Self-Control, Perceived Opportunity, and Attitudes as Predictors of Academic Dishonesty

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ABSTRACT. Academic dishonesty is a persistent and pervasive problem on college campuses. Researchers have suggested a variety of factors that influence academic dishonesty. The present study is an examination of the roles of self-control, attitude toward academic dishonesty, and perceived opportunity in predicting academic dishonesty. The dataset consisted of 853 survey responses from university students across the United States. The results showed that attitude toward academic dishonesty mediated the relationship between self-control and academic dishonesty and also between perceived opportunity and academic dishonesty. Implications of these findings are briefly discussed.

Key words: academic dishonesty, attitudes, cheating, general theory of crime

ACADEMIC DISHONESTY is a persistent and pervasive problem on college campuses in the United States. Over 60 years ago, Drake (1941) reported that 23% of undergraduate students had engaged in some form of academic dishonesty or cheating. Although there is some debate as to whether the problem has grown since then (for a review see Brown & Emmett, 2001), recent estimates of the incidence of cheating on college campuses suggest that the majority of all students cheat at some point in their college careers (Davis, Grover, Becker, & McGregor, 1992; Sierles, Hendrickx, & Circle, 1980; Stern & Havlicek, 1986).

In an effort to understand this problem, researchers have identified a variety of factors that appear to be correlated with academic dishonesty. For example, most researchers agree that men, students at large state-supported institutions,
and students with lower academic abilities cheat more often than women, stu-
dents at small private colleges, and students with higher academic abilities do
(Brown & Emmett, 2001; Davis et al., 1992). McCabe and Trevino (1997) found
that age, fraternity or sorority membership, peer approval of dishonesty, and peer
cheating were also associated with higher rates of cheating by college students.
Unfortunately, research into the causes of academic dishonesty has been largely
focused on describing relationships between variables without regard to theoret-
ical integration or explanation of the phenomenon.

My purpose in the present study was to examine the topic of academic
dishonesty within the theoretically rich and broader context of deviant behav-
ior and delinquency. Like academic dishonesty, deviant behavior has been
associated with a variety of factors including age (Gottfredson & Hirschi,
1990), gender (Mears & Ploeger, 1998), association with delinquent peers
(Empey & Stafford, 1991), self-control and perceived opportunity (Grasmick
&Tittle, 1993), and organizational identification (Eve & Bromley, 1981).
However, research into deviant behavior (unlike research on academic dishon-
esty) is often placed in the context of empirically supported theories (Bolin &
Heatherly, 2001).

One theory in particular seems to offer the hope of clarifying the nature of
academic dishonesty. According to the general theory of crime (Gottfredson &
Hirschi, 1990), lack of self-control, perceived opportunity, and the interaction
between them are the major causes of all deviant behavior, including academic
dishonesty. People who lack self-control have personalities that predispose them
to commit deviant acts (Arneklev, Grasmick, Tittle, & Bursik, 1993). When
opportunities for deviance present themselves, people who lack self-control are
unable to resist the temptation.

If previous findings on academic dishonesty are reinterpreted in the con-
text of the general theory of crime, a clearer picture of the phenomena begins
to emerge. The opportunity for academic dishonesty on a college campus is
omnipresent. This opportunity is increased further by (a) joining a fraternity
or sorority, (b) associating with peers that cheat or approve of cheating, and
(c) attending a large state-supported school (McCabe & Trevino, 1997). An
individual without self-control is very likely to cheat in such a tempting envi-
ronment.

Although the absence of self-control appears to be a valid explanation for
cheating that takes place impulsively in response to a perceived opportunity,
the general theory of crime does not explain why students with self-control do
not cheat (Gottfredson & Hirschi, 1990). Having self-control might lead stu-
dents to deliberately (rather than impulsively) cheat in circumstances that are
common on college campuses today: detection is unlikely, opportunity is high,
norms favor cheating, and cheaters have an advantage in the race for a high
GPA (Graham, Monday, O’Brien, & Steffen, 1994; Wood, Pfefferbaum, &
Arneklev, 1993). In short, lack of self-control may be sufficient to explain
cheating in an opportunity-rich environment, but having self-control does not seem sufficient to explain why some students do not cheat when cheating may be in their best interest (Vazsonyi, Pickering, Junger, & Hessing, 2001). In support of this assertion, Grasmick and Tittle (1993) found that a substantial proportion of variance in deviant behavior is left unexplained by the variables of self-control and opportunity alone; the general theory of crime could not fully explain the phenomenon. If Grasmick and Tittle’s results hold for all deviant behavior, then an additional variable or variables may also be needed to explain academic dishonesty.

Some evidence suggests that this additional variable may be attitude toward academic dishonesty. For example, Piquero and Tibbets (1996) found that the effect of self-control on deviance was mediated by attitudinal variables such as perceived pleasure and perceived shame for the act. Bolin and Heatherly (2001) found that attitudes toward deviant behavior were good predictors of actual behavior in two large samples. In addition, Davis et al. (1992) showed that attitudes toward academic dishonesty and perceived opportunity for academic dishonesty both had an impact on cheating among college students.

I based the present study on the premise that the general theory of crime, as proposed by Gottfredson and Hirschi (1990), is an inadequate explanation of cheating among college students unless attitude toward academic dishonesty is added to the model. Haines, Diekhoff, LaBeff, and Clark (1986) found preliminary support for this revision to the general theory of crime model. Using stepwise regression, they found that age (a correlate of self-control), attitudes, and perceived opportunity all made significant and independent contributions to the prediction of academic dishonesty. However, the use of stepwise regression did not allow Haines et al. to test for mediation.

On the basis of prior research and the preceding discussion, I hypothesized that the relationship between self-control and academic dishonesty would be mediated both by perceived opportunity and attitude toward academic dishonesty. The proposed causal chain that flows from self-control to perceived opportunity to academic dishonesty is consistent with the explanation for deviant acts offered by the general theory of crime. The proposed causal chain that flows from self-control to attitudes toward academic dishonesty is the suggested modification to the general theory of crime, especially with regard to academically dishonest behavior.

Figure 1 summarizes the proposed relationships among these four variables. A nondirectional path between the error terms of perceived opportunity and attitude toward academic dishonesty is included in this model to represent the correlation between these two variables after controlling for the effects of self-control. Because there appears to be no empirical evidence or theoretical rationale that suggests which of these two variables should come first in the causal chain, this relationship is left free to vary.
Method

Participants

Participants were recruited from colleges and universities around the United States through various internet sites and psychology instructors. The initial data set consisted of 853 student responses to an internet survey but was reduced by deleting incomplete \((n = 10)\) and duplicate responses \((n = 44)\). A response was considered incomplete if the participant did not respond to 20% or more of the items. A response was considered duplicate if two or more responses originated from the same internet protocol address and all items, including the participants’ birthdays, were identical. The final dataset consisted of 799 responses from college students around the United States. The median age of participants was 20 years; 62.1% reported a birth date that would make them a traditional-age college student (ages 18–22). Nearly 70% \((n = 554)\) were women, and 64% \((n = 508)\) were freshmen or sophomores.

Measures

The Academic Dishonesty Scale consists of nine behavioral items adapted from McCabe and Trevino (1997). Participants are asked to indicate how often they had engaged in each academically dishonest behavior since beginning their college careers using a 5-point Likert-type scale ranging from not even once time \((1)\) to many times \((5)\). The internal consistency reliability estimate based on the current sample for the Academic Dishonesty Scale suggested an adequate level of reliability \((\alpha = .90)\; see\ Table 1\).
The Perceived Opportunity Scale consists of eight items adapted from McCabe and Trevino (1997) that deal with the participants’ perceptions of the frequency and acceptability of academically dishonest behaviors at their home institution and the likelihood of academic dishonesty being detected. Participants used a 5-point Likert-type scale ranging from strongly agree (1) to strongly disagree (5). Previous research has shown that the items on the Perceived Opportunity Scale were valid predictors of academic dishonesty (McCabe & Trevino). The internal consistency reliability estimate based on the current sample for the Perceived Opportunity Scale suggested an adequate level of reliability ($\alpha = .73$; see Table 1).

The Attitude Toward Academic Dishonesty Scale contains four items adapted from Davis et al. (1992) that deal with participants’ moral evaluations of cheating. Participants used a 5-point Likert-type scale ranging from strongly agree (1) to strongly disagree (5). Previous research has shown that items on the Attitude Toward Academic Dishonesty Scale are valid predictors of academic dishonesty (Davis et al.). The internal consistency reliability estimate based on the current sample for the Attitude Toward Academic Dishonesty Scale suggested an adequate level of reliability ($\alpha = .75$; see Table 1). Items on these three scales are contained in the Appendix.

I also used the Self-Control Scale, which consists of 24 items (for a list of items see Grasmick & Tittle, 1993). The items measure the six facets of self-control first proposed by Gottfredson and Hirschi (1990): impulsivity, preference for physical activity, risk taking, self-centered, preference for simple tasks, and temper. Participants used a 5-point Likert-type scale ranging from strongly agree (1) to strongly disagree (5) to rate each item. Previous research has shown that the Self-Control Scale is a valid predictor of many types of deviant behavior (see Grasmick & Tittle). The internal consistency reliability estimate based on the current sample suggested an adequate level of reliability ($\alpha = .83$; see Table 1).

**Design and Procedure**

**Survey order and distribution.** I combined items from each scale into a single survey and posted it on the internet. Participants’ responses to the survey were automatically appended to a database set up for that purpose, and notices were then sent to several Web sites that advertise online studies. I sent additional notices to psychology instructors around the country via e-mail suggesting the survey as an extra credit assignment. Many instructors indicated, via e-mail, that their students would be allowed to complete the survey for extra credit.

Participants completed the scales in the following order: Perceived Opportunity, Attitude Toward Academic Dishonesty, Self-Control, and Academic Dishonesty. I computed composite scores for each scale as a unit-weighted sum of all items. If the participants left any survey responses blank, they were encouraged, but not required, to provide responses to all items. All responses were com-
pletely anonymous, but participants had the option of printing a generic receipt after their responses had been logged for the purpose of obtaining course credit.

*Estimation method and fit criteria.* I tested the hypothesis with a path analysis and the LISREL software package (Jöreskog & Sörbom, 1989). As input for this program, I computed a variance–covariance matrix by using listwise deletion of missing data. Measurement error was accounted for in all models by using the standard practice of fixing the error variance of observed variables to \[(1 - \text{reliability}) \times \text{the variance}\] and fixing the path between each latent construct and its observed indicator to the square root of the indicator’s reliability. All parameters were estimated using maximum likelihood estimation.

An assessment of the overall model fit was based on both absolute and incremental fit indices. Absolute indices include the chi-square likelihood ratio test, the standardized root mean residual (SRMR), and the root mean square error of approximation (RMSEA; Cudeck & Browne, 1983; Mulaik et al., 1989; Steiger, 1988). A good fit of the model was indicated by a nonsignificant chi-square, a SRMR of less than .05 and a RMSEA of less than .05 (Browne, 1982). I used the Non-Normed Fit Index (NNFI; Tucker & Lewis, 1973) to compare alternative models and the Comparative Fit Index (CFI; Bentler, 1990) to compare the non-central chi-square with the null model. Given the relatively low number of indicators in the models being tested, fairly conservative cutoffs of .95 were used for both indices. In addition to the proposed model, I also computed parameter estimates for several alternative models (Medsker, Williams, & Holahan, 1994).

**Results**

*Descriptive Statistics*

Table 1 shows the means, standard deviations, internal consistencies, and intercorrelations for the variables under investigation. A visual inspection of fre-
quency histograms and computation of skew and kurtosis statistics for each variable revealed that academic dishonesty and attitude toward academic dishonesty were both negatively skewed. As a result, both variables were subjected to logarithmic transformation before any analysis in an effort to normalize their distributions. The distributions of self-control and perceived opportunity were both approximately normal.

**Model Fit**

A summary of fit indices for the saturated model, the proposed model, the next-most-likely alternative model, and the null model is given in Table 2. The saturated model and null model are included only as a point of comparison: The saturated model provided the best possible fit to the data and the null model provided the worst possible fit to the data. The proposed model differed from the saturated model by constraining one relationship to zero, the direct path from self-control to academic dishonesty. (If there is no direct path between self-control and academic dishonesty, then the relationship between these two variables in the current sample is mediated by perceived opportunity and attitude toward academic dishonesty.) The increment in the fit function associated with this change was nonsignificant, $\chi^2(1, N = 661) = 0.041$, $p = .84$, which provided empirical support for the decision to constrain this path. Self-control did not have a direct effect on academic dishonesty. All of the fit indices for the proposed model also met the a priori standards for good fit; the proposed model provided a very good fit to the actual data. In addition, all structural paths in the proposed model were statistically significant except the path from perceived opportunity to academic dishonesty.

Parameter estimates and fit indices were also calculated for the next-most-likely alternative model. The next-most-likely alternative model differed from the proposed model by constraining one relationship to zero, the direct path from perceived opportunity to academic dishonesty. The increment in the fit function associated with this change was nonsignificant, $\chi^2(1, N = 661) = 3.209$, $p = .20$, which provided empirical support for the decision to constrain this path. All of the other fit functions also met the a priori standards for good fit; the next-most-likely alternative model provided a very good fit to the actual data. In addition, all structural paths in this model were statistically significant.

Because the proposed model and the next-most-likely alternative model both provided an acceptable fit to the data, selecting the most appropriate model was somewhat more complicated. The choice between models must be based on both empirical and theoretical considerations. On theoretical grounds, it makes sense for the relationship between perceived opportunity and academic dishonesty to be dependent on each individual’s attitude toward academic dishonesty; noticing an opportunity to cheat is unlikely to lead to cheating behavior unless an individual also has a favorable attitude toward cheating. Although the difference in empirical fit between the proposed model and the next-most-likely alternative
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>$\chi^2$</th>
<th>df</th>
<th>RMSEA</th>
<th>SRMR</th>
<th>NNFI</th>
<th>CFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saturated model</td>
<td>All predictors have direct and indirect paths to academic dishonesty; best possible fit</td>
<td>0.00</td>
<td>0</td>
<td>0.000</td>
<td>0.00</td>
<td>0.000</td>
<td>0.00</td>
</tr>
<tr>
<td>Proposed mediated model</td>
<td>No direct path from self-control to academic dishonesty</td>
<td>0.04</td>
<td>1</td>
<td>0.000</td>
<td>0.002</td>
<td>1.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Next-most-likely alternative model</td>
<td>No direct path from perceived opportunity to academic dishonesty</td>
<td>3.21</td>
<td>2</td>
<td>0.031</td>
<td>0.014</td>
<td>0.994</td>
<td>0.998</td>
</tr>
<tr>
<td>Null model</td>
<td>No relationships between any of the latent variables; worst possible fit</td>
<td>571.20**</td>
<td>6</td>
<td>0.378</td>
<td>0.294</td>
<td>0.122</td>
<td>0.122</td>
</tr>
</tbody>
</table>

*Note.* RMSEA = root mean square error of approximation; SRMR = standardized root mean residual; NNFI = Non-Normed Fit Index; CFI = Comparative Fit Index.

* $p < .05$.
** $p < .01$. 

TABLE 2. Descriptive Statistics ($N = 661$)
model was relatively small, the greater parsimony, uniformly significant paths, and overall good fit of the next-most-likely alternative model made it preferable to the proposed model. This result suggested that the proposed direct relationship between perceived opportunity and academic dishonesty could be removed from the model with little consequence, empirically or theoretically (see Figure 2).

**Discussion**

**Interpretation**

The proposed relationships depicted in Figure 1 were generally confirmed in the current study; there was no direct relationship between self-control and academic dishonesty. However, the proposed model was not selected as the preferred model for the data in the current sample. In particular, the relationship between perceived opportunity and academic dishonesty in the proposed model was not necessary. The next-most-likely-alternative model (Figure 2), a revision of the proposed model that deleted this unnecessary path, was selected as the preferred model for the data in the current sample. Overall, the current results suggest that attitude toward academic dishonesty plays a critical role in the explanation of academic dishonesty; nearly 40% of the variation in academic dishonesty is explained by its relationship with attitude toward academic dishonesty in the current sample.

![Parameter estimates for the next-most-likely alternative model.](image)

**FIGURE 2.** Parameter estimates for the next-most-likely alternative model. The standard solution is shown here. Values on each directional path are standardized beta weights, $\chi^2(2, N = 661) = 3.25$, $p = .197$, RMSEA = 0.031. *$p < .05$. **$p < .01$.**
Mounting empirical evidence (Arneklev et al., 1993; Piquero & Tibbets, 1996; Vazonyi et al., 2001) and the current results suggest that the general theory of crime is an inadequate explanation of deviant acts such as academic dishonesty. However, the current results demonstrate that the theory is viable with the addition of attitudes as an intervening variable. From a logical standpoint, the addition of attitudes to the model makes sense. Having a favorable attitude toward academic dishonesty or any deviant behavior should make it easier to take advantage of opportunities for the behavior (Haines et al., 1986). Having a favorable attitude toward academic dishonesty should also clear the way for individuals with or without self-control to act, some impulsively and others deliberately. Of course, it is also possible that attitudes toward cheating are the result of cheating behavior rather than the cause, or even that attitudes toward cheating and cheating behavior are reciprocally determined.

**Implications**

These findings have important implications for interventions aimed at reducing academic dishonesty. Self-control is a relatively stable personality trait that is shaped in childhood (Gottfredson & Hirschi, 1990). If the general theory of crime was accurate, and self-control really was the primary cause of academic dishonesty and other deviant acts, then intervention would need to take place well before students enter college. According to the general theory of crime, interventions aimed at increasing self-control would probably not be very effective in reducing academic dishonesty once students reach college age.

Perceived opportunity for academic dishonesty is also difficult to change. Interventions aimed at reducing the perceived opportunity for academic dishonesty might include an increase in surveillance, an increase in sanctions, and the disruption of deviant social networks. However, determined cheaters would likely create new opportunities. In addition, reducing the perceived opportunity for academic dishonesty would require eternal vigilance; dishonesty rates would be expected to return to previous levels if the intervention was removed. If the general theory of crime was accurate and perceived opportunity mediated the relationship between self-control and academic dishonesty, then increasing sanctions and supervision in an effort to deter academic dishonesty would be successful only as long as the intervention remained in place.

However, the current results suggest that the general theory of crime is not accurate unless attitudes are added to the model. Because attitudes are less enduring than personality traits like self-control and require less frequent intervention than the eternal vigilance needed to reduce opportunity, interventions aimed at influencing student attitudes toward academic dishonesty would seem to have a higher likelihood of success at a much lower cost. In fact, the recent trend toward the development of honor codes to deter academic dishonesty may be effective, in part, by influencing student attitudes toward academic dishonesty (McCabe &
Trevino, 1993). Student attitudes also seem amendable to change through interventions such as education (Ames & Eskridge, 1992). Furthermore, Uhlig and Howes (1967) found that students were less likely to take advantage of opportunities to cheat if they had negative attitudes toward academic dishonesty.

**Limitations**

Several limitations of the current study are worth noting. First, the use of self-report data, especially for sensitive topics such as academic dishonesty, raises several questions about the accuracy of the data. Also, because participation was anonymous and recruitment efforts were not uniform throughout the country, it seems unlikely that the current sample is representative of the total population of college students in the United States. In addition, most of the students in the current sample were enrolled in a psychology course. Students who take psychology courses and participate in extra credit assignments are a highly selective sample. However, this limitation may be more imagined than real considering that Eskridge and Ames (1993) showed similar results for a sample of mixed academic majors.

A closely related problem lies in the analysis decisions to use composite measures, to transform skewed variables, and to compute the variance–covariance matrix using listwise deletion of missing data. It is possible that repeating the analyses using other analysis strategies may slightly alter some path estimates in the final model. To guard against this possibility, the analyses were repeated using a variety of different analysis strategies. Because there were no appreciable differences in the results, this limitation is probably not a serious threat to the validity of these findings.

Finally, many potentially confounding variables were left unexplored or unmeasured by the current design. In particular, group differences in the interrelationships among variables may exist by gender, ethnicity, and type of institution. As a result of these limitations, these findings may not generalize to other samples.

**Future Directions**

Future researchers in this area should continue to probe the limits of the general theory of crime and the explanation of deviant acts such as academic dishonesty. One need in this area is for methods that allow a more direct measure of deviant behavior. Although the current study made it possible for students to give anonymous reports of cheating, the data still suffers from the limitations of all self-reported data. In addition, the current study should be expanded to include noted demographic predictors of academic dishonesty. It would be interesting to see whether demographic predictors of academic dishonesty, such as gender and age, predict incremental variance in academic dishonesty after controlling for
attitudes. It may also be important to determine whether these relationships are similar for other populations such as high school students and students at universities in other countries.

In addition, a logical next step in this line of research is to design an intervention that targets student attitudes toward academic dishonesty and then evaluate the effectiveness of this intervention in reducing academic dishonesty. As a prelude to this initiative, it may be necessary to first examine how attitudes toward cheating develop and change over the course of an academic career. Finally, these findings should be replicated using a larger and more representative sample.

REFERENCES


APPENDIX

Scale Items

Perceived Opportunity (adapted from McCabe & Trevino, 1997)

Plagiarism and cheating on tests occur frequently at this school.
I have personally observed another student cheating on a test many times at this school.
My closest friend would strongly disapprove if he/she found out I had cheated in a course.
A typical student at this school would strongly disapprove if he/she found out I had cheated in a course.
A typical student at this school would report someone who had cheated on a test.
The penalties for academic dishonesty at this school are severe.
The faculty understand the policies on academic dishonesty.
The faculty support the policies on academic dishonesty.
Attitude Toward Academic Dishonesty (adapted from Davis et al., 1992)

It is “wrong” to cheat.

Students should go ahead and cheat if they know they can get away with it.

Students should try to cheat even if their chances of getting away with it are very slim.

I would let another student cheat off my test if he/she asked.

Academic Dishonesty (adapted from McCabe & Trevino, 1997)

Copied material and turned it in as your own work.

Used unfair methods to learn what was on a test before it was given.

Copied a few sentences of material from a published source without giving the author credit.

Helped someone else to cheat on a test.

Collaborated on an assignment when the instructor asked for individual work.

Copied from another student during a test.

Turned in work done by someone else.

Received substantial help on an individual assignment without the instructor’s permission.

Cheated on a test in any way.

Used a textbook or notes on a test without the instructor’s permission.
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