Abstract: This study explores a phenomenon that has been shown to adversely affect managers' decisions—competitive irrationality. Managers are irrationally competitive in their decisions when they focus on damaging the profits of competitors, rather than improving their own profit performance. Studies by Armstrong and Collopy (1996) and Griffith and Rust (1997) suggest that the phenomenon is common but not universal. We examine the question of why some individuals exhibit competitive irrationality when making decisions, while others do not by focusing on four aspects of moral philosophy—deontological orientation, cognitive moral development, idealism, and relativism. Results suggest that individuals high in deontological orientation, high in cognitive moral development, high in idealism, and low in relativism will be less competitively irrational than those who are not.
However, there are reasons to believe that individuals who consistently incorporate ethical norms into their decision-making processes may routinely make decisions that are favorable to firm profitability. The concept of "favorable" here, it should be noted, goes beyond the notion that "good firm ethics are good business" (i.e., that ethical firms will be rewarded by, say, consumer patronage). Rather, we posit that certain attributes of a distinctly moral character that are useful for making decisions in ethical contexts may also allow people to make superior decisions (i.e., decisions more profitable for the firm) in situations that do not have (an obvious) ethical content.

Consider the issue of competitive irrationality. Managers are irrationally competitive when they focus on damaging the profits of competitors, rather than improving their own profit performance. For example, Armstrong and Collopy (1996) found that approximately 40% of the subjects in numerous pricing studies are irrationally competitive in that they tend to sacrifice their own firms' profits—both short- and long-term—in order to harm a competitor. Similarly, Griffith and Rust's (1997) study of competitive pricing reveals that many subjects tend to sacrifice profits for relative standing among firms, even when they are instructed explicitly to maximize profits and are compensated based on profits.

As is suggested by Armstrong and Collopy (1996) and Griffith and Rust (1997), this phenomenon can translate into lost profits for the firm. However, this strategy can also cause other problems. For example, competitively irrational pricing may be viewed by the Justice Department as predatory and a violation of Section 2 of the Sherman Act (Werner, 1989). Also, competitive irrationality may have a negative effect on consumer welfare. To the extent that competitors focus on mutual destruction, rather than on being innovative and providing superior value, consumers lose.

When choosing business strategies managers examine many factors (e.g., actions of competitors, behavior of consumers, etc.). In so doing, it is assumed that (absent compelling reasons to the contrary) managers act in the best financial interests of their firms. That is, managers' decisions are designed to increase the profits of their firms by increasing sales, reducing costs, etc. However, in the case of competitive irrationality, the goal of harming the competitor becomes paramount and the goal of increasing firms' profits becomes secondary. The decision-makers do not view their behaviors as being irrational. On the contrary, they believe that they are being highly rational.

We argue that the decision-making processes of managers who adhere to certain moral philosophies allow them to perceive the irrationality of strategies that harm both the competitor and their own firm when other, more profitable, alternatives exist. We suggest that certain moral philosophies may make decision-makers more sensitive to potential ethical content that may exist in strategic decisions. In short, we maintain that the phenomenon of competitive irrationality can be at least partially explained by differences in moral philosophy. Specifically, we hypothesize that those individuals who are high in deontological
orientation, high in cognitive moral development, high in idealism, and low in relativism will be less competitively irrational in pricing than those who are not.

Our paper is organized as follows. First, we review the phenomenon of competitive irrationality. We then review four aspects of moral philosophy (cognitive moral development, deontological orientation, idealism, and relativism) and develop hypotheses for each variable. Next we test the hypotheses on a nonprobabilistic sample of 350 individuals who have at least 3 years business experience. Finally, we discuss the implications of our findings.

**Competitive Irrationality**

All managers will at times make poor decisions. Why, however, are some managers' “hit rates” consistently worse than others? One stream of research provides a provocative answer: Managers who are *irrationally competitive* make poor decisions (Armstrong and Collopy, 1996; Griffith and Rust, 1997).

Firms, of course, are often harmed by the actions of competitors. For example, if a firm introduces a new product at competitive prices that performs better than its rivals, then rival firms’ sales and profits will likely be affected. However, dynamic theories of competition imply that the harm to competitors is, or ought to be, a by-product of the process of competition, not its focus (Dickson, 1992, 1996; Hunt, 2000; Hunt and Morgan, 1995, 1996, 1997). As to the nature of competition, for example, resource-advantage (“R-A”) theory maintains that competition consists of the constant struggle among firms for comparative advantages in resources that will yield marketplace positions of competitive advantage and, thereby, superior financial performance. When firms have positions of competitive advantage, rivals will attempt to neutralize and/or leapfrog the resources of advantaged firms through acquisition, imitation, substitution, or major innovation (Hunt and Morgan, 1995). The goal is superior financial performance, not harming competitors.

But, “superior” financial performance differs from profit maximization: Though economic “agent[s] prefer more to less all things considered,” this “differs from maximizing in any strong sense” (Langlois, 1986: 252). Indeed, R-A theory argues that, though more profits are preferred to less profits, the fact of imperfect information, among other things, categorically prevents firms from profit maximizing:

Because *superior* equates with both *more than* and *better than*, it implies that firms seek a level of performance exceeding some referent. For example, the specific measure of financial performance might be profits, return on assets, or return on equity, whereas the specific referent might be the firm’s own performance in a previous time period or that of a set of rival firms, an industry average, or a stock-market average. Both the specific measure and referent will vary from time to time. firm to firm, industry to industry, and culture to culture (italics in original) (Hunt and Morgan, 1997: 78).
Therefore, explicating "superior financial performance" calls for "empirical research on the measures and referents that managers actually employ" (Hunt and Morgan, 1997: 78). The empirical research on competitive irrationality suggests that some managers view "competition" and "performance" in a dysfunctional manner: Irrationally competitive decision-makers adopt alternatives that sacrifice both the short-term and long-term profits of their firms in order to inflict significant harm on a competitor (their referent).

Competitive irrationality, all studies acknowledge, is far from universal. Indeed, though Armstrong and Collopy (1996) find almost 40% of their subjects to be making irrationally competitive pricing decisions, most of their subjects choose competitively rational alternatives. Competitive rationality, argue Griffith and Rust (1997), implies that some managers must learn that there are times when they should be tolerant of competitors’ successes. As to why some managers have not learned this lesson, Armstrong and Collopy (1996) suggest that the marketing and business strategy literatures have fostered competitive irrationality by the indiscriminate use of the warfare metaphor. The implication of "competition is war," for some, is that competition is an adversarial, zero-sum game, whose purpose is to destroy competitors.

However, all of their subjects were exposed to the warfare metaphor and other theories concerning the nature of competition and performance. Why, then, did some exhibit competitive irrationality, while others did not? The decision-making literatures in the areas of organizations (Weick, 1979) and of ethics (Rest, 1986a,b) suggest that examining the process that individuals use to make decisions is the place to start. Studies suggest that even when decisions are made in a group setting, they are often influenced by the individual characteristics of the group members (Chandrashekaran et al., 1996; Dawes et al., 1998; McQuiston and Dickson, 1991; Venkatesh et al., 1995). In particular, these literatures suggest that one should focus on the characteristics of decision-makers that influence how they evaluate and interpret information.

Thus, this study can be viewed as representing an initial step toward understanding the factors that influence competitive irrationality by focusing on individual differences related to moral philosophy. We posit that moral philosophy can contribute to a better understanding of this dysfunctional phenomenon.

**Moral Philosophy**

The effect that moral judgments, standards, and rules of conduct have on business decisions has been investigated extensively in the ethics literature in business. For example, researchers have developed models of the process of decision-making in ethics (Ferrel, Gresham, and Fraedrich, 1989; Hunt and Vitell, 1986, 1993; Jones, 1991; Treviño, 1986; Wotruba, 1990) and investigated the impact of ethics on decisions regarding advertising (Brenkert, 1998; Laczniak and Murphy, 1993; Preston, 1993; Richards, 1990), personal selling (Bellizzi and Hite, 1989; Dubinsky and Ingram, 1984; Oakes, 1990; Smith and
Cooper-Martin, 1997). Information (Hunt, Chonko, and Wilcox, 1984; Schneider, 1982; Sparks and Hunt, 1998), alliances (Argandoña, 1999; Koehn, 1998), and channels of distribution (Cespedes, 1993; Duhan and Sheffet, 1988). These studies suggest that managers, to varying degrees, are sensitive to the ethical content that exists in many of their decisions.

For example, Sparks and Hunt (1998), Hunt and Vitell (1992), and Rest (1986a) suggest that people make different ethical choices when faced with the same ethical situation because some people do not recognize the existence of an ethical component. Indeed, Rest (1986a: 6) explains, "[b]efore it occurs to some people that a moral issue may be involved, they have too see blood flowing. Other people are so supersensitive that every act, work or grimace takes on momentous moral implications." Sparks and Hunt (1998) explore this issue using a sample of both undergraduate students and market researchers. They find that people's sensitivity to ethical components of a situation vary from individual to individual. They posit that these differences will impact the decision-making process.

We propose that decision-makers who choose not to act irrationally competitive may do so because they believe that it represents unethical behavior. However, not all managers will perceive as an ethical problem the act of harming a competitor when other more profitable options exist. We posit that managers' adherence to certain moral philosophies may influence their sensitivity to this issue. And, as a result, they may perceive acting irrationally competitive as an ethical component of the overall decision. In turn, these managers will be less likely to act irrationally competitive. Specifically, we explore four aspects of moral philosophy: deontological orientation, cognitive moral development, idealism, and relativism (see Table 1).

<table>
<thead>
<tr>
<th>Moral Philosophies</th>
<th>Factors Affecting Ethical Decision-Making</th>
<th>Effect on Ethical Decision-Making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deontology</td>
<td>Decision-maker examines the inherent rightness/wrongness of the action based on deontological norms.</td>
<td></td>
</tr>
<tr>
<td>Cognitive Moral Development</td>
<td>Decision-makers with advanced CMD possess increased cognitive abilities and an increased capacity to practice &quot;role-taking,&quot; which in turn aid them in the decision-making process.</td>
<td></td>
</tr>
<tr>
<td>Idealism</td>
<td>Highly idealistic decision-makers believe that harming others is always avoidable</td>
<td></td>
</tr>
<tr>
<td>Relativism</td>
<td>Highly relativistic decision-makers believe that decisions should be based on the nature of the situation and the individuals involved, not the consideration of any general ethical principle</td>
<td></td>
</tr>
</tbody>
</table>
Deontological Orientation

Many normative ethical theories draw on a tradition in moral philosophy known as deontology (Murphy and Laczniak, 1981). For example, the normative approach to stakeholder theory suggests that moral agents have a "duty" to other stakeholders that is based on deontological concepts such as respect for others and obligation to others (Gibson, 2000). Deontology focuses on the inherent rightness/wrongness of an action itself. That is, there are certain features of an action itself that make it either ethical or unethical (Hunt and Vitell, 1986). As Hunt (1997: 349) points out:

Moral codes based on deontology will emphasize the extent to which a behavior is consistent or inconsistent with such deontological norms as those proscribing, lying, cheating, deceiving, or stealing and those prescribing honesty, fairness, justice, or fidelity. Accordingly, they emphasize duties, obligations, and responsibilities to others (italics in original).

Note that underlying competitive irrationality is the motivation of harming competitors. "Do no harm" is a proscription found in many moral codes that emphasize deontological ethics. For example, it is the first norm in the Hippocratic oath for physicians. The personal moral codes of decision-makers that stress deontological ethics are likely to incorporate the "do no harm" norm. Furthermore, personal moral codes that are deontologically oriented are likely to sensitize decision-makers to the ethical implications of harming competitors (Sparks and Hunt, 1998). As a result, such decision-makers will be less likely to focus exclusively on alternatives that are designed to harm their competitors and are more likely to examine other alternatives. Therefore, we posit:

H1: Deontological orientation is negatively related to competitive irrationality.

Cognitive Moral Development

Kohlberg's (1958) theory of cognitive moral development (CMD) emphasizes that advanced moral reasoning requires advanced logical reasoning capacity. If one does not possess advanced logical reasoning capacity, one cannot recognize or analyze all the ambient factors involved in making moral decisions. Therefore, moral development must be related to cognitive development in that, though not sufficient, advanced logical development is necessary for advanced moral reasoning. Specifically, he posits that for individuals to develop advanced moral reasoning skills they must be able to interpret the thoughts, feelings, and roles of others potentially affected by a decision.

Although CMD has been used in the business literature, its use can be a source of difficulty for researchers. That is, it is often difficult to get practitioners to participate in studies that use questionnaires of the length and complexity needed to measure CMD (Goolsby and Hunt, 1992). Nonetheless, studies examining the CMD of various groups of managers have been undertaken. For example, Goolsby and Hunt (1992) find that marketing practitioners' level of CMD
compares favorably with other social groups, and marketing practitioners who are lower in CMD are not more successful. Similarly, Castleberry, French, and Carlin's (1993) study on the level of CMD of marketing researchers indicates that they have at least the same level of moral development as the general population. Ford et al. (1997) find that American managers, at least in their sample, tend to have higher levels of CMD than their Chinese counterparts, and Wimalasiri et al. (1996) find no significant differences between the level of CMD of business students and business managers.

At least some studies find evidence of a positive relationship between one's level of CMD and one's ethical behavior (Carlson and Kacmar, 1997; Everett et al., 1996; Fraedrich et al., 1994; Robin et al., 1996; Street, 1995; Treviño, 1986, 1992; Treviño and Youngblood, 1990; Wyld et al., 1994). Because of the hypothesized role that CMD plays in explaining ethical behavior, it is incorporated into general theories of ethics (e.g., Ferrell et al., 1989; Hunt and Vitell, 1986, 1993; Treviño, 1986).

As individuals progress in their CMD, they increase their interpretive abilities and acquire a broader societal perspective (Rest, 1986a). Furthermore, their reasoning becomes cognitively more complex because they use increasingly more elaborate algorithms (Goolsby and Hunt, 1992). Evidence suggests that individuals at higher levels of CMD are able to construct more elaborate cognitive structures (Treviño, 1992), which in turn allows them to rely more on memory in evaluating new stimuli, notice relative differences, and separate schemata and inconsistent facts (Gatignon and Robertson, 1991). Therefore, individuals higher in CMD will be better able to cope with atypical situations and compare diverse stimuli.

In addition, individuals higher in CMD also have an increased capacity to practice "role-taking" (Kohlberg 1984). Role-taking, Kohlberg suggests, is an "awareness that the other is in some way like the self and that the other knows or is responsive to the self in a system of complementary expectations" (1984: 9). At lower levels of moral development people tend to focus on avoidance of punishment and self-interest. However, at higher levels of moral reasoning individuals shed an egocentric approach and place greater emphasis on social relations. As a result, more "role-taking" is incorporated as the expectations and order of the larger group are taken into consideration. At the highest level of moral reasoning, "moral principles are formulated as universal principles, for example, the Golden Rule or the categorical imperative. 'So act as you would act after considering how everyone should act if they were in the situation' " (Kohlberg 1985: 74). Therefore, managers higher in CMD may be more likely to take into account the competitor's situation during the decision-making process.

Accordingly, when deciding on a strategy, individuals who have higher levels of cognitive moral development should be better able to identify the facts involved in a decision, the possible alternatives, and the possible consequences. Individuals high in CMD will be more likely to understand the dysfunctional
nature of a focus on harming competitors. As a result, they should be more likely to choose some other basis for their decisions. Therefore, we posit:

H2: CMD is negatively related to competitive irrationality.

Idealism/Relativism

Forsyth (1980) defines idealism as the extent to which rule deviation is tolerated with respect to the consequences of a behavior. However, idealism is not based on embracing moral absolutes; instead, it involves values related to altruism (Singhapakdi et al., 1999). As Forsyth (1992) maintains, idealism describes an individual's concern for the welfare of others. Individuals who are highly idealistic believe that harming others is always avoidable. As a result, when considering alternative courses of actions related to a moral issue, they tend to be more optimistic.

Forsyth (1980) defines relativism as the degree to which individuals reject universal moral rules. Relativists tend to be skeptical toward ethical codes that are meant to be applied to different groups, cultures, etc. (Singhapakdi et al., 1999). In addition, they believe that moral actions depend on the nature of the situation and the individuals involved more so than the consideration of any ethical principle (Forsyth, 1992).

Forsyth (1980) finds that individuals higher in idealism and lower in relativism tend to condemn strongly an action that runs counter to such norms as lying or stealing. One possible explanation for this finding is that idealism is associated with greater ethical sensitivity than is relativism (Singhapakdi et al., 1995; Sparks and Hunt, 1998; Vaicys, 1996; Vitell et al., 1993). As a result, idealists are much more likely to recognize the ethical content inherent in a decision than are relativists. Furthermore, Shaub, Finn, and Munter (1993), in the area of accounting, posit that individuals who tend to reject the existence of universal moral rules are less likely to learn the norms and rules of professional moral codes that guide ethical behavior. Thus, decision-makers whose moral codes stress idealism (relativism) are more likely (less likely) to recognize that focusing on harming competitors through a particular strategy involves an ethical issue. Therefore, we posit:

H3: Idealism is negatively related to competitive irrationality.

H4: Relativism is positively related to competitive irrationality.

Business Experience

When hiring new personnel, firms may be faced with the daunting task of evaluating scores of applications. As a result, firms must use a set of criteria to organize and prioritize applicants. One individual difference often used in this task is business experience, which explains why it is standard on most applicants' resumes. The assumption is that business experience is an indicator of existing and/or potential business skills (Hambrick and Mason, 1984). Given
the importance attached to business experience, we include it as control variable in our study.

Research indicates that an individual’s amount and type of work experience affect their strategic choices. Hitt and Barr (1989) find that less experienced managers differ from their more experienced counterparts in decisions regarding executives’ compensation. There is also evidence that managers with more experience tend to use different decision processes than do less experienced managers (Fredrickson, 1985). In addition, Spence and Brucks (1997) find that more experienced decision-makers are less likely to make extreme errors in decision-making. One explanation is that managers’ cognitive models may be based partially on their career experiences (Hambrick and Mason, 1984). That is, individuals with more business experience have learned about certain situations and the consequences of alternative courses of actions (Chonko, 1995). In turn, these lessons are incorporated into the models they use, for example, when making pricing decisions.

Sparks and Hunt (1998) support this view. In a comparison of ethical sensitivity between undergraduate students and market research practitioners they find that practitioners are more sensitive to ethical issues than are students. They suggest that practitioners learn norms and codes as part of their experiences in the workplace. We suggest that people with more job experience will have more time to learn norms and codes that would lead them to make decisions that are in the best interest of their companies. Therefore, we posit:

\[ H_5: \text{Business experience is negatively related to competitive irrationality.} \]

\section*{Method}

\textit{Data Collection}

Our questionnaire—which consists of a pricing scenario, a scenario measuring deontological orientation, three scenarios designed to measure cognitive moral development, and other questions measuring other constructs—is long and complex. For example, the measure of cognitive moral development requires respondents to (1) read each of three scenarios, (2) choose a proper course of action for each situation, (3) answer a series of Likert scale items measuring the importance of certain facts in each scenario, and (4) choose and rank the four most important statements that affected their decision in each situation. Given these factors, administering the questionnaire by mail would likely result in an unacceptably low response rate. Therefore, we use a nonprobabilistic sample consisting of college students who have significant amounts of business experience (at least 3 years). (For external validity reasons, we restricted the sample to only students who had 3 years business experience.) We use students at both undergraduate and graduate (MBA/EMBA) levels as subjects.

Undergraduate students from 12 different classes were recruited from 8 different universities. The undergraduate students were chosen from a variety of
different courses, including economics, marketing, and management. Graduate students from 8 different marketing classes were recruited from 6 different universities (3 MBA programs and 3 executive MBA programs). The universities that participated in our study are located in the east, central, and southwest regions of the United States. Three hundred sixty-five questionnaires were administered to individuals who had the proper amount of business experience, all of which were sufficiently complete to use in our analysis.

Sample Characteristics. Table 2 shows the sample characteristics. The sample consists of slightly more males (n = 226) than females (n = 139). The mean years of business experience for the respondents is 9.5. (We limited our sample to respondents who had at least three years of business experience.) The mean age of the respondents is 29.4.

TABLE 2
Sample Characteristics

<table>
<thead>
<tr>
<th>Sex</th>
<th>(N = 365)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>226</td>
<td>61.9</td>
</tr>
<tr>
<td>Female</td>
<td>139</td>
<td>38.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Years of Business Experience</th>
<th>(N = 365)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>3–5</td>
<td>146</td>
<td>40.0</td>
</tr>
<tr>
<td>6–10</td>
<td>96</td>
<td>26.3</td>
</tr>
<tr>
<td>11–15</td>
<td>62</td>
<td>17.0</td>
</tr>
<tr>
<td>16–20</td>
<td>34</td>
<td>9.3</td>
</tr>
<tr>
<td>21–25</td>
<td>15</td>
<td>4.1</td>
</tr>
<tr>
<td>26–30</td>
<td>8</td>
<td>2.2</td>
</tr>
<tr>
<td>31–35</td>
<td>4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Mean: 9.5 years

<table>
<thead>
<tr>
<th>Age</th>
<th>(N = 365)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17–20</td>
<td>48</td>
<td>13.2</td>
</tr>
<tr>
<td>21–25</td>
<td>125</td>
<td>34.2</td>
</tr>
<tr>
<td>26–30</td>
<td>50</td>
<td>13.7</td>
</tr>
<tr>
<td>31–35</td>
<td>42</td>
<td>11.5</td>
</tr>
<tr>
<td>36–40</td>
<td>51</td>
<td>14.0</td>
</tr>
<tr>
<td>41–50</td>
<td>45</td>
<td>12.3</td>
</tr>
<tr>
<td>≥ 51</td>
<td>4</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Mean: 29.4 years
Measures

The study uses a combination of scenarios (for competitive irrationality, deontological orientation, and cognitive moral development), single indicant items (business experience and age), and multi-item scales (for idealism and relativism). All of these measures have been used in prior research. The correlations, means, standard deviations, and reliabilities for the measures are shown in Table 3.

**TABLE 3**

Correlation Matrix, Means, Standard Deviations, and Reliabilities

<table>
<thead>
<tr>
<th></th>
<th>CI</th>
<th>DO</th>
<th>CMD</th>
<th>IDL</th>
<th>REL</th>
<th>BE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive Irrationality</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deontological Orientation</td>
<td>-.23**</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cognitive Moral Development</td>
<td>-.32**</td>
<td>.13*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idealism</td>
<td>-.18**</td>
<td>.14**</td>
<td>-.04</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relativism</td>
<td>.19**</td>
<td>-.21**</td>
<td>-.08</td>
<td>.01</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Business Experience</td>
<td>-.16**</td>
<td>.17**</td>
<td>.15**</td>
<td>-.18**</td>
<td>-.25**</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Means: 2.33 8.78 39.29 4.38 4.11 9.50
Standard Deviations: 1.12 3.08 15.50 .97 1.02 6.80
Reliability (α): a a b .81 .82 a

*p < .05.
**p < .01.
a single indicant item.
b standardized test score.

**Competitive Irrationality.** Following Armstrong and Collopy (1996), respondents are asked to read a short scenario dealing with pricing and to assume the role of owner of a fictitious company (see Appendix A). Subjects receive written descriptions of a business situation and are asked to set the price of a new product. The scenario indicates that the higher the price, the more money both the respondent’s firm and its competitor will make. As the price is lowered, the respondent’s firm’s profits decrease, but the competitor suffers even greater losses. The respondents are given four price points from which to choose (low, medium-low, medium-high, and high). These four choices capture the nature of the latent construct competitive irrationality, which is continuous. To ensure that respondents do not interpret the scenario as sacrificing short-term for long-term profits, they are given the net present value of the projected profits (and losses) for the next 20 years. The original Armstrong and Collopy (1996) scenario asks respondents to assume the role of marketing manager. Changing “manager” to “owner” in our study attempts to prevent confounding the results due to any potential “agency” problems (Jensen and Meckling, 1976). Whereas the original scenario offers the respondents two possible prices, high and low, our study allows
the respondents to choose from four different prices. Respondents whose strategy is motivated by the goal of securing the largest possible profit for their firm should choose a higher price for the product (e.g., choice \( d \)); respondents motivated by the goal of harming the profits of rivals should choose a lower price (e.g., choice \( a \)). As Armstrong and Colopy (1996) argue in detail, subjects are provided no rational grounds for choosing a lower price. Thus, the inference is that choosing a lower price indicates competitive irrationality that is motivated by harming competitors.

To check the validity of the scenario, respondents were asked, in open-ended format, to provide the rationale for their choice. The majority (77%) of respondents who chose to price the product low indicated that they did so to harm their competitor. In contrast, the vast majority (93%) of respondents who chose to price the product high indicated that they did so to provide their firm with the largest possible profit. Therefore, subjects who focused on harming competitors did indeed see low prices as the strategy of choice.

**Deontological Orientation.** No scale exists for measuring deontological orientation. Indeed, the measurement problems of deontological orientation parallel those facing “deontological evaluation” in the Hunt-Vitell model of ethics. As Hunt (1990: 175) notes:

One way to approach the central question on the “process/construct” issue is: In the process of coming to a summary judgement in a situation, do people first come to an intermediate “stopping point,” which may be referred to as “deontological evaluation,” and then combine this belief with their teleological evaluation? If so, then “deontological evaluation” is a construct and a candidate for measurement. If not, then it must be construed as a process. My own belief is that it is a process and not a construct. If it is to be measured, such measurement should not consist of asking direct questions of respondents. Rather, the measure should be inferred from measures of deontological norms applied to each alternative.

Following the suggestion of Hunt (1990) and Hunt and Vasquez-Parraga (1993), we use a scenario, inferential approach to measuring deontological orientation. Specifically, we use the Frank, Gilovich, and Regan (1993) scenario. In this scenario, respondents are asked to read a short ethical problem that involves finding an envelope containing $100 bearing the owner’s name and address (see Appendix B). First, respondents are asked to imagine that they had lost the envelope and to estimate the likelihood, ranging from “0–1%” to “99–100%,” that a stranger would return it. They are then asked to assume that the roles are reversed and to indicate the likelihood that they themselves would return the envelope. Individuals who tend to rely on deontological codes of ethics will be more likely to return the money to its rightful owner because they will follow the norm that stealing is wrong. The first question in the scenario desensitizes respondents to the ethical issue and the second question is an indirect measure of the respondent’s deontological orientation. That is, we infer that those respondents who indicate a higher probability of returning the money to its owner are
demonstrating a tendency to adhere to deontological norms (i.e., they are more deontologically oriented).

Cognitive Moral Development. We use Rest’s (1986a) Defining Issues Test (DIT) to measure CMD. Two versions of the DIT are available: a six- and a three-vignette version. As in Goolsby and Hunt (1992), the three-vignette version is used to keep the questionnaire to a manageable length. It correlates highly with the longer version (.91 to .94 in previous research) and has similar measurement properties (Rest, 1986b). The instrument yields two indices: the “P% Score” and the “M Score.” The “P% Score” is an index representing the relative importance given to principled (Kohlberg’s stages five and six) considerations in the determination of an ethical decision. This score is used in our analysis as an indicator of the respondent’s level of CMD. The “M Score,” for meaningless, is a reliability check used to detect nonthoughtful respondents. The results do not indicate that any respondents need to be removed from the sample based on their “M scores.” (The DIT is copyrighted and, therefore, is not included in an appendix)

Idealism and Relativism. Idealism and relativism are measured using the scales developed by Forsyth (1980). Respondents are asked to rate their agreement with a series of belief statements. Each scale consists of ten questions. (The scales are included in Appendixes C and D.)

Other Independent Variables. Respondents are also asked to indicate their ages and business experience.

Results

Descriptive Statistics

Overall, 56% of our respondents choose lower prices for the product (choices a and b), which cause the competitor to suffer large losses and result in their own firm making smaller profits. These results are slightly higher than the ones reported by Armstrong and Collopy (1996). They find that approximately 44% of their respondents choose to price the product low, which results in the competitor suffering a substantial loss and the respondent’s own firm to lose profits.

For the deontological orientation scenario, the responses are as follows: 75% indicate that they would have a high likelihood of returning the money (80% likelihood or greater), 17% indicate that they would be moderately likely to return the money (between 30% and 80%), and 8% indicate that they have a low likelihood of returning the money (30% or lower). These results contrast with the respondents’ estimates of the likelihood that a stranger would return their lost money: 5% indicate that a stranger would have a high likelihood of returning the money, 57% indicate that a stranger would be moderately likely to return the money, and 38% indicate that a stranger would have a low likelihood of returning the money. Thus, respondents see themselves as more honest than others.

There was some concern as to whether responses to this scenario would suffer from a social desirability bias. Therefore, we included a shortened version of the
Marlowe-Crowne Social Desirability Scale (MCSD) (Crowne and Marlowe, 1960) to test whether the respondents in our sample are prone to this bias. (See Appendix E.) The scale consists of a series of socially desirable/undesirable behaviors. Respondents are asked to evaluate whether each statement is true or false regarding themselves. Answers that correspond to socially desirable behavior are scored as 1s, while those that are not are scored as 0s. The respondent's score is computed by summing the scores. A significant correlation between the respondents' MCSD scores and their responses to the deontological orientation scenario would suggest the presence of a social desirability bias. Our results indicate that the correlation is not significant and, therefore, there does not seem to be a problem with social desirability bias in our sample.

The mean level of CMD in this sample is 39.3 (SD = 15.5) with a range from 3.3 to 80 (maximum = 95). The results from our sample, which consists of respondents who have or are working toward their bachelor's degrees, are comparable to those of prior research. Whereas Goolsby and Hunt (1992) report the overall mean level of CMD in their sample ($\bar{x} = 43.1$, SD = 17.3) they further break down their results into those respondents who do not have a college degree ($\bar{x} = 36.7$, SD = 14.3) and those who have a bachelor's degree to be ($\bar{x} = 41.2$, SD = 17.3). As one would expect, the mean of our sample falls between these two means. Table 4 compares the level of CMD of our respondents to those of other studies.

<table>
<thead>
<tr>
<th>Mean</th>
<th>SD</th>
<th>n</th>
<th>Sample</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>65.1</td>
<td>11.7</td>
<td>40</td>
<td>Moral Philosophers and Seminarians</td>
<td>Rest (1986b)</td>
</tr>
<tr>
<td>53.3</td>
<td>10.9</td>
<td>183</td>
<td>Graduate students (composite)*</td>
<td>Davison (1979)</td>
</tr>
<tr>
<td>52.2</td>
<td>14.5</td>
<td>41</td>
<td>Advanced law students</td>
<td>Willing &amp; Dunn (1981)</td>
</tr>
<tr>
<td>43.1</td>
<td>17.2</td>
<td>269</td>
<td>American Marketing Association members</td>
<td>Goolsby &amp; Hunt (1992)</td>
</tr>
<tr>
<td>42.3</td>
<td>13.2</td>
<td>2,479</td>
<td>Undergraduate students (composite)*</td>
<td>Davison (1979)</td>
</tr>
<tr>
<td>39.3</td>
<td>15.5</td>
<td>365</td>
<td>Undergraduate and graduate students</td>
<td>Current Study</td>
</tr>
<tr>
<td>31.8</td>
<td>13.5</td>
<td>581</td>
<td>High school students (composite)*</td>
<td>Davison (1979)</td>
</tr>
<tr>
<td>31.2</td>
<td>10.4</td>
<td>20</td>
<td>Prison inmates</td>
<td>Armstrong (1975)</td>
</tr>
<tr>
<td>21.9</td>
<td>8.5</td>
<td>1,322</td>
<td>Junior high school students (composite)*</td>
<td>Davison (1979)</td>
</tr>
</tbody>
</table>

* These samples consist of data from hundreds of researchers who have conducted studies with the Defining Issues Test and reported their findings to the Center for the Study of Ethical Development at the University of Minnesota.
The mean level for idealism in our sample is 4.38 with a standard deviation of .97. The mean level for relativism in our sample is 4.11 with a standard deviation of 1.02. Both scales demonstrate a high level of internal reliability (i.e., coefficient $\alpha$ for both scales is $\geq .81$).

**Analysis**

First, we tested the hypothesized relationships between competitive irrationality and the predictor variables by examining their correlations. Table 3 shows that all of the predictor variables are correlated significantly with competitive irrationality. Competitive irrationality is correlated negatively, as hypothesized, with deontological orientation, cognitive moral development, idealism, and business experience. These results show some support for $H_1$, $H_2$, $H_3$, and $H_5$, respectively. Competitive irrationality is correlated positively, as hypothesized, with relativism, which provides support for $H_4$.

To identify whether the correlation relationships are spurious, we analyze the data using multiple regression. The analysis uses the maximum likelihood (ML) estimation procedure. The $\beta$s are standardized in order to see the relative importance of each variable in our sample. The results, shown in Table 5, indicate support ($p < .05$), for all of the hypotheses. As hypothesized, deontological orientation, cognitive moral development, idealism, relativism, and business experience are significant predictors of competitive irrationality. (All significant $\beta$s are in the hypothesized direction.) Therefore, all of the relationships that were supported in the correlation analysis are also supported by the regression analysis. The independent variables account for 19% of the variance in competitive irrationality.

**TABLE 5**

Regression Results

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>$\beta$ (Standardized)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moral Philosophy</strong></td>
<td></td>
</tr>
<tr>
<td>Deontological Orientation</td>
<td>-.12**</td>
</tr>
<tr>
<td>Cognitive Moral Development</td>
<td>-.29**</td>
</tr>
<tr>
<td>Idealism</td>
<td>-.19*</td>
</tr>
<tr>
<td>Relativism</td>
<td>.12**</td>
</tr>
<tr>
<td><strong>Control Variable</strong></td>
<td></td>
</tr>
<tr>
<td>Business Experience</td>
<td>-.10*</td>
</tr>
<tr>
<td>Adj. R-Squared</td>
<td>.19</td>
</tr>
<tr>
<td>Model F</td>
<td>16.84**</td>
</tr>
</tbody>
</table>

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

Our study explores a phenomenon that has been shown to adversely affect managers’ decisions and, in turn, firm profitability—competitive irrationality. Managers are irrationally competitive in their decisions when they focus on damaging the profits of competitors, rather than improving their own profit performance. Studies by Armstrong and Collopy (1996) and Griffith and Rust (1997) suggest that the phenomenon is common but not universal. We examine the question of why some individuals exhibit competitive irrationality when making pricing decisions, while others do not by focusing on four aspects of moral philosophy. The results have implications for researchers who study managerial decision-making and for practitioners.

The results provide some support for the thesis that many decision-makers may be sensitive to ethical components that exist in behavior that is irrationally competitive. (All four hypotheses related to moral philosophy are supported.) For example, respondents who are more deontologically oriented tend not to be irrationally competitive. This finding is consistent with the belief that individuals who are more deontologically oriented are less likely to focus on pricing alternatives that are designed to harm a competitor (when other, more profitable, alternatives are available) because they tend to adhere to prescriptions such as “do no harm.” There is also evidence that cognitive moral development is strongly related to competitive irrationality. Our results suggest that individuals who have higher levels of CMD are better able to analyze all of the ambient factors involved in making a pricing decision and understand how alternative courses of action will affect their firm. As a result, they are less likely to be irrationally competitive.

Both idealism and relativism are significantly related to competitive irrationality. Respondents who are more idealistic tend not to be competitively irrational, while those higher in relativism tend to be irrationally competitive. This finding is consistent with research that suggests that individuals who are higher in idealism and lower in relativism tend to condemn strongly any action that runs counter to accepted deontological norms (Forsyth, 1980). In addition, it suggests that more idealistic respondents were sensitive to the ethical components of the pricing decision, while more relativistic respondents were not. There is evidence that individuals with more business experience tend to be less competitively irrational, which suggests that their business experiences may inform them as to the irrationality of focusing on harming competitors.

Our study provides further evidence that competitive irrationality in pricing exists. (Fifty-six percent of our respondents choose to be irrationally competitive.) Moreover, our study extends the research in this area by providing possible explanations for the phenomenon. We provide empirical evidence that certain individual differences influence whether decision-makers choose irrationally competitive pricing alternatives. These results are useful for managers. The implication is that they can identify individuals who are more likely
to act irrationally competitive and, as a result, are likely to make decisions that affect their firm negatively. In addition, managers can take steps to change this behavior. Indeed, research suggests that ethics education in the workplace may be a viable method of changing employee behavior (Gross-Schaefer et al., 2000). As Boulding (1994) emphasizes, in order to be successful decision-makers, managers must be capable of updating the way they make decisions. Therefore, perhaps, firms can create formal programs to educate their employees (i.e., update their decision-making processes) on issues such as competitive irrationality and ethics.

Finally, our results suggest that ethics can positively influence strategic decision-making (e.g., pricing decisions) and, in turn, the profitability of the firm. Although many of the choices managers are required to make are not "ethical" choices, many, however, contain components that can be viewed as being ethical in nature. For example, the pricing decision that was used in this study contains the idea of harming competitors, which, as we suggest, runs counter to such deontological norms as "do no harm." As a result, the choices made by some of the respondents were influenced by their ethical beliefs.

Undoubtedly, the ethical beliefs of managers do not affect all types of business decisions. However, as our results suggest, they can influence choices that can have a profound effect on the profitability of the firm, even when the decision situation does not have an obvious ethical content. Therefore, firms that encourage their employees to act ethically (e.g., through training and by having codes of ethics) may be affecting more than just the ethical choices their employees make. They may also be affecting the strategic decisions. Our findings suggest that ethics can be used to provide a better understanding of strategic choices.

As with any study of this type, there are some limitations that should be noted. The use of scenarios in research studies allows for more control by researchers, but often results in less realism. Such is the case in our study. Future research could explore the factors used in our study in more realistic settings. For example, when making pricing decisions, managers are often influenced by situation factors as well as factors such as managerial influence and corporate culture (Bass et al., 1998; Chen et al., 1997). These additional factors could be incorporated into future studies of this phenomenon.

In addition, many pricing decisions are made in a group setting (Chandrashekaran et al., 1996; Dawes et al., 1998; McQuiston and Dickson, 1991). This study did not investigate competitive irrationality in this context. Therefore, future research could investigate the impact of competitive irrationality on group decisions. We investigated the effect of moral philosophy on a pricing decision. Future research could explore whether a person’s moral philosophy affects other types of decisions (e.g., product and promotional decisions). The use of students as a sample is also a limitation of this study. Although our respondents do have considerable business experience (9.5 years on average), future studies could further our understanding of competitive irrationality by replicating our results with other samples (e.g., business owners or managers...
who are responsible for pricing new products). Finally, the lack of a well-
accepted measure of deontological orientation forced us to use a simple scenario
approach to measure this construct. Perhaps future research could help develop
a better measure of deontological orientation.

Notes

1 We know of no formal study that indicates the frequency for which the “do no harm” thesis
exists in deontological codes. The authors have discussed this issue with several ethicists,
however, who suggest that most professional codes incorporate, at least implicitly, this idea.

2 As was pointed out by an anonymous reviewer, the “do no harm” thesis and the concept of
competition do not seem compatible. Indeed, managers’ actions harm competitors on a daily
basis. However, the conflict is more apparent than real because harming competitors during the
 normal course of business is accepted under the “rules of the game.” Therefore, a harm incurred
by competitors cannot violate the “do no harm” principle when the harm occurs as a normal
outcome of the “rules of the game” of competition. In contrast, harming competitors when other
more profitable options exist, we argue, is different. Under these circumstances, as in our
pricing scenario, we suggest that people higher in deontological orientation will be less likely
to harm competitors

3 As pointed out by Borgatta and Bohrnstedt (1980), the variables of greatest interest to
social scientists are (most often) latent, continuous variables. However, these latent variables
(like competitive irrationality in this study) are often measured as discrete points along a
continuum. Furthermore, Borgatta and Bohrnstedt (1980) emphasize that the application of
parametric statistics to such variables does not result in seriously biased estimates.

4 In contrast to Griffith and Rust’s (1997) study, our scenario is not the typical Prisoner’s
Dilemma scenario that is often used in game theory experiments of this type. Instead, we
employ a scenario in which the Nash equilibrium is unambiguous and there is no conflict
between the cooperative solution and the uncooperative solution.

5 Age correlated highly with business experience (r = .88). Therefore, in order to avoid
problems with multi-collinearity, it was not included in the analysis as a control variable.

6 Comparable figures for the Frank, Gilovich and Regan (1993) study are not available. The
authors were contacted, but were unable to provide additional descriptive statistics

7 A series of exploratory regression analyses were done to assess the presence of any
interaction (moderation) effects. All possible interactions were examined and none was found
to be significant. In addition, sex was included in the analysis as a possible predictor or
moderator. The results indicated that sex was neither a significant predictor of competitive
irrationality nor did it interact with any of the other independent variables.

References


COMPETITIVE IRRATIONALITY


**Appendix A**

*Competitive Irrationality* (Adapted from Armstrong & Collopy, 1996). (four-point scale, where 1 = low price and 4 = high price)

You are the owner and marketing manager of a manufacturing firm known as BIG GUYS INC. Therefore, you are responsible for all marketing decisions and strategies, including the pricing structure of the firm’s products.

Recently your company introduced a new, highly technical product and you must decide the pricing strategy for this product. Your are aware that your main competitor, OTHER GUYS, INC., intends to produce a product that is very similar to the one that your firm has just introduced. You should assume that the competitor’s product is as good as yours in every way that is important to the market, and the market is the same for both products. Therefore, the pricing strategy that you must formulate for your product should take into account this competitive force.

You then calculate the present value of the total profits expected for your firm over the next 20 years, as well as for the competitor (OTHER GUYS). You determine the following results for four strategies:

<table>
<thead>
<tr>
<th>Firm</th>
<th>Low Price</th>
<th>Medium-Low</th>
<th>Medium-High</th>
<th>High Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIG GUYS</td>
<td>$40 million</td>
<td>$50 million</td>
<td>$65 million</td>
<td>$80 million</td>
</tr>
<tr>
<td>OTHER GUYS ($100 million)</td>
<td>($10 million)</td>
<td>$20 million</td>
<td>$40 million</td>
<td></td>
</tr>
</tbody>
</table>

*All profit figures represent the net present value of the projected profits (losses) for the next 20 years.

Which strategy do you choose? (circle your choice)

a. low price  b. medium-low price  c. medium-high price  d. high price
Appendix B

Deontological Orientation (Frank, Gilovich, & Regan, 1993). (11-point scale, where 1 = 0–1% and 11 = 99–100%.)

Question #1
After attending a football game, you return home to discover that you have lost an envelope from your jacket pocket. The envelope contains $100 in cash and has your name and address written on the outside. A stranger has found the envelope.

What would you say the chances are that this person will return your $100 to you? (check one box)

<table>
<thead>
<tr>
<th></th>
<th>0–1%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>99–100%</th>
</tr>
</thead>
</table>

Question #2
If you found $100 in an envelope like the one described in Question #1, what are the chances that you would return the stranger’s cash? (check one box)

<table>
<thead>
<tr>
<th></th>
<th>0–1%</th>
<th>10%</th>
<th>20%</th>
<th>30%</th>
<th>40%</th>
<th>50%</th>
<th>60%</th>
<th>70%</th>
<th>80%</th>
<th>90%</th>
<th>99–100%</th>
</tr>
</thead>
</table>

The first question is used to desensitize the respondents to the ethical issue and the second question is used as an indirect measure of the respondents deontological orientation.

Appendix C

Idealism (Forsyth, 1980). (Seven-point scale, where 1 = strongly disagree and 7 = strongly agree.)

- The existence of potential harm to others is always wrong, irrespective of the benefits to be gained.
- One should not perform an action which might in any way threaten the dignity and welfare of another individual.
- The dignity and welfare of people should be the most important concern in any society.
- It is never necessary to sacrifice the welfare of others.
- Moral actions are those which closely match ideals of the most “perfect” action.
- A person should make certain that their actions never intentionally harm another even to a small degree.
• Risks to another should never be tolerated, irrespective of how small the risks might be.
• One should never psychologically or physically harm another.
• If an action could harm an innocent other, then it should not be done.
• Deciding whether or not to perform an act by balancing the positive consequences of the act against the negative consequences of the act is immoral

Appendix D

Relativism (Forsyth, 1980). (Seven-point scale, where 1 = strongly disagree and 7 = strongly agree.)
• There is no ethical principle that is so important that it should necessarily be part of any code of ethics.
• Moral standards should be seen as being individualistic; what one person considers to be moral may be judged to be immoral by another person.
• Different types of moralities cannot be compared as to “rightness.”
• Questions as to what is ethical for everyone can never be resolved since what is moral or immoral is up to the individual.
• Moral standards are simply personal rules which indicate how a person should behave, and are not to be applied in making judgments of others.
• Ethical considerations in interpersonal relations are so complex that individuals should be allowed to formulate their own individual codes.
• Rigidly codifying an ethical position that prevents certain types of actions could stand in the way of better human relations and adjustment.
• No rule concerning lying can be formulated; whether a lie is permissible or not permissible totally depends upon the situation.
• What is ethical varies from one situation and society to another.
• Whether a lie is judged to be moral or immoral depends upon the circumstances surrounding the action.

Appendix E

Social Desirability (Crowne and Marlowe, 1960). (Dichotomous true/false scale.)
• I never hesitate to go out of my way to help someone in trouble.
• I sometimes feel resentful when I don’t have my way.∗
• I can remember “playing sick” to get out of something.∗
• There have been occasions when I took advantage of someone.∗
• I’m always willing to admit it when I make a mistake.
• When I don’t know something I don’t at all mind admitting it.
• I have never intensely disliked anyone.
• There have been times when I was jealous of the good fortunes of others.∗

∗ denotes items that were reversed scored
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