ABSTRACT. We survey students at two Southern United States universities (one public and one private, religiously affiliated). Using a survey instrument that includes 25 vignettes, we test two important hypotheses: whether ethical attitudes are affected by religiosity (H1) and whether ethical attitudes are affected by courses in ethics, religion or theology (H2). Using a definition of religiosity based on behavior (church attendance), our results indicate that religiosity is a statistically significant predictor of responses in a number of ethical scenarios. In seven of the eight vignettes for which religiosity is significant, the effect is negative, implying that it reduces the “acceptability” of ethically-charged scenarios. Completion of ethics or religion classes, however, was a significant predictor of ethical attitudes in only two of the 25 vignettes (and in the expected direction). We also find that males and younger respondents appear to be more accepting of the ethically-questionable vignettes. We conclude that factors outside of the educational system may be more influential in shaping responses to ethical vignettes than are ethics and religion courses.

KEY WORDS: age, gender, predictors of ethical behavior, religiosity, teaching business ethics

The bankruptcy of Enron is not a garden variety business failure. It is a bankruptcy framed by very serious questions about the behavior of officers, directors, and the accounting firm that audited the corporation’s books. . . . It appears to me that this company developed a culture of corporate corruption that consistently challenged and bent the rules, and manipulated financial information to hide debts and booked profits that did not exist. . . . The integrity of our free-market economic system is seriously challenged by what went on here. – U.S. Senator Byron Dorgan (February 12, 2002)

Introduction

The area of business ethics has received considerable attention from the corporate, academic, and public sectors over the past several decades. Most recently, the alleged behavior at Enron and Arthur Andersen (including shredding of subpoenaed documents and falsification of financial documents) as well as other highly publicized scandals (e.g., WorldCom) have come under close scrutiny and again brought the topic of business ethics to the public’s attention. As these scandals make all too clear, unethical behavior is costly to firms, their employees, and their investors. In survey after survey, business leaders acknowledge...
that they feel business students should be exposed to business ethics, prompting the Association to Advance Collegiate Schools of Business (AACSB) in 1974 to include “ethical considerations” in its body of required knowledge.

While there exists general agreement on the value of addressing business ethics, no such consensus exists as to the most appropriate and effective means by which this can be accomplished. In our current study we extend previous work analyzing the roles of religiosity and ethics curricula in affecting students’ ethical attitudes. We test two hypotheses: whether religiosity affects ethical attitudes (H1) and whether ethical attitudes are affected by courses in ethics, religion or theology (H2). We find that religiosity is significantly correlated with ethical perceptions, but that completing religion or ethics courses is not. Our findings suggest that religiosity is a more significant predictor of students’ ethics than is exposure to ethics curricula.

Background

Religiosity effects

The role that religiosity plays in affecting ethical attitudes is well documented. Both in area-specific studies, including student cheating (Allmon et al., 2000; Barnett et al., 1996), insider trading (Terpstra et al., 1993), environmentalism (Wolkomir et al., 1997), and in broader studies (Siu et al., 2000; Smith and Oakley, 1996; and Miesing and Preble, 1985), the degree of religiosity is generally associated with higher ethical attitudes.

In attempting to explain why religion may affect moral attitudes, researchers have turned to Kohlberg’s (1981) stage development theory as a basis. Even though he argues strongly that religious and moral judgments are separate, Kohlberg (1981, p. 336) admits there are parallels:

. . . religion is a conscious response to, and an expression of, the quest for the ultimate meaning for moral judging and acting. As such, the main function of religion is not to supply moral prescriptions but to support moral judgment and action as purposeful human activities. If this is true, it implies that a given stage of solutions to moral problems is necessary, but not sufficient, for a parallel stage of solutions of religious problems.

Further, Kohlberg (1981, p. 345) argues that religion helps to answer the Why be moral? question, which he maintains is related to the existential question, Why live? Though not a necessary condition, Kohlberg (1981, p. 345) maintains the “union with God” experience found in religion may provide a suitable opportunity to find the answer to these and other existential questions. Further, this experience may provide a motivation to incorporate the universal ethical principles and, hence, aid in progression to Stage 6.

Recent research in the context of business ethics points to the fact that the major monotheistic religions contain universal moral tenets, such as the Ten Commandments as applied to Christianity, Judaism, and Islam (Ali et al., 2000), as well as other Biblical traditions that provide instructive moral guidance (Friedman, 2000). O’Leary and Radich (2001) find that students who fear getting caught have a significantly lower willingness to act unethically. We offer the following extension of their findings: perhaps believers in God are less willing to act unethically because they believe that an omniscient God will “catch” them in the act – or by extension, know their unethical thoughts or attitudes. This may in fact be what economist Adam Smith (1976, p. 273) had in mind in his landmark treatise, The Theory of Moral Sentiments, in which he states:

. . . And thus religion, even in its rudest form, gave a sanction to the rules of morality, long before the age of artificial reasoning and philosophy. That the terrors of religion should thus enforce the natural sense of duty, was too much importance to the happiness of mankind to leave it dependent upon the slowness and uncertainty of philosophical researches (emphasis added).

Smith (p. 281) goes on to say:

. . . The regard to the propriety of action, as well as to reputation; the regard to the applause of his own breast, as well as to that of others; are motives
which, they suppose, have the same influence over
the religious man as over the man of the world.
But the former lies under another restraint, and
never acts deliberately but as in the presence of that
great Superior who is finally to recompense him
according to his deeds.

Whatever the theoretical underpinnings, the
empirical findings linking religiosity and ethics
have prompted recent calls for incorporation of
“religious traditions” into business ethics cur-
rricula (Koys, 2001; Calkins, 2000), or a reexam-
ination of common spiritual ideals among world
religions (Jackson, 1999). Since today’s college
and university students are tomorrow’s business
leaders, we set out to test whether religiosity
influences ethical attitudes – across a variety of
scenarios and controlling for several important
background factors. Thus, we propose the fol-
lowing null hypothesis of the effect of religiosity
on ethical attitudes:

H1: Ethical attitudes are unaffected by
religiosity.

Teaching business ethics
In contrast to the relatively consistent findings on
the role of religiosity in predicting ethical atti-
dudes, there still exists considerable debate as to
whether teaching business ethics to undergradu-
ates can change ethical attitudes. From a theo-
retical perspective, Kohlberg’s (1981) “stage
theory” presents a dynamic view of the moral
development process. Implicit in this model is a
potential role for education to influence moral
development. However, attempts to test the
effectiveness of ethics courses on this process have
been mixed. Using the Defining Issues Test
developed by Rest et al. (1974) on 261 under-
graduates, Boyd (1981, p. 29) finds that a
Business and Society course can “significantly
accelerate the rate of moral development of some
college students . . .”. Similarly, Glenn (1992,
p. 219) uses a test comprised of 53 questions and
finds that for 13 of these questions, students who
took a Business and Society course “showed
more movement toward ‘more ethical’ responses
than did the controls.” Loe and Weeks (2000)
find improvements in sales students’ moral rea-
soning after attending a training class. Green and
Weber (1997), using a sample of 112 accounting
and non-accounting majors, find that teaching an
auditing course emphasizing the AICPA code of
conduct has a positive impact on measured
ethical outcomes. Others have suggested that
pedagogical methods can significantly alter ethical
attitudes – whether through on-site visits to
corporations (Jones and Ottaway, 2001), com-
munity service learning experiences (Weber and
Glyptis, 2000), or a specific, organized process of
instruction (Sims, 2002).

Several other investigations have cast doubt on
these findings, however, concluding that the
effects of ethics classes are limited (Duizend and
McCann, 1998; Harris, 1991; Roberts and
Allmon, 2000), short-lived (Arlow and Ulrich,
1985; Weber, 1990), or insignificant (Borkowski
and Ugras, 1992; Martin, 1981; Smith and
Oakley, 1996; Wynd and Mager, 1989; Miller
and Miller, 1976). In sum, we believe the effect
of ethics classes on ethical attitudes remains an
open research question. Thus, we investigate the
relationship between ethics course work and
respondents’ degree of acceptance of ethically
questionable situations. The following null
hypothesis is offered:

H2: Ethical attitudes are unaffected by courses
in ethics, religion, or theology.

Age and gender effects
In addition to an individual’s religiosity and
exposure to ethics through course work, other
individual characteristics may influence ethical
behavior and perceptions. In a meta-analysis of
47 investigations, Borkowski and Ugras (1998)
conclude that female and older students exhibit
“stronger ethical attitudes” than their respective
counterparts. (Anecdotally, the main “whistle
blowers” at Enron, Sherron Watkins, and
WorldCom, Cynthia Cooper, were women.)
Smith and Oakley (1997) investigate the “gender
effect” further and find that while it holds for
dilemmas relating to personal and social rela-
tionships, it is not significant for ethical decisions
involving legal (vs. illegal) issues or “rules-based obligations.” Smith and Oakley (1997, p. 43) point to Derry’s (1987, 1989) work in which observed gender differences are hypothesized to be “context specific” and to similar findings by Callahan (1990) and Keller (1988) in which “men and women make moral judgments in distinct ways.”

With regard to age effects, findings by Emerson and Conroy (forthcoming), Allmon et al. (2000), Terpstra et al. (1993), and Miesing and Preble (1985) support the meta-analysis findings that older students exhibit more ethical inclinations. In similar analyses, Stevens (1984) and Arlow and Ulrich (1980) find younger business students exhibit lower ethical standards than older business executives. These findings may support Kohlberg’s (1981) stages of moral development model, which implies a potential moral maturation over the lifecycle, holding all else equal. To accurately estimate the effect of religiosity and course work on individuals’ business ethics perceptions, we control for a variety of individual characteristics including gender and age.

The present study

We build upon and extend previous attempts to analyze the roles of religiosity and ethics curricula in affecting ethical attitudes. First, we improve upon the sampling frame by including a relatively large sample (our sample of 850 exceeds all but 4 of the 56 samples listed in the Borkowski and Ugras meta-analysis, 1998) and data from two different universities (one private and religiously affiliated, the other public). Second, we include a relatively large number of vignettes (25 in all), based on those from several other published investigations. In adopting vignettes from previously validated instruments, we increase the reliability of our results and the consistency of our approach in line with that used in the empirical business ethics literature. Further, the twenty-five vignettes address a variety of ethically questionable situations providing opportunities for analysis on a number of dimensions (e.g., legal vs. illegal, physical vs. non-physical harm, etc.). Finally, we include several different measures of religiosity (religious affiliation, church attendance, prayer/meditation frequency, and a self-reported degree of “religiosity”) as well as religion and ethics course completion.

Sample

In our current study, we survey students at two Southern United States universities (one private, religiously affiliated and the other public). Students in a variety of courses at both universities were recruited to participate in the study. Our survey instrument includes 25 vignettes based largely on questionnaires designed by Longenecker et al. (1989), Clark (1966), Fritzsche and Becker (1982), and Harris (1991). The vignettes cover a variety of ethical dimensions including environmental, accounting, and marketing ethics, gender discrimination, equal opportunities, bribery, and ethical codes of conduct. 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 scale (ranging from never acceptable, “1,” to always acceptable, “7”). Thus, higher average scores suggest a higher degree of acceptability for the proposed vignettes. (A full list of vignettes is included in the Appendix.) The instrument also included a number of demographic questions that provide personal background information about each respondent. There are 850 observations in the total sample (see Table III for the specific sample size for each vignette).

Empirical model

Our survey elicits ordered responses with regard to the acceptability of the vignettes, with respondents “rating” the acceptability of each vignette. As a result, our dependent variable takes on ordered integer values. By using an ordered probit for our analysis we account for the ordinal and discrete (as opposed to cardinal and continuous) nature of our data. 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 independent variables used to explain the variation in the ordered response variable are the demographic variables included at the end of the questionnaire. More specifically, following Maddala (1983, p. 47), the underlying response model is:

\[ Y = \mathbf{B}'\mathbf{x}_i + \nu_i \quad (i = 1, 2, \ldots, n) \]

where \( Y \) is the underlying response variable, \( \mathbf{B} \) is a vector of parameter estimates that correspond to the vector of explanatory variables, \( \mathbf{x}_i \), and \( \nu_i \) is the residual. The independent variables include the following: dummy variables for being “male,” “white,” “over 23 yrs 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), and being a “Baylor student” (respondent is a Baylor student).

We conduct estimations controlling for several “religiosity” variables (religious affiliation, church attendance, prayer/meditation frequency, and a self-reported degree of religiosity) with varying results. Our measure of respondents’ frequency of church attendance provides the best and most consistent measure of religiosity, and is thus our control variable of primary interest.2 We also control for the completion of religion and ethics courses by respondents. In the interest of space, only results for “religion or ethics course” (completing at least one religion or ethics course) are reported in the tables. We perform similar estimations controlling individually for the number of religion or ethics courses completed with similar results.3

Description of data

Descriptive statistics for each of the 25 vignettes are presented in Table I. The weighted mean for all 25 vignettes is 2.95, which is considerably lower than a uniformly distributed hypothetical mean of 4.0 (see Miesing and Preble, p. 470). Only one of the vignettes, “S” (computer firm donates obsolete computers for tax credit) has a mean response score significantly greater than 4.0 or higher (at the 5% level of statistical significance). This implies that this vignette appears to have the highest average level of acceptability.

Four vignettes have mean response scores of less than 2.0 (at the 5% level of statistical significance). The lowest of these is for vignette “Q,” with a mean score for the sample of 1.52. Perhaps this is because it contains two controversial components – one which is clearly illegal (rolling-back odometers of used cars) and the other which is legally ambiguous (increase high-pressure sales tactics) since “high-pressure” could be interpreted by respondents as including misrepresentation of facts. The illegality described in vignette “Q,” however, is not likely what is driving down the responses (other vignettes describing illegal behavior had relatively high mean responses – vignettes “E,” “G,” “I,” “N,” and “P” have responses statistically greater than 3.0 at the 5% level). Rather, we suggest the responses to this vignette may be driven by the ease with which respondents may identify with the “victims” of behavior depicted in vignette “Q.”

Descriptive statistics for the independent variables used in the ordered probit estimation are presented in Table II. Slightly more than half (55.3%) of the sample is male, just over three-fourths (76.1%) are white, 22.9% are age 24 or older, and 10.9% are graduate students. We define a “hi IQ” variable as having an SAT greater than 1200 or ACT higher than 26, with approximately two-fifths (40.3%) fitting this description. Four-fifths (80%) are business majors, and over half (60.8%) of respondents’ fathers completed college or some higher level of education. The variable of interest, “attends church weekly,” indicates that 35.7% report having attended church on at least a weekly basis during the past year. Nearly three-quarters of respondents have completed at least one religion or ethics course (at the collegiate level), with slightly more than one-fourth (28.8 percent) having completed at least one ethics course and 63.1 percent having completed at least one religion course. Nearly half of the sample (48.2 percent) are Baylor students.
Results

Estimation results for each of the 25 vignettes are presented in Table III. Our proxy variable for religiosity, “attends church weekly,” is statistically significant (at the 10% level) and negative in seven of the 25 vignettes, implying that frequent church attendance significantly reduces the acceptability level associated with these vignettes. There is one vignette in which the effect is positive. Vignette “M” presents a situation in which a male candidate is hired over a female who is equally qualified since the employer thinks the employees may “resent being supervised by a female.” This result potentially follows from the paternalistic history of the Judeo-Christian Church – including a preponderance of males in leadership positions. Or perhaps religiosity is correlated with a third variable, e.g., “traditional values,” that is not being controlled for in this analysis (Wolkomir et al., 1997). In sum, these results suggest that we may reject H1, that there is no effect of religiosity – at least for eight of the 25 vignettes (seven of which suggest that religiosity increases one’s ethical attitudes).

The impact of having completed an ethics or religion course is far weaker than that of religiosity. In only two of the vignettes (“I” and “W”) do we find any statistically significant effect (at the 10% level). Taking an ethics or religion course is correlated with a reduced level of acceptability of insider trading (“I”) and cutting costs by altering the design of a child safety seat that results in slightly higher risk of injury to children (“W”). Since the “physical harm” in...
vignette “W” is somewhat subtle, namely the action does not imply the harmful result with certainty, students who have taken courses in religion or ethics may be more sensitive to the ethical implications (Gautschi and Jones, 1998). The correlation between lower acceptability of insider trading and completing an ethics or religion course is less easily explained. While insider trading is clearly illegal and results in financial harm to others, eight of the other vignettes (“A,” “D,” “E,” “G,” “M,” “N,” “P,” and “Q”) also present illegal behavior that causes financial harm, but no such relationship exists between course work and responses to these vignettes. Given the limited effect of course completion, we find that taking a religion or ethics course does not have a significant effect on students’ ethical attitudes and we fail to reject the null hypothesis (H2) for all but two of the vignettes.

Findings on age and gender controls are consistent with the literature. Males consistently found the ethically questionable situations presented in the vignettes more acceptable. In 19 of the 25 vignettes – by far the highest proportion for all explanatory variables – the effect of being male is positive and statistically significant at the 5% level. As a result, we conclude that gender does affect ethical attitudes – at least for 19 of the 25 vignettes. The effect of age is also apparent from our results. In 11 of the 25 vignettes, the effect of being older is statistically significant at the 10% level. In each of these vignettes, older age is associated with lower levels of acceptability of the vignettes. These findings are also consistent with other published reports (Emerson and Conroy, forthcoming; Borkowski and Ugras, 1998; Smith and Oakley, 1997; Callahan, 1990; Keller, 1988). We conclude that age, like gender, is a significant predictor of ethical perceptions. Further, we find that certain subgroups of populations respond differently.

### TABLE II
Summary statistics of demographic responses

<table>
<thead>
<tr>
<th>Independent variables</th>
<th>Description</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>No. of responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Dummy for male</td>
<td>0.553</td>
<td>0.497</td>
<td>846</td>
</tr>
<tr>
<td>White</td>
<td>Dummy for white</td>
<td>0.761</td>
<td>0.427</td>
<td>844</td>
</tr>
<tr>
<td>Over 23 yrs old</td>
<td>Dummy for age 24 or older</td>
<td>0.229</td>
<td>0.421</td>
<td>850</td>
</tr>
<tr>
<td>Graduate student</td>
<td>Dummy for graduate student</td>
<td>0.109</td>
<td>0.312</td>
<td>844</td>
</tr>
<tr>
<td>High IQ</td>
<td>Dummy for SAT score greater than 1200 or ACT score greater than 26</td>
<td>0.403</td>
<td>0.491</td>
<td>747</td>
</tr>
<tr>
<td>Business major</td>
<td>Dummy for business major</td>
<td>0.800</td>
<td>0.399</td>
<td>832</td>
</tr>
<tr>
<td>Father completed college</td>
<td>Dummy for respondent’s father completed college or beyond</td>
<td>0.608</td>
<td>0.488</td>
<td>850</td>
</tr>
<tr>
<td>Attends church weekly</td>
<td>Dummy for attended church weekly or more frequently (in past year)</td>
<td>0.357</td>
<td>0.479</td>
<td>832</td>
</tr>
<tr>
<td>Religion or ethics course completed</td>
<td>Dummy for completing at least 1 religion or ethics course</td>
<td>0.743</td>
<td>0.437</td>
<td>832</td>
</tr>
<tr>
<td>Ethics course completed</td>
<td>Dummy for completing 1 or more ethics courses</td>
<td>0.288</td>
<td>0.453</td>
<td>525</td>
</tr>
<tr>
<td>Religion course completed</td>
<td>Dummy for completing 1 or more religion courses</td>
<td>0.631</td>
<td>0.483</td>
<td>818</td>
</tr>
<tr>
<td>Baylor student</td>
<td>Dummy for Baylor students</td>
<td>0.482</td>
<td>0.500</td>
<td>850</td>
</tr>
</tbody>
</table>
### TABLE III
Relationship between “acceptability” of vignettes and demographic characteristics

<table>
<thead>
<tr>
<th>Characteristics of respondents</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0.283*</td>
<td>0.445*</td>
<td>0.067</td>
<td>0.333</td>
<td>0.355*</td>
<td>0.389*</td>
<td>0.051</td>
<td>0.333*</td>
<td>-0.023</td>
<td>0.448*</td>
<td>0.364*</td>
<td>0.156*</td>
<td>0.985*</td>
</tr>
<tr>
<td>White</td>
<td>-0.066</td>
<td>0.066</td>
<td>0.324*</td>
<td>-0.072</td>
<td>0.076</td>
<td>0.045</td>
<td>0.005</td>
<td>0.130</td>
<td>0.056</td>
<td>0.254*</td>
<td>0.277*</td>
<td>0.168*</td>
<td>0.306*</td>
</tr>
<tr>
<td>Over 23 yrs old</td>
<td>-0.252*</td>
<td>0.031</td>
<td>-0.291*</td>
<td>-0.167</td>
<td>-0.294</td>
<td>-0.178</td>
<td>-0.424*</td>
<td>-0.255*</td>
<td>-0.605*</td>
<td>-0.384</td>
<td>0.031</td>
<td>-0.150</td>
<td>0.170</td>
</tr>
<tr>
<td>Graduate student</td>
<td>-0.203</td>
<td>-0.326*</td>
<td>-0.082</td>
<td>-0.211</td>
<td>-0.176</td>
<td>0.007</td>
<td>-0.252</td>
<td>-0.275*</td>
<td>-0.359*</td>
<td>-0.071</td>
<td>-0.083</td>
<td>0.205</td>
<td>0.126</td>
</tr>
<tr>
<td>High IQ</td>
<td>-0.183*</td>
<td>0.037</td>
<td>0.030</td>
<td>0.236*</td>
<td>-0.023</td>
<td>-0.170</td>
<td>-0.022</td>
<td>-0.104</td>
<td>-0.086</td>
<td>0.086</td>
<td>0.134</td>
<td>0.159*</td>
<td>0.093</td>
</tr>
<tr>
<td>Business major</td>
<td>-0.067</td>
<td>0.249*</td>
<td>0.031</td>
<td>-0.033</td>
<td>0.007</td>
<td>0.009</td>
<td>-0.270*</td>
<td>-0.047</td>
<td>-0.128</td>
<td>0.061</td>
<td>-0.007</td>
<td>0.091</td>
<td>-0.012</td>
</tr>
<tr>
<td>Father completed college</td>
<td>0.148*</td>
<td>0.121</td>
<td>0.043</td>
<td>0.039</td>
<td>-0.089</td>
<td>0.103</td>
<td>0.168*</td>
<td>0.061</td>
<td>-0.044</td>
<td>0.134</td>
<td>0.057</td>
<td>-0.002</td>
<td>0.107</td>
</tr>
<tr>
<td>Attends church weekly</td>
<td>-0.125</td>
<td>-0.072</td>
<td>-0.053</td>
<td>-0.396*</td>
<td>-0.243*</td>
<td>-0.056</td>
<td>-0.033</td>
<td>-0.197*</td>
<td>0.022</td>
<td>0.023</td>
<td>-0.097</td>
<td>-0.204*</td>
<td>0.160*</td>
</tr>
<tr>
<td>Religion or ethics course</td>
<td>-0.031</td>
<td>-0.029</td>
<td>-0.158</td>
<td>-0.099</td>
<td>-0.039</td>
<td>0.010</td>
<td>-0.016</td>
<td>-0.070</td>
<td>-0.164*</td>
<td>-0.009</td>
<td>0.056</td>
<td>-0.147</td>
<td>-0.012</td>
</tr>
<tr>
<td>Baylor student</td>
<td>-0.096</td>
<td>0.005</td>
<td>-0.133</td>
<td>-0.167</td>
<td>0.099</td>
<td>0.014</td>
<td>0.076</td>
<td>0.176*</td>
<td>0.039</td>
<td>0.005</td>
<td>-0.172</td>
<td>0.084</td>
<td>0.096</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1158</td>
<td>-797</td>
<td>-993</td>
<td>-960</td>
<td>0.135</td>
<td>-1378</td>
<td>-1352</td>
<td>-1327</td>
<td>-1367</td>
<td>-1278</td>
<td>-810</td>
<td>-1392</td>
<td>-1068</td>
</tr>
<tr>
<td>N</td>
<td>722</td>
<td>732</td>
<td>731</td>
<td>731</td>
<td>728</td>
<td>732</td>
<td>728</td>
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<table>
<thead>
<tr>
<th><strong>N</strong></th>
<th><strong>O</strong></th>
<th><strong>P</strong></th>
<th><strong>Q</strong></th>
<th><strong>R</strong></th>
<th><strong>S</strong></th>
<th><strong>T</strong></th>
<th><strong>U</strong></th>
<th><strong>V</strong></th>
<th><strong>W</strong></th>
<th><strong>X</strong></th>
<th><strong>Y</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0.468*</td>
<td>0.357*</td>
<td>0.087</td>
<td>0.411*</td>
<td>0.030</td>
<td>0.227*</td>
<td>0.452*</td>
<td>0.538*</td>
<td>0.187*</td>
<td>0.150*</td>
<td>0.345*</td>
<td>0.379*</td>
</tr>
<tr>
<td><strong>White</strong></td>
<td>0.006</td>
<td>0.003</td>
<td>-0.044</td>
<td>-0.284*</td>
<td>0.256*</td>
<td>0.023</td>
<td>0.133</td>
<td>0.116</td>
<td>0.048</td>
<td>0.263*</td>
<td>0.090</td>
</tr>
<tr>
<td>Over 23 yrs old</td>
<td>-0.118</td>
<td>-0.410*</td>
<td>-0.264*</td>
<td>-0.249</td>
<td>-0.300*</td>
<td>0.010</td>
<td>-0.480*</td>
<td>-0.342*</td>
<td>0.034</td>
<td>-0.251*</td>
<td>0.071</td>
</tr>
<tr>
<td>Graduate student</td>
<td>0.002</td>
<td>0.219</td>
<td>-0.469*</td>
<td>-0.500*</td>
<td>-0.116</td>
<td>0.443*</td>
<td>-0.171</td>
<td>-0.108</td>
<td>0.619*</td>
<td>0.298*</td>
<td>0.490*</td>
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<tr>
<td>High IQ</td>
<td>0.027</td>
<td>-0.270*</td>
<td>0.012</td>
<td>-0.059</td>
<td>-0.066</td>
<td>0.256*</td>
<td>-0.091</td>
<td>0.055</td>
<td>0.081</td>
<td>0.260*</td>
<td>0.313*</td>
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<tr>
<td>Business major</td>
<td>0.186*</td>
<td>-0.122</td>
<td>0.111</td>
<td>-0.022</td>
<td>0.158</td>
<td>-0.116</td>
<td>-0.004</td>
<td>0.082</td>
<td>0.026</td>
<td>0.126</td>
<td>0.094</td>
</tr>
<tr>
<td>Father completed college</td>
<td>0.123</td>
<td>0.034</td>
<td>0.139*</td>
<td>0.151</td>
<td>0.196*</td>
<td>0.131</td>
<td>0.059</td>
<td>0.103</td>
<td>0.162*</td>
<td>0.096</td>
<td>-0.092</td>
</tr>
<tr>
<td>Attends church weekly</td>
<td>-0.131*</td>
<td>-0.016</td>
<td>-0.339*</td>
<td>-0.016</td>
<td>-0.126</td>
<td>-0.111</td>
<td>-0.027</td>
<td>-0.294*</td>
<td>0.083</td>
<td>0.061</td>
<td>-0.106</td>
</tr>
<tr>
<td>Religion or ethics course</td>
<td>-0.024</td>
<td>-0.059</td>
<td>0.049</td>
<td>-0.068</td>
<td>-0.072</td>
<td>0.047</td>
<td>-0.019</td>
<td>-0.067</td>
<td>0.088</td>
<td>-0.229*</td>
<td>-0.002</td>
</tr>
<tr>
<td>Baylor student</td>
<td>-0.045</td>
<td>-0.030</td>
<td>-0.178</td>
<td>-0.054</td>
<td>-0.003</td>
<td>0.039</td>
<td>0.011</td>
<td>-0.052</td>
<td>-0.169*</td>
<td>-0.039</td>
<td>0.246*</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-1358</td>
<td>-1077</td>
<td>-1379</td>
<td>-669</td>
<td>-1263</td>
<td>-1185</td>
<td>-1167</td>
<td>-1109</td>
<td>-1302</td>
<td>-929</td>
<td>-1372</td>
</tr>
<tr>
<td>N</td>
<td>732</td>
<td>731</td>
<td>728</td>
<td>731</td>
<td>730</td>
<td>731</td>
<td>730</td>
<td>731</td>
<td>727</td>
<td>729</td>
<td>729</td>
</tr>
</tbody>
</table>

Key: ** Denotes significance at 5% and * at 10% levels.
from their larger group. For example, older males tended to find the ethically questionable vignettes less acceptable than younger males (for 11 of the 25 vignettes).

Other significant findings that bear mentioning are that being white (eight out of 25) and having a father with at least a college degree (five out of 25) are associated with increased ethical “acceptability” in several of the vignettes. Perhaps these results reflect a difference in life experiences that shape ethical perceptions. The “graduate student effect” is mixed, with five positive and five negative effects for the 25 estimates. The effect of higher intelligence (proxied by ACT and SAT scores, “hi IQ”) is also mixed with six positive and two negative effects for the 25 vignettes. Unlike other results in the literature we do not find a significant relationship between ethical perceptions and being a business major. Business majors only had significantly different responses for four of the twenty-five vignettes (three positive correlations and one negative). Finally, responses varied by university for three of the 25 vignettes.

Conclusion

The impact of religiosity on ethical attitudes is fairly robust in the literature. However, most prior investigations have relied upon small sample sizes and/or very specific tests. Using a relatively large sample that includes graduate and undergraduate students from two universities and controlling for individual characteristics, we test the impact of religiosity as measured by frequency of church attendance on a total of 25 separate vignettes on a variety of ethical dimensions. Findings presented here indicate that church attendance is associated with lower acceptability of the ethical situations presented in seven of the 25 vignettes and greater acceptability in one. We reject the null hypothesis, H1, that religiosity does not affect ethical attitudes – at least for eight of our 25 vignettes. Taking an ethics, religion or theology course, however, is correlated with ethical attitudes in only two of the 25 vignettes. Thus, we conclude that the overall impact of taking a religion or ethics course is likely to be minimal and, hence, fail to reject the null hypothesis that course completion does not affect ethical perceptions (H2).

In sum, we find that religiosity is significantly correlated with ethical perceptions, but that completing religion or ethics courses explained little of the variation in ethical attitudes. The literature addressing the effectiveness of ethics courses is mixed. While some find a significant relationship between ethics course completion and ethical perceptions, others, including this current endeavor, find little or no correlation. One main difference among these studies lies in the definition of ethical perceptions. Studies finding a relationship between ethical perceptions and specific course work are often focused on responses as they conform to specific ethical codes of conduct. Such an approach, like legal or medical ethics, may well be effective in changing perceptions and behavior. In our study, however, we ask respondents to “rate” the acceptability of a variety of ethically questionable situations. By design, we study ethical perceptions in a more general sense without reference to any specific set of conduct codes. As such our results are not in direct conflict with those of Rest et al. (1974), Loe and Weeks (2000), and Green and Weber (1997). However, they do call into question the efficacy of generalized approaches to business ethics instruction. Future research endeavors that attempt to better isolate or identify these differences in approach are needed.

To the extent that current college students are future business leaders, our results suggest that management teams that include more ethnically and sexually diverse, older, and church-going members (holding all else equal) may reduce the probability of future ethics scandals like those involving Enron, Arthur Andersen, WorldCom and others. One important, albeit controversial, policy implication of the results presented here is that current AACSB guidelines mandating the inclusion of ethics instruction may be unwarranted. Further, our findings suggest that the best way to improve ethical attitudes of college students would be to promote active participation in their religion of choice.

Finally, future research endeavors in this area are warranted in order to test the generalizability
of results presented here. To test the robustness of these results (e.g., whether certain effects such as the “age” effect may be nonlinear), we recommend that future studies attempt to broaden the demographic profile of the samples. Further, we acknowledge that this research endeavor has focused on ethical attitudes, not behavior. Policy implications stemming from this research must be considered in this light.

Acknowledgements

We wish to thank Yan Sun, Jun Chen (at Baylor) and Qian Wang (at UWF) for capable research assistance, and the University of West Florida for partial funding for this research. We thank Justin Longenecker, Joseph McKinney, John Wood, Terry Loe, Dean Allmon, Robert Conroy, and two anonymous referees for their helpful comments. Any errors are the responsibility of the authors alone.

Appendix

Complete vignette descriptions

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>An executive earning $100,000 a year padded his expense account by about $3,000 a year.</td>
</tr>
<tr>
<td>B</td>
<td>In order to increase profits of the firm, a general manager used a production process that exceeded legal limits for environmental pollution.</td>
</tr>
<tr>
<td>C</td>
<td>Because of pressure from his brokerage firm, a stockbroker recommended a type of stock that he did not consider to be a good investment.</td>
</tr>
<tr>
<td>D</td>
<td>A small business received one-fourth of its gross revenue in the form of cash. The owner reported only one-half of the cash receipts for income tax purposes.</td>
</tr>
<tr>
<td>E</td>
<td>A company paid a $350,000 “consulting” fee to an official of a foreign country. In return, the official promised assistance in obtaining a contract that will produce $10 million profit for the contracting company.</td>
</tr>
<tr>
<td>F</td>
<td>A company president found that a competitor had made an important scientific discovery that would sharply reduce the profits of his own company. He then hired a key employee of the competitor in an attempt to learn the details of the discovery.</td>
</tr>
<tr>
<td>G</td>
<td>A highway-building contractor deplored the chaotic bidding situation and cutthroat competition in his industry. He therefore, reached an understanding with other major contractors to permit bidding which would provide them with a reasonable profit.</td>
</tr>
<tr>
<td>H</td>
<td>A company president recognized that sending expensive Christmas gifts to purchasing agents might compromise their positions. However, he continued the policy since it was common practice and changing it might result in a loss of business.</td>
</tr>
<tr>
<td>I</td>
<td>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.</td>
</tr>
<tr>
<td>J</td>
<td>A corporate executive promoted a loyal friend and competent manager to the position of divisional vice president in preference to a better-qualified manager with whom he had no close personal ties.</td>
</tr>
<tr>
<td>K</td>
<td>An engineer discovered what he perceived to be a product design flaw that constituted a safety hazard. His company declined to correct the flaw. The engineer decided to keep quiet, rather than taking his complaint outside the company.</td>
</tr>
<tr>
<td>Vignette</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>L</td>
<td>A comptroller selected a legal method of financial reporting which concealed some embarrassing financial facts that would otherwise have become public knowledge.</td>
</tr>
<tr>
<td>M</td>
<td>An employer received applications for a supervisor’s position from two equally qualified applicants but hired the male applicant because he thought that some employees might resent being supervised by a female.</td>
</tr>
<tr>
<td>N</td>
<td>As part of the marketing strategy for a product, the producer changed its color and marketed it as “new and improved,” even though its other characteristics were unchanged.</td>
</tr>
<tr>
<td>O</td>
<td>Facing large clean-up costs, a mining company that produces arsenic as a by-product of its regular operations hired research consultants to show that the safe level of arsenic in drinking water is higher than previously believed.</td>
</tr>
<tr>
<td>P</td>
<td>An owner of a small business firm obtained a free copy of a copyrighted computer software program from a business friend rather than spending $500 to obtain his own program from the software dealer.</td>
</tr>
<tr>
<td>Q</td>
<td>Jack is a used car salesman who was under pressure from his boss to increase sales in order for the company to survive. In response, he began rolling back odometers and using high-pressure sales tactics.</td>
</tr>
<tr>
<td>R</td>
<td>Lester is editor of the Daily Paper, which was running an expose article about defective products being sold by local businesses. One of the owners of these businesses, Shoes, Inc., called Lester and threatened to pull out his advertising in the Daily Paper if the expose mentioned his story by name. Lester agreed to remove the “Shoes, Inc.” name from the article.</td>
</tr>
<tr>
<td>S</td>
<td>Pears, Inc., a large computer manufacturer recently introduced a new line of computers that made their existing line functionally obsolete. Pears, Inc. decided to donate the obsolete computer inventory to a local school district and in so doing, Pears, Inc. received a tax break and improved its image on social responsibility.</td>
</tr>
<tr>
<td>T</td>
<td>Dean is a purchasing agent who has the final say on which suppliers his firm will buy from. Dean let it be known that when price and other things were equal, his purchasing decisions could be swayed by receipt of an “appropriate” gift.</td>
</tr>
<tr>
<td>U</td>
<td>Martha is a new sales representative who is taking over a sales territory in which her firm has been unsuccessful in landing a very large client, Giant, Inc. Determined to make the sale, Martha decided to violate company policy and pay for a gift to Giant, Inc.’s manager.</td>
</tr>
<tr>
<td>V</td>
<td>The board of directors of TTT, Inc., recently approved a policy earmarking 7.5 percent of its profits for corporate giving. The funds will come directly out of retained earnings and thereby reduce the payout of dividends to the stockholders of the firm.</td>
</tr>
<tr>
<td>W</td>
<td>The design department of XYZ Child Corporation recently developed a new, lighter weight baby carrier. The new design is less expensive to manufacture, but has a slightly higher risk of handle collapse which could cause injury to children. XYZ decided to produce and market the carrier anyway.</td>
</tr>
<tr>
<td>X</td>
<td>An electricity producer decided not to upgrade a smokestack scrubber since its releases are still within the legal limits and the upgrade would reduce profits by 10 percent.</td>
</tr>
<tr>
<td>Y</td>
<td>A factory that makes very loud noise during production located next to a residential neighborhood, because land costs were lower there.</td>
</tr>
</tbody>
</table>
Notes

1 Following Barnet et al. (1996) and many others, we have chosen to use the term “religiosity” however we acknowledge that its use is not universal (see Siu et al., 2000). Based on our reading of the literature, we conclude that the operationalization of the term (made explicit below) is more important than the actual term used.

2 We re-estimated the model replacing “attends church weekly” with controls for religious affiliation, pray/meditation frequency, and a self-reported degree of religious fervor. Religious affiliation was a statistically significant predictor (at the 10% level) in only three of the 25 vignettes. We believe that the limited power of religious affiliation in explaining ethical perceptions is due to the commonalities amongst the various world religions. Prayer (or meditation) frequency was an equally weak predictor (statistically significant for 3 of the 25 vignettes, at the 10% level). We believe that this may be due to the structure of the survey question on this point, which did not ask for sufficiently high rates of prayer frequency (e.g. daily) to differentiate across respondents. Finally, self-reported religious fervor was a somewhat better predictor of ethical perceptions, statistically significant in six of the 25 vignettes (at the 10% level). The meaning of this result is less clear than for the frequency of church attendance as students may have had varying subjective interpretations of this question on the survey. Our operationalization of religiosity is thus based on behavior, as opposed to cognition or affect (see Barnet et al., 1996).

3 Complete estimation results are available from the authors upon request.

4 A conversion table between SAT and ACT scores can be found at http://www.collegeboard.com/sat/cbsenior/html/stat00f.html.

5 Ten percent have completed two or more ethics courses and 33.3% completed two or more religion courses.

6 The results on alternative controls for religion or ethics courses completed are similar. At the 10 percent level of significance, ethics or religion course work explained variation in responses for no more than two vignettes (the vignettes did vary by course control).

7 These results are based on analysis using interaction between certain independent variables. The full results are not reported here, but are available from the authors upon request.

8 The effect of being white was negative in one estimation, for vignette Q (rolling back odometer/high-pressure sales).

References


Values and Opinions’, *Teaching Business Ethics* 4, 341–358.


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