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The Impact of Moral Theories on Cheating
Studies of Emotion Attribution and Schema Activation

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This research series began as a test of an emotion-attribution approach to moral behavior. However, in the early studies, college students who read about morality were subsequently more likely to cheat on a vocabulary test than were control subjects who read materials irrelevant to morality. We hypothesized that resentment toward the test constructors interacted with the moral schemas activated by the reading task. To reduce resentment, in Study III the vocabulary test was presented as the experimenter's doctoral research. As predicted, compared to controls, those subjects who read about morality cheated less. Study IV was a quasi-experiment that confirmed the hypothesized resentment differences between Study III and the earlier studies. In Study V, while two groups read about morality, one group read an internal emotion-attribution passage and the other read an external version; less cheating was observed in the internal condition than in the external or control conditions. The results indicate that even when moral schemas are elicited under conditions favoring moral behavior, those schemas will lead to reduced cheating most effectively under conditions in which subjects attribute their emotional arousal to their own behavior rather than to external causes. Issues of moral schema activation and emotion-attribution in moral behavior are discussed.

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The five studies reported in this paper relate to two theoretical areas—schema activation and emotion attribution. These will be discussed separately in this introduction, with efforts toward an integration presented in the final discussion.

SCHEMA ACTIVATION

The modern concept of schema activation has roots in the developmental psychology of Piaget (1952) and the personality theory of George Kelly (1955). Although a variety of related terms have been used for similar conventions, including *constructs* (Kelly, 1955), *norms* (Schwartz, 1976), and *scripts* (Schank & Abelson, 1977), we have adopted the term *schema* (after Nisbett & Ross, 1980), since the implication of a complex organizing mental process most nearly fits the meaning we wish to convey. Our definition suggests that a well-developed schema may consist of a complex of values, attitudes, cognitions, and affective responses that are elicited by and interact with new relevant information. That interaction determines the resultant attributions, decisions, and behaviors.

When we refer to moral schemas, we mean those ideas, values, attitudes, and affective reactions that an individual considers relevant to and/or that influence moral decisions. In relation to these studies, we expected that most individuals believe that cheating is usually wrong, and that harming a positively valued and known individual is also wrong; on the other hand, breaking the rules of an anonymous and powerful organization may be far less of a moral issue. Although in our early thinking we focused on how moral schemas might affect one's behavior toward others, after the first two studies we focused also on moral schema components concerning the morality of others' behavior toward oneself.

Our use of the term *schema activation* is meant to suggest that the schema or some portion of it has been made salient for the individual by some alerting information so that the probability is increased that the schema will influence the meaning of additional information and will influence behavior. The activated schema will therefore be a more important factor in determining attributional, decisional, and behavioral outcomes.

An example from research in the prejudice area illustrates some of the richness of meaning subsumed by our use of "schema." Dienstbier (1972b) presented a single tape-recorded interview to subjects who thought that the race of the interviewee was either black or white, and that he was either lower or middle class. That prior knowledge of race and class greatly influenced how subjects interpereted the interview they overheard, altering agreement with the interviewee on the specific issues discussed as well as

attitudes and responses on social distance scales. However, the direction of agreement differences and the specific dimensions upon which large between-condition differences were noted could not have been predicted by a simple assumption of negative bias toward blacks. For example, the relatively conservative views of the "black" interviewee concerning racial integration received far more agreement from the white subjects than those views when expressed by the "white" interviewee; on other interview topics, opposite results were noted. As in the research presented below, it was apparent that the schemas evoked by even simple stimuli may themselves he quite complex.

Relevant to the research of this paper, we assumed that moral schemas are activated when individuals are reminded of the value of engaging in behavior that upholds a positive moral standard. The early studies of this series quickly convinced us, however, that like the complex racial schemas discussed above, the elicitation of moral schemas will not necessarily lead individuals to act in ways that are easily predicted from a knowledge of cultural and social conventions. Rather, those studies suggested that activated moral schemas may interact with other features of the situation (and other schemas activated within the individual) to determine less *or more* cheating than evidenced by a control group without experimentally induced moral schema activation.

EMOTION ATTRIBUTION

Although the results of the early studies of this series required that we focus upon an analysis of moral schema activation, the hypothesis that began this research series was derived from previous work on the impact on cheating of differential attributions concerning emotional arousal. (The concept of emotional arousal is used throughout this paper as a theoretical concept that has the status of an intervening variable. For various practical and ethical reasons, no attempt was made in the studies presented below to verify the presence of heightened physiological arousal during temptation periods or during actual cheating.)

The importance of emotional arousal in resistance to temptation was first demonstrated by Schachter and Ono (in Schachter & Latane, 1964). Under conditions of temptation to cheat, subjects were given either the tranquilizer chlorpromazine or a placebo; tranquilized subjects who experienced reduced emotional arousal subsequently cheated more. However, earlier work by Schachter and Singer (1962) had suggested that not only does the amount of arousal have an impact upon emotional experience (and thus upon behavior mediated by that experience) but the attributions made about the source of arousal also significantly influence the impact of arousal on behav-

ior. Later research confirmed that the source to which arousal is attributed greatly affects the impact of arousal on cheating: college students who could attribute arousal during temptation to a placebo pill cheated considerably more than control condition subjects who anticipated benign side effects from their placebo (Dienstbier & Munter, 1971; Dienstbier, 1972a).

Those results with college students led to the speculation that socilization techniques may be differentially effective depending upon the attributions induced about emotional arousal (Dienstbier, Hillman, Lehnhoff, Hillman, & Valkenaar, 1975). For example, while physical punishment may lead the punished child to attribute emotional discomfort to the salient punishment, more subtle reprimands or "induction" techniques (Hoffman, 1970) may induce the child to believe that the emotional discomfort stimulated by that confrontation has resulted from the child's own actions. We labeled the attributional outcome likely to result from punishment an "external" emotional attribution and the outcome likely to result from induction techniques as "internal." In subsequent research, we attempted to abstract into laboratory procedures those aspects of socialization that we hypothesized were relevant to emotion-attribution principles by studying the impact of internal or external emotion attributions on self-control behavior in second-grade children. After transgressing, subjects were told (gently) that their negative emotional feelings were due either to "doing a bad job" (internal) or to "being found out doing a bad job" (external). In subsequent "detection-free" situations, children who had received the internal emotion-attribution information tended to transgress (in a watching task) half as much as those given external information. When internal emotion-attribution information about a child who transgressed "yesterday" was given, a similar impact was found (Dienstbier, 1975); that is, after receiving the information that yesterday's child would have felt bad "even if I had not found out" (internal), subjects transgressed far less in a "detection-free" situation than if yesterday's child felt bad "because I found out" (external).

Dienstbier et al. (1975) argued that the cheating research with adults and the self-control research with children were conceptually similar. Specifically, we contended that each paradigm supported the view that the impact of emotional arousal on self-control is determined by the attributions that an individual makes concerning the source and meaning of that arousal. However, the conceptual unity of those approaches would be best demonstrated by research that drew together aspect of those two approaches into a single procedure. To that end, the research with adults presented in this paper used an emotion-attribution technique that was similar to that used in the research with children. In Study I, adults in the two experimental conditions read about a culture in which individuals resisted temptation for reasons

relevant to either internal or external emotion attribution; control condition subjects read cultural information irrelevant to resisting temptation. We hypothesized that when subjects read the internal emotion-attribution explanation for positive moral behavior, they would make similar attributions about their own emotional states when they faced the temptation to cheat on a vocabulary test and would therefore cheat less.

STUDY I

Method

Subjects. A total of 166 freshmen male college students volunteered to participate in a study in which they were to "fill out some forms dealing with verbal knowledge and skills." Participation partially fulfilled a research participation option associated with the basic psychology course. Freshmen were recruited in order to have subjects with minimal research sophistication; the study was the first research participation for most of the subjects.

Procedure. Subjects arrived at the laboratory in groups of 6 to 10. they were seated at a row of tables with boothlike partitions so that allthough they were visually separated from each other they could see the experimenter (G.B. T.) over the low front of the partitions. The subjects listened to tape-recorded instructions that introduced the reading comprehension and vocabulary tests they were to take and explained the sequence of testing activities. For example, they were told that the vocabulary test, which was to be taken first, had proven to predict future college success. Subjects were also told that few successful college freshmen score lower than 20 on the 30-item vocabulary test, but in case any subject scored lower than 18, "the Board of Psychologists who have developed this test will probably get in touch with you because they are interested in learning more about the role of vocabulary ability in college success." This information was designed to give subjects a sense of failure and to induce them to cheat after they discovered a poor performance on the vocabulary test. The mean score on the test for freshmen was actually 10, with less than 10,10 of the subjects in the studies reported in this paper scoring 18 or higher without cheating.

The vocabulary test booklets were then passed out, and subjects were given 10 minutes to answer the 30 multiple-choice vocabulary items. The booklet was identical to that used and described previously (Dienstbier & Munter, 1971).

After subjects completed the vocabulary test, the reading comprehension test was distributed. Differences in one of the nine paragraphs constituted the independent manipulation. (The material was based on an article by Davies, 1969, on the Minoans.) The order of the booklets was randomly determined, resulting in the subjects being randomly assigned to the three experimental conditions. (Study II provides a conceptual replication of Study I using independent-manipulation materials similar to the later studies in this series; therefore the materials for Study I will be only briefly sketched below.)

Subjects in the internal condition read a passage describing how temptation-induced anxiety and fear influenced the ancient Minoans against transgression, even when detection was impossible. It was explained that the basis for a "true" conscience was this fear of personal guilt.

The critical passage for subjects in the external condition attributed anticipatory emotions prior to transgression to fear of detection and the resulting shame. The basis for a "true conscience rested in the social responsibility to appear blameless in the eyes of society.

The control condition passage stressed that weaker individuals were cared for by a compassionate society; aspects of morality that would be relevant to later temptation to cheat were not presented.

Following the 5-minute reading period, subjects were told that there would be an 8-minute "delay" before they were tested over the reading material. The delayed test was used so that subjects would make an effort to remember the reading comprehension material (the independent manipulation) during the "delay" period when vocabulary test cheating was possible. Subjects were asked to make sure their phone numbers were entered at the top of their answer sheet, so that "you may be contacted if you missed more than 18 items." Subjects were then allowed to see the correct answers to their vocabulary tests. They were asked to darken light answers on their machine-graded vocabulary answer papers, and to make sure that any earasures were clean so machine-grading would be accurate. However, they were warned not to change any answers. Subjects therefore had justification to use their pencils and erasers during the "delay" period.

After 2 minutes of attentive watching of the subjects, the phone on the experimenter's desk rang and the experimenter spent 90 seconds talking on the phone, during which time he could obviously not detect cheating on the vocabulary test. After the 90-second call, the exprimenter resumed his attention until time was called. Subjects were subsequently given a postexperimental questionnaire of the "funnel" type (Page, 1971), beginning with general questions about ideas developed during the experiment and ending with very specific questions about suspicion that the study might have been about cheating, that the reading comprehension passage might have been designed to influence cheating rates, etc. After a complete debriefing in which subjects

were assured their names would neither he left attached to their papers nor ever identified with their results, subjects were sworn to secrecy and departed.

Results

Of the 166 subjects, the data from 31 were either not used or not obtained. Although no subjects were hypothesis-suspicious (that the reading comprehension passage was related to anticipated cheating rates), 22 subjects were moderately or very suspicious that the study concerned cheating; none of those subjects had cheated.[5] English was not the primary language for 4 subjects, 1 indicated that he had been told the nature of the study prior to arriving, and 4 did not press sufficiently hard on their vocabulary test answer papers to allow an accurate determination of cheating.

The cheating-detection system used a pressure-sensitive page hidden several pages below the vocabulary test answer sheet. The answer sheet was removed from over the pressure-sensitive page prior to the "delay" period during which cheating was possible. With this separation of the answer sheet from the second record of the answers (the pressure-sensitive page), identification of answer changing that occurred during the "delay" period was possible. Cheating was defined as changing one or more answers (the convention adopted by Dienstbier & Munter, 1971, and by Dienstbier, I 972a).[6]

As indicated in Table I, the least cheating occurred in the control condition. Although the differences in cheating rate between the internal and external emotion-attribution conditions were in the direction predicted, with least cheating by the subjects who read internal emotion-attribution information, the unexpected finding of low control subject cheating obscured any obvious interpretation of that directional finding. A chi-square test of the overall results suggested that the differences approached statistical significance ($x2 = 5.30$, $df = 2$, $p < .08$).

[5]Subjects typically gave no evidence of suspicion on the early post experimental questions that asked whether any suspicions were formed that the study was other than as described. Only when asked specific questions such as "Did you form any suspicions or ideas that the experiment was about cheating?" did the suspicious subjects generally indicate such ideas. The fact that such suspicious subjects tend not to cheat lends support to the label of "suspicious." These observations provide some evidence that very specific questions about suspicions are often necessary in social psychological research, especially when a deception procedure is employed.

[6]Some subjects with data too light to read were classified as cheaters or noncheaters based upon conventions established from previous research and confirmed in these studies. Based upon the combined data of the four studies of this paper in which cheating was assessed, subjects with unreadable data who scored less than 10 vocabulary items correct may be labeled noncheaters with 92% certainty (based upon 180 cases of readable data with less than 10 correct); those with 20 or more correct may be labeled cheaters with 82% certainty (based upon 11 cases). In Study I, four subjects with light data who scored less than 10 were assigned to the noncheating category, whereas one (22 correct) was classified as a cheater.

Table I. Number of Cheaters and Percent Cheating by Condition

Condition	Cheaters	Noncheaters	% Cheating	Significance levels[a]
Study I				
Internal	14	29	33%	
External	19	25	43%	
Control	10	38	21%	$p = .06$
Study II				
Internal	10	21	32%	
External	8	17	32%	
Control	4	25	14%	$p = .05$
Study III				
Internal	5	33	13%	
External	3	28	10%	
Control	10	24	29%	$p = .05$
Study V[b]				
Internal	10	56	15%	
External	20	46	30%	$p < .05$
Control	19	42	31%	$p < .05$

[a] The probability levels for Studies I–III were calculated by Fisher's exact test due to the relatively small number of subjects in some cells. In Study II only, a one-tailed test was used since that study was essentially a replication of Study I. In all cases, the test is of the combined internal and external conditions against the control condition.

[b] In Study V, the significance tests are chi-square tests of internal versus external and internal versus control conditions.

Relevant to later findings in the replications and variations of the following studies, we performed an exploratory post hoc statistical comparison (Fisher's exact test: Hays, 1963) between the control group (with 210/0 cheating) and the combined internal and external condition data (38% cheating). That test indicated differences at close to conventional probability levels ($p = .06$). For reasons that will be apparent later, it is that statistical test result that is indicated in Table I.

With only marginal statistical significance and the unexpectedly low control condition cheating rate, we decided that replication with other subjects (women rather than men) was appropriate. Although no checks of the comprehensibility of our independent manipulations had been included in Study I, we suspected that the emotion-attribution messages failed to establish sufficient distinctions between emotion-attribution conditions. We therefore redeveloped those materials for Study II.

STUDY II

Using redeveloped independent manipulation materials, our intent in Study II was to effect a more powerful test of the Study I emotion attribution

hypothesis and to check on the replicability of the finding of least cheating in the control condition.

Method

Subjects. Using a sign-up procedure identical to that described for Study I, 97 freshmen females signed up for Study II.

Procedure. The procedure was similar to that used with men in Study I except that a different experimenter participated (K.A.W.) and the reading comprehension materials were longer, different in subject matter, and introduced somewhat differently.

Following the vocabulary test, subjects were instructed that the reading comprehension material would consist of two separate passages with accompanying tests, and that psychological topics had been selected since that was the one area in which all the basic psychology students would have had equal experience. The first reading and test combination was included to allay suspicion and validate the cover story; the topic was touch sensitivity. The second reading consisted of the independent manipulation and was randomly assigned to subjects.

Control subjects read a one-page passage about long- and short-term memory. We thus eliminated any reference to morality in the control condition, so that if low cheating rates by control subjects replicated the results of Study **I,** no alternative explanations could be invoked concerning possible moral schema activation within control subjects.

The internal and external conditions subjects read a passage entitled "The Development of Moral Self-control." The passages concerned selfcontrol development in American society; we expected to have more impact with such an approach than we achieved in the less culturally relevant passages of Study I. Both external and internal condition subjects read that understanding moral self-control requires understanding how one "becomes motivated to sacrifice, exert effort, resist cheating, and otherwise act in honest ways without immediate social control from others." The passages explained that understanding emotion provided part of the key to understanding the development of conscience, since emotional tension plays a role in "motivating us to avoid violating moral rules." Since emotional tension is felt in the child when scolded by parents, after a number of such experiences the "child begins to experience emotional tension when considering the violation of a moral rule such as lying, cheating, or stealing," and responds to that tension in the early stages of learning much like an animal who had learned avoidance learning through shock conditioning.

From that point, the internal and external condition passages differed, with the internal passage describing how the emotional response of the individual becomes independent of the threat of punishment, becoming

dependent instead upon the individual's judgment of the rightness or wrongness of an act. *"Emotional tension then develops when one contemplates or executes actions that are counter to one's own moral values."*

The external condition subjects were told that although later learned values certainly playa role in moral decision, "the most important factor in resisting the temptation to violate moral rules remains the conditioned emotional response with its origins in early disapproval or punishment from the parents. *"Emotional tension then signals that the contemplated or executed transgression is behavior that would have resulted in punishment, "even though the real danger of punishment may not exist at all."*

Following the reading of the independent manipulation passage, subjects were tested over that passage. The questions were designed to aid consolidation of knowledge about the passage. As previously, subjects were informed of the second test to be taken following the "delay" period.

Previous experience in the cheating paradigm had indicated that high levels of social pressure to attain a specific vocabulary test score are more disturbing to women than to men (Dienstbier, 1972a). The 5-minute "delay" period prior to the test over the second reading comprehension passage was therefore introduced to our women subjects with a more gentle threat than that used for the men of Study I. The women were told to write their social security number at the top of the (vocabulary test) answer sheet *"just in case* the board developing this test decides to compare your vocabulary test performance with your later grades in certain courses. . . so far they have found that most successful college students score at least
18, as freshmen, on this 30-item test; a chance score is 10."

The experimenter's conduct during the delay period was essentially as reported for Study I. Following the delay, the manipulation check test question was presented. For the internal and external subjects, the question asked for the "final step" in the development of morality, with one answer correct for the internal condition and the other correct for the external subjects.

The postexperimental questionnaire and debriefing were presented as in Study I.

Results

Of the 97 subjects, the data were discarded or not obtained for 12. One subject was suspicious of the hypothesis of the study and 6 were suspicious that the study concerned cheating. The data from 4 subjects were too light for coding, and those from 1 subject were lost due to the mishandling by the subject of the vocabulary test booklet.

Across both emotion attribution conditions, only 64% of the subjects answered the manipulation check question correctly, indicating that only

28% knew the correct answer.[7] Under such circumstances, no test of the emotion-attribution hypothesis was effected. The "washing out" of the Study I differences between those conditions, as seen in Table I, is therefore not surprising. Apparently, by presenting too much material that was common to both emotion-attribution conditions, we had obscured differences between the internal and external emotion-attribution conditions even more than in Study I.

The unexpected finding of Study I, that control subjects cheated least, was replicated in Study II. As indicated in Table I, while 32% of the subjects in the combined internal and external conditions cheated, only 14% of the control condition subjects changed any answers. Using Fisher's exact test, it was noted again that the combined internal and external conditions did differ from the control condition *(p* = .05, one-tailed).[8] The combined probability level for both Studies I and II indicates that across both studies significantly fewer control subjects cheated than subjects in the combined internal and external conditions *(p* = .006*,* two-tailed). We were therefore forced to accept the uncomfortable conclusion that our internal and external manipulations, which were designed to make moral schemas salient, were apparently encouraging cheating. Our post hoc hypothesis as to how this unexpected result was achieved and replicated was tested in the following studies.

Since we could not doubt that reading about morality in the two moral schema activation conditions made moral schemas more salient, we were forced to conclude that some aspect of our experimental situation in interaction with moral schemas led to the increased cheating in those conditions. We speculated that our subjects might have perceived that they were being unfairly treated by being unexpectedly subjected to the harsh consequences of failure on the "Psychology Board's" vocabulary test. Resentment toward the board and its behavior would be facilitated by the anonymity of that unseen group. If so, since they were sensitized to moral issues, the subjects in the two moral schema activation conditions might have focused more upon the immorality of the behavior toward them than did subjects in the control conditions. But such a combination should result in more actual cheating only if cheating itself was not seen as immoral. We speculated that if our morally sensitized subjects viewed the board's behavior as immoral, then changing answers on the vocabulary test would not be viewed as immoral. On balance, this very post hoc hypothesis would account for more cheating

[7] The following analysis applies to assessing the percent who know the correct answer: Apparently 36% of the subjects did not know the answer and guessed wrongly; with only one other choice it is likely that an additional *36%* guessed correctly, bringing the estimated total of those who guessed to 72%.

[8] A one-tailed significance test was appropriate since this study was essentially a replication of the Study I results.

by subjects who were sensitized to morality. (A reviewer of an earlier version of this paper suggested an alternative hypothesis that the subjects who were morally sensitized may have wished more to attain a good score, and therefore cheated more.)

If our hypothesis was correct (and the alternative, suggested above, incorrect), then moral schema activation should lead to reduced cheating if we could suppress or eliminate the potential for resentment toward the "vocabulary test designers" and simultaneously make cheating a more moral offense.

STUDY III

In Study III we attempted to reduce resentment toward the vocabulary test designer by making the research and the vocabulary test the doctoral thesis research of the experimenter. We attempted to increase the immorality of cheating by suggesting that inaccurate vocabulary test data would ruin the research of the personable researcher. Under such circumstances, the elicitation of moral schemas by the morality readings should reduce rather than increase cheating, relative to control subjects.

To test that hypothesis, we needed to keep Study III very similar to Study II in all major aspects; to the extent that this could be accomplished, comparisons between those two studies would be legitimized. Therefore, even though we knew that subjects could not reliably differentiate between the internal and external emotion attribution passages of Study II, we used those same materials in Study III.

Method

Subjects. Using procedures identical to Study II, 109 freshmen women signed up for this study.

Procedure. To allow comparisons between the data of Studies II and III, Study III was run with freshmen female subjects from the basic psychology course during exactly the same period of the semester (but one semester later) as for Study Il,[9] Whereas in Study I and II the experimenter introduced

[9] Since the results of Studies I and II were unexpected, a decision was required concerning whether to follow with a large study with a "complete" design that would replicate and extend Study II or with a smaller study that would be only an extension. Although such dilemmas are not usually discussed in research papers, the decision has implications for the interpretation of our results. Cheating research is expensive in subject cost, since subjects are put in circumstances in which they may engage in behavior they may regret. Although rationalizations are

introduced himself as a professor's research assistant, with the tape recording of instructions made with the professor's voice, in Study III the same experimenter (as Study II, K.A.W.) introduced the study as his own doctoral thesis research; the tape-recorded instructions were reconstructed in his voice. Those changes of the informal instructions prior to the "delay" period during which cheating was possible (described below) were made in order to make the changing of answers a far more significant moral offense. Under these circumstances, it was anticipated that all subjects would experience considerably more inhibition against cheating. Therefore, in order to maintain relatively high cheating rates to allow comparisons between Study III and Study II, one additional change was made in the script. Whereas in Study II the "Board of Psychologists" was used as a remote threat, with subjects being told to use their social security number *"just in case* the board developing this test decides to compare your vocabulary test performance with your later grades in certain courses," in Study III additional threat was applied; subjects were told to enter their social security number "so I can compare your vocabulary test performance with your grades in certain courses." As in Study II, subjects were then told "So far I've found that most successful college students score at least 18, as freshmen, on this 30-item test; a chance score is 10." Prior to the "delay" period and following the instructions on darkening in vocabulary test answers and c1earning up erasures, subjects were told: "But don't change any answers; I really need accurate data for my thesis, or I'll have to spend another semester trying." Throughout this period and for the entire study (and as in Study II) the experimenter affected a pleasant but compentent manner.

Results

Of the initial 109 subjects, the data from 3 were not obtained. due to the answers on the pressure-sensitive paper being too light to score. Three other

given for cheating in debriefing (e.g., "You may have accurately perceived that the level of pressure "under which you were placed was illegitimate for a simple research study"), one should proceed with research on cheating in careful steps, so that subjects are not used unnecessarily in unsuccessful studies. It was therefore decided to conduct a small study and to allow comparisons between the studies from two different semesters. To justify this comparison, Studies II and III were identical except for the manipulation changes described. Since reversal of the impact of "schema activation" was predicted between Studies II and III, differences in absolute levels of cheating (as indicated by the control groups) would not affect the test of interaction between the two studies across the two semesters. Although the statistical comparison between the two studies is admittedly unorthodox, the definitiveness of the results, as indicated by the very high level of statistical significance achieved, provides an extra measure of reassurance that the differences between Studies II and III are real.

subjects were lost since they were suspicious that the study concerned cheating, though none were hypothesis-aware. As in Studies I and II, none of the suspicious subjects had cheated.[10]

As in Study II, the data from the two emotion-attribution conditions were combined prior to comparison with control condition data. (Similarly to Study II, the manipulation check question was answered correctly by 65% of the experimental condition subjects, indicating that only 32% knew the internal-external distinction.) As indicated in Table I, 29% of the control subjects cheated, compared to 12% of the combined internal and external condition subjects; those differences are statistically significant by Fisher's exact test *(p* = .05, two-tailed). (Changes in control condition cheating rates will be discussed in the Discussion section, below.)

The major hypothesis predicted an interaction between Studies II and III, with the subjects of Study II in the schema activation (internal and external) conditions cheating more than control condition subjects, but with the schema activation subjects cheating less than controls in Study III. (If the alternative hypothesis suggested above [morally sensitized subjects wanting higher vocabulary scores] were correct, this interaction between Studies II and III would not be predicted.) A comparison of the 2 x 2 data table of Study II with the data of Study III using the technique of arcsine transformations of the percentage of cheating subjects (Langer & Abelson, 1972) indicated that the in traction between the two studies was statistially significant *(p*< .005, two-tailed).

It has been predicted that a change from the "Board of psychologists" as developer of the difficult vocabulary test (Study II) to K.A. W. (the experimenter in Studies II and III) as developer of that test would lead to changes in resentment and justifiability of cheating. In turn, those changes would interact with the moral schema activation of the experimental conditions within studies to result in a reversed cheating pattern between those studies. Specifically, it was predicted, under the Study III conditions of reduced resentment and increased feeling of "wrongness" for cheating, that the activation of moral schemas in the internal and external conditions would inhibit rather than facilitate cheating. Although the predicted cheating pattern did result from the Study III procedure, additional support was sought in Study IV for the hypothesized intervening variables of resentment and cheating justification.

[10] In Study III, two subjects whose data were unreadable but who scored less than 10 on the vocabulary test were classified as noncheating subjects (see footnote 6).

STUDY IV

Study IV presented to subjects quasi-experimental procedures that were almost identical to either the Study II or the Study III procedure except that in Study IV, during the time when subjects would have had an opportunity to cheat, the subjects were asked to fill out a questionnaire. They were asked to record their feelings of resentment and to ascertain the degree to which they felt that cheating (under the circumstances of their versions of the research) would be wrong.

Method

Subjects. Ninety freshmen women signed up for this research under conditions similar to those of the previous studies.

Procedure. As in the previous studies, subjects participated in groups of 6 to 10, with subjects within groups randomly assigned to the two emotion-attribution conditions or to the control condition. In Study IV, however, each group was randomly assigned to either the Study II or the Study III version of the procedure.

A 6-item questionnaire was given to subjects during the delay (cheating period) to assess their attitudes toward the research and the researchers, and their feelings about the appropriateness of cheating on the vocabulary test. Since the 6item questionnaire informed subjects of our interest in cheating as a variable, the usual detailed postexperimental questionnaire concerning suspicions was eliminated in Study IV.

The first three items on the questionnaire asked subjects to rate their general impression of procedural fairness, their resentment toward "those responsible for this research," and their level of resentment toward either "the Board of Psychologists (Study II version) or "the experimenter, Lynn Kahle (Study III version) who developed the vocabulary test." The next two items on the questionnaire asked whether cheating on the vocabulary test was or was not clearly a moral decision, and whether cheating on the vocabulary test would be justifiable or wrong. Answers to those five items were indicated by circling one of five to seven options, each of which was verbally described (e.g., "moderately unfair," "clearly a moral decision," "very justifiable"). The key dependent measures were the items concerning resentment toward the vocabulary test developer (#3) and the justifiability of cheating (#5). The resentment toward the vocabulary test developer item was a "key" item since cheating on the vocabulary test would affect that individual or those individuals. Overall resentment was less crucial since factors such as difficulty of the reading comprehension test material between the experimental conditions and control condition could account for differences

in general resentment. The sixth item was a manipulation check for the effectiveness of the Study II versus the Study III version, asking whether the research had been presented as Lynn Kahle's thesis research; answers of "no," "not sure," and "yes" were available.

Results

Analysis of the impact of the three experimental conditions (internal, external, and control) and of the two versions of presentation (Study II and Study III) were undertaken by 3X 2 analyses of variance for each of the six questions.

Unexpectedly, a significant main effect for research condition on the "assessment of fairness" dimension (#1) *[F(2,82)* = 3.79, $p < .05$] indicated that across both the Study II and Study III versions, control subjects were more satisfied with the fairness of the research (averaging 5.1 or slightly more positive than "quite fair") than were experimental subjects (averaging 4.7, between "OK" and "quite fair").

However, no differences close to significant occurred in "level of resentment ... toward those responsible for the research" (#2), with average responses of 1.5 [scale range from "none" (1) to "extreme" (5)].

For item #3, concerning resentment toward those "who developed the vocabulary test," predicted results were obtained. Subjects in the Study II version were significantly more resentful toward the "Board of Psychologists who developed ... " than the Study III version subjects were toward "Lynn Kahle who developed ... " [$F(1,82) = 7.08$, $p< .01$, with means of 1.98 vs. 1.43]. (The same anchors and scoring system as used for item #2 apply to item #3.)[11]

While no differences for the question concerning whether cheating was a moral issue (#4) approached statistical significance, the second critical question (#5), concerning whether cheating would be wrong, did show

[11] To account for the data of Study III, it was predicted only that reduction in resentment would interact with moral schema activation to create the observed cheating pattern changes; no predictions were made concerning the possible interaction on the resentment dimension of the passages on morality with the Study II versus Study III procedure. However, since these data are suggestive, the pattern of means on the resentment dimension will be discussed: There were no m differences in resentment levels between the experimental and control conditions of the Study III version (1.47 vs. 1.35, $f = .13$, n.s.), while resentment did seem to be increased (nonsignificantly) in the Study II version by the increase of moral salience in the experimental conditions (compared to control: 2.12 vs. 1.67, $f = 1.57$, $P < .15$). In fact, most of the difference in greater resentment in the Study II version can be accounted for by differences between the conditions who read about morality (2.13 for Study II vs. 1.47 for Study III experimental conditions, $f = 2.77$, $p < .01$).

predicted differences, with subjects in the Study II version indicating that cheating would be only "moderately wrong" and subjects in the Study III version indicating it would be midway between "moderately" and "very wrong" [2.93 vs. 2.52, $F(I,82) = 3.71$, $p < .06$].

The manipulation check (#6) of whether subjects were aware that the research was thesis research found the Study III subjects very certain that it was, while Study II subjects tended to indicate "no" or "not sure" [2.72 vs. 1.71, $F(1,83) = 54.37$, $p < .001$]. In summary, in Study IV the predicted differences were realized, between Study II and Study III procedures, with greater resentment in the Study II procedure toward the vocabulary test developer(s) and lower ratings of "wrongness" of cheating.

STUDY V

With some understanding of how to construct a procedure in which moral schema activation would lead to logical and predictable cheating patterns, it was possible to reapproach the emotion-attribution hypothesis as initially outlined for Study I. The question of no differences in cheating rates between the internal and external conditions of Studies 1- III had been answered by the manipulation check questions of the latter two studies with only 30% of the subjects in those two studies knowing the correct answer (65% answering the two-choice question correctly). Therefore, for Study V, new internal and external emotionattributional materials were developed to more clearly impress the research subjects with those distinctions. Specifically, although the internal and external emotion-attribution passages were carefully matched for affective tone and for the degree of general negativeness about immoral behaviors and positiveness about moral decisions, much of the overlapping material present in Studies II, III, and IV version of those materials was eliminated from the Study V manipulations.

It was hypothesize that fewer subjects in the internal condition would cheat than in either the external or control conditions; no hypothesis was made concerning the possible differences between external and control conditions.

Method

Subjects. Under conditions similar to those described for the previous research, 221 freshmen women signed up for this study.

Procedure. The only change from the Study III procedure (with the research described as the researcher's doctoral thesis) was that the internal and external emotion-attribution passages were completely redeveloped for increased impact and clarity.

Internal condition subjects read: "Even if the child has never been scolded or punished by parents, the child may begin to experience emotional tension when considering the violation of moral rules about things such as lying, cheating, or stealing. . . the individual will resist temptation to avoid the emotional tension even though no one else may ever know of the transgression. . . . as we mature, the pleasure which we anticipate from knowing that we have acted morally correct remains a strong motivating force in helping us to be strong in the face of temptation. . . . Research has demonstrated that often very strong feelings of emotional tension result from individuals violating their own moral values, even though other people important to them do not know of those violations."

External condition subjects read comparable passages: "After being scolded or punished a number of times by parents or others, the child begins to experience emotional tension when considering the possibility of being found violating the moral rules about things such as lying, cheating, or stealing. . . . the individual will resist temptation to avoid the emotional tension which is tied to the risk of being found out. . . as we mature, the pleasure which we anticipate from others knowing that we have acted morally correct remains a strong motivating force in helping us to be strong in the face of temptation. . . research has demonstrated that often very strong feelings of emotional tension result when other people who are important to us discover and confront us over violations of moral values."

In addition to the changes between the early studies and Study V in the passages themselves, a "study question" was added at the end of the passage. That question was included to further involve the subject in thinking about internal or external emotion-attribution processes in morality. Internal condition subjects were asked: "Can you think of any time recently when you were confronted with a moral choice but resisted transgression and remained strong *due to feelings of emotional tension associated with your knowledge that the transgression violated your own moral values?"* The question asked of external subjects ended with: *"due to feelings of emotional tension associated with you knowing that other people might find out that you had transgressed?"* No answer was required.

As in the earlier procedures, the delay period during which cheating on the vocabulary test was possible followed the first test over the "reading comprehension" material, and as in Studies II and III, the manipulation check test question followed that delay period.

Results

Of the 221 subjects, the data from 28 were dropped or not available for the following reasons: 17 indicated suspicions about cheating, 7 did not press sufficiently hard for readable cheating data, 2 scored over 18 correct without cheating (eliminating the pressure and temptation to cheat), 1 was not a freshman, and 1 did not have English as a primary language.[12]

The manipulation check question indicated that experimental condition subjects were much clearer about internal versus external emotion-attribution than had been the case in Studies II and III, with 83% of the experimental condition subjects of Study V choosing the correct answer to the "final step in the development of morality" question, indicating that 66% knew the correct answer.

As indicated in Table I, while 15% of the internal condition subjects cheated, 30% of those in the external condition and 31 % of control condition subjects cheated. Tests of the hypothesized relationships were statistically significant (chi squares for internal vs. external of 4.31, $P < .05$; for internal vs. control, 4.60, $p < .05$). (Those two tests are not independent, however, as the same internal condition data contribute to each comparison.)

In summary, the emotion-attribution hypothesis with which this series of studies began was confirmed in Study V, with least cheating in the internal emotion-attribution condition.

DISCUSSION

Consistency of Cheating across Studies. While the control condition cheating rates appear to fluctuate substantially among studies, those changes consistently reflect the between-study variations in the supposed consequences of failure. Specifically, the decrease in control condition cheating rates from 21 % to 14% between Studies I and II is understandable in view of the reduced pressure used with the change to female subjects in Study II, as discussed above. In Studies III and V, however, we expected inhibition of cheating with the instructions that the vocabulary test was the thesis research of the experimenter; to balance those instructions, pressure to cheat was increased by indicating that the researcher would compare vocabulary test scores with previous course grades. That increased pressure resulted in similar increases to 29% cheating in Study III and 31% in Study V.

[12] In Study V, one subject whose data were unreadable but who scored less than 10 on the vocabulary test was classified as a noncheater (see footnote #6).

Moral Schema Activation and Self-Control. Before the unexpected results of Study I, our initial hypothesis was that moral schema activation would lead to more moral behavior in any situation. Underlying that hypothesis were two assumptions: First, we assumed that moral schemas already existed within our subjects; second, we assumed that our subjects would generally respond to the activation of those schemas with less cheating. As suggested in the parallel example of schemas concerning racial prejudice (mentioned in the introduction), it appears that schemas concerning moral behavior are far more complex than suggested by those underlying assumptions. Although it may be the case that most of our research subjects possessed substantial moral schemas (as suggested by the low cheating base rates in control conditions), it is clearly not the case that the activation of those schemas will necessarily lead to morality as we initially operationally defined that term.

At the end of Study II, with the replication of the finding of least cheating by the control condition subjects, we hypothesized that moral schema activation led our emotion-attribution subjects to be more aware of some less obvious experimental features-features such as the illegitimacy of the threat of future surveillance by the ominous "Board of Psychologists" who had supposedly supplied the vocabulary test. Specifically, we hypothesized that resentment toward the anonymous "Board of Psychologists" in combination with heightened sensitization to moral issues (in the emotion-attribution conditions) had led to increased cheating. That hypothesis received support from Studies III and IV. In Study III we demonstrated decreased cheating when moral sensitization was combined with the attribution of the vocabulary test to a specific and vulnerable doctoral candidate rather than to the "Board of Psychologists." In Study IV it was shown that the hypothesized intervening variable of resentment was significantly modified between the procedures of Studies II and III, with the Study III procedure indeed inducing less resentment. Those results suggest the broad hypothesis that when moral schemas are activated, the individual becomes sensitive to more than his/her own morality, but also to the morality or immorality of the behavior of others.

Emotion-Attribution and Self-Control The independent manipulation materials in the two emotion-attribution conditions of Study V were designed to be more sophisticated versions of the material presented to second-grade children in the research discussed above (Dienstbier et al., 1975); similarly, the external and control conditions of Study V were conceptually comparable (in aspects of emotion-attribution) to the earlier placebo pill research on cheating with college students (Dienstbier & Munter, 1971); Dienstbier, 1972a).

The finding of less cheating in the internal condition of Study V is very similar to the finding of greater internal condition self-control in a watching task in the research with second-grade children. However, the current research overcomes an important alternative explanation, which was not eliminated in that early research with children. In that earlier research the independent manipulation made specific reference to the dependent measure task. The child was told either that he/she "felt bad" for not doing a good job (internal), or for being "found out" not doing a good job (external) on the child's first encounter with that watching task. The child then performed the task again in "detectionproof" circumstances. It is possible that the child simply thought that the task was more important to the researcher under internal instruction conditions, since the internal instructions could have been perceived to imply more concern than the external instructions. One advantage in the current research was that the internal and external messages were given in an abstract form; cheating on the vocabulary test was never mentioned in the independent manipulation passages. The emotion-attribution interpretation accorded that former research with children is therefore strengthened by similar results in Study V through a combination of conceptual replication and elimination of an alternative hypothesis. Together, these two paradigms suggest that adults and children depend upon attributions about the source of their emotional arousal to guide their behavior during temptation. In both the earlier research with children and in Study V, emotion-attribution information was given in a manner similar to some socialization encounters (Le., an explanation for why one should feel negative emotions such as guilt rather than a description of physiological symptoms as used in the placebo pill research). Since in both cases different emotion attributions affected moral behavior, these studies reaffirm the hypothesis that various socialization techniques may achieve their differential effectiveness as a result of the emotion attributions made by the child during socialization episodes.

Moral Schema and Emotion-Attribution Interactions. The results of Study III may be interpreted as indicating the effectiveness of moral schema activation alone (when manipulated emotion-attribution information is not effective). Similarly, emotion-attribution information presented alone is effective. That assertion is supported by previous findings (Dienstbier & Munter, 1971; Dienstbier, 1972a) that students cheat more frequently when they can attribute their emotional arousal during temptation to a placebo pill. What should happen when opposite moral dispositions are activated by moral schema activation (positive) in combination with external emotion-attribution information (negative)? The external emotion-attribution condition of Study V provided a test of that question. The finding of similar cheating rates in the external and control conditions suggests that the positive

schema activation component of the external manipulation approximately balanced the negative impact of the external emotion-attribution component. That balance is due to the manipulated strengths of those two variables in this research, however, and should not be interpreted as reflecting the normal balance between those variables in other research or in nonresearch settings.

It should also be emphasized that the absence of relevant laboratory manipulations does not establish the absence of the schema or attribution from the subject's consideration or use. On the contrary, the findings of previous research that cheating is increased above a control group rate when arousal is (externally) attributed to a placebo suggests the usual effective presence of internal emotion-attribution processes in resisting cheating. A similar inference about moral schemas may be made from the present research; the lack of moral schema *activation* in the control conditions did not result in even a majority of subjects, suggesting the likely "operation" of moral schemas in the absence of their manipulation.

Expanding upon that analysis, the following speculative model is suggested to describe the interaction of moral schemas and emotional attribution processes. While the model clearly goes beyond our data, the elements of the model are, in general, supported by the observations of this research series.

The perception of the possibility of transgression will typically activate schemas relevant to morality. Additionally, emotional arousal will usually develop as a result of two processes: First, arousal may be elicited rather automatically as a result of elements in the current situation that are perceived to be like those elements to which emotional responses had been "classically" conditioned through previous socialization. (That is, past punishment for cheating may result in emotional arousal during temptation irrespective of current emotion attributions.) The second process leading to arousal in anticipation of actual transgression is derived from Kohlberg's (1966) cognitive model of sex-role identity, applied here to moral behavior. If aspects of the moral schema are important in the self-concept (i.e., if "being honest" implies not cheating, and if "being honest" is an important part of the self-concept), then the consideration of behaviors contrary to that important part of self-identity may create unpleasant emotional arousal. Similarly, but less internally mediated, if not being humiliated by being caught cheating is important in maintaining one's feeling of social worth, and behavior is contemplated that could lead to humiliation, arousal may result. The arousal from these causes, collectively, will usually be experienced as guilt, shame, fear, anxiety, or excitement, depending upon the emotional attributions made. As shown in the placebo pill research with cheating, cited above, the presence of that arousal and the attributions about its source and meaning will determine the impact of that arousal on behavior. However, this process acquires considerable complexity when

we also note that the emotion attributions themselves may be influenced by elements of the current situation in interaction with salient aspects of the moral schema. (In Studies I and II, above, emotional arousal may have been experienced as anger or resentment when evoked in combination with moral schema activation and the threat of the "Board of Psychologists. ") Additionally, the arousal itself may be experienced and responded to as one of the situational elements affecting the activation of the moral schema. (Arousal readily understood as due to a placebo may not stimulate the same "attributional search" [Mandler, 1975] and subsequent moral schema activation as arousal attributable to sources relevant to the moral choice.) That is, emotion and emotion attributions may affect the relative salience of moral schemas. The mutual influence of emotional arousal, emotional attributions, perceptions of the immediate situation, and of schema activation is therefore assumed.

While this analysis of interactions among situations, schemas, and emotion may appear to be complex to the point of inelegance, it is our view that such complexity is necessary in understanding human functioning in temptation situations, and it is our suspicion that even this model will eventually prove to be oversimplified.

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