants' attitudes, and this may not have been sufficient time. There is considerable evidence (recently summarized in a meta-analysis by Kumkale & Albarracin, 2004) for a "sleeper effect" where participants are less persuaded immediately than they are later in time by messages from non-expert sources (in this case their student colleagues). If the

AHS had been readministered 10 weeks later when self-reported cheating data were collected, the results might have been different.

The issue of time is also related to the creation of dissonance in another way. As previously indicated, the length of the focus groups was shortened from Litosseliti's (2003) recommendation of 1.5 to 2 hours due to the time constraints of the schools' class periods. It is possible that a longer intervention (i.e., one more consistent with the focus group literature) might have lead to greater change in the students' attitudes toward cheating and/or their self-reported cheating behavior. Also the fact that the students took part in the groups during their class time may have affected the amount of dissonance they experiences. Perhaps the students were able to justify their dissonance by the fact that they were getting out of class. An intervention conducted on the students' free time might have created more cognitive dissonance.

Additionally, the fact that the study relies on self-reports of behavior is another limitation. Survey research tends to remove the participants from their typical social context. As such, their responses under these conditions may not reflect their typical behavior (Kerlinger, 1986). Although an attempt was made to obtain a more objective measure of students' cheating behavior, the school did not keep records necessary to allow this measurement. Future studies would benefit from a focus on more objective, behavioral measures of cheating either relying on school records or perhaps using a method similar to Drake's (1941).

The present study, while examining the effect of interscholastic sports on cheating behaviors and attitudes, did not account for other extracurricular activities (e.g., clubs,

jobs, etc.). Several studies conducted at the college level have examined the effects of several extracurricular activities (e.g., McCabe & Trevino, 1997). Future research should be conducted to further assess the effect of these variables on cheating among junior and senior high school students.

Future research might also examine different types of cheating more closely. Specifically, an individual's definition of cheating may play a role in how they view their own academic dishonesty. Given that there are many different interpretations as to what constitutes cheating, individuals may engage in cheating more often when they do not view a particular behavior as being dishonest. Likewise, an individual might engage in less cheating when he or she acknowledges that the behavior is dishonest.

Many earlier studies of cognitive dissonance had experimental participants take part in their conditions individually (e.g., Stone et al., 1994). In the present study, the participants took part in focus groups. The group setting may have led to a diminishing of dissonance and may account for the lack of significant findings. It is possible that, within the group setting, participants were able to attribute their contributions to the focus groups to the presence of other students. Perhaps future research could use a methodology similar to that of Stone and colleagues (1994) in which the experimental participants would make a more personal public declaration against cheating. This, combined with their being made aware of their own cheating behaviors and attitudes, may produce more dissonance than was the case in the present study, which in turn may lead to significant results.

Related to this issue is the fact that each focus group was comprised of students from the same religion class. It is possible that the student had such a familiarity with each other that they discussed the results of the focus group among themselves either during class or on their way to or from it. This, in turn, could be an added source of social support that affected the level of dissonance aroused. Also, while I briefly suggested reasons why cheating was wrong during the focus groups, the students themselves did not discuss these issues. Perhaps more active participation on the part of the students as to the detriments of cheating would have lead to greater dissonance arousal when combined with the attempt to induce hypocrisy.

Another consideration is the extent to which the students actually experienced dissonance. One of the limitations of cognitive dissonance-based research is that it is often open to multiple interpretations (Sabini, 1995). Future research should include some cognitive or affective measure of cognitive dissonance (e.g., a questionnaire asking if the participants recognize the inconsistency between two or more cognitive elements and if they experience tension or discomfort as a result?) to determine if it has actually been created by the procedure.

Finally, most of the research on the forced compliance and hypocrisy paradigms has relied on the use of deception (Aronson, 1992). Ethical standards currently discourage such methods. Therefore, deception was not used in this study. However, this change in method may have resulted in findings that differ from those found in the previously cited hypocrisy studies. Perhaps future studies could examine academic dishonesty using methods more closely approximating the earlier hypocrisy studies.

Conclusion

The issue of academic dishonesty is not likely to go away. If we, as educators, hope to maintain the integrity of our academic institutions, we must be aware of academic dishonesty and take steps to prevent it. This study unsuccessfully attempted to reduce high school students' acceptance of academic dishonesty through activation of cognitive dissonance using a focus group intervention based on an induced hypocrisy paradigm. Results of this study suggest that educators and researchers should exercise caution when considering implementation of this type of intervention as it may have the effect of increasing acceptance of cheating behavior rather than reducing it as evidenced by present results.

Appendix A

Experimental Script

Recruitment Session

My name is Edward Vinski and I am a student at the Graduate Center of the City University of New York. I am doing a research study to see if a new method to prevent cheating in school will be effective. As many as 88% of high school and college students have reported cheating at least once. It is important that teachers better understand cheating and take steps to prevent it. Your school Principal has given me permission to conduct this study in your school.

If you choose to take part in this study, I will return tomorrow to have you complete questionnaires, which ask you about past cheating behaviors and attitudes toward the cheating. The following day, half of the students in the study will take part in focus groups to help develop a policy to prevent cheating in your school and how to handle it when it occurs. This group will take place during your religion periods. When this policy has been developed, it will be given to your principal to use if he wishes. The next day, I will ask all students to complete one questionnaire again and I will ask everyone to answer two questions about cheating behavior at the end of the semester. The questionnaire and the two other questions should take about 10-15 minutes each time you complete them.

Your names will not be put on any of the questionnaires. All of the information I get from your questionnaires will be private and kept in a locked cabinet. Only I will be able to get into this cabinet. Your answers will not be discussed with anyone including your parents and teachers.

I don't think that filling out this questionnaire will upset you, but if it does you or your parents can call me or my advisor. Our phone numbers and e-mail addresses are on the consent forms. If you have questions about the rights of persons taking part in research studies, you may contact Kay Powell at the Graduate Center. Her contact information is also on the forms.

You can withdraw from the study at any time. As a thank you for participating in the study, I will give you a pizza party at school during your lunch hour next Friday. If you agree to take part, I would ask you to sign the Child
Assent Form, and have your parents sign the parental consent
form. I would also ask you to have your parents fill out a short questionnaire to provide me with background information. Please keep these forms stapled together so that your information does not become mixed up.

Thank you for allowing me to speak to you today, and I will now answer any questions you may have.

Session 1(the following day)

Principle Investigator: Thank you all for coming and for taking part in the study. As you know, this is a study to examine ways to prevent student cheating in school. As many as 88% of high school and college students have reported cheating at least once. It is important that teachers better understand cheating and take steps to prevent it. The first thing that I want you to do is complete a questionnaire that will ask you questions about cheating. Then, I will ask you to answer two questions about the number of tests you've taken last term, and on how many of those test have you cheated. After that, I will divide you into two groups. Students in one group will meet with me in small groups tomorrow. We will be brainstorming on ideas to prevent cheating and to address it when it happens. I want you to come up with several things that can be done by the school in this regard. I will write down everything that is said. The following day, we will all meet here. I will have a typed copy of everything that those of you who participated in the brainstorming group suggested, which I will then present to Dr. Cheeseman for him to use to help curb cheating if he wishes. I will then ask all of you to complete the questionnaire again. After that, we will have a pizza party as my way of thanking you. Finally, at the end of this semester, I will come back and ask you to complete the two questions about the number of tests you've taken and the number of test you've cheated on. I don't think that filling out the questionnaire or answering the questions will upset you, but if it does, you may withdraw from the study at any time.

Are there any questions?
(Investigator will then answer any questions that the students have.)
Principal Investigator: Okay, let's begin with the questionnaire. Please sign this sheet of paper. Next to where you put your name will be a number. Please write that number on the top of your questionnaire. That is how I will be able to identify your papers while keeping your names private. I will only look at this list to help you remember your number, and to contact those students who will meet with me next week. No one else, including your
teachers, principal, or parents, will have access to it.
This list will be destroyed after the study is completed.
(Principal Investigator reads introduction and directions from the Academic Honesty Scale, and answers any student questions.
Students complete the scale.)

Principal Investigator: Okay, now I would like you to complete these two questions. One

asks how many tests you've had this term, and the other asks how many of those test you have cheated on. Again put the number corresponding to your name on the top of the page.

Are there any questions?
(Principle Investigator answers any questions that may arise. Students then complete the two questions.)

Principal Investigator: Thank you all for coming. When I come tomorrow, I will contact those students who will be meeting with me. The rest of you I will see in two days. Thanks again.

Session 2 Focus Group (The Following Day)Principal Investigator: Thank you for coming. As I said the other day, my name is Ed Vinski, and I will be running this group. I am interested in finding out how each of you feel about cheating, what you think can be done to prevent it, and how it should be addressed when it does occur.

It is a very important issue in education for a number of reasons. First, academic honesty is value school take seriously. Cheating threatens this, and can lead to a loss of faith in and support for the educational system. Second, students who cheat in high school and college often continue to be dishonest later in life. This can have serious effects on society. Third, some test scores, like those of the SATs, are based not only on how individuals perform, but how they perform compared to everyone else who took the test. Cheaters not only give themselves an unfair advantage, but put everyone else at a disadvantage by
skewing the results.

When we are finished, I will be presenting the suggestions generated from these groups to your principal. Dr. Cheeseman will have the opportunity to use these results in developing a school academic dishonesty plan if he wishes. Please understand that your names and your individual responses will not be shared with your parents, teachers or principal. Only the overall results from this group. It is important that each of you respond honestly and speak openly about this issue. I'd like to start by going around the room and having you introduce yourselves.

(Participants state their names. Experimenter records names on a
sheet of paper)

Principal Investigator: As I said, I am interested in discussing your feelings toward cheating, how you think it can be prevented, and what should be done when it occurs. We will go around the room to make sure each of you get a chance to speak.
How do you feel when you see someone cheating on a test or copying someone else's work?

(Participants respond one at a time, and the experimenter records their responses)

Principal Investigator: What are some steps you feel schools could take that could prevent students from cheating?
(Each student will provide solutions for preventing cheating. Investigator will write down their responses and probe if necessary)
Principal Investigator: When cheating does occur, what should schools do to address it?
(Each student will provide solutions for addressing cheating. Investigator will write down their responses and probe if necessary)Principal Investigator: Are there any steps your own school could take to prevent cheating, that may not be available to other schools?

(Each student will provide solutions for preventing cheating. Investigator will write down their responses and probe if necessary)

Principal Investigator: Are there specific steps your school could take to address cheating when it occurs?

(Each student will provide solutions for addressing cheating. Investigator will write down their responses and probe if necessary)

Principal Investigator: Does anybody have anything else they would like to add at this point?

(Investigator will record any student responses)

Principal Investigator: I would like to sum up what has been suggested today.
(Investigator provides a summary of student responses)

Principal Investigator: Do you feel that this is an accurate summary of what we accomplished?

(Investigator records any student responses and adjusts the summary accordingly)

Principal Investigator: Thank you all for taking part in the study. I will see you and all of the other students tomorrow to complete yesterday's questionnaire again. We will also be having a pizza party next Friday as my way of thanking you.

Session 3 (The Following Day) Principal Investigator: Thank you all for coming back. I would like you to complete the questionnaire again. Please put your assigned number on the top of the questionnaire. If you don't remember the number, please raise your hand and I will bring you the list.(Principle Investigator reads the introduction and directions, and the students complete the questionnaire.)Principal Investigator: Thank you for taking

part in my study. Next Friday we will have a pizza party as my way of thanking you all. I will give the list of suggestions to Dr. Cheeseman, and I will see all you again at the end of the semester.

Session 4 (Several Weeks Later)

Principal Investigator: Thank you for coming back. As I said when we met earlier this year, I would like you to complete these two questions again. One asks how many tests you've had this term, and the other asks how many of those test you have cheated on. Again you are to put the number corresponding to your name on the top of the page. If you don't remember your number, raise your hand and I will give you the list.

Are there any questions?
(Principle Investigator answers any questions that may arise. Students then complete the two questions.)

Principal Investigator: Thank you all for coming. I will contact your school with the results of this study. The results I give the school will be the overall results. Your names and your specific answers will not be revealed. I will also destroy the tape recordings and the list so that your names and responses will forever remain private. If you have any questions or if you would like a copy of the results, please contact me at the phone number or e-mail address on the consent forms you signed. Thank you again.

Appendix B

PARENTAL/GUARDIAN CONSENT FORM

My name is Edward Vinski and I am a doctoral student in the Educational Psychology program at the Graduate Center of the City University of New York. I am doing my dissertation on student cheating attitudes and behaviors and ways to prevent cheating in the schools**.**

Your child's school has given me permission to conduct the study at his/her school. The study will take place during students' religion classes. Approximately one-hundred and twenty-eight students will participate in the study. They will be asked to complete a brief questionnaire regarding their attitudes toward academic cheating, their past cheating behavior, and their anticipated future behaviors regarding cheating. The questionnaire should take about 10-15 minutes. Students' religion classes will be randomly assigned to one of two groups. One half of the classes will take part in discussion groups that will come up with a school policy for prevention of cheating as well as consequences for students caught cheating. This will happen the day after the students complete the questionnaire. After the policy is developed, it will be given to the school principal for review and possible implementation. The following day, all students will then complete one of the questionnaires again. At the end of the semester, all students in the study will again be asked to complete the second brief questionnaire.

Students will be asked to voluntarily agree to take part in the study. Only students who have signed an agreement to take part and whose parents have signed this consent form may participate. The students will each be assigned a number for identification in order to keep their names confidential. None of the information on the individual questionnaire will be shared with your child's teachers or with the school. All of the information that is collected will be confidential and stored in a locked cabinet. Only I will have access to this cabinet. Your child's school will not have access to these materials.

Participation is voluntary. If at any time you or your child no longer wish to participate in the study, you may withdraw. The decision to not participate or to withdraw will have no effect on your child's school standing. To compensate your child for his or her participation, I will have a pizza party at the school during after the study has been completed.

Academic dishonesty is a "widespread and growing" (McCabe, 1999, p. 681) problem among high school and college students. Rates have been reported to be as high as 88%(Sierles, et al., 1980). It is hoped that this study will provide support for a new way of understanding and addressing academic dishonesty in the schools.

There is no known risk to your child's participation. If you have any questions about the research, you and your child may contact me at (631) 537-0553 or at ejvinski@optonline.net, or my advisor Dr. Georgiana Tryon at (212) 817-8293, or gtryon@gc.cuny.edu. If you have any questions about the rights of children who participate in the study, you may contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York at (212) 817-7525, Kpowell@gc.cuny.edu .

Thank you for your participation in this study. I will give you a copy of this form for your records.

If you agree to have your child take part in the study, please sign below.

_____
Child's Name

_____ _____
Parent/Guardian Signature Date

_____ _____
Edward J. Vinski Date
Principal Investigator

CHILD ASSENT FORM

My name is Edward Vinski and I am a student at the Graduate Center of the City University of New York. I am doing a research study to see if a new method to prevent cheating in school will be effective. As many as 88% of high school and college students have reported cheating at least once. It is important that teachers better understand cheating and take steps to prevent it. Your school Principal has given me permission to conduct this study in your school. Your parents have agreed to let you take part in the study.

If you choose to take part in this study, you will be asked to complete questionnaires, which ask you about past cheating behaviors and attitudes toward the cheating. The following day, half of the students in the study will take part in groups to help develop a policy to prevent cheating in your school and how to handle it when it occurs. These groups will take place during your religion classes. When this policy has been developed, it will be given to your principal to use if he wishes. I will then ask all students to complete one questionnaire again and to answer the two questions cheating behavior at the end of the semester. The questionnaire and the two other questions should take about 10-15 minutes each time you complete them.

Your names will not be put on any of the questionnaires. All of the information I get from your questionnaires will be private and kept in a locked cabinet. Only I will be able to get into this cabinet. Your answers will not be discussed with anyone including your parents and teachers.

I don't think that filling out this questionnaire will upset you, but if it does, or if you have any questions about the research, you or your parents can call me at (631) 537-0553 or at ejvinski@optonline.net. You may also contact my advisor Dr. Georgiana Tryon at (212) 817-8293, or gtryon@gc.cuny.edu. If you have any questions about the rights of children who take part in the study, you may contact Kay Powell, IRB Administrator, The Graduate Center/City University of New York at (212) 817-7525, Kpowell@gc.cuny.edu .

You can withdraw from the study at any time. As a thank you for participating in the study, I will give you a pizza party at the school during you lunch hour.

Thank you for agreeing to take part in the study. I will send a copy of this form home for you and your parents to keep.

I understand that if I do not want to be a part of this study, I do not have to. If I am not part of this study, it will not effect my standing in school. I also understand that I can stop at any time. I understand that my name and questionnaire answers will be kept private.

Child's Signature_____Date_____

Principal Investigator's Signature_____Date_____

Appendix C

ACADEMIC HONESTY

Sex_____ Age_____ Grade_____

Number of interscholastic sports you play_____
Honor Roll/Principal's List (yes or no)_____
Do you receive Special Education Services? (Yes or no)_____
National Honor Society (yes or no)_____
Ethnicity (Circle one):

a. American Indian/Alaskan Native
b. Asian-American/Pacific Islander
c. Black/African American
d. Chicano/Mexican American
e. Puerto Rican
f. Other Hispanic/Latino
g. White/Caucasian
h. Other _____

Academic dishonesty can take many forms. It can involve receiving unauthorized information on an exam (for instance looking at another person's paper or using a cheat sheet without the teacher's permission). It also involves giving unauthorized information to others (for instance, knowingly allowing someone else to copy from your exam or homework). Another form of cheating is to turn in someone else's work (for instance, turning in a paper you've downloaded from the internet, or quoting from a book without putting the source in a footnote or bibliography). Finally, knowing that another student is being dishonest on exams homework and papers and not reporting them is another form of academic dishonesty.

This scale measures your attitudes toward cheating, past personal history of cheating and your anticipated future behaviors. Please respond to the following items truthfully and as they most closely apply to you. There are no right or wrong answers, and your responses will be kept strictly confidential. It is important that you respond to every question and not leave any blank. When you have finished one page, go onto the next page and following pages. If you have any questions, please feel free to ask.

YOU MAY NOW TURN THE PAGE AND BEGIN THE QUESTIONNAIRE

In the Past

1. I have cheated on tests in school

1	2	3	4
Never	Once	Several Times	Many Times

2. I have turned in work that another person has done

1	2	3	4
Never	Once	Several Times	Many Times

3. I have let others copy my work

1	2	3	4
Never	Once	Several Times	Many Times

4. I have reported a friend/friends of mine who I knew were cheating.

1	2	3	4
Never	Once	Several Times	Many Times

5. I have reported a person/persons who were cheating who were not my friend(s).

1	2	3	4
Never	Once	Several Times	Many Times

6. I have been caught cheating.

1	2	3	4
Never	Once	Several Times	Many Times

Attitudes

7. I would cheat if it were the only way to get a diploma.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

8. I fear being caught cheating.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

9. I feel that cheating improves a person's exam score.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

10. I feel that it is sometimes necessary to be dishonest.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

11. I believe that sooner or later cheating will be discovered.

1	2	3	4
Strongly Disagree	Disagree	Agree	Strongly Agree

In the Future

12. I am likely to cheat in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

13. I am likely to report a friend who was cheating in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

14. I am likely to report someone who is not a friend in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

15. I am likely to use an unauthorized cheat sheet in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

16. I am likely to let others copy off of my work in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

17. I will turn in work by someone else in the next year.

1	2	3	4
Very Unlikely	Unlikely	Likely	Very Likely

Appendix D

ID #:_____

Academic dishonesty can take many forms. It can involve receiving unauthorized information on an exam (for instance looking at another person's paper or using a cheat sheet without the teacher's permission). It also involves giving unauthorized information to others (for instance, knowingly allowing someone else to copy from your exam or homework). Another form of cheating is to turn in someone else's work (for instance, turning in a paper you've downloaded from the internet, or quoting from a book without putting the source in a footnote or bibliography). Finally, knowing that another student is being dishonest on exams homework and papers and not reporting them is another form of academic dishonesty.

Please answer the following questions

1. How many school examinations (e.g., tests, quizzes, mid-terms etc.) have you taken since the beginning of the term? _____

2. Using the definitions of cheating given above, on how many of these examinations have you cheated?_____

Appendix E

SECTION 1: MY CHILD'S FAMILY

Please answer the following questions about your child's home life. CIRCLE THE CORRECT NUMBER OR FILL IN THE BLANKS. This information will be used in combining your responses with those about other teenagers like your son/daughter. Please do not skip any questions.

1. My child lives with his/her (circle all that apply):

1. Mother
2. Father
3. Stepmother
4. Stepfather
5. Other guardian:

2. The first person I circled has the following

occupation (fill in): _____

3. This person has completed the following

highest level of schooling (circle one):

1. Less than 7th grade
2. Junior high school (9th grade)
3. Some high school (10th or 11th grade)
4. High school graduate
5. Some college or specialized training
6. College or university graduate
7. Graduate degree

PLEASE STOP HERE IF YOU CIRCLED ONE PERSON FOR QUESTION 1. CONTINUE IF YOU CIRCLED TWO PEOPLE FOR QUESTION 1.

4. The second person I circled has the following

occupation (fill in): _____

5. This person has completed the following

highest level of schooling (circle one)

1. Less than 7th grade
2. Junior high school (9th grade)
3. Some high school (10th or 11th grade)
4. High school graduate
5. Some college or specialized training
6. College or university graduate
7. Graduate degree

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