Changing Ethical Attitudes: The Case of the Enron and ImClone Scandals*

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Objective. We analyze the process of changing ethical attitudes over time by focusing on a specific set of "natural experiments" that occurred over an 18-month period, namely, the accounting scandals that occurred involving Enron/Arthur Andersen and insider-trader allegations related to ImClone. *Methods.* Given the amount of media attention devoted to these ethical scandals, we test whether respondents in a cross-sectional sample taken over 18 months become less accepting of ethically charged vignettes dealing with "accounting tricks" and "insider trading" over time. *Results.* We find a significant and gradual decline in the acceptance of the vignettes over the 18-month period. *Conclusions.* Findings presented here may provide valuable insight into potential triggers of changing ethical attitudes. An intriguing implication of these results is that recent highly publicized ethical breaches may not be only a symptom, but also a cause of changing attitudes.

> *Once again the pendulum has returned and professional ethics are in the spotlight.*
>
> Mary Beth Armstrong (1987)

Previous empirical research attempting to identify changes in ethical attitudes has focused on the long term, generally comparing ethical attitudes between points in time spanning five or more years. Perhaps this is because past ethical scandals, like those involving the corporate raiders in the 1980s, have served as an impetus to motivate researchers to study whether egregious breaches of ethical conduct are symptoms of a long-run decline in ethical attitudes. Although these studies often find that ethical attitudes toward various business practices have changed, little inference can be drawn

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regarding the stimulus for any observed changes due to the numerous confounding events during the study window. In the current study, the public unfolding of the Enron/Andersen (Enron) and ImClone/Martha Stewart (ImClone) scandals provided a natural experiment, allowing us to not only investigate changes in ethical attitudes but also to draw inferences regarding the stimulus for any identified change. As such, findings presented here could provide valuable insight into potential triggers of changing ethical attitudes. By isolating the timeframe to the 18 months surrounding the recent scandals, we attempt to identify an associated shift in ethical attitudes. We find evidence indicating that recent highly publicized ethical breaches may be as much of a *cause* of changing attitudes as a symptom.

Research by Petty and Cacioppo (1996) may provide some insight into the relationship between changes in ethical attitudes and outside events. Their widely cited elaboration likelihood model (ELM) provides a framework in which attitudes can change over time, via two different routes. The more-enduring central route involves issue-relevant concerns, that is, logical analysis of the issue from a cognitive, rational point of view (Lazarus, 1991), while the less-enduring peripheral route involves more tangential or affective concerns (Zajonc and Markus, 1985), that is, individuals' response to their own feelings associated with the message (e.g., the ability to obtain a reward) or messenger (e.g., how attractive or authoritative they are) delivering the information. Attitude change via the peripheral route typically does not result in lasting changes in attitude but may be the most relevant insight for this current endeavor as attitudinal change may occur simply by exposing individuals to repeated information (Zajonc and Markus, 1982).

Thus far the empirical literature suggests that—at a societal level—ethical attitudes do appear to change over time, but previous attempts have been unable to clearly identify the stimulus for such change (see Brenner and Molander, 1977; Zinkhan, Bisesi, and Saxton, 1989; Harich and Curren, 1995; Farling and Winston, 2001; Emerson and Conroy, 2004). For example, Brenner and Molander (1977) find that respondents in 1976 report greater concern over honesty in communication and prejudice in hiring and less concern over firing and lay-off fairness, price discrimination, and deceptive advertising than respondents in 1961. Brenner and Molander hypothesize that these changes may be the result of higher legal standards and increased government enforcement but, due to the considerable time between surveys, are unable to draw any more conclusive inferences.

Given the constant barrage of media attention devoted to the Enron and ImClone scandals, we hypothesize that changes in ethical attitudes measured in our study may be reflective of attitudinal shifts within society that are consistent with the peripheral route in the ELM. In the cases presented in this study, perhaps as society became aware of highly publicized ethical breaches by principals associated with Enron (e.g., Andrew and Lea Fastow, etc.) and ImClone (e.g., Samuel Waksal, Martha Stewart, and Peter

Bacanovic), the public perception of the acceptability of "accounting tricks" and "insider trading" changed.[1]

The Present Study

The current endeavor attempts to improve on prior long-term studies by shortening the timeframe to 18 months in order to identify the specific timing of a change in ethical attitudes and attempt to identify the cause of any documented change. By shortening the time horizon significantly—from several years to 18 months—we decrease the number of confounding events that could potentially impact ethical attitudes and increase the probability that we do, in fact, identify the change stimulus. In doing so, our findings may assist researchers and policymakers in making predictions about changing ethical attitudes in the future.

Based on the ELM, we expect that repeated exposure from the media regarding the highly publicized scandals at Enron and ImClone may have affected ethical attitudes (i.e., via the peripheral route) about these specific issues. Not only were respondents to our survey exposed to the issues of corruption and malfeasance, but also to the consequences thereof. For example, activities by principals in both scandals resulted in legal action and prison time. Society also suffered in the form of losses to Enron employees (who lost their pensions), Enron suppliers (who failed to receive payment for services rendered), and stockholders in Enron and Martha Stewart Living Omnimedia (at least initially). The common exposure to the scandals and their consequences via media coverage and through personal experiences, as with the Vietnam War (Hirschman, 1982), may serve as a public catalyst for changing mean societal attitudes. These changes may be the result of varied mechanisms. In the case of legal consequences to principals, changes in societal attitudes may arise as individuals realize that identified actions are illegal and as a result deem them unethical and unacceptable. In the case of societal harms, reductions in society's acceptance of identified actions may be driven by the realization that such actions cause significant harm to innocents. In either event, as society learns of the consequences from "accounting tricks" and "insider trading" it becomes less accepting of such behavior.

[1]As of this writing, ex-Enron chief financial officer, Andrew Fastow, pleaded guilty to two counts of wire and securities fraud for his role in the Enron accounting scandal. His wife, Lea Fastow (former assistant treasurer), also pleaded guilty to tax fraud. While Samuel Waksal was convicted of insider trading and fraud, Martha Stewart was found guilty of conspiracy, obstruction of justice, and two counts of lying to investigators to cover up her sale of shares of ImClone after a tip from her broker, Peter Bacanovic (also convicted on perjury, conspiracy and obstruction).

For simplicity of exposition, we are assuming that media exposure is exogenous; however, we acknowledge the possibility that, over time, ethical attitudes could also shape the types of events/issues that media deem newsworthy.

TABLE 1

Event Windows

Window	Window Dates	*N*
Pre-Enron	Survey completed between 6/1/01–10/15/01	384
Early Enron	Survey completed between 10/16/01–2/12/02	466
Post-Enron	Survey completed between 2/13/02–12/1/02	613
Pre-ImClone	Survey completed between 6/1/01–2/21/02	850
Early ImClone	Survey completed between 2/22/02–6/7/02	0
Post-ImClone	Survey completed between 6/8/02–12/1/02	613

Our survey instrument includes two vignettes that relate specifically to two of the most highly publicized ethical breaches in the past few years—those at Enron and ImClone (e.g., ''accounting tricks'' and ''insider trading''). Surveys were administered prior to the media coverage (Preevent Coverage), early in the media coverage of the event (Early Event Coverage), and after the main media coverage of the event (Postevent Coverage). Note that in the case of ImClone, no surveys were administered during the ''Early ImClone Coverage'' event window. Table 1 provides a breakdown of the specific dates for each period.[2]

As a result of sampling over media coverage periods, we are able to use these ''natural experiments'' to identify any change in ethical attitudes. To the extent that respondents in our survey were made aware of these ethical breaches and the consequences thereof (e.g., the highly publicized negative impact on employees' retirement pensions, shareholder's wealth as the stock prices plummeted, etc.), we anticipate that responses will reflect a reduced acceptance of actions described in these vignettes over time. To formalize our analysis, we test the following hypothesis.

> *Respondents will become less accepting of the ethically charged vignettes dealing with "accounting tricks" and "insider trading" over time.*[3]

We are unable to directly control for the media exposure of respondents, but it is likely that individuals in our survey were exposed to these scandals as news media reports occurred. There are several recent publications that document public awareness of and exposure to these scandals. For example, a publication (Coleman, Kreuze, and Langsam, 2004:138) analyzing the effect of recent corporate scandals on college students' perceptions of the accounting profession reports that 91.3 percent of students agreed (to varying degrees) with the following statement: ''During the last year, many companies have been involved in corporate income restatements and accounting irregula-

[2]The Lexis-Nexis database served as the source for news articles on Enron (see also Healy and Palepu, 2003) and ImClone.

[3]Technically, we attempt to reject the null hypotheses. We present the alternative hypotheses here for clarity.

rities.'' In consecutive nationally representative surveys conducted by the Pew Research Center for the People and the Press (2002), the percentage of Americans following news of the Enron collapse either ''very closely'' or ''fairly closely'' rose from 34 percent in December 2001 to 43 percent in January 2002 and then to 61 percent in February 2002. This same report suggested that opinion about ''whose interest business puts first'' changed from 1995 to 2002. In 2002, 43 percent of respondents believed business put ''top executives' interests'' first, up from only 34 percent in 1995.

Further support for the likelihood of media exposure is found in examining media-exposure rates among younger adults and frequency of media reports regarding the Enron and ImClone scandals. According to the *Statistical Abstract of the United States* (U.S. Census Bureau, 2001), 73.3 percent of 18- to 24-year-olds indicated reading the newspaper in the prior week. In addition to newspapers, many young adults cite television as a source for news, with 44.6 and 22.7 percent of adults 18 to 34 years old indicating that their primary source is broadcast television and cable news networks, respectively (Nielsen Media Research Custom Survey, 2003).

Using Lexis-Nexis, we informally surveyed the nationally distributed *Wall Street Journal* and *USA Today* as well as broadcast news (ABC, NBC, and CBS) and cable news networks (CNN and CNBC) to determine average occurrence rates of news stories featuring the scandals at Enron and ImClone. Averaging across the ''Early'' and ''Post'' Enron scandal periods, we found eight and four articles per week in the *Wall Street Journal* and *USA Today*, respectively. Parallel broadcast news (television) rates on the topic at ABC, NBC, and CBS averaged 1.0, 2.1, and 2.7 per week, respectively, during the same period. Cable television exposure on CNN and CNBC averaged 13.7 and 6.7 stories per week over the ''Early'' and ''Post'' Enron scandal periods. Further, it is interesting to note that media attention to the Enron scandal peaked during the last five weeks of the ''Early'' Enron period as the details of the story unfolded and then slowly declined over the course of the ''Post'' Enron period.

Media attention to the ImClone scandal, while at somewhat lower levels, followed a similar pattern to that for Enron. Our Lexis-Nexis search for stories on the ImClone scandal found an average of 2.5 and 0.6 articles over the ''Early'' and ''Post'' scandal periods in the *Wall Street Journal* and *USA Today*, respectively. Broadcast news (television) rates on the topic at ABC, NBC, and CBS totaled 0.8, 1.2, and 1.3 stories, respectively. Cable television news exposure on CNN and CNBC averaged 0.5 and 1.5 stories during the ''Early'' and ''Post'' ImClone scandal period.[4]

[4]We searched the Lexis-Nexis database using the key terms ''Enron'' and ''scandal'' to identify Enron stories. To identify ImClone stories, we used the key terms ''Martha Stewart'' and ''ImClone'' and then surveyed the articles to ensure that they were in fact stories about the scandal. These article searches were performed to count the number of articles during the Early and Post periods (by definition the ''Pre'' period would not have any news stories). Clearly, our choice of key terms eliminated other possibly relevant articles; however, we believe this to be a methodologically conservative approach.

The average number of weekly news stories on the scandals may seem somewhat low, but we consider the compounded likelihood that a survey respondent was exposed to a news story as opposed to the likelihood that a survey respondent read/saw any particular story. When considered from the perspective of the cumulative probability that our survey respondents were exposed to news stories on the scandals at Enron and ImClone, we feel that this probability was quite high. Further, since many of the survey respondents were college students, we expect that these scandals were discussed as part of their course work, though we have no way of knowing for certain. In sum, we conclude the following: (1) the likelihood that respondents in the sample had ever been exposed to either scandal increased over time and throughout each period, and (2) the likelihood that someone had had repeated exposure to the stories also increased over time and throughout each period.

Sample

We survey students at two southern U.S. universities (one private, religiously affiliated and the other public) from June 2001 through December 2002. A total of 1,463 students in a variety of courses at both universities were asked to participate in the cross-sectional study (participation was voluntary). Our survey instrument, described at length elsewhere (see Emerson and Conroy, 2004; Conroy and Emerson, 2004) includes 25 vignettes based largely on questionnaires designed by Longenecker, McKinney, and Moore (1989), Clark (1966), Fritzsche and Becker (1982), and Harris (1991). In the current analysis, we focus on two of the 25 vignettes that address issues similar to those in the recent scandals at Enron and ImClone, that is, "accounting tricks" and "insider trading." Respondents were asked to rank the degree to which they feel the behavior described in each vignette is ethically acceptable using a seven-point Likert-type scale (ranging from never acceptable, "1," to always acceptable, "7"). Thus, higher average scores suggest a higher degree of acceptability for the proposed vignettes.

In addition to the ethically charged vignettes, the survey instrument also included a number of demographic questions, allowing us to collect personal background information about each respondent. Prior research in this area suggests that appropriate controls should be made for gender (Borkowski and Ugras, 1998; Keller, 1988; Callahan, 1990; Peterson, Beltramini, and Kozmetsky, 1991; Smith and Oakley, 1997; Weeks et al., 1999; Conroy and Emerson, 2004), age (Arlow and Ulrich, 1980; Stevens, 1984; Miesing and Preble, 1985; Terpstra and Rozell, 1993; Borkowski and Ugras, 1998; Allmon, Page, and Roberts, 2000; Conroy and Emerson, 2004), religiosity (see Conroy and Emerson, 2004; Smith and Oakley, 1997; Miesing and Prebel, 1985), and student's major (e.g., Arlow and Ulrich, 1980; Harris, 1991).

Empirical Model

The responses regarding the acceptability of each vignette are in the form of ordered responses. As a result, our dependent variable takes on ordered integer values, which are most appropriately analyzed using ordered probit analysis since it allows us to account for the ordinal and discrete (as opposed to cardinal and continuous) nature of our data (Maddala, 1983). This type of estimation procedure provides consistent and efficient estimates of the relationship between the vignette "acceptability" responses and the individual characteristics of the respondent.

The individual characteristics of the respondents are used to explain the variation in the ordered response variable. More specifically, following Maddala (1983:47), the underlying response model is:

$$Y = \mathrm{B}'x_i + v_i \quad (i = 1, 2, \ldots, n),$$

where Y is the underlying response variable, B is a vector of parameter estimates that correspond to the vector of explanatory variables, x_i, and v_i is the residual. The independent variables include the following: dummy variables for being "male," "white," "over 23 years old," a "graduate student," having a "hi IQ" (scoring higher than 1200 on SAT or 26 on the ACT), being a "business major," having a "father [who] completed college" (father completed college or beyond), religiosity (as measured by church attendance, "attends church weekly"),[5] exposure to religion or ethics course work (religion or ethics course), and being a "private student" (respondent is from the private university). Finally, we include a control for the timing of the survey administration, that is, prior to the media coverage of the event constituting the "natural experiment" (Preevent Coverage), early in the media coverage of the event (Early Event Coverage), and after the main media coverage of the event (Postevent Coverage), where the "Event" is either the Enron or ImClone scandal.

Description of Data

Descriptive statistics for the vignettes of interest are presented in Tables 2 and 3. The text of the first vignette describes the use of legal accounting techniques to conceal potentially embarrassing financial information about a company.

> *A comptroller selected a legal method of financial reporting which concealed some embarrassing financial facts that would otherwise have become public knowledge.*

[5]Our survey instrument also elicited measures for religious affiliation, prayer/meditation frequency, and a self-reported degree of religiosity. We estimated the model using these other measures of religiosity, but find that frequency of church attendance provides the best and most consistent measure of religiosity. Estimates of the model using these other controls are available from the authors on request.

TABLE 2

Summary Statistics for Vignette Responses

Vignette	Mean Response	*SD*	*N*
Accounting tricks	3.664	1.884	1,458
Pre-Enron	4.000	1.814	384
Early-Enron	3.685	1.950	466
Post-Enron	3.436	1.845	608
Insider stock purchase	3.189	1.995	1,457
Pre-ImClone	3.431	2.025	850
Post-ImClone	2.852	1.903	607

The mean response from the entire sample (covering the entire 18-month time period) to the first vignette is 3.664 on a seven-point Likert-type scale (where 1 represents the lowest and 7 the highest level of acceptability). The mean response to the second vignette is 3.189, where the text of this vignette describes insider-trading activity of the sort in the ImClone scandal.

> *A corporate director learned that his company intended to announce a stock split and increase its dividend. On the basis of this information, he bought additional shares and then following the announcement sold them for a gain.*

These mean response levels indicate slightly below mid-point (4.0) levels of acceptability for each vignette.

Descriptive statistics for the independent variables are presented in Table 4. Slightly more than half (55.9 percent) of the sample is male, just over

TABLE 3

Response Frequency by Vignette and Period

	Frequency Across Likert-Type Scale Responses (1 = Never Acceptable, 7 = Always Acceptable)						
Vignette	1	2	3	4	5	6	7
Accounting tricks							
Pre-Enron	32 (8.3%)	60 (15.6%)	67 (17.4%)	83 (21.6%)	51 (13.3%)	41 (10.7%)	50 (13.0%)
Early-Enron	72 (15.5%)	86 (18.5%)	73 (15.7%)	78 (16.7%)	61 (13.1%)	35 (7.5%)	61 (13.1%)
Post-Enron	110 (18.1%)	118 (19.4%)	90 (14.8%)	126 (20.7%)	63 (10.4%)	53 (8.7%)	48 (7.9%)
Insider stock purchase							
Pre-ImClone	199 (23.4%)	152 (17.9%)	113 (13.3%)	119 (14.0%)	99 (11.6%)	73 (8.6%)	95 (11.2%)
Post-ImClone	227 (37.4%)	87 (14.3%)	80 (13.2%)	84 (13.8%)	54 (8.9%)	41 (6.8%)	34 (5.6%)

TABLE 4

Summary Statistics for Demographic Responses

Independent Variables	Description	Percent of Sample	*N*
Male	Dummy for male	55.9	1,450
White	Dummy for white	77.7	1,443
Over 23 yrs old	Dummy for age 24 or older	21.3	1,463
Graduate student	Dummy for graduate student	11.1	1,463
High IQ	Dummy for SAT score greater than 1200 or ACT score greater than 26	78.3	1,425
Business major	Dummy for business major	81.2	1,425
Father completed college	Dummy for respondent's father completed college or beyond	61.5	1,425
Attends church weekly	Dummy for attended church weekly or more frequently (in past year)	38.9	1,422
Religion or ethics course completed	Dummy for completing at least 1 religion or ethics course	64.1	1,354
Ethics course completed	Dummy for completing 1 or more ethics courses	42.1	1,210
Religion course completed	Dummy for completing 1 or more religion courses	49.6	1,399
Private student	Dummy for students from the private university	50.1	1,463

three-fourths (77.7 percent) are white, 21.3 percent are over 23 years old, and 11.1 percent are graduate students. We define a "hi IQ" variable as having an SAT greater than 1200 or ACT higher than 26, with approximately three-fourths of the sample (78.3 percent) fitting this description.[6] Four-fifths (81.2 percent) are business majors, and over half (61.5 percent) of respondents' fathers have at least a bachelor's degree. Religiosity as measured by church attendance (attends church weekly) indicates that 38.9 percent of respondents attended church on at least a weekly basis during the past year. Nearly two-thirds of respondents have been exposed to religion or ethics curricula at the collegiate level, having completed at least one religion or ethics course, with just under half (42.1 percent) having completed at least one ethics course or at least one religion course (49.6 percent). About half the sample (50.1 percent) is from the private university.[7]

In addition to controlling for student-level characteristics, we also control for timing of the survey administration. Data were collected during the period beginning June 1, 2001 and continuing through December 1, 2002. Within this 18-month period, both the Enron and ImClone scandals came to the public attention through the media. We define the "Pre-Enron Coverage" period in our data as running from June 1, 2001 until October 15, 2001 as no news stories regarding Enron's alleged ethical breaches occurred during this period. Media attention covering events in the Enron debacle initially surfaced during the October 16, 2001 through February 12, 2002 period and we define surveys collected during this period as "Early Enron Coverage."[8] With Enron employee Sherron Watkins's congressional testimony on February 14, 2002, the Enron scandal had received considerable media attention and was likely a part of the general public's consciousness. Data collected after this point are considered "Post-Enron" in that respondents are likely to be fully aware of the Enron scandal and its attendant accounting "schemes." A similar partitioning is created for the responses to the second vignette on ImClone (see Table 1 for the exact dates).[9] Since, in the case of ImClone, no surveys were administered during the

[6]A conversion table between SAT and ACT scores can be found at ⟨http://www.collegeboard.com/sat/cbsenior/html/stat00f.html⟩.

[7]The descriptive statistics reported are for the entire sample, which covers all event windows. The descriptive statistics within each window are largely similar across samples and to those for the entire sample. Any variation in the characteristics of the sample is, of course, controlled for through the multivariate analysis reported in the article.

[8]While admittedly somewhat arbitrary, the beginning date was selected as October 16, 2001 because Enron's disclosure in mid-October of a $35 million charge to earnings and a $1.2 billion reduction in shareholder equity was the first public indication of problems and came on the heels of CEO Jeffrey Skilling's resignation on August 14, 2001. Published reports during this period (e.g., "The Enron Debacle" from *Business Week*, November 12, 2001) began disclosing some of the accounting practices that were alleged to have occurred.

[9]While somewhat mute due to a lack of data collection during this period, we define the "Early ImClone" variable as beginning on February 22, 2002 with the congressional committee's request for seven pharmaceutical companies to turn over records regarding ImClone and CEO Samuel Waksal's return of $486,000 gained from stock sales. We define the transition into the "Post-ImClone" period with the June 7, 2002 *Wall Street Journal* article implicating "media entrepreneur" Martha Stewart in the scandal.

"Early ImClone Coverage" event window, the model for this event reduces to a comparison of "Pre-ImClone Coverage" and "Post-ImClone Coverage."

Results

As the events at Enron publicly unfolded, respondents in our investigation became considerably less accepting of the use of "accounting tricks" to hide embarrassing financial information of a corporation. Compared to the "Pre-Enron Coverage" (reference) period, respondents were significantly more likely to find such accounting methods unacceptable during the "Early Enron Coverage" phase and even more likely to find them unacceptable after the media coverage had fully exposed the scandal ("Post-Enron Coverage") (Table 5). This was true not only in terms of significance but

TABLE 5

Ordered Probit Analysis of Acceptability of "Accounting Tricks" (Vignette 1) and Survey Timing (with Demographic Controls)

	Characteristics of Respondents	
Timing of survey collection	Early Enron coverage	−0.194**
		(0.077)
	Post-Enron coverage	−0.401***
		(0.076)
Individual characteristics	Male	0.242***
		(0.059)
	White	0.188***
		(0.072)
	Over 23 yrs old	−0.066
		(0.093)
	Graduate student	−0.236**
		(0.116)
	High IQ	0.105
		(0.071)
	Business major	0.028
		(0.079)
	Father completed college	−0.038
		(0.062)
	Attends church weekly	−0.175***
		(0.062)
	Religion or ethics course	−0.172***
		(0.065)
	Private student	−0.013
		(0.071)
	Log likelihood	−2423
	Observations	1,286

***Denotes significance at 1%; **at 5%; *at 10% levels. Standard errors in parentheses.

TABLE 6

Ordered Probit Analysis of Acceptability of "Insider-Trading" (Vignette 2) and Survey Timing (with Demographic Controls)

	Characteristics of Respondents	
Timing of survey collection	Post-ImClone coverage	−0.468***
		(0.065)
Individual characteristics	Male	0.011
		(0.060)
	White	−0.068
		(0.073)
	Over 23 yrs old	−0.440***
		(0.097)
	Graduate student	−0.334***
		(0.123)
	High IQ	−0.038
		(0.072)
	Business major	−0.098
		(0.081)
	Father completed college	−0.086
		(0.064)
	Attends church weekly	−0.116*
		(0.063)
	Religion or ethics course	−0.219**
		(0.067)
	Private student	0.099
		(0.072)
	Log likelihood	−2308
	Observations	1,282

***Denotes significance at 1%; **at 5%; *at 10% levels. Standard errors in parentheses.

also magnitude (i.e., the coefficient for the "Post-Enron Coverage" effect was −0.401 vs. −0.194 for the "Early Enron Coverage" dummy). Insider trading also was considered significantly less acceptable after media coverage had fully exposed the events at ImClone (i.e., the coefficient for "Post-ImClone Coverage" was −0.468) (Table 6). Perhaps repeated exposure to the negative implications of these actions (Petty and Cacioppo, 1996) caused a shift in attitudes among respondents in our sample.

Results on our other explanatory variables are generally consistent with previous investigations. Males were more likely to find the use of "accounting tricks" acceptable, though this was not significant for the "insider-trading" vignette. Whites were also more likely to find the use of "accounting tricks" more acceptable than nonwhites. Older respondents were less likely to find the activities described in the "insider-trading" vignette acceptable. Graduate students, respondents who attended church weekly, and those who had completed a religion or ethics course were all less

likely to find the use of ''accounting tricks'' and ''insider trading'' to be acceptable. Finally, there was no significant difference in ethical attitudes based on measures of intelligence, major, father's educational attainment, or the respondent's university.

Conclusion

In this investigation we address the process of changing attitudes about ethically charged vignettes by narrowing the timeframe for analysis to 18 months. Specifically, taking advantage of a ''natural experiment,'' we test whether ethical attitudes changed within this 18-month period and attempt to identify the stimulus for any documented change. Previous empirical evidence of ethical cycles has been somewhat ambiguous (e.g., covering very long time spans and with conflicting evidence regarding the direction of change) and inconclusive about causality. This current endeavor has been a first step toward addressing this gap in the literature by (1) focusing on a relatively short timeframe (18 months) and (2) superimposing the survey dates onto a timeframe in which society, through mass media coverage, became aware of recent corporate scandals. Prior research has suggested that media attention may influence attitudes, especially through Petty and Cacioppo's (1996) ''peripheral route,'' that is, from salient exposure and repetition (Zajonc and Markus, 1982), or perhaps through information gained about the consequences of ethical breaches through the cognitive, ''central route.''

Given the circumstances of this ''natural experiment,'' we selected two vignettes that dealt directly with two of the major types of business ethics infractions that became public over the sampling timeframe: an ''accounting tricks'' and an ''insider-trader'' vignette, and used them to test whether ethical attitudes changed. Results presented here suggest that ethical attitudes changed significantly over the 18-month study period and where we had sufficient data, we noted a gradual change in terms of both significance and magnitude of the shift in attitudes. Although there are, of course, alternative explanations for the causes of these shifts in attitudes, we feel that these results are supportive of the theory that awareness of ethical infractions had an effect on the attitudes of respondents in our surveys.

Although results presented here are encouraging, we emphasize that the reader should be aware of some caveats regarding their interpretation. First, since we used cross-sectional, not panel, data, it is possible that these changes are due to compositional effects or some other artifact of the sampling methodology not controlled for here. Thus, these results should be used to motivate future research endeavors that attempt to improve on our work. Of course, since this was a ''natural experiment,'' we were unable to anticipate all the events that would occur. Second, while this investigation improves on previous endeavors by narrowing the timeframe and hence the number of

causal factors that may potentially affect attitudes, we were unable to monitor the respondents' access to media. As such, our assumption about the link between greater media coverage and individual knowledge about the scandals remains just that. We leave it for future endeavors to improve on our specification. Nevertheless, we believe that these results provide an important first step in that process. Third, we have not been able to account for possible social desirability or "halo effects" (see Cohen, Pant, and Sharp, 1996); however, there is no reason to believe that such would have influenced our results.

The current work also raises a number of questions. For example, we argue that respondents experienced changes in ethical perceptions as a result of their awareness of the events surrounding the Enron and ImClone scandals. We believe it would be of interest to know the exact mechanism that leads to the measured changes. That is, did perceptions change as a result of learning what the misdeeds were (i.e., what insider trading is) or how they affect individuals and society? Or perhaps the changes were propagated as individuals' perceptions were brought in line with public opinion in a Kohlberg moral development sense. Perhaps some other mechanism is at work. To answer this question, research in both the theoretical and empirical areas of business ethics is needed.

Additional questions also arise regarding the nature of ethical attitude changes over time. We provide evidence suggesting that the Enron and ImClone scandals served as a stimulus for a decline in the acceptability of questionable accounting practices and insider trading. Is the observed change transient (as would be suggested by the peripheral route of the ELM) or permanent (which would be consistent with the central route)? Further, while there seems to be a tendency to view these scandals as a symptom and culmination of declining ethical attitudes that accepted increasingly higher levels of questionable behavior, these scandals may in fact be both—a symptom and stimulus. If so, then such a result would suggest that ethical cycles arise over time and that scandals like those studied here occur at troughs in the cyclical pattern. Future research is needed to test whether cycles occur and whether this particular change is part of such a cyclical pattern.

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