

## ABSTRACT

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CODES FOR CORPORATE CRIME: A  
META-ANALYSIS

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The current financial crisis, brought on in part by the risky and unethical behaviors of investment banks, has drawn attention to corporate crime, particularly on the issue of how to prevent it. Over the last thirty years, codes of conduct have been a cornerstone of corporate crime prevention policies, and consequently are now widespread, especially among large companies. However, the empirical literature is mixed on the effectiveness of codes, leaving them open to critics who charge that codes can be costly to implement, ineffective, and even criminogenic. In this dissertation I use meta-analysis to examine the evidence regarding the preventative effects of ethics codes for corporate crime. The results show that codes and elements of their support system, like enforcement and top management support, have a positive, significant effect on ethical-decision making and behavior. Based on these results, I propose an integrated approach toward self-regulation founded on Braithwaite's (2002) enforcement pyramid, which specifies that regulation should primarily be built around persuasion with sanctions reserved for situations where a stronger deterrent is needed.

THE DETERRENT EFFECTS OF ETHICS CODES FOR CORPORATE CRIME:  
A META-ANALYSIS

By

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## Chapter I: Introduction

The recent string of corporate scandals from firms such as Fannie Mae, Enron, WorldCom, Wal-Mart, ImClone, AOL Time Warner, and Tyco have renewed public interest in corporate crime and business ethics. In particular, the irresponsible and excessively risky business decisions from investment banks in the sub-prime mortgage market have roused public concern by demonstrating the devastating effects of corporate crime. By packaging bad mortgages into bonds and not being transparent about the status of their suffering loans, firms allowed greed and short-term profit to outweigh the intense long-term risk of their decisions (Dilnot, 2008). These irresponsible and unethical actions led to the failure of several large banking and investment firms, causing an economic tailspin that has resulted in a government bailout that may reach \$1 trillion, a record number of foreclosures, massive layoffs that have catapulted the nation's unemployment rate to the highest in decades, and a decline in the stock market that has resulted in retirement savings losses of over \$2 trillion (Montgomery & Cho, 2009; Davis, 2008). Currently, policymakers' priorities are on stabilizing the hemorrhaging economy, but a secondary focus is on future reform to prevent the risky and unethical business actions that contributed to the financial collapse. U.S. Secretary of the Treasury, Henry Paulson, Jr., said that the crisis exposed "excesses and flaws" in the system that are "humbling", and he proposed several regulatory reforms, including increased transparency and a market stability regulator with the authority to review any systemically important financial company...to protect against systemic risk (Paulson, 2009).

Earlier corporate scandals also resulted in strategies for preventing corporate misconduct, such as doubling recommended sentences for certain corporate crimes and demanding that corporations increase self-regulation. Specifically, Congress enacted the Sarbanes-Oxley Act following the Enron meltdown in 2002 to restore public trust in the markets. The Act provides a specific definition of codes of conduct, requires disclosure of codes that apply to senior financial officers, includes provisions to encourage whistleblowing, and requires the U.S. Sentencing Commission to revise the Organizational Sentencing Guidelines so that they are sufficient to deter and punish organizational crime (Sarbanes-Oxley Act, 2002). In effect, Sarbanes-Oxley enhanced criminal fraud penalties by doubling the maximum prison term for securities fraud, quadrupling the maximum term for mail and wire fraud, and increasing the maximum fine for securities fraud by five times for individuals and ten times for organizations (U.S. Sentencing Commission, 2003).

Corporations responded to these demands for self-regulation by stepping up compliance programs and internal controls (Smith et al., 2007). Internal control mechanisms can include: ethics training, ethics-focused corporate governance, ethics committees, whistleblowing systems, judiciary boards, ethics reward systems, and codes of ethics (Lindsay, Lindsay & Irvine, 1996). Ethics training can take various forms, but it generally entails instructional classes designed to develop employee awareness of ethics in business, draw attention to ethical issues an employee may face, increase employee ability to analyze ethical issues and improve management (Brytting, 1997). Ethics-focused corporate governance is a broad concept and can mean different practices in different companies (Chen, 2001). Typically ethics-focused corporate governance

includes internal ethics audits, top management participation in the implementation and review of ethics programs, and top management playing an integral role in the monitoring of behavior (Hess, 2007). Ethics committees, sometimes called public interest committees, social responsibility committees, or corporate responsibility committees, are organizational units devoted to ethical issues. These groups emphasize the structuring of ethics on a national basis, hold management responsible for its stewardship of the company, turn the ethics code into a living document and support the interpretation of the code in certain situations (Brytting, 1997). Whistleblowing systems provide safe channels, such as anonymous hotlines or the use of an ombudsperson, for employees to report violations of the organization's ethical standards. These systems determine whether whistleblowing should be encouraged inside or outside the organization and whether the whistleblower's identity should be kept confidential (Lindsay et al., 1996). Judiciary boards are a formal unit within the organization for investigating charges of unethical behavior (Wood & Callaghan, 2003). Ethics reward systems provide motivation to employees to behave ethically and include formally rewarding employees for ethical behavior with bonuses and promotions, penalizing employees for unethical behavior, and including ethics compliance as part of the performance review of employees (Lindsay et al., 1996). Of these internal control options, codes of conduct (and their sustaining components, like enforcement and top management support of the code) have been the most frequently implemented since the Watergate era and have become the most common vehicle for addressing business ethics (Center for Business Ethics, 1992; Jose & Thibodeaux, 1999; McKendall DeMarr, & Jones-Rikkens, 2002).

Codes of conduct have been popular over the years because they are visible ways of demonstrating the ethical nature of a company, but the expectation is that they are more than just “window dressing” to make the company appear ethical. The larger purpose of a code of conduct is to establish the moral values recognized by a company and to communicate these values and the company’s expectations to employees (Montoya & Richard, 1994). Codes counteract pressures to behave unethically that may result from performance expectations and bottom-line evaluations by providing attitudes favorable to the law, ensuring that ethical values and behavior become the governing culture in a company.

One reason for their current popularity is that the collapse of Enron was preceded by the decision of the company’s directors to waive provisions of the company’s code of ethics in order to allow Enron’s chief financial officer to benefit from transactions involving the company (Navran & Pittman, 2003). Although it is debatable whether this waiver allowed a conflict of interest to foster unethical and illegal behavior, it is clear that the collapse of Enron has revived discussions about how to best prevent and control illegal conduct by businesses. As a result, Congress and the Securities and Exchange Commission have made significant changes in the oversight of public companies. Specifically, the passage of the Sarbanes-Oxley bill in 2002 included a requirement that public companies disclose whether they have codes of ethics and whether there are any waivers of those codes for members of senior management (Navran & Pittman, 2003).

A key issue then is whether corporate codes of conduct deserve the trust Congress and corporations have placed in them. That is, are codes of conduct capable of promoting ethical behavior and preventing corporate crime? Codes of conduct have been

the focus of a large number of studies in both the criminology and business literature. The majority of these studies, though, focus on the prevalence of codes, the content of codes, and attitudes toward codes but not the effectiveness of codes (see, e.g., Farrell & Cobbin, 2000; Chatov, 1980; Montgomery & White, 1980; Cressey & Moore, 1983; Benson, 1989; Preston & Mihalko, 1999; Sweeney & Siers, 1990; Lindsay et al., 1996; Moyes & Park, 1997; Weaver, Trevino, & Cochran, 1999; Peppas, 2003). Those studies that do address the effectiveness of codes have produced mixed results (Chonko & Hunt, 1985, Matthews, 1987; Akaah & Riordan, 1990; Schnatterly, 2003; Boo & Koh, 2001; Cunningham, 1992; Ferrell & Skinner, 1988; Brief, Dukerich, Brown, & Brett, 1996; Adams, Tashchian, & Shore, 2001). This literature examines whether codes influence ethical judgments, ethical intentions, and unethical and illegal behaviors, such as regulatory violations (OSHA, EPA, SEC, FDA, etc.), fraud, accepting bribes, gift giving, using misleading ads, using insider information, violating confidentiality, theft, and tax evasion. For instance, Matthews (1987) examines regulatory violations by 337 companies and finds that codes have no effect on either the existence of violations or the number of violations committed by a company. On the other hand, Schnatterly (2003) used a matched-pair design with 57 firms who had committed an economic crime and 57 firms with no record of crime during a ten-year period. Codes significantly affected the number of economic crimes committed by firms in her sample.

Despite the growing literature on codes, however, there have been few efforts to synthesize and “make sense” of the existing body of scholarship. There are two reviews of the ethical decision-making literature that attempt to aggregate the evidence regarding the influence of codes of conduct, but these reviews are often selective in the studies

included and discussed, and they both rely on vote-counting methodology, i.e., comparing the number of studies that find significant effects to those that do not. For example, Ford and Richardson (1994) review nine studies that examine whether codes of conduct influence employee behavior. They conclude that, on balance, codes positively increase an individual's ethical beliefs and decision behavior. Of the studies they reviewed, though, two found codes not to have significant effects (Akaah & Riordan, 1989; Hunt, Chonko, & Wilcox, 1984), one provided "weak support" (Murphy, Smith, & Daley, 1992), and another found enforced codes associated with higher levels of ethical behavior for some subjects but not others (Ferrell & Skinner, 1988). While their review indicates five out of nine studies supported the influence of codes, the review relies on qualitative summaries and vote-counting methods and does not take into consideration the methods or strength of the studies. The authors list the studies and note that six use questionnaires, one uses vignettes and two use in-basket experiments, but they do not discuss how these methods affected results and whether more weight should be given to studies that use random samples and randomize the presence of codes.

The second review of the ethics codes literature also utilizes a vote-counting methodology. This study also suggests that codes have positive outcomes, concluding that a "majority of the studies revealed that codes influence ethical decision making and assist in raising the general level of awareness of ethical issues" (Loe, Ferrell, & Mansfield, 2000: 194). Although the authors claim to use seventeen studies that address the role of codes in an organization, only four actually use statistical analysis to examine the relationship of codes to decision-making or behavior, and these studies are split on the importance of codes. Two find a significant influence on behavior (Weaver &

Ferrell, 1977; McCabe, Trevino, & Butterfield, 1996), but the other studies report no significant impact on behavior or decision-making (Ferrell & Weaver, 1978; Kohut & Corriher, 1994). Excluding these four, the rest of the included studies in the review are surveys that ask employees to rank the influences in decision-making, such as personal code, formal company code, or behavior of co-workers or one's superiors (Brenner & Molander, 1977; Dubinsky, Jolson, Marvin, Michaels, Kotabe, Lim, 1992; Glenn & Van Loo, 1993; Robertson & Schlegelmilch, 1993; Bruce, 1994), are not empirical (Kaye, 1992), examine the content of codes (Beneish & Chatov, 1993), or do not focus on codes but rather ethical climate as a whole, whistleblowing, or ethics courses (Trevino & Youngblood, 1990; Barnett, 1992; Allen & Davis, 1993; Verbeke, Ouwerkerk, & Peelen, 1996; Barnett, Chochran, & Taylor, 1993; Kawathatzopoulos, 1993). Further, this review does not include any of the nine studies assessed in Ford & Richardson (1994).

While this is not a neglected area of study, further work is clearly necessary to clarify these findings. The reviews discussed above are limited by their vote-counting methodology because they are unable to quantitatively summarize the results of the individual studies, and they have no way of statistically assessing the influence of such methodological variations on the effect size of their key variables. Thus, after over two decades of research on the subject, we still do not know whether the trendiest form of corporate self-regulation reduces ethical and illegal behavior. In this study, I plan to address this problem by using meta-analytic techniques on a sample of 36 empirical studies to determine whether codes and their supporting components affect unethical and illegal decision-making and behavior. First, though, it is important to present the definition of white-collar crime used in this study as well as the definition of codes of



conduct, along with a brief discussion of their content and purpose.

Defining white-collar crime is actually not a straightforward task. There is debate over whether the definition should be offender- or offense-based and whether it should include individual or company behavior. The meta-analytic nature of this study requires a broad definition of white-collar crime that encapsulates the behaviors included in prior studies of code effectiveness. Thus, I use the definition provided by the Department of Justice, which describes white-collar crime as “those illegal acts which are characterized by deceit, concealment, or violation of trust and which are not dependent upon the application or threat of physical force or violence” (USDOJ, 1989, p. 3). This is an offense-based definition that encompasses acts committed by individuals and companies and also acts committed on behalf of the organization as well as against the organization. Ideally, as a criminologist, I would prefer to focus on the influence of codes on criminal behavior as presented by this definition. Many studies on codes, though, address effects of codes on stages of ethical decision-making and ethical behavior, rather than strictly illegal behavior. Thus, the focus of this research is more inclusive. I still address the effect of codes on illegal behavior, but I also examine the effect codes have on the ethical decision-making process and ethical behavior of company employees.<sup>1</sup> I now turn to the definition of a code of conduct.

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<sup>1</sup>This seems justified in light of the current financial crisis (discussed above), which was preceded by unethical business decisions that blurred the line between doing business and crime. In addition, illegal and unethical behaviors often share common characteristics and lend themselves to empirical inquiry in combination (Smith et al., 2007). Studies on fraud provide evidence of the correlation between ethics and illegal behavior; Heiman-Hoffman, Morgan, and Patton (1996) surveyed 130 external auditors who ranked 30 commonly cited warning signs of fraud. Ethics-related attitude factors, like dishonesty and lack of integrity, were more indicative of fraud than situational factors. This overlap between ethics and the law is further supported by the fact that the U.S. Sentencing Commission believes that ethical compliance programs featuring codes of conduct will reduce illegal corporate behavior (U.S. Sentencing Commission, 2004).

A code of conduct (code), also frequently referred to as a code of ethics or code of practice, is a document containing a company's philosophy and rules of ethical and acceptable behavior (Sanderson & Varner, 1984). A code should be differentiated from a credo, a value statement, and a mission statement. Credos and value statements partially overlap the contents of codes (Benson, 1989), but codes provide a more detailed discussion of a firm's ethical policies than do credos and value statements (Murphy, 1995). Codes are distinct from mission statements, which declare what the corporation intends to accomplish, while ethical codes address the values embraced by the corporation (Stevens, 1996). For the purposes of this study, then, a code of conduct is "considered to be a written, distinct, and formal document which consists of moral standards used to guide employee and/or corporate behavior" (Schwartz, 2001: 248).<sup>2</sup>

Codes vary in content, specificity, and length, but they tend to address certain common subjects. For instance, codes usually cover employee relations to the firm and the firm's relation to employees, shareholders, customers, the government, the local community, and occasionally, the environment (Chatov, 1980; Cressey & Moore, 1983; Benson, 1989; Robin, Giallourakis, David, & Moritz, 1989; Langlois & Schlegelmilch, 1990; Preston & Mihalko, 1999; Wood, 2000). Concerning employee behavior, codes

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<sup>2</sup> Codes of ethics are often established by professional organizations as well as individual companies. Professional codes generally share the same definition and purpose of corporate codes, except that professional codes are meant to regulate the entire profession's conduct, not just the individual corporation's behavior (Preble & Hoffman, 1999; Farrell & Cobbin, 2000; Jakubowski, Chao, Huh, & Maheshwari, 2002). While professional codes of conduct are hypothesized to inhibit wrongdoing in a similar manner as corporate codes, professional socialization is not under the direct control of corporations. Thus, there are some concerns with extrapolating theory and research on corporate codes and employee wrongdoing to professional codes since it is not clear if the same socialization process applies (Somers, 2001). Further, the literature on the impact of professional codes is not as mixed as that on corporate codes; professional codes are positively and significantly related to ethical perceptions, judgments, and intentions (Ziegenfuss & Singhapakdi, 1994; Singhapakdi, Rao, & Vitell 1996; Martinson & Ziegenfuss, 2000; Verschoor, 2000; Ziegenfuss, 2001; Douglas, Davidson, & Schwartz, 2001; Ziegenfuss & Martinson, 2002; Lampe & Finn, 1992). For these reasons, I focus on the influence of company codes of conduct excluding other codes.

tend to concentrate on conflict of interest, extortion, gifts, and kickbacks, insider information, bribery, confidentiality, and theft. For instance, 64% to 73% of codes in studies covered conflict of interest while 46% to 67% of codes in these studies covered extortion, gifts, and kickbacks (Chatov, 1980; White & Montgomery, 1980; Sanderson & Varner, 1984; Hite, Bellizzi, & Fraser, 1988). Regarding firm behavior, codes focus on bribery, violation of laws, insider information, fraud, and antitrust violations. Between 59% to 72% of codes in studies addressed bribery of political officials, and the percentage of codes addressing fraud ranged from 39% to 66% (Chatov, 1980; White & Montgomery, 1980; Sanderson & Varner, 1984; Hite et al., 1988).

There are three general purposes of a code of conduct; first, codes establish the moral values recognized by a company. Codes also communicate the company's behavioral expectations to employees, and they demonstrate to employees and the public that the company operates within specific ethical parameters (Montoya & Richard, 1994). If a code accomplishes these goals, the company can benefit greatly. Codes can enhance a corporate reputation, signal that a company is committed to ethical behavior, help create a cohesive corporate culture, and help a corporation avoid fines, sanctions, and litigation (Caraasco & Singh, 2003). By setting clear codes of conduct, responsible corporations create an individual and highly positive public identity for themselves that can have a direct effect on their bottom lines in terms of increased revenues, customer loyalty, expanded markets, productive workforce, and a supportive political and regulatory environment (Sethi, 2002).

While codes can be highly beneficial, some critics claim that they are only successful under certain circumstances. For example, some assert that codes may not

work in all industry-structure and competitive conditions. Sethi and Sama (1998) provide a framework that suggests both market-based (external) and institutional (internal) factors guide ethical behavior in businesses. The interaction of these factors produces four business environments with different industry-structures and levels of competition. According to Sethi and Sama (1998), these different environments require different systems of compliance to address the potential for unethical behavior. Codes of conduct have a higher probability of success and effectiveness in the high growth economic activity environment and the regulated or highly stable, mature business environment while in the other two environments, it would be more appropriate to seek more externally imposed, coercive regulations. Thus, Sethi and Sama (1998) are supportive of codes but believe they are applied too readily in all circumstances when, in fact, they are more successful in certain industry-structure and competitive conditions. Other critics allege that the presence of a code is not enough; employees must be familiar with, and comprehend, the content of the code in order to comply with the code (Weaver, 1995). Survey evidence shows, though, that codes are distributed to employees and that most employees are familiar with their company's code (White & Montgomery, 1980; Giacobbe & Segal, 2000). Another criticism is that in order for codes to have an impact on behavior, they must be enforced with sanctions that are clearly stated in the codes (Laczniak & Murphy, 1985). Survey results also address this issue and show that high percentages of respondents indicate codes are enforced in their organization (White & Montgomery, 1980; Chonko, Wotruba, & Loe, 2002).

A more basic problem leveled at codes is that ethics cannot be codified into a system of concrete rules that imposes values on others (Dienhart, 1995). Codes are

accused of being ineffective because they merely state rules and do not encourage ethical reasoning (Harrington, 1996). Dienhart (1995) challenges this notion by pointing to several codes of conduct and arguing that most codes are not composed of rules to mechanically follow. Many codes, even when they contain rules, include moral principles to guide professionals in their interpretation of the code and help them make decisions in areas not specified by the code. Another criticism is that codes are merely a public relations gimmick and are not capable of altering judgment or behavior (Dienhart, 1995; Harrington, 1996). In their examination of code content, Cressey and Moore (1983) voiced their concern that codes are ineffective, saying that, “the codes we have examined thus reflect a misplaced confidence that behavioral change will follow from mere ethical preaching and ethical modeling...codes have done very little to relieve the organizational pressures to be unethical” (p. 74). Benson (1989) disagreed with this conclusion and criticized it as premature given the growth and refinement of codes occurring in the 1980s.

The research goal of this dissertation is to determine whether, in the 20 years subsequent to code growth and refinement, codes of conduct influence decision-making and behavior. This is a unique study and adds to the literature because it is the first study to use meta-analytic techniques to statistically summarize the literature on the effectiveness of ethics codes. Meta-analysis is a quantitative alternative to the traditional narrative or vote-counting reviews of empirical literature; it is a form of survey research in which studies, rather than people, are surveyed. Meta-analysis applies to empirical research studies that produce quantitative findings and allows for the statistical analysis of these findings. This involves reviewing, combining, and quantitatively summarizing

the results of the existing studies. Specifically, it requires expressing the findings of each study in an effect size, which is a statistic that encodes the critical quantitative information from each relevant study finding based on the concept of standardization to ensure values are comparable (Lipsey & Wilson, 2001).

As described by Lipsey and Wilson (2001), a large-scale meta-analysis has four clear advantages over traditional narrative reviews. First, it is a structured research technique that requires all steps to be “public” and open to scrutiny, meaning that the author’s procedures, evidence and conclusions can be assessed and replicated. Second, it represents key study findings in a manner that is more sophisticated than conventional reviews by encoding the magnitude and direction of each relevant statistical relationship. Thus, it provides a more precise estimate of the relationship, across all empirical tests, of codes to ethical decision-making and behavior. Third, it allows for an analytically precise examination of the relationships between study findings and study features such as sample characteristics, research design, and measurement procedures.<sup>3</sup> Fourth, the systematic coding procedures and construction of a computerized database provide an organized way of handling information from a large number of study findings. Further, since this database is dynamic and not static, as additional studies are published, they can be added to the sample of studies and the relationships can be reassessed. Through the use of meta-analysis, I improve upon the reviews currently available by attempting to unravel the mixed results of previous studies and determine, using effect sizes calculated from these studies, whether codes of conduct influence decision-making and behavior and play a role in preventing corporate crime.

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<sup>3</sup> While I am unable to take full advantage of this strength of a meta-analysis because of small sample sizes and the limited data provided in the initial studies, I conduct a preliminary investigation of moderator variables.

In addition, the findings will be informative for policy decisions regarding organizational behavior. Critics of codes of conduct claim that they are ineffective and costly and that they may lead to more illegal behavior (Krawiec, 2003, Laufer, 1999). Krawiec (2003) claims that the legal system's favorable treatment of corporations with codes and other compliance structures lead to under-deterrence because compliance systems are easily mimicked and true effectiveness is difficult for courts and regulators to determine. She also argues that harsh treatment of companies without codes has led to a proliferation of costly and potentially ineffective compliance programs. She cites studies that state that "corporations have invested a substantial amount of energy in revising their ethics statements" and "adopting corporate codes (and the compliance programs that inevitably accompany them) is costly" (p. 492, footnote 15). Further, Laufer (1999) contends that codes might actually lead to more illegal behavior because firms adopt codes and compliance programs that provide the benefits of a mitigated sentence under the organizational sentencing guidelines without actually changing the firms' operations. If codes truly are costly and ineffective, then the emphasis on them in Sarbanes-Oxley and the sentencing guidelines is misplaced and could be more damaging than helpful, as these critics claim. Thus, it is very important to determine whether codes are effective. Finding that they are not effective could save companies a great deal of time and money and allow them to focus on more efficient means of preventing corporate crime. Providing evidence that they are effective would support Sarbanes-Oxley and the sentencing guidelines and show that codes are not a waste of money and energy. In this way, the findings here will be useful to corporations by determining whether time and money spent developing codes of conduct are productive uses of company resources.

This study will also inform policy decisions by determining whether codes are effective measures for preventing corporate misconduct. Given their central role in many policies regarding corporate crime prevention, this study is overdue and will add to the literature by being the first examination of code effectiveness to use meta-analysis.

In the next chapter, I present an overview of codes of conduct and lay out the theoretical framework that guides the research. I then turn to the empirical literature to summarize the findings on the effectiveness of codes, paying particular attention to several models of ethical decision-making that are prominent in these studies. From this review, I develop research hypotheses. In the third chapter, I discuss the sample and methodology I used in this study. The fourth chapter contains the results of the analysis, and the final chapter provides a discussion of the results and their implications for policy as well as future research.



## Chapter II: Literature Review

### *History of Codes of Conduct*

Ethics codes in organizations have existed in some form since at least the 1920s; during this period, they were standard among trade associations and cooperatives (White & Montgomery, 1980; Stevens, 1996). In the 1950s, creeds or credos were more popular in companies than codes, and were likely the precursor to the codes of the 1970s (Benson, 1989). Despite this, between 15% and 40% of large companies had codes in the 1950s and 60s (Fulmer, 1969). Codes of conduct became widespread during the Watergate era, mostly as a result of the investigation of prominent corporations discovered bribing foreign and domestic government officials (Benson, 1989). The resulting legislation, the Foreign Corrupt Practices Act (FCPA) of 1977, created a legal obligation for corporate management to develop and maintain an effective system of internal control that would prevent employee misconduct. Consequently, written codes of conduct were developed and integrated into routine management training and operations (Preston, 1990), and companies that already had codes expanded or modified their codes of conduct (White & Montgomery, 1980). Sheffet (1995) reported that 40% of the companies in her sample of 68 Fortune 500 firms made changes to their codes after the passage of the FCPA, indicating that many firms were concerned about what behaviors were acceptable under the new law. At the same time, Watergate prompted a dramatic increase in the number of public sector codes of ethics (Hays & Gleissner, 1981).

A decade later following the massive Savings and Loans scandals, the National Commission on Fraudulent Financial Reporting (Treadway Commission) issued its final

report.<sup>4</sup> The Treadway Commission was charged with identifying causes of fraudulent financial reporting as well as solutions, and it recommended that public companies should develop and enforce written codes of corporate conduct (Brief et al., 1996). After this key report, organizations with codes refined their codes of conduct, and companies without them began to develop and implement them (Muphy, 1995). Further improprieties within both public and private sectors propelled the issue of ethics into the 1990s, and so ethics codes became increasingly popular (Montoya & Richard, 1994).

In 1991, the U.S. Sentencing Commission finalized the Federal Sentencing Guidelines for Organizations. Congress created the Sentencing Commission with the enactment of the Sentencing Reform Act in 1984 and gave the Commission the task of decreasing unwarranted sentencing disparity, increasing sentencing uniformity, and increasing sentence severity to more effectively deter and punish offenders (Nagel & Swenson, 1993). At the time, high profile fraud and insider trading scandals had Congress and a majority of the public believing there was a disjunction between the severity of sentences given to white collar offenders compared to those given to non-white collar offenders. The Commission conducted an extensive study on the sentencing of organizational offenders and discovered a large amount of disparity in the system (Nagel & Swenson, 1993). After passing the sentencing guidelines for individual offenders in November of 1987, the Commission turned its attention to the sentencing of organizations. In order to distinguish between companies that make efforts to prevent

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<sup>4</sup> The Treadway Commission was a private sector initiative jointly sponsored by the five major financial professional associations in the United States, the American Accounting Association, the American Institute of Certified Public Accountants, the Financial Executives Institute, the Institute of Internal Auditors, and the National Association of Accountants (now the Institute of Management Accountants). The Chairman of the National Commission (and the namesake) was James C. Treadway, Jr., Executive Vice President and General Counsel of Paine Webber Incorporated and a former Commissioner of the U.S. Securities and Exchange Commission (Brief et al., 1996).

crime and those that make no compliance-related effort at all, the guidelines allow for mitigated sentences for organizations with a compliance program designed to prevent, detect, and deter individuals from engaging in illegal behavior (Nagel & Swenson, 1993). According to the guidelines, an effective compliance program consists of seven elements, including the development of a code of conduct and enforcement of the standards set forth in the code (U.S. Sentencing Commission, 2004). As set forth by the guidelines, the presence of a code of conduct has a large impact on a corporation's culpability score, which can greatly reduce the fine levied against the corporation and protect it from probation (Ruhnka & Boerstler, 1998). Thus, a considerable emphasis was once again placed on the influence of ethics codes by legislation, and studies show that between 20 and 40% of corporations responding to surveys claim they either instituted or enhanced their ethics programs in response to the Sentencing Guidelines (McKendall et al., 2002).

During this past decade, corporate corruption was again exposed with the discovery of illegalities from leading companies like Enron, AOL Time Warner, Tyco, and ImClone. As already mentioned, Congress passed the Sarbanes-Oxley Act in 2002 as a direct result of Enron's code waivers and subsequent ethical collapse. This legislation requires companies to have a code of ethics or explain why they do not; it also requires companies to disclose whether there are waivers in the code for senior management (Navran & Pittman, 2003). Thus, over the last thirty years, codes of conduct have been the cornerstone of corporate crime solutions proposed by Congress, the Treadway Commission, and the U.S. Sentencing Commission.

### *Prevalence of Codes of Conduct*

In accordance with the history of corporate misconduct and the resulting legislation, trends of code adoption show a steady growth since the 1970s with steep increases after the mid-1970s and mid-1980s (Weaver et al., 1999, Ruhnka & Boerstler, 1998). Studies show that a consistently high proportion of large companies have codes. White & Montgomery (1980) surveyed 673 Fortune 1000 companies and found that 77% had a code; this was strongly and positively correlated with size – 40% of smaller companies, 75% of midrange companies, and almost 97% of larger companies had codes. A Conference Board Study from 1987 showed that 75% of the 300 major companies surveyed used a code of conduct (News Report, 1988). In its 1985 and 1990 surveys, the Center for Business Ethics (1986, 1992) found a consistent 93% of Fortune 1000 companies had a code. Murphy (1995) reported a similar prevalence of codes, 91%, in his survey of 235 companies from the Forbes 500 directory. While these studies show that almost all large companies have a code of conduct, earlier studies that made an effort to include smaller companies in their sample found lower percentages of adoption. Sweeney and Siers (1990) report that 56% of companies had a code while Robertson and Schlegelmilch (1993) found that 54.5% of companies used a code. A more recent study, though, shows a changing pattern regarding the correlation between codes of conduct and size of company. Reichert, Webb, & Thomas' (2000) survey shows that 90% of the 146 companies in their sample had a code of conduct in 1994. Of the 146 companies, 100 were small and medium sized, and 89.8% of the small companies and 88.6% of the medium companies reported using an ethics code. Thus, codes are widespread in large companies and seem to be gaining popularity in smaller companies as well.

### *Attitudes Toward Codes of Conduct*

Given the historical legislative support for codes and the prevalence of codes of conduct in companies, it is useful to examine whether managers and employees think codes are effective. Baumharts' (1961) study showed that 71% of the sample agreed or partly agreed that codes of conduct would raise the ethical level of the company. The percentage of respondents agreeing with this statement fell to about 56% in Brenner and Molander's (1976) replication survey and in Becker and Fritzsche's (1987) survey of 70 U.S. marketing managers. Another survey by Pierce and Henry (1996) asked respondents whether they thought a formal code is a deterrent of unethical behavior; the responses of 356 information systems professionals showed only moderate confidence in the influence of a formal code of conduct. Further, when asked to rate the importance and usefulness of their formal code, it was ranked below the respondent's personal code and the company's informal code (Pierce & Henry, 1996). In a survey of 171 accountants, respondents rated having a written code of ethics as one of the least effective practices in preventing fraud. The more experienced the accountant, the more likely he or she was to rank the code as ineffective (Johnson & Fludesill, 2001). According to Jose and Thibodeaux's (1999) survey, 70.9% of marketing and human resource managers reported that ethics codes would affect ethical behavior of an organization; while this is a respectable proportion, codes were less influential than top management support (98.8%), ethical leadership (96.5%), open communication channels (96.5%), corporate culture (93.0%), and ethics training (90.7%). Given these mixed attitudes toward code effectiveness, why should we assume that codes influence managerial behavior? Is there any reason to believe that codes are capable of influencing behavior? Social learning

theory and rational choice theory would predict a positive impact for codes on attitudes and behaviors, but only under the right situational conditions.

### *Theoretical Background*

Both social learning and rational choice theories provide a theoretical framework for a link between codes of conduct and behavior. To reiterate the purpose of codes discussed above, codes of conduct set the ethical climate of an organization; they signal the ethical attitudes expected of employees and dictate acceptable behavior. Individuals in business make ethical decisions within a corporate environment, and so employees in an organization with a code should refrain from illegal behavior according to both social learning and rational choice theories.<sup>5</sup>

In Edwin Sutherland's differential association theory, he posited that criminal behavior is learned like any other behavior. According to Sutherland (1947), learning occurs in social interaction in a process of communication with intimate personal groups, and a person becomes criminal when he or she is exposed to an excess of definitions (beliefs) unfavorable to the law. Conversely, if a person were exposed to more definitions favorable to the law, he or she would eschew unethical and illegal behavior. Through the learning process, the person acquires attitudes, motivations, rationalizations, and the techniques for committing the crime. The greater the frequency, duration, and intensity of contacts with groups who condone or participate in criminal activity, the more likely a person will become delinquent (Sutherland & Cressey, 1960).

In his seminal work on white collar crime, Sutherland (1949) argued that while he did not set out to test differential association, the "data available suggest that white collar

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<sup>5</sup> Unfortunately, data limitations and the scope of my research questions prevent me from testing which theory best specifies the mechanisms involved in the relationship.

crime has its genesis in the same general process as other criminal behavior, namely differential association” (p. 240). Based on interviews with white collar criminals, Sutherland explained that part of the process of learning practical business involves learning white collar crime. In some cases, young businessmen were ordered to do illegal things by their superiors and in others they learned from co-workers the specific techniques for violating the law and the situations in which those techniques are used. Sutherland (1949) also discussed the diffusion of illegal practices to lend more support to his theory; he argued that when one firm devises a method for increasing profits, other firms become aware of the method and adopt it as well. He provided examples of this phenomenon, such as the spread of false advertising throughout the automobile industry, and he explained that the diffusion involved not only the practices but also the attitudes toward those practices. Further, Sutherland (1949) stated that while businesspeople are in contact with definitions that are favorable to white collar crime, they are also isolated from and protected against definitions that are unfavorable to such crime. For instance, businessmen and businesswomen work in an environment where people who define certain practices as unethical are shunned and negatively labeled, rendering their opinions troublesome and unattractive, and they are shielded from harsh criticism by the government that passes special laws so that the stigma of crime will not be attached to those who violate these laws. Sutherland believed that the interviews and data he collected provided support that differential association applied to and could explain white collar crime.

Social learning theory, formulated by Akers and Burgess (1966), elaborates upon differential association by specifying that criminal behavior is learned according to the

principles of operant conditioning, imitation and differential conditioning. Thus, people not only learn definitions favorable or unfavorable to the law through differential association, but also imitate behaviors they witness. The learning of attitudes and behaviors occurs in both social and nonsocial situations that reinforce the behavior, and the principle learning is done with intimate others, like family, friends, and peers or co-workers. According to Akers and Burgess (1966), the attitudes and behaviors acquired are then reinforced through rewards or punishments. Reinforcements of behavior are reactions from others that influence us to commit the behavior again in similar situations, and there are both positive and negative reinforcements. Positive reinforcements are given when our actions are followed by a pleasing or enjoyable reward, such as giving a child candy for behaving. When our actions are followed by the removal of a painful or unpleasant stimulus, this is a negative reinforcement. Similarly, there are positive and negative punishments; punishments have the effect of repressing or weakening the behavior. A positive punishment introduces something unpleasant following the behavior, like a spanking, while a negative punishment involves the removal of a privilege, like suspension of a driver's license. The availability and effectiveness of reinforcements and punishments influence the type of behavior learned and the magnitude of this behavior (Akers, & Burgess, 1966). So the process by which deviant behavior becomes dominant over conforming behavior in a certain situation is differential reinforcement. They stipulate that reinforcements work best when one behavior is rewarded while the other is punished, but if two similar behaviors are both rewarded, the person is more likely to commit the behavior that is rewarded more or more often. Social learning theory is complex with direct, indirect, and reciprocal effects.



Akers (1977) applied social learning theory directly to white collar crime in his book, *Deviant Behavior*. He states that white collar criminals learn criminal behavior and definitions from others in similar positions and that the major source of reinforcement for their criminal behavior is economic. Akers (1977) cites Geis's study of antitrust violations by 29 leading electrical companies discovered in 1960 to illustrate how social learning accounts for the process of promoting and sustaining the law-violating behavior. He explains that companies maintained legal behavior when it brought greater rewards, but when illegal behavior offered greater gain, the conspiracy and fixed bids flourished. Price fixing was an established practice in the company when employees were hired, and they received training in the techniques and rationalizations of the practice by directors, immediate superiors and coworkers. They also learned that the way to promotion, increased salary, and approval of peers and superiors was to violate antitrust laws (Akers, 1977). For Akers, this conspiracy illustrated how social learning explains white collar crime.

According to social learning theory, then, employees refrain from illegal behavior because the code signals the dominant attitude of the company. To the extent that the code is followed and upheld in the company, top managers and employees act as models of appropriate behavior for new employees, and so new employees should exemplify legal behavior. Further, top managers can reinforce learned attitudes and behaviors by rewarding behaviors that conform to the codes and punishing behaviors that deviate from it. The codes themselves often outline sanctions for contravening the code (White & Montgomery, 1980; Cressey & Moore, 1983; Murphy, 1995; Gordon & Miyake, 2001),

and surveys describe high percentages of respondents who indicate codes are enforced in their organization (White & Montgomery, 1980; Chonko et al., 2002).

In an organization without a code, though, the dominant norms and values may be determined by a myriad of factors. According to Jones (1991), organizational settings present special challenges to moral agents. Ethical decision-making at the individual level is difficult and is often complicated by major organizational factors. Organizational factors can create impediments to individual ethical behavior, such as group pressure and orders from managers. It is widely recognized that even highly ethical individuals can become caught up in organizational policies that institutionalize unethical values, like racism and sexism, permanently damage the environment, and frustrate public and national objectives (Preston, 1990). Thus, without a code to set and convey ethical attitudes and behaviors within the organization, employees can learn unethical attitudes and criminal techniques. As mentioned, Akers (1977) argued that the dominant reinforcement for white collar crime is economic. According to this argument, businesses are under tremendous pressure to make a profit. As a result of this need, there are pressures on businesses and employees to compromise ethics for their own personal advantage and/or that of the business (Siegel, O'Shaughnessy, & Rigsby, 1995). It has also been argued that white collar crime results when the dominant culture is driven by competition and rewarding success above all else (Shover & Hochstetler, 2006; Fox, 2003). In the case of Enron, there was immense competition between employees and divisions, and the goals for success continually changed and grew as the company grew. This competition fostered a lack of communication between divisions, resulted in a constant reorganization so that managers were less able to maintain oversight, and

created an emphasis on short-term goals and monetary success (Fox, 2003). Shover and Hochstetler (2006) contend that rewarding success above everything provides justifications for misconduct. In competitive environments, normative restraints are transformed into challenges to be circumvented or used to advantage. In accordance with social learning theory, codes would set the tone of the organization by stating the acceptable attitudes and behaviors, which are then learned by managers and employees and reinforced with rewards and sanctions that are made explicit in the codes themselves.

An alternative explanation for the potential impact of codes comes from deterrence and rational choice theory. Beccaria (1764/1963) is typically considered the father of deterrence theory in criminology. Drawing from Enlightenment philosophers, like Locke and Rousseau, he claimed that humans are hedonistic and naturally pursue pleasure and minimize pain. Further, humans are rational beings capable of weighing the costs and benefits of their actions, and they have free will so they are capable of choosing one course of action over another. Thus, in order to deter crime, the justice system needs to provide punishments that outweigh the benefits of crime. To accomplish this, Beccaria (1764/1963) claimed that punishments must be swift, certain, and severe. Punishment should be swift so that the person associates the punishment with the crime. They should be certain so that a person does not associate a crime with the chance of going without a punishment. And they should be proportionately severe so that the punishment is strong enough to deter the crime but not so ridiculously harsh that people would revolt against the law. Thus, the threat of formal punishments should prevent people from committing crime if the costs of crime outweigh its benefits.

Rational choice theory is based on the same utilitarian framework as deterrence, but it also draws from the economic principles of expected utility laid out by Becker (1968). In his theory of how to minimize social losses from crime, Becker (1968) stated that a person commits a crime if the expected utility from the offense exceeds the utility derivable by using his or her time and resources at other legitimate activities. From this calculus, Becker developed his supply of offenses function, which relates the number of crimes to the costs and benefits of the action. His conclusion is that law enforcement can influence individual crime decisions, and so the number of crimes, by adjusting the likelihood and severity of punishment. Building on these ideas, Cornish and Clarke (1986) presume that people are rational and weigh costs and benefits, and they echo the sentiments of free will in deterrence theory by stating that crimes are purposive and deliberately committed to benefit the offender. However, they also recognize that people necessarily use a limited or bounded rationality when making decisions. That is, people rationally weigh costs and benefits, but their choices are influenced by their experiences and learning, including moral codes, which are in turn affected by their gender, race, age, class, location in the family, and so forth. So even though offenders make decisions in a rational manner, they often make bad decisions because of their limited rationality. Another improvement of rational choice theory is the incorporation of costs other than those delivered by the criminal justice system. While Beccaria and Becker focused mainly on formal punishments from the state, Cornish and Clarke (1986) include informal punishments, such as personal guilt or shame and losing the support of loved ones, in an offender's calculations. Stigmatic, affective, and commitment costs are

understood as independent of, or interactive with, formal punishment (Williams & Hawkins, 1986; Nagin & Paternoster, 1991).

Cornish and Clarke (1986) also elaborate on the criminal decision itself. They explain that decisions vary with the nature of the crime and so policies may require a crime-specific approach. Further, they make a distinction between the involvement decision, i.e., the decision to become involved in crime and to continue or stop that involvement, and the decision to commit each specific crime because the latter decision is usually opportunistic. Opportunity seems particularly important for white collar crime since it occurs in the workplace where the offender is present on a daily basis and uses skills the offender possesses to do his or her job. For this reason and the fact that white collar offenders are viewed as particularly sensitive to formal punishments, deterrence and rational choice theory are thought to be especially relevant for understanding white collar and corporate crime. Unfortunately, most research has not found strong support for the deterrence framework. Paternoster and Simpson (1996) attribute this to the scope of past research, which focused exclusively on formal sanction threats.

To resolve this incongruity between theory and research, Paternoster and Simpson (1993) proposed a revised version of rational choice theory tailored to corporate crime. Their rational choice theory focuses on perceived costs and benefits for the individual and the company and includes informal as well as formal costs and benefits. The informal costs for the company and individual include negative publicity for the corporation, disapproval from friends and family, and loss of self-respect while the informal benefits include prestige for the company and career advancement for the individual assuming the behavior remains undiscovered or, if discovered, is not

negatively viewed (Paternoster & Simpson, 1993). While they recognize that corporations are legally responsible for their conduct, they also recognize that individuals make the decision to break the law. Since the individual is the decision-maker, the theory assumes that the company-level costs and benefits affect the individual's assessment of the costs and benefits. In addition, the authors posit that the decision to commit corporate crime is affected by normative factors, such as one's moral evaluation of the act. According to Paternoster and Simpson (1993) moral rules are internalized in such a way that certain acts are not committed because they are believed to be morally wrong. In this revised version of rational choice theory, they also include factors that affect the opportunity to commit crime; such factors include the internal organization of the firm and political, economic, and cultural circumstances.

Thus, employees might be more inclined to commit crime if the moral climate of the organization tolerates or encourages misconduct through the absence of a code or the reinforcement of unethical behavior. Even if a code does exist, it is possible that the benefits of unethical behavior would outweigh the costs. For instance, a company's code may act as "window-dressing" while management not only supports, but actually expects, unethical or illegal actions of employees in order to stay on top of the competition. In this case, management might reward employees with large bonuses and promotions for achieving sales goals, no matter the manner used to achieve the goals. Similarly, there might be punishments in place for not achieving such goals, increasing the pressure for employees to commit unethical behaviors to keep up with co-workers willing to cross ethical boundaries. This was the case at Enron where a code existed but rewards and the pressure to achieve encouraged unethical behavior; bonuses and promotions were

determined by a ranking system with an added twist in which the bottom 10 to 20% were fired. Similarly, bonuses were increasingly given in the form of stock options, further investing employees in the short-term profits of the company (Fox, 2003). On the other hand, if a code exists, is a part of the company culture, and is enforced through punishments and rewards, employees would be less likely to commit crime because these organizational climate characteristics would factor into the cost/benefit analysis. The empirical tests of this revised rational choice theory have provided evidence that it more accurately captures the decision making of corporate offenders. Findings support the idea that individuals consider both individual and company costs and benefits; further, these considerations included both formal and informal costs and benefits (Paternoster & Simpson, 1996; Simpson, 2002).

According to rational choice theory, then, employees refrain from illegal behavior when a code is present because violations are costly, both formally and informally, and the rewards for unethical behavior are fewer. Ethics codes keep employees aware of laws and regulations and clearly define unacceptable or illegal conduct. Codes act as laws with proscribed punishments that are meant to inhibit unethical behavior. In line with Paternoster and Simpson's (1993) rational choice theory, codes specify more than just formal sanctions. While codes do remind employees of the formal (criminal and regulatory) punishments for certain behaviors, they also tend to specify intra-organizational punishments, like dismissal from one's job. Further, if top management and supervisors uphold codes, they also convey the disapproval an employee would face for contravening the code. Remember, too, that Paternoster and Simpson's (1993) revised rational choice theory incorporates an individual's personal moral beliefs.

Interestingly, Tyler (2009) suggests that adherence to ethical conduct in organizations is more likely when the company's code and the employee's personal values correspond. Thus, when an employee's moral values are compatible with the code, employees are more likely to consider the code in their decision-making process and less likely to commit unethical behaviors. In this way, codes and their associated formal and informal sanctions should factor into an employees cost/benefit calculations when considering unethical behavior.

The suggestion that both of these theories support a link between codes and behavior is supported by the fact that both theories have contributed to the creation of different self-regulation programs. For instance, management researchers regularly distinguish between compliance-based programs, which seem influenced by rational choice theory and integrity-based programs, which appear to be more influenced by social learning theory (Hess, 2007). Both programs include written standards and enforcement of those standards, but compliance-based programs teach employees the laws and rules they must comply with and focus efforts on deterrence through threat of detection and punishment for violations of the code. A firm using an integrity-based program, though, focuses efforts on establishing legitimacy with employees through internally developed organizational values. According to Hess (2007), integrity based programs create a corporate culture where employees feel comfortable discussing ethical issues, are rewarded for ethical behavior, and leadership demonstrates its commitment to ethics by personally living up to the company's standards and incorporating those values into strategic decisions. Thus, compliance-based programs motivate employees to comply with codes by using enforcement mechanisms, i.e., fear of consequences, while



integrity-based programs motivate compliance with codes using engendering mechanisms, i.e., internalization of the code (Hess, 2007).

While it is beyond the scope of this dissertation to determine which theory specifies the correct mechanisms behind the relationship, both social learning theory and rational choice theory provide a theoretical basis for the relationship between codes of conduct and behavior. Unfortunately, the empirical evidence on this relationship is mixed. Before moving into these findings, though, it is useful to review the stages of ethical decision-making because many studies on codes model their outcome variables around one or more of these stages.

#### *The Rest (1986) Ethical Decision-Making Model*

Several ethical decision-making models have been postulated in the business literature (see Figure 1, p. 37 for a depiction of the ethical decision-making models discussed below). Generally, the models suggest that decisions are influenced by both individual and organizational factors (Paolillo & Vitell, 2002). For example, Trevino (1986) argues that individual (i.e., gender) and situational (i.e., code of conduct) characteristics affect the relationship between moral judgments and moral behavior. Rest (1986) proposed a four-stage model of ethical decision-making that includes recognition, judgment, intention and behavior. First, an individual must recognize or perceive that he or she is facing an ethical dilemma. Then, he/she forms an opinion about what should be done by making a right/wrong judgment about what to do in the context of the situation. Next, that judgment is used to form an intention or plan of action. This intention for action should place ethics and moral values above personal values. Finally, the decision maker must then commit the intended behavior. Rest argues that each step is

conceptually distinct and so success in one stage does not imply success in another stage. In an experiment to test his model, Rest (1986) found that these four steps interact with one another. Thus, a problem at any one stage can impair the outcome of the other stages. Before I discuss an important extension of the Rest model, it is worthwhile to describe how judgments, intentions, and behaviors are formed given their focal role in this study.

### *Formation of Judgments, Intentions, and Behaviors*

Fishbein and Ajzen (1975) explain the formation of judgments, intentions, and behaviors in detail.<sup>6</sup> According to the authors, judgments are formed through the evaluation of beliefs. Beliefs are “the subjective probability of a relation between the object of the belief and some other object, value, concept, or attribute” (p. 131) and are acquired through observation, inference, and communications from others.<sup>7</sup> Thus, a person tastes an apple and thinks it tastes good. This person may infer that all apples taste this way or he/she may continue to try apples to determine if his/her initial belief that they taste good is accurate. The more often s/he eats an apple and thinks it tastes good, the stronger the belief becomes. This person’s mom also informs him/her that eating apples is beneficial to his/her health. To the extent that the person accepts his/her

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<sup>6</sup> Writing from their perspective in the field of psychology, Fishbein and Ajzen (1975) refer to attitudes rather than judgments, but they define attitudes as a “person’s location on a bipolar evaluative or affective dimension with respect to some object, action, or event. An attitude represents a person’s general feeling of favorableness or unfavorableness toward some stimulus object”(p. 216). Judgments in the ethical decision-making literature are typically measured by asking a respondent to evaluate whether an act is right or wrong, good or bad, ethical or unethical. Thus, while Fishbein and Ajzen (1975) refer to attitudes, they are describing people’s judgments or evaluations of a behavior, and for consistency, I will continue to use the term judgments.

<sup>7</sup> Fishbein and Ajzen (1975) argue that the formation of beliefs depends on a number of important factors, such as the consistency across occasions, objects and actors, consistency across behaviors, the effects of sample size, the effects of multiple plausible causes, the attribution of dispositions to internal versus external causes, the perceived decision freedom, etc. These are valuable insights to the formation of beliefs, but a simplified explanation is used here for brevity’s sake.

mom's information, this person now has two beliefs about apples: they taste good and they benefit your health. Based on these acquired beliefs, the person forms a judgment about apples, i.e., eating apples is good.

The same process occurs for ethical judgments. A person acquires certain beliefs about stealing: it has a negative impact on society, it hurts the victim, and it results in punishment when caught. Based on these beliefs, a person forms the ethical judgment that stealing is bad. As stated, this is a simplified version of how judgments are formed; Fishbein and Ajzen (1975) discuss many factors that affect the evaluative judgment, such as the salience and strength of the beliefs, the importance of beliefs, whether the number of beliefs about an object or behavior matter, discounting effects, and order effects. For instance, many times a person has both good and bad beliefs about a behavior. So for stealing, a person may hold the same beliefs as mentioned above but also believes that stealing results in quick money, is thrilling, and is difficult to detect. Now the formation of a judgment about stealing depends upon the strength of each belief, the order and importance of the beliefs, and whether the person can discount some of the positive or negative beliefs about stealing. These factors allow people who hold the same beliefs about stealing to arrive at different judgments of the behavior.

It is typically assumed that judgments are directly related to intentions, i.e., the more favorable a person's judgment of a behavior, the more he will intend to perform that behavior.<sup>8</sup> However, Fishbein and Ajzen (1975) provide substantial evidence that this is not the case and propose a more accurate model for the formation of intentions based on Dulany's model of propositional control. The authors contend that the two major factors

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<sup>8</sup> According to Fishbein and Ajzen (1975) a behavior intention is a "person's subjective probability that he will perform some behavior" (p. 288).

that determine intentions are a person's judgment about the behavior and a social or "normative" factor, which is the person's perception that most people who are important to him think he should or should not perform the behavior in question. This normative factor is determined by the perceived expectations of specific groups or individuals and by the person's motivation to comply with those expectations. Fishbein and Ajzen (1975) note that the potential reference groups or individuals whose expectations are perceived to be relevant will vary with the behavioral situations. So in some cases family and friends might be most important, but in others it may be the expectations of society or work supervisors. Further, the authors point out that intentions are influenced by variations in the elements constituting the intention, including the behavior, target, situation, and time. While a person may not be willing to rob someone at gunpoint, s/he may be willing to steal a wallet when no one is around. S/he may be unwilling to steal from a friend but may be willing to steal from a stranger or s/he may be willing to steal out of necessity but not for thrills. The formation of intentions, then is based on but not completely defined by, a person's judgments.

Actual behavior is also usually assumed to be largely associated with a person's judgments about that behavior. Once again, Fishbein and Ajzen (1975) prove otherwise by providing extensive evidence to the contrary, and they state, "although a person's attitude toward an object should be related to the totality of his behaviors with respect to the object, it is not necessarily related to any given behavior" (p. 335). The authors argue that the simplest and most efficient way to know whether or not a person will perform a given behavior is to ask the individual whether s/he intends to perform that behavior. There are several factors that will affect the relationship between intention to perform a

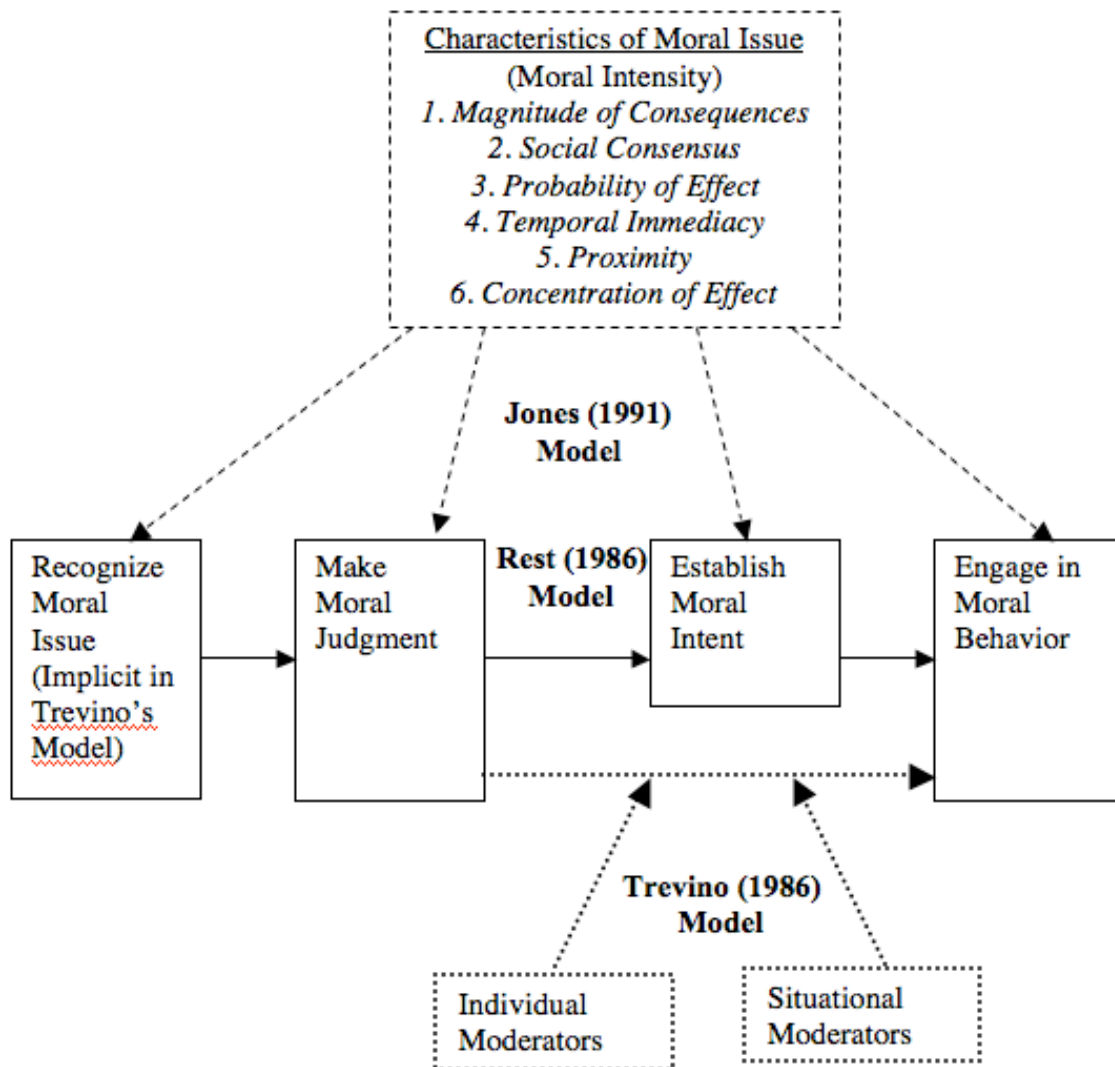
behavior and performing that behavior. The first factor is the level of specificity with which the intention is measured. Asking a person if s/he intends to steal should be a better predictor than asking if s/he intends to steal a watch at 6pm from a drug store on 14<sup>th</sup> and P streets but a worse predictor than asking if s/he would steal to feed his/her starving family. Another factor affecting the relationship between intention and behavior is the stability of the intention; intentions may change over time. Finally, volitional control might also influence the relationship between intention and behavior because the person may be unable to carry out his/her intention. I now turn to an extension of the Rest (1986) model, which specifies some of these situational variations capable of affecting judgments, intentions, and behaviors.

*The Jones (1991) Ethical Decision-Making Model*

After reviewing ethical decision-making models, Jones (1991) realized that they all lacked one component: the characteristics of the moral issue at hand. He argued that people would not decide and behave in the same manner for every moral issue; for instance, deciding to steal work supplies and deciding to authorize the release of a car with the tendency to explode to the market, carry different consequences. Building on Rest's (1986) earlier work, he added the construct of moral intensity. This model (depicted in Figure 1, p. 37) consists of Rest's four main stages of decision-making, all of which can be affected by the six components of moral intensity. The first component of moral intensity is magnitude of consequences, which measures the amount of harm done by the act. Second is social consensus, which is the degree of social agreement that an act is bad. The next component is probability of effect, which is the probability that the act will take place and that it will actually cause the harm predicted. Temporal

immediacy, or the length of time it will take for the consequences to occur, is the fourth component. The last two components are proximity, which is the nearness of the moral agent to the victims of the act, and concentration of effect, which is the number of people that will be affected by an act.

**Figure 1. Ethical Decision-Making Models**



According to Jones (1991), organizational factors, like codes of conduct, have particular import at the stages of forming moral intent and engaging in moral behavior. However, there is reason to believe that codes influence ethical judgments as well as intentions and behavior. Jones (1991) himself cites evidence that some employees accept the organization's authority structure in moral matters and that not all people see themselves as independent moral agents in work situations. Further, Kohlberg and associates (Higgins, Power, & Kohlberg, 1984 and Power, Higgins, & Kohlberg, 1989) provided empirical evidence that "moral atmosphere" affects moral reasoning and judgment. In their investigation of school and prison environments, they determined that through group interaction, groups develop their own culture and a shared understanding of what constitutes appropriate behavior. In other words, they demonstrated that school and prison cultures influenced the moral judgments of individuals in those cultures.

Similarly, Sutherland (1949) provided evidence through case studies that ethical judgments can be shaped by the work culture. He relates the story of a young car salesman who described himself when he graduated as a person with "plenty of ideals of honesty, fair play, and cooperation which I had acquired at home, in school, and from literature" (p. 240). The salesman quit two jobs after learning of dishonest practices, but by his third job in the used-car business, he says, "I knew the game was rotten but that it had to be played" (p. 241). He learns that his co-workers are admired for their ability to get away with a crooked deal and that it is called "shrewdness" in the business. Eventually, after years in the business learning these practices and the rationalizations for considering them appropriate behavior, he admits that, "if you had accused me of dishonesty, I would have denied the charge" (p. 242). Akers (1977) related similar

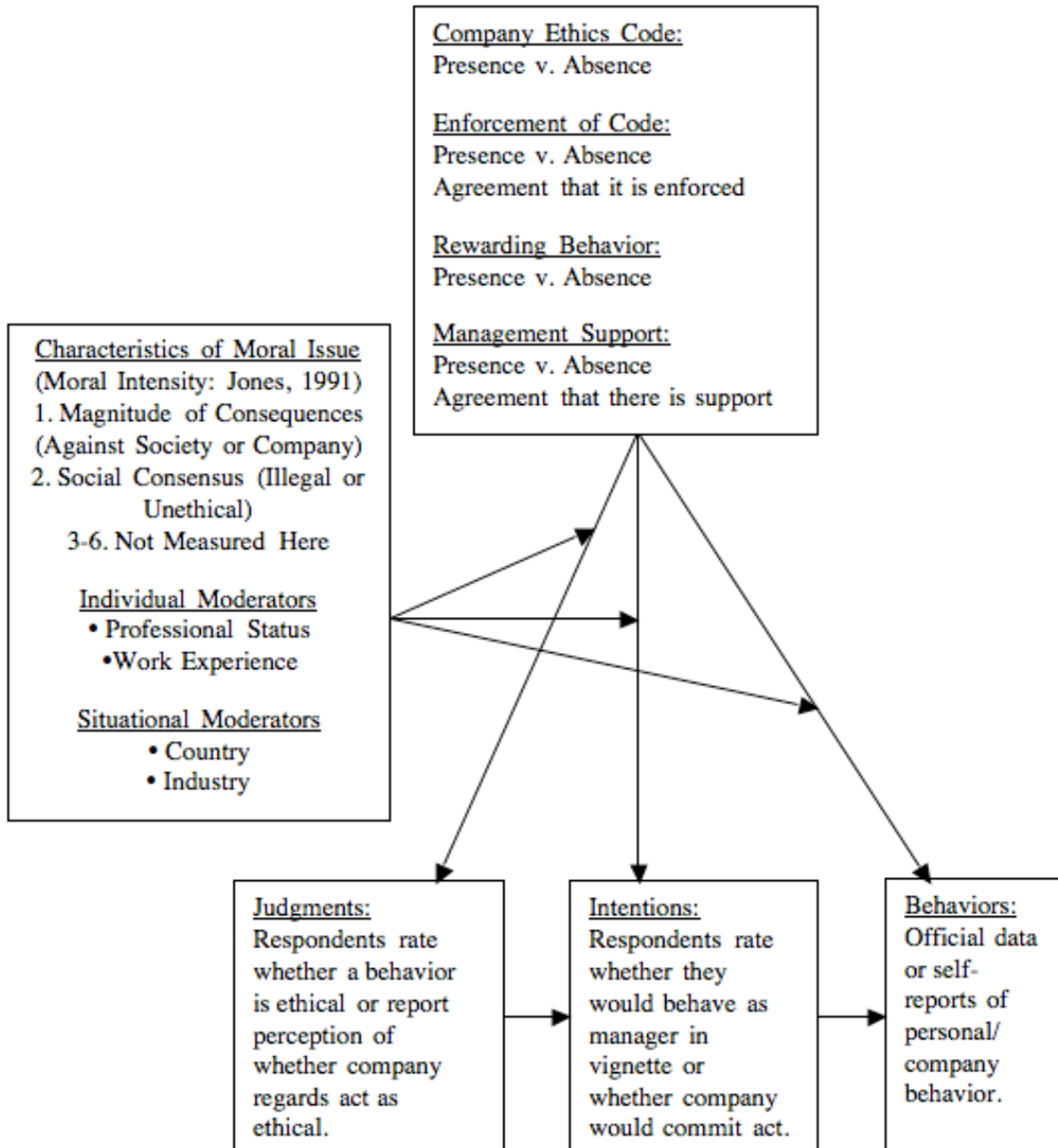
stories in which executives who engaged in price-fixing were otherwise law-abiding men, pillars of their communities, and leaders in their churches who had been brought up in environments which led them to define the law as something to be obeyed. They would not consider engaging in crimes like burglary and robbery, and yet, in their work environment they were convinced that their illegal behavior was “not really criminal,” “not unethical,” and not “technically wrong.” These stories demonstrate how group norms in work situations can influence ethical judgments, even in people who initially enter the business with a different set of ethical values and maintain those values outside of the business environment.

Social learning theory explains the manner in which codes affect ethical judgments, intentions, and behaviors. The fact that there are calls for ethics classes in business schools and ethics codes in companies flows from the belief that ethical values can be changed within work settings, i.e., these policies depend on the view that values can be taught (Tyler, 2009). In his specification of Social Learning Theory, Akers (1977) states that learning is situational and that through differential reinforcement, we learn that some behavior is appropriate in some situations and not others. Thus, a child is rewarded for being quiet and non-active when his parents are with adult friends but is shunned for the same behavior by his peers on the playground. While Akers (1977) is describing how we learn behaviors, he describes the use of social reinforcers, typically verbal stimuli that are comprised of normative definitions that evaluate behavior. The child rough-housing around adults is disciplined and told he is behaving badly while a child rough-housing on the playground is encouraged by other children and is praised for playing outside. Through these cues, the child picks up value judgments of the behavior and learns that



the same behavior is “good” in some situations but “bad” in others. In a similar manner, people learn early in life that breaking the law is wrong, but as employees later in life they may learn that it is sometimes acceptable in their work culture to break the law. These cues affect not only their intentions and behaviors but also their judgments of those behaviors in those situational contexts. Thus, I propose that a code of conduct, the enforcement of this code, top management support for the code, or the lack of any combination of these things, act as social reinforcers in the business world to guide the formation of judgments, intentions, and behaviors (see Figure 2, p. 41 for an illustration of the model tested in this dissertation).

**Figure 2. Measures Used in Meta-Analysis for Modeling Ethical Decision-Making**



These ideas are supported by Fishbein's and Ajzen's (1975) model of the formation of judgments because they stressed the situational nature of judgments, intentions, and behavior. Further, the authors assert that in order to influence or change someone's judgments, intentions or behavior, one must target the individual's beliefs. Thus, in our original example of stealing, an individual held the beliefs that stealing has a negative impact on society, hurts the victim, results in punishment when caught, results in quick money, is thrilling, and is difficult to detect. Perhaps s/he enters a job with the judgment that stealing is bad because the strength of the positive beliefs is stronger than the negative ones and s/he discounts the thrill because it is also frightening to risk getting caught. In his/her work culture, though, s/he begins to witness co-workers stealing from investors and the manager rewards this behavior. As a result, s/he acquires new beliefs about stealing: stealing at work is part of the business and stealing at work is rewarded rather than punished. These new beliefs may tip the scale in favor of a new judgment that stealing in a work situation is good. This new judgment and the perceived expectation that his/her co-workers and manager believe s/he should steal could increase his/her intention to steal as well as his/her likelihood of actually stealing.

On the other hand, if the company code forbids stealing, co-workers believe stealing is bad and adhere to the company code, and if the manager immediately punishes anyone caught stealing, these observations would reinforce the person's previously held beliefs about stealing. Thus, they would be more likely to judge stealing as wrong in work situations, and they would be less likely to steal. This idea is supported by the fact one of the most promising ways to gain employee compliance is to use the code, code enforcement, and management support of that code to tap into employee's ethical values

(Tyler, 2009). In other words, the more the work culture supports employee judgments about stealing being wrong, the more likely employees are to comply with the code.

Consistent with the ethical decision-making models presented above, then, codes aid employees in making a judgment by clarifying and supporting their beliefs, encourage employees to abide by their judgments and establish intentions for ethical behavior, and finally persuade employees to behave ethically as a result of the other components (Harrington, 1996). In general, these are the hypotheses tested by most studies on codes of conduct. While there is a theoretical basis for these relationships, the empirical relationship is mixed.

### *Empirical Support*

I divide this section into a discussion of organizational decision-making and individual decision-making. While most studies examining the link between codes and stages of ethical decision-making survey individuals, some of these studies ask individuals to reveal the values, intentions, and behaviors of their organization rather than their personal values, intentions, and behaviors. Because these studies ask individuals to assess company-level values and behaviors, they do not use the same unit of analysis as studies that ask individuals about their own personal values and behaviors. It is well known that finding a relationship at an organizational level of analysis and assuming it applies at lower levels is an ecological fallacy while applying findings from an individual level to the organizational level is an inductive fallacy. Further, there is no accurate theoretical description for a population parameter that combines correlations from different levels (Ostroff and Harrison, 1999). Therefore, to avoid difficulty with interpreting the meta-analytic results, I keep these two levels of analysis separate in my

study and also discuss them individually in the literature review in order to draw the most accurate conclusions.

### Organizational Decision-Making

#### **Ethical Judgments**

Three studies ask respondents to rate the ethical judgments of their companies by reporting whether their company approves or disapproves of unethical behaviors. Fimbel & Burstein (1990), using a sample of 36 information systems managers, found that employees working in companies with codes of ethics rated their company as less accepting of questionable behaviors than did employees working in companies without codes. While their small sample size is a limitation, their findings are bolstered by Pierce and Henry (2000) who used a larger sample of 356 information technology professionals to determine if the presence of a code influenced their perception of whether their company approved of certain unethical and illegal behaviors. The presence of a code of conduct did significantly affect respondent's perception of the ethical judgments of their companies; t-tests revealed significant differences between code and no code groups in six out of nine scenarios (Pierce & Henry, 2000). In contrast, Kronzon (1999) used vignettes to determine whether the presence and enforcement of a code would impact student's perceptions of whether the company in the scenario viewed the illegal behavior as legitimate. Using t-tests Kronzon (1999) found that the code had no significant influence on how people thought the company viewed an action, but enforcing the code by punishing the behavior decreased the perception that the company viewed the behavior as legitimate and would commit the behavior in the future.

## **Ethical Intentions**

While it is odd to think of companies as capable of forming intentions, it is measured in the literature as the employees' perceptions that the company is likely to commit the behavior in the future. Because these studies ask individuals to assess their companies' likelihood of committing a certain act, they are not comparable to studies that ask individuals to self-report their own likelihood of committing an unethical action. Boo and Koh (2001) tested whether the presence, communication, use, and enforcement of a code affected the likelihood of bribery, exceeding pollution limits, and ignoring unfavorable reports on a product. According to t-tests, the code group reported significantly greater intentions for ethical behavior in their organization than the no-code group. This result was supported using regression analysis; they reported a significant positive influence of codes on organizational ethical intentions. Further, they found that the enforcement of the code influences ethical intentions significantly beyond the mere existence of the code of conduct. Fowler-Rians (1997) tested a regulatory compliance decision-making model, including whether the presence of an ethics corporate policy affected compliance intentions with EPA regulations. Surveys were mailed to 600 companies in the Houston-Galveston area and 125 usable surveys were returned. Using regressions, Fowler-Rians (1997) found a positive but not significant relationship between ethical intentions and the presence of an ethics code.

## **Ethical Behavior**

As for studies on organizational behavior, nine use self-report questionnaires to examine the effect of codes. For instance, Mitchell, Daniels, Hopper, George-Falvy, and Ferris (1996) examined whether enforcement of clear codes of conduct would affect the

likelihood and frequency of self-reported administrative violations, manufacturing or environmental violations, labor violations, reporting violations, theft, and improper client relationships in 31 electronics firms. They found that for the 23 companies with an ethics code, ambiguity of policies and rewards were correlated with the self-reported use of the code during moments of ethical decision-making. Thus, use of the code increases when the code is clear and the code is enforced with punishments and rewards. Murphy et al. (1992) also utilized self-reports; they found the presence of a code was positively correlated to 13 of the 18 ethical behaviors but the relationship was significant for only two of these behaviors, giving preferential treatment to good customers and allowing customers to have information on competitors. The authors do not speculate why these two behaviors are influenced by the presence of a code, but they suggest that the weak relationship between code and behavior could be attributed to an industry norm operating across companies since they only examine companies in one industry. Somers (2001) also reported findings supportive of a relationship between codes and ethical behavior. He analyzed observed fraudulent financial reporting by 613 management accountants and found that those in companies without codes were aware of significantly more fraudulent behaviors than those in companies with codes of conduct.

On the other hand, Akaah and Riordan (1990) tested this relationship using a sample of 240 marketing professionals and a self-report measure of how common 15 unethical behaviors were in their firm. They found that codes did not influence the incidence of any of the unethical behaviors. Chonko and Hunt (1985) and Hunt et al. (1984) analyzed this association using a subset of marketing researchers. Both reported no significant relationship between a corporate code of ethics and reported ethical

behavior; top management actions, though, impacted ethical behavior in both studies. One study of company behavior actually found the opposite of the expected relationship between codes and behavior. In a study of 492 non-agribusiness cooperatives, like credit unions and rural electric utilities, Singleton, King, Messina, and Turpen (2003) found that firms with a formal ethics policy had a significantly higher proportion of fraud. The authors also examined whether the addition of ethics training and monitoring affected self-reported fraud and reported similar results: firms with these compliance measures had significantly higher proportions of fraud. It could be that, as critics have claimed, the firms in this sample are using codes and elements of compliance programs as “window dressing” to promote an ethical image and reduce potential punishments but are not using the codes to guide behavior.

The findings from studies using official data are also mixed. For instance, Mathews (1987) performed extensive tests on the relationship between the presence of a code and administrative and civil violations in 485 corporations over eight years. She used a variety of regression and logit models and found that the presence of a code had no effect on whether violations occurred or on the number of violations. Similarly, McKendall et al. (2002) investigated this relationship using tobit regressions and Occupational Safety and Health violations for 108 manufacturing firms. They found that a code of ethics was not related to serious, willful, repeat, or other violations. In contrast, Schnatterly (2003) reported that codes have an effect on organizational behavior. She used a matched-pair design with a sample of 57 firms convicted of economic crimes according to Wall Street Journal articles and 57 non-criminal firms. Schnatterly’s (2003) regression models showed that codes were not significantly related to whether crime



occurred, but they did significantly reduce the number of crimes committed by firms in her sample.

These studies show that the association between codes of conduct and organizational intentions and behavior has not been conclusively determined. Studies on the relationship between codes and organizational judgments, intentions, and behavior produce mixed results, and these results do not seem to be driven by the data type since both self-report and official data produce varied findings. It is possible that the lack of consistency is due to the various measures of the dependent variable since many different illegal and unethical behaviors were used in these studies. I will discuss these potential causes for inconsistent results after I examine the literature on individual decision-making and behavior. While the findings were inconsistent regarding codes, there seems to be more uniform support for the reinforcement of codes affecting organizational judgments, intentions, and behavior. The majority of studies that tested the impact of enforcement of codes (both punishment and rewards) found that enforcement significantly affected organizational decision-making (Kronzon, 1999; Boo & Koh, 2001; Mitchell et al., 1996). Only Leigh and Murphy (1999) failed to find a significant relationship between code enforcement and organizational behavior.

### Individual Decision-Making

#### **Ethical Judgments**

The majority of studies on the effectiveness of codes focus on individual decision-making and behavior, rather than company behavior. For instance, nineteen studies examine the influence of codes of conduct on ethical judgments, the second stage of the

Rest (1986) model.<sup>9</sup> All of these studies collected self-report data via questionnaires, but the studies varied on other important characteristics, such as method of analysis, sample size, assignment to code/no-code groups (natural or randomized), and whether a random sample was used. Perhaps because of these differences, results tended to be mixed. For instance, two studies use t-tests to determine whether codes are related to ethical judgments. Weaver and Ferrell (1977) used a sample of 133 professionals and found support for the relationship between codes and ethical judgments. Weaver and Ferrell (1977) examined differences between mean unethical behavior for those working in a company with a written ethical policy and those without a written ethical policy. They reported significant differences for five out of seventeen behaviors. Enforcement of the policy was significantly related to seven of the seventeen behaviors. On the other hand, in their study of 356 computer tech professionals, Pierce and Henry (2000) failed to find differences in personal judgments between code and no-code groups in eight out of nine ethical scenarios.

Other studies examined the association between codes and ethical judgments using analysis of variance (ANOVA) or multivariate analysis of variance (MANOVA), and they also reported mixed results. Two studies found support for a relationship between codes and ethical judgments using vignette designs in which they randomized the presence and absence of the code of conduct. Using 236 marketing students Turner,

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<sup>9</sup> Only one study examined the relationship between codes and the first stage of ethical decision-making, ethical perceptions. Singhapakdi and Vitell (1991) reported that sales professionals in an organization that has and enforces a code are more likely to perceive that an ethical problem exists. Six other studies focus on ethical perceptions, but they examine the impact of professional codes rather than corporate codes. All six of these studies find that professional codes have a significant effect on ethical perceptions (Ziegenfuss & Singhapakdi, 1994; Singhapakdi et al., 1996; Martinson & Ziegenfuss, 2000; Verschoor, 2000; Ziegenfuss, 2001; Ziegenfuss & Martinson, 2002). These studies on professional codes also examine their impact on ethical judgment and find consistently significant relationships (Singhapakdi & Vitell, 1993; Martinson & Ziegenfuss, 2000; Verschoor, 2000; Ziegenfuss, 2001; Douglas et al., 2001; Ziegenfuss & Martinson, 2002).

Taylor, and Hartley (1995) found that students with the written ethical policies were significantly less likely to condone the acceptance of business related and non-business related gratuities than those with a verbal policy, without a policy, and the control group. DeConinck (2003) surveyed 200 sales managers and found that the presence of a code of ethics significantly influenced ethical judgments. Conversely, two studies using ANOVA reported less promising results. Kohut and Corriher (2001) studied 86 working MBA students and found no significant relationship between a written ethics policy and ethical judgments while Schepers (1998), using a vignette design and a sample of 105 MBA students found that codes had no influence on ethical judgments. Other studies using ANOVA analysis described less straightforward results. For instance, Ghiselli and Ismail (1999) reported a significant difference in total ethical scores between respondents with a code and those without a code, but they also found that when broken down to four ethical areas, codes of conduct only affected ethical judgments in two out of four ethical areas. Codes were significantly related to greater ethical regard with respect to company policy violations, such as substance use and customer safety, and human and customer relations categories, like misrepresenting facts to customers and employee discrimination. Codes did not significantly influence employee theft or food safety/sanitation issues (Ghiselli & Ismail, 1999). Using a factorial survey design with the presence of the code randomized in vignettes, Laczniak and Inderrieden (1987) found that a code of ethics did not affect ethical judgments of illegal or immoral behavior, but codes that specify sanctions for these behaviors did significantly influence the ethical judgments of the illegal behaviors.

Still other studies used regressions, which allowed researchers to control for additional influential variables. Finegan and Theriault (1997) used a sample of 300

petrochemical plant employees to test code effectiveness; since their sample came from one company, they all operated under a code. Thus, the authors had participants evaluate the code on a scale ranging from 1 (positive evaluation) to 7 (negative evaluation). Using this measure for code, they found that agreement with the code predicted ethical judgments of code violations, such as padding expense accounts. Alternatively, Akaah and Riordan (1989) reported that code of ethics had no effect on 11 unethical behaviors. Instead, they found that top management actions, organizational role of respondent, and industry category had an impact on ethical judgments. Nwachukwu and Vitell (1997) found that ethical codes failed to predict ethical judgments except in one case where codes actually were associated with less ethical judgments. Others, though, have found more mixed results; Giacobe and Segal (2000) found that codes affected ethical judgments in three out of four scenarios for U.S. respondents but codes only affected judgments in one scenario for Canadian participants. In their study of 348 Irish managers, Stohs and Brannick (1999) reported that codes affected the judgments of acts involving the firm, like unfair pricing and delaying payments, but failed to affect the judgments of other acts, such as evading taxes, pollution, and selling unsafe products. Industry sector was a stronger predictor of ethical judgments than codes in their study.

### **Ethical Intentions<sup>10</sup>**

Studies comparing the means of code/no code groups to test the link between codes and ethical intentions have produced varying results. For instance, Ekin and Tezolmez (1999) used z-tests to investigate the association with a sample of 160 Turkish managers. They determined that managers working in companies with codes had slightly

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<sup>10</sup> Studies typically measure the ethical intentions of respondents by presenting them with a vignette scenario and asking them the likelihood that they would behave in the way the employee/manager did in the vignette.

higher mean ethical intentions than the ones working in companies without codes, but this difference was not statistically significant. Shapeero (1996), though, used t-tests to determine whether accountants would be less likely to underreport their chargeable time given three different scenarios, a company without a code, a company with a code, and a company with a termination policy for underreporting. The presence of a code significantly reduced the likelihood of underreporting, and the threat of termination further reduced this likelihood.

More diverse findings resulted from studies testing the relationship between codes and ethical intentions with regression analysis. Sims and Keon (1999) attempted to determine whether supervisor wishes, informal company policy or formal company policy affected ethical intentions. They found that a formal written code was the second most influential variable behind supervisor expectations; it was associated with ethical intentions in three out of five scenarios. Harrington (1996) actually examined both ethical intentions and judgments in her study. She reported that a generic ethics code had no impact on ethical judgments and only a weak impact on intentions.

Less favorable results were reported by Paolillo and Vitell (2002), who reported that neither the presence nor the enforcement of a code affected the intentions of business managers to bribe an official or make changes to an offensive ad. D'Aquila (2000) used a sample of 188 accountants and found that codes had no affect on intentions to submit fraudulent financial statements; the tone set by management, though, was significant. Also, in their study of Dutch managers, Pater and Gils (2003) reported a significant relationship between codes and ethical intentions, but contrary to expectations, the code was associated with less ethical intentions. The enforcement of the code was not

significant in their study. Simpson (2002) used a vignette survey and random effects regression analysis to determine whether a number of individual and firm characteristics affected the intentions to offend of 84 MBA students and 12 executives. She reported that informal sanctions for illegal behavior, like an employee being reprimanded or fired, significantly decreased offending intentions. Interestingly, two of these studies tested whether a specific ethics code had more impact than a general or more abstract code of conduct. Harrington (1996) had respondents self-report the presence of a general code and a code specific to information systems issues; she found a weak effect of the more specific code. Cleek and Leonard (1998) used vignette designs with the options of general code and specific code, but they found the code specificity had no impact on ethical intentions.

### **Ethical Behavior**

Studies examining the relationship between codes and ethical behaviors also use several forms of analysis and report mixed results. For example, Weaver and Ferrell (1977) conducted a study in which 133 marketing managers were surveyed regarding the frequency of their engagement in seventeen unethical behaviors. Results showed that people working in companies with codes reported less unethical behavior in all but three scenarios; however, these differences were only significant for five of the seventeen behaviors: padding an expense account, giving gifts for preferential treatment, doing personal business on company time, calling in sick to take the day off, and stealing company materials/supplies. Hegarty and Sims (1979) conducted an experiment using 91 full-time business graduate students. The students were told they were playing a decision-making game, and that they should assume the role of Regional Sales Manager.

As the manager, the students had to make several decisions, including how many salesmen to hire and whether to make kickback payments. The first group was not provided with an ethical code while the second group was informed of the company's ethical code. Using an F-test, the authors reported a significant difference in behavior such that ethical behavior was higher under the conditions of an organizational ethics code.

Conversely, Cunningham (1992) surveyed 280 professionals in the research marketing field and reported no significant correlation between presence of and adherence to an ethics code and unethical behavior. Brief et al. (1996) used an experimental in-basket questionnaire and correlations in their study.<sup>11</sup> They found no significant differences in percentage of respondents making a fraudulent decision across experimental conditions, i.e., control, no code, code. They also tested whether a more specific code would have a greater impact than a general code and found, like Cleek and Leonard (1998), that code specificity had no impact on ethical behavior. Studies using analysis of variance, though, supported the link between codes and ethical behavior. Adams et al. (2001) obtained consistent significant results in their study of 766 professionals; individuals employed in organizations with codes rated their own ethical behavior higher than did those in organizations without codes. Peterson (2002) also discovered codes significantly affected behavior, such that unethical behavior occurred more frequently in organizations without a code of ethics.

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<sup>11</sup> During in-basket exercises, respondents typically receive information about the company they "work" for, the role they are assuming in the company, and a set of memos in their in-basket. Respondents are then instructed that they have a certain amount of time to go through the memos in their in-basket; these memos represent messages and decisions a normal manager would face on a daily basis, including some opportunities to make ethical/unethical decisions. The intent of the exercise is to create a sense of realism and disguise the experimental manipulations (Brief et al., 1996).

Finally, the link between codes and ethical behaviors is also investigated using regression analysis. Ferrell and Skinner (1988) tested whether codes, the enforcement of codes, gender of the respondent, formalization, centralization, and acceptance of authority affected the ethical behaviors of data subcontractors, marketing research professionals, and corporate researchers. The model was the best fit for data subcontractors, and code of ethics was the strongest predictor of ethical behavior, explaining 28% of the variance. While the models were not as strong for marketing and corporate researchers, code of ethics was significant in both models and was the strongest predictor for corporate researchers and the second strongest for marketing researchers. The enforcement of ethical codes was also significant for both data subcontractors and marketing researchers (Ferrell & Skinner, 1988). McCabe et al. (1996) surveyed 218 business professionals and discovered a significant relationship between code and self-reported unethical and illegal behaviors, such that individuals working in organizations with a code reported fewer behaviors. McCabe et al. (1996) investigated the connection further and found that the perceived embeddedness of the company's code and the strength of code implementation exhibited a significant, inverse relationship with self-reported unethical and illegal behavior.

Clearly, there is not a consensus in the literature on the role played by codes of conduct in influencing individual decision-making. There is also less consistent support that enforcement of codes affects individual decision-making than there was for company behavior. Three studies reported a significant relationship between enforcement of codes and the various stages of ethical decision-making (Laczniak & Inderrieden, 1987; Simpson, 2002; Ferrell & Skinner, 1988), three studies found no such support



(Nwachukwu & Vitell, 1997; Shapeero, 1996; Pater & Gils, 2003), and one study found mixed support (Weaver & Ferrell, 1977). Additionally, some studies on individual decision-making investigated the relationship between top management actions and stages of decision-making; these results were more consistent, and they found that the tone at the top does influence ethical intentions and behaviors (Sims & Keon, 1999; D'Aquila, 2000; Akaah & Riordan, 1989).

One reason for the confounded results might be the quality of the studies. Ethical decision-making is a complicated process, and as stated earlier, is affected by both individual and situational variables (Trevino, 1986). Thus, the simpler t-tests and z-tests that distinguish differences between the means might not be the strongest forms of analysis to definitively examine this relationship because they do not allow for the consideration of other influential variables. While regression analysis does allow for this, several of the studies use simple regressions and do not take advantage of the benefits of this method by including other independent variables (Cleek & Leonard, 1998; Rallapalli, Vitell, & Barnes, 1998; Giacobbe & Segal, 2000). The studies that do include other predictor variables often include different variables so each study omits some noteworthy variable.

Further, only two studies addressed individual differences that could affect the influence of codes or whether the threat of sanctions have an impact on decision-making. Harrington (1996) found that the psychological trait of responsibility denial had a moderating effect on generic codes such that codes affected ethical judgments of people who tend to deny responsibility. The author concluded that company codes clarify responsibility and reduce rationalizations for some people. Similarly, Simpson (2002)

discovered that formal sanctions had a greater deterrent effect on respondents with low morality while informal sanctions mattered more to highly moral people. On the other hand, studies examining components of compliance programs other than ethics codes, such as ethics hotlines and audits, do find mixed support for the effects of individual traits. Simpson and Piquero (2002) tested whether low self-control, as measured by the number of problem behaviors engaged in by subjects, predicted the criminal intentions of a sample of MBA students and executives. The authors reported no significant relationship between behavioral indicators of low self-control and criminal intentions; this finding was consistent in bivariate and multivariate models. Other individual traits, though, like whether the respondent perceived the crime to be thrilling, did significantly predict intentions to offend. The fact that most of the studies examining codes of conduct overlook individual differences and their moderating effect on the relationship between codes and ethical decision-making is a limitation of these studies.

Another limitation is that some of these studies did not use random samples, and so the sample may not be representative of the population of interest. Also, the majority of studies use questionnaires to obtain their data, but only a quarter of the studies mention that they tested for response bias. Further, some studies used vignette designs in order to randomly assign participants to code/no code groups (Kronzon, 1999; Hegarty & Sims, 1979; Brief et al., 1996; Deconinck, 2003; Schepers, 1998; Laczniak & Inderrieden, 1987; Turner et al., 1995), but the majority of the studies relied on respondents' self-reports about the presence of a code in their company. While the quality of some of these studies is a limitation and may account for the different findings in the literature, these

differences can be controlled for in the meta-analysis by coding the methodological characteristics of each study to determine if quality is a factor in the analysis.

Another reason for the divergent findings might be lack of consistency in the measurement of the dependent variables (judgments, intentions, behaviors). Studies that measure the same stage of decision-making often operationalize the stage by asking the same question of different behaviors. For instance, studies on ethical judgment ask respondents to rate the approval or rightness of an action, but Pierce and Henry (2000) asked respondents about behaviors involving a computer, like an employee playing games on the company computer during business hours and an employee accessing confidential material, while Laczniak and Inderrieden (1987) asked about initiating a tying contract or hiding foreign bribes. As Jones (1991) argued, different behaviors with different consequences may lead to different perceptions, judgments, intentions, and behaviors. So it is understandable that studies examining the relationship between codes and ethical judgments might reach different conclusions when they study different behaviors. Without considering the moral intensity of the behaviors measured, these studies may be difficult to compare, even though they examine the same question. This problem can be addressed in a meta-analysis by including information on whether the behavior is unethical or illegal and whether it affects the company or society in an attempt to gauge three of the components of Jones' (1991) moral intensity: the social consensus, magnitude of consequence and concentration of the effect.

### *Hypotheses*

Social learning theory and rational choice theory provide theoretical support for a relationship between codes of conduct and employee decision-making and behavior.

Social learning theory would posit that codes set the ethical tone of a company and provide a cue as to the attitudes and behaviors that are prevalent in the company. As new employees are exposed to the code and the code-supportive attitudes and behaviors of fellow employees, they will be more likely to imitate and adopt these ethical attitudes and behaviors. Rational choice theory, on other hand, would suggest that codes affect decision-making because the codes act as informal laws that indicate a negative reaction from peers and supervisors for violating the code. As people predict or witness the negative reaction of peers and supervisors, it should influence their belief that the action is good or bad as well as their intention to perform this act and their eventual participation in the behavior. Fishbein's and Ajzen's (1975) model of the formation of ethical judgments, intentions, and behavior provide structure to these theoretical arguments by showing how codes could influence or change a person's judgments, intentions, and behavior. As mentioned, it is beyond the scope of this dissertation to address which theory suggests the correct reasons for the impact of a code, but it is a preliminary step to determine whether, given the mixed empirical support thus far, they actually have an effect. Thus, from this theoretical background and the available data, I develop my first two hypotheses, which are illustrated in Figure 2 (p. 41):

H1: The presence of an ethics code will positively affect the ethical judgments, intentions, and behavior of individuals.

H2: The presence of an ethics code will positively affect the ethical judgments, intentions, and behavior of companies.

Social learning theory also would propose that rewards and punishments for behavior provide reinforcements for the type of behavior admired and expected at the

company. Thus, to the extent that reinforcements are used consistently and/or support one's own values, they should affect decision-making and behavior. Rational choice theory assumes that rewards and punishments play a role as well, though they operate differently. Enforcement of the code, from a rational choice theory perspective, should deter unethical behavior through fear of negative consequences while rewards for unethical behavior would increase the benefits for choosing unethical behavior. Thus, according to both theories, rewards for unethical behavior should encourage that behavior in the company while punishments for unethical behavior should discourage that behavior. As shown in Figure 2 (p. 41), I intend to investigate whether the enforcement of codes and the rewarding of unethical behavior can influence ethical decision-making, as these theories would presume. This leads to my next two hypotheses.

H3: The enforcement of an ethics code will positively affect the ethical judgments and intentions of individuals and the ethical behavior of companies.

H4: Rewarding unethical behavior will positively affect the ethical judgments and intentions of individuals.

Both theories would also suggest that the actions of top managers should have an effect on employee ethical decision-making. According to social learning theory, upper-level managers are important models for ethical behavior, and they are the primary agents of reinforcement. Rational choice theory would also propose that top management actions should have an effect since employees would weigh the costs of an upper manager's disapproval and the potential punishments that would follow, including being reprimanded, demoted, or fired. Fishbein's and Ajzen's (1975) framework supports these

theoretical assumptions since top management's beliefs and actions would contribute to the arsenal of beliefs one uses to form judgments, intentions, and behaviors.

H5: The support of ethics codes from top management will positively affect the ethical judgments and intentions of individuals and the behavior of companies.

Earlier I mentioned that one reason for the diverse findings on the effectiveness of ethics codes could be the lack of consistency in the behavior measured for each stage of ethical decision-making. Recall that Jones (1991) argued that different behaviors with different consequences could produce different judgments, intentions, and behaviors. Given this insight, he added the component of moral intensity to his ethical decision-making model. This construct consists of six components: magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect. Jones (1991) hypothesized that these characteristics of a behavior would affect the stages of ethical decision-making. Given the various behaviors measured by the studies reviewed here, it seems important to take moral intensity into consideration since it might influence decision-making. I was able to measure two components of moral intensity: the magnitude of the consequences and the social consensus of the behaviors. Thus, my final two hypothesis, as represented in Figure 2 (p. 41) is:

H6a: The magnitude of the consequences of the behaviors will moderate the impact of codes on ethical judgments, intentions, and behaviors.

H6b: The social consensus of the behaviors will moderate the impact of codes on ethical judgments, intentions, and behaviors.

## Chapter III: Sample and Methodology

### *Identification of Studies*

The sample of studies used in this meta-analysis was collected as part of a larger study for the Campbell Collaboration to discover “what works” in the prevention of corporate crime. The larger prevention study involved a search of ten databases covering business, political science, criminology, psychology, and sociology using 54 search terms related to corporate crime.<sup>12</sup> The search was limited to studies produced before 2004 because the data collection phase began in 2003. This search resulted in 86,199 total hits, 58,923 unique hits, and 2,730 unique hits that were both quantitative and relevant to corporate crime.

By selecting ten terms that were most likely to produce articles on the effectiveness of codes of conduct, including codes of conduct, ethical climate, ethical decision-making, ethics audit, ethics codes, ethics hotlines, ethics polic\* (the asterisk is a wildcard symbol that allows the search of a single word to incorporate multiple variations of that word, i.e., policy, policies, policing, etc.), ethics training, unethical behavior, and unethical conduct, I identified 996 empirical articles.<sup>13</sup> A search through the titles produced by the remaining terms for anything related to codes or ethics produced another 152 articles, giving me 1148 titles. In order to determine whether these articles were

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<sup>12</sup> The databases used in this search included ABI/Inform, Business Source Premier, Criminal Justice Abstracts, ERIC, EconLit, PAIS International, PsycInfo, Social Work Abstracts, Sociological Abstracts, and Worldwide Political Science Abstracts.

<sup>13</sup> The initial coding process for the larger study involved downloading all the hits and reading through abstracts to determine whether articles were quantitative and relevant to corporate crime. Empirical was coded ‘1’ if it was quantitative, ‘0’ if not quantitative, and ‘3’ if it was not possible to determine from the abstract. In selecting quantitative and relevant articles, I recoded ‘3’s as ‘1’s to ensure that I would not miss any potentially quantitative studies. Thus, I also captured some studies that were not quantitative.

relevant to this study, each abstract was examined, and articles were coded as not relevant or possibly relevant. I located and perused these 336 relevant articles and found 173 studies that focused on codes of conduct. To be included in the meta-analysis, the articles had to meet several criteria. It was required that the studies evaluated the effectiveness of codes of conduct, compared a code group to a no-code group, and reported on at least one unethical or illegal outcome. They also had to be written in English and published before 2004.<sup>14</sup> Of the 173 studies on codes, 32 met the inclusion criteria.<sup>15</sup>

In an effort to expand my sample, I searched the references of the 173 studies on codes of conduct and found three additional studies cited in these articles that tested the relationship of interest. My next step was to search the Dissertation & Thesis database to capture any dissertations missed in the original database searches; three additional studies on the effectiveness of codes of conduct were discovered. I also searched through Social Science Citation Index using all 38 studies in my sample, but this search did not yield any new studies. Finally, a search was conducted of relevant journals, including the Journal of Business Ethics, Business Ethics Quarterly, Business Ethics: A European Review, Ethics & Behavior, and Business & Professional Ethics Journal, but these journals did not provide any new articles.

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<sup>14</sup> This last condition was inherited from the larger meta-analysis being conducted for the Campbell Collaboration because the data collection began in 2003. The nature of meta-analysis requires a great deal of time conducting a thorough search of the literature, and it was not feasible to update the cut-off year for this study. However, one benefit of a meta-analysis is that the database is dynamic and can be updated as new studies are discovered. I intend to conduct a follow-up study through the current year to verify the results produced here.

<sup>15</sup> The studies dropped from the sample included 44 studies that were strictly an analysis of the content of codes of conduct, 21 surveyed the prevalence of codes, 15 tested the relationship between codes and something other than ethical decision-making or behavior, such as financial performance, job commitment, and tolerance of diversity, 12 used professional codes rather than corporate codes, 12 used codes as the dependent variable, 11 surveyed attitudes toward codes, ten were qualitative studies, and two reviewed the literature and were discussed above.



To ensure that my sample was as unbiased as possible, I used three strategies to search for relevant unpublished articles. My first tactic involved exploring several research institute sites, like Urban Institute, RAND, and NCJRS for related work. The next strategy required searching websites, like the European Corporate Governance Institute, the National White Collar Crime Center, Corporate Crime Reporter, Ethics Resource Center, and E-business Ethics.com, which suggested over 30 business ethics centers that were then examined for working papers or reports. Third, I contacted authors and experts in the fields of corporate crime and business ethics to request unpublished work on the topic. These strategies did not reveal any additional articles that fit my inclusion criteria, leaving a total of 38 studies. Three of these studies, though, used repetitive samples to examine the same outcome. They were dropped from the meta-analysis because including effect sizes calculated from the same samples would violate the assumption of independent data points and introduce substantial error into the analysis (Lipsey & Wilson, 2001). This left a sample of 35 unique studies; however, one study was the only study to analyze ethical perceptions and so had to be dropped, two did not provide enough information to allow for the calculation of an effect size, and one study used a different sampling level than the rest of the studies.<sup>16</sup> Five studies that were originally dropped because they did not include code/no-code groups were included in the analysis of top management actions. My final sample consists of 36 studies that

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<sup>16</sup> It is important in meta-analysis to pay attention to the sampling level as it has been shown that the relationship between variables is often not the same when individuals are examined within the same organization compared with when individuals are examined across different organizations (Ostroff & Harrison, 1999). Similarly, studies that derive information from individuals should not be compared with studies that gather data at the company level. Because of the nature of the study, which required code and no-code groups, the studies included here all sampled from across different organizations, but the study that had to be dropped based on sampling level gathered violation data at the company level rather than asking individuals about company behavior.

provide 63 effect sizes.<sup>17</sup> These studies range in methodological quality; based on the University of Maryland Scientific Scale (see Appendix, p. 142), most would rank as 3s but there are some 4s and 5s as well. These studies are provided in Table 1.

**Table 1. Studies Examining Link Between Codes, Enforcement, Rewards, and Top Management Support and Stages of Ethical Decision-Making**

Author	Located	Ethical Outcome	Level of DV Measurement	Data Used to Calculate Effect Sizes
Adams et al. (2001)	Database – BSP	Behavior	Company & Individual	Means, standard deviations, and sample sizes
Akaah & Riordan (1990)	Database – ABI	Behavior	Company	Unstandardized regression coefficient and standard deviation of dependent variable.
Chonko & Hunt (1985)	Database – ABI	Behavior	Company	Correlations
Leigh & Murphy (1999)	Database – BSP	Behavior	Company	T-test statistic
Murphy et al. (1992)	Database – ABI	Behavior	Company	Correlations
Singleton et al. (2003)	Database – BSP	Behavior	Company	Proportions of code/no-code groups with successful (no fraud) outcomes.
Somers (2001)	Database – ABI	Behavior	Company	Proportions of code/no-code groups with successful (no fraud) outcomes.
Trevino et al. (1998)	Database – PsycINFO	Behavior	Company	Means, standard deviations, and sample sizes
Fimbel & Burstein (1990)	Database – ABI	Judgments	Company	Z-test statistic (treated as t-test)
Kronzon (1999)	Database – ABI	Judgments	Company	Means, standard deviations, and sample sizes
Pierce & Henry (2000)	Database – BSP	Judgments	Company & Individual	Means, standard deviations, and sample sizes
Boo & Koh (2001)	Database – ABI	Intentions	Company	Means, standard deviations, and sample sizes
Fowler-Rians (1997)	Database – PsycINFO	Intentions	Company	Unstandardized regression coefficient and standard deviation of dependent variable.
Brief et al.	Database –	Behavior	Individual	Proportions of code/no-code groups

<sup>17</sup> There are 63 effect sizes because five studies examined two of the outcomes of interest. Weaver & Ferrell (1977) analyzed the effect of codes on both ethical judgments and ethical behaviors, Harrington (1996) analyzed the effect of codes on ethical judgments and ethical intentions, Simpson (2002) analyzed the effect of codes on ethical judgments and intentions, and Adams et al. (2001) and Pierce & Henry (2000) examined both organizational and individual ethical behaviors. Also, three studies used more than one sample in their study. Singleton et al. (2003) tested the impact of codes on ethical behavior for three different types of companies, rural electric utilities, credit unions, and other cooperatives. Similarly, Brief et al. (1996) examined results for top executives and controllers, and Simpson (2002) conducted an initial study of MBA students and executives and a second study with a revised instrument on another set of students and executives.

(1996)	BSP				with successful outcomes.
Cunningham (1992)	Dissertation & Thesis	Behavior	Individual		Correlations
Hegarty & Sims (1979)	Database – PsycINFO	Behavior	Individual		F-test statistic
McCabe et al. (1996)	Database – ABI	Behavior	Individual		T-test statistic
Peterson (2002)	Database – ABI	Behavior	Individual		F-test statistic
Weaver & Ferrell (1977)	Cited in article	Behavior & Judgments	Individual		T-test categorical p-values
Ekin & Tezolmez (1999)	Database – BSP	Intentions	Individual		Z-test statistic (treated as t-test)
Harrington (1996)	Database – BSP	Intentions & Judgments	Individual		F-test statistic
Pater & Gils (2003)	Database – BSP	Intentions	Individual		Unstandardized regression coefficient and standard deviation of dependent variable.
Shapeero (1996)	Dissertation & Thesis	Intentions	Individual		T-test p-value
Simpson (2002)	Database – CJA	Intentions & Judgments	Individual		Means, standard deviations, and sample sizes
Deconinck (2003)	Database – BSP	Judgments	Individual		F-test statistic
Ghiselli & Ismail (1999)	Database – ABI	Judgments	Individual		T-test statistic
Kohut & Corriher (1994)	Database – BSP	Judgments	Individual		F-test statistic
Laczniaik & Inderrieden (1987)	Database – ABI	Judgments	Individual		Means, standard deviations, and sample sizes
Nwachukwu & Vitell (1997)	Database – ABI	Judgments	Individual		F-test statistic
Stohs & Brannick (1999)	Database – BSP	Judgments	Individual		Unstandardized regression coefficient and standard deviation of dependent variable.
Udas et al. (1996)	Database – ABI	Judgments	Individual		Chi-square p-value
McKendall et al. (2002)*	Database – ABI	Behavior	Company		Correlations
Mitchell et al. (1996)*	Database – BSP	Behavior	Company		Correlations
Trevino et al. (1999)*	Database – ABI	Behavior	Company		Correlations
D’Aquila (1997)*	Database – ERIC	Intentions	Individual		Correlations
Sims & Keon (1999)*	Database – ABI	Intentions	Individual		Correlations

\*Studies not eligible for examination of codes so used only for evaluation of top management support.

### *Coding the Studies*

I developed a codebook to capture information regarding the study characteristics, i.e., reference information, the context of the study, the research methodology, the sample characteristics, measures of the variables, and the observed effects on these measures (see Appendix, p. 127 for a copy of the codebook). Reference information included information such as the title and author(s) of the study, the type of document, the source of the document, where the study was conducted, and the outcome of interest. The methodological characteristics included assignment to conditions, the unit of analysis, use of control variables, whether authors addressed response bias and validity of measurements. Sample characteristics were collected for both companies and survey respondents if provided, and include average age, gender, race, education level, work experience, company size, and company industry membership. The observed effects and corresponding statistics were coded to calculate effect sizes if possible, and if not, the direction of the effect and whether it was statistically significant were recorded. These variables will be discussed in more detail below.

Some studies used multiple comparison groups. For instance, studies that randomized the presence of codes in vignettes or in-basket experiments sometimes included a code group, a no-code group, and a third group that received a more specific code, an informal/unwritten code, or a letter from management. In these instances, only the code and no-code groups were included for analysis. When the categories included a general code and a more specific code, a decision was made as to which code more closely resembled the average code identified in other studies. This decision was based upon the description of these documents provided by the authors.

Another issue in coding was that some studies presented results for subsamples rather than, or in addition to, results from the entire study sample. For instance, Singleton et al. (2003) provided results for all the business cooperatives in their sample, but also broke their sample into groups by business type and presented results for credit unions, rural electric utility companies, and other cooperatives. Similarly, Brief et al. (1996) reported results separately for the top executives and the controllers in their sample. Because this last study only reported results for subsamples, it seemed that the most consistent way of coding these two studies would be to only code effect sizes for the subsamples. Thus, in the presence of mutually exclusive subsamples that were exhaustive of the total sample, I coded the effect sizes for subsamples only. In adhering to this decision rule, these two studies produced five independent effect sizes.

I used a double-coding procedure to check the reliability of the coding with a month in between the first and second coding. Each coded item was compared, and the percent agreement across coded items ranged from a low 83% of to a high of 100%. The variable with the lowest reliability was the proxy for the magnitude of consequences of the behavior. The reason for the lower reliability of this variable is that it was initially coded without a formal guide for whether a behavior was considered to be against society or the company. By the second coding period, I found Akers' (1977) list to provide guidance on whether behaviors are considered against society or the company, which resulted in a few changes to that variable (see Table 2, p. 72). The changes between the first coding and the second coding improved the accuracy of the variable and so the lower reliability is not a cause for concern. Two other variables, the t-test statistic and t-test p-value data had reliability rates of 88%. The lower reliability of these two variables was

due to the miscoding of a single study, which provided data on two outcomes of interest: ethical judgments of companies and ethical judgments of individuals. Further, there were multiple measures (nine) for each of these outcomes constructs, which meant that 18 items were miscoded. While this miscode should not be ignored, it does not seem to be a systematic problem since the lower reliability of these two variables is restricted to the misinterpretation of a table from one single study.

### *Moderator Variables*

The moderator variables in meta-analysis are the study characteristics, i.e., the methods, sample, measures, and context that might influence the findings across studies; the potential influence of these variables is illustrated in Figure 2 (p. 41). As mentioned above, I coded many potential moderating variables; however, I limited the number used in this study to those that are theoretically relevant, of practical importance for determining code implementation best practices, and influential methodologically. I was unable to examine the influence of some sample characteristic variables, like gender, race, age, and education level, which could explain whether codes work for certain populations more than others, because the primary authors did not provide this information.

My sixth hypothesis proposes two potential moderator variables of theoretical interest, the social consensus of the behavior and the magnitude of the behavior. To assess these effects, two variables were created. First, to capture the social consensus of the behavior, I established whether the behavior was illegal (1), unethical (2) or both (3) in the case of studies that used composites of behaviors. To capture the magnitude of the consequences and the concentration of the effect, I determined whether the behavior was

against society (1), the company (2), or Both (3) in the case of studies that used composites of behaviors. The consequences for behaviors against the company, like stealing office supplies, are presumably limited to the company while the harm resulting from behaviors against society, like passing parts that failed inspection, is potentially greater. The coding of this variable was determined using the list of behaviors against society and against the company provided in Akers (1977) because he provides a convenient break-down of common corporate crimes and whether they victimize the company or society (see Table 2, p. 72).

I coded the country where the study was conducted because it is possible that some countries produce or use codes more effectively than others. Country of study was originally an open-ended question, but the majority of studies were conducted in the United States so the variable was re-coded as a dummy variable for United States (1) and other country (0). Another variable of interest was the industry sampled in each study since codes may be more effective in some industries than in others. Dominant industry was coded as manufacturing (1), finance (2), transportation (3), services (4), mix (5), and unknown (6).

The rest of the moderators were chosen to capture the methodological quality of the studies contributing to the mean effect sizes. Study design included in-basket/lab experiment (1), vignette experiment (2), and questionnaire with non-equivalent control (3). Sample assignment to groups was measured as Randomized (1) or Natural (0). The quality of the design was assessed by determining whether the sample was random (1=yes, 0=no) and whether the authors examined response bias (1=yes, 0=no). Quality of the dependent variable was measured by whether the authors assessed the validity and

reliability of the measure (1=yes, 0=no), and survey reliability was measured by whether the authors addressed the reliability of the survey questions (1=yes, 0=no). All control variables were initially coded in the study to determine whether similar variables were included across studies. Unfortunately, there were a wide variety of variables across studies, and some studies that tested the mean differences between the groups did not include controls. Thus, the controls variable was dummy coded as controls included (1=yes, 0=no).

Finally, the accuracy of the effect size (discussed below) was assessed by coding the data used to compute it. Often, studies did not report the means and standard deviations necessary to calculate the effect size. As discussed, I had to rely on other methods for estimating the effect size. In order to determine whether the level of approximation of the effect size influenced my findings, I coded the data used to compute the effect size so that 1=means and standard deviations, 2=t-test, F-test, or z-test, 3=proportions, 4=correlations, 5=regressions, 6=p-value, 7=categorical p-value.



**Table 2. Types of Occupational Crime**

Crimes Against the Public	
Corporate and Business Crime	<p>Monopolistic restraint of trade                      Manipulation of stocks and securities                      Commercial and political bribery and rebates                      Patent and trademark infringements and manipulations                      Misrepresentation and false advertising                      Fraudulent grading, packaging, and labeling                      Short weights and measures                      Tax frauds                      Black marketeering                      Adulteration of food and drugs                      Fraudulent sale of unsafe and injurious products                      Illegal pollution of environment</p>
Crimes by Individual and Professional Practitioners	<p>Obtaining fees, payments, or charges through fraud or deception                      Deceiving or defrauding patients, clients, customers                      Fraud, forgery, deception in securing licenses                      Immoral practices in relations with clients                      Unprofessional conduct and malpractice                      Fee splitting                      Advertising violations, misleading advertisement, misuse of titles, and so on                      Criminal operations, abortions, ghost surgery, and so on                      Falsification of statements on vital documents</p>
Intraorganizational Crimes (Crimes Against the Company and Against Employees)	
Employee and Management Theft	<p>Employee theft of funds                      Inventory theft by employees                      Misapplication of funds in receiverships, fraudulent bleeding of company funds, and so forth by managers and their agents against investors and stockholders</p>
Employer and Management Offenses against Employees	<p>Violation of labor practice laws                      Unfair, fraudulent, or discriminatory employment practices</p>

Source: Akers, 1977

### *Dependent Variables: Calculating Effect Sizes*

I calculated effect sizes using a standardized mean difference effect size statistic, which applies to research findings that contrast two groups on their respective mean scores on a dependent variable that is not operationalized the same across study samples (Lipsey & Wilson, 2001). This d-type effect size statistic standardizes the values from the original measures and allows treatment effects to be meaningfully combined and compared across studies regardless of the original measurement of ethical behavior or ethical perception. When the information was available, I used the formula:

$$ES_{sm} = \frac{\bar{X}_{G1} - \bar{X}_{G2}}{S_p}, \text{ where G1 and G2 stand for group one and group two and } S_p \text{ stands}$$

for the pooled standard deviation. However, this formula has been shown to produce upwardly biased effect sizes when used for small sample sizes, particularly less than 20 (Lipsey & Wilson, 2001). All of the studies in my sample used sample sizes greater than 35 and most were in the hundreds, but to be cautious, I used the corrected estimate, which

was calculated using the formula:  $ES'_{sm} = \left[1 - \frac{3}{4N - 9}\right] ES_{sm}$ , where N is the total sample

size. This formula, though, is also incomplete because the sample size varies from study to study, which causes some effect sizes (those based on larger samples) to be more precise estimates than others. In order to address this problem, a weight for each effect size value was needed, and optimal weights are based on the standard error of the effect size (Lipsey & Wilson, 2001). Thus, I calculated the inverse variance weight for the corrected estimate using the following formulas:

$$SE_{sm} = \sqrt{\frac{n_{G1} + n_{G2}}{n_{G1}n_{G2}} + \frac{(ES'_{sm})^2}{2(n_{G1} + n_{G2})}}$$

$$w_{sm} = \frac{1}{SE_{sm}^2}$$

As mentioned earlier, it was not always possible to calculate effect sizes using this direct formula because studies lacked the pertinent information. Consequently, I relied on other methods for calculating the effect sizes for 29/36 studies. Eleven studies provided complete significance testing statistics, such as t-values and degrees of freedom from a t-test or F-values and degrees of freedom from a one-way ANOVA, and sample sizes. Four studies provided unstandardized OLS regression coefficients and standard deviations of the dependent variable. Three studies provided proportions of code/no-code groups with successful outcomes, and eight studies provided correlations. Two studies provided exact p-values for statistical tests, one for a t-test and the other for a chi-square test, and one study provided only categorical p-values for t-tests. There are formulas for approximating standardized mean difference effect sizes for each of these situations (see Lipsey & Wilson, 2001, p. 198-200).

Lipsey and Wilson (2001) explain that conventionally, a positive sign is assigned to an effect size when the treatment group does “better” than the control group, and a negative sign is assigned when the treatment group does “worse.” The problem is that these signs do not always correspond with the arithmetic sign that results from subtracting the means of the two groups. For instance, when a low score indicates better performance on the dependent variable, the signs must be reversed to correctly represent the direction of the effect (Lipsey & Wilson, 2001). Therefore, as is standard in meta-analytic reviews, the direction of effect was standardized across effects so that positive

effect sizes indicate the code produced the desired outcome, i.e., more ethical judgments, intentions, and behaviors for the code group compared to the no-code group, while negative effect sizes indicate that the code produced an effect counter to the desired outcome, i.e., less ethical judgments, intentions, and behaviors for the code group.

Since my hypotheses propose several independent variables of interest (presence of a code, enforcement of the code, and top management actions), it was necessary to compute effect sizes for each of these constructs when they were available in the studies. Thus, some studies provided an effect size for more than one hypothesis. Eleven studies tested the effect of code enforcement on ethical decision-making. Unfortunately, five of these studies had to be dropped. One study did not provide enough data to calculate effect sizes, one study was the only study examining company ethical intentions, one study compared punishment to reward rather than punishment to no punishment, and two studies measured ethical actions on a scale (i.e., rate level of enforcement on likert scale) rather than as a dichotomous variable (enforcement v. no enforcement). I would calculate r-type effect sizes from these last two studies that used continuous independent variables, but they would not be comparable to the d-effect sizes calculated from dichotomous variables and the two studies examined different outcomes (ethical judgments and intentions) and so could not be compared to each other. This left six studies that produced nine effect sizes. Two of these effect sizes were calculated using the Product-Moment Correlation, which is used when findings involve the bivariate relationship between two continuous variables. These r-type effect sizes were then compared to each other since they both explored the relationship between enforcement

(as measured by a continuous variable) and company behavior.<sup>18</sup> The formula used to present the correlation coefficient as an effect size statistic is:

$$ES_r = r,$$

$$ES_{zr} = .5 \log_e \left[ \frac{1 + ES_r}{1 - ES_r} \right]$$

$$SE_{zr} = \frac{1}{\sqrt{n - 3}}$$

$$w_{zr} = \frac{1}{SE_{zr}^2} = n - 3$$

Four studies tested whether rewarding behavior encouraged that behavior. One study was dropped because it compared punishment to reward rather than reward to no reward. The remaining three studies used vignettes to randomize the presence of a reward for the unethical behavior, but the two studies that measured ethical behavior used different units of analysis and could not be analyzed together. This left just one study, Simpson (2002). Fortunately, Simpson used two unique samples for two outcomes, ethical judgments and ethical intentions, allowing me to explore this hypothesis, even if preliminarily.<sup>19</sup>

Eight studies examined the effect of top management support of ethical behavior. Simpson (2002) used a dichotomous measure of the presence of top management support for ethical behavior. Because she used two distinct samples for two outcomes, I was able to compare those using the d-effect size. The other seven studies measured top management support using scales rather than a dichotomous measure; six of these studies

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<sup>18</sup> Six of the seven effect sizes for presence of enforcement were produced using vignettes where the sanction was either present or it was not while the fourth effect size on presence of enforcement was collected by asking individuals whether the code was enforced in their company, yes or no. The two effect sizes produced using a continuous independent variable measured enforcement by asking individuals to indicate their agreement on a likert scale with the statement that their company enforced the code.

<sup>19</sup> I averaged the effect sizes of three measures of rewards in the Simpson (2002) study; these rewards were that the behavior impressed top management, increased peer admiration, and resulted in a promotion.

provided correlations that were used to calculate an r-effect size.<sup>20</sup> The seventh study did not provide correlations but used standardized regressions so with some reservations, the beta coefficient was treated as a correlation and used the same formula to calculate an r-effect size. Recall that because the r-type effect size is different from the d-type effect size, I was unable to compare the effect sizes from these seven studies to the effect sizes from the Simpson study.

Some studies included multiple measures of the dependent variable. This is problematic since including the effect sizes for all measures of the dependent variable would violate the assumption of independent data points. Thus, effect sizes based on multiple measures of the same construct were averaged into a single mean value. Unfortunately, a few studies did not report the information needed to compute or even estimate effect sizes. In these cases, the studies had to be dropped from the meta-analysis (see Appendix, p. 141).

### *Statistical Procedure*

As mentioned earlier, the literature on codes typically utilizes surveys of, or experiments with, individuals. However, in some cases the interest is in the individual's own values or behavior while in other cases it is in the values and behavior of the organization. Even though individuals are the ones providing information in both cases, the two study designs target different units of analysis. Thus, the first step was to sort studies by level of analysis so that studies investigating individual values, intentions, and behaviors were separate from studies on company values, intentions, and behaviors (as

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<sup>20</sup> The scales measuring top management support typically asked individuals to rate their agreement with statements like the following: top management lets it be known that unethical behavior is not tolerated; supervisors tend to look the other way when there are unethical actions; supervisors encourage violations; top managers represent high ethical standards; and top managers regularly show they care about ethics.

reported by individuals) since analyzing these studies together would confound the results.

Next, I examined the distribution of effect sizes to establish whether outliers were present in the data. Since the purpose of a meta-analysis is to arrive at a reasonable summary of quantitative findings of a body of research, outliers are problematic in that they may not be representative of the results. Values more than three standard deviations from the mean were considered outliers requiring further investigation. Two outliers were found in the data, one for individual ethical judgments and one for company behavior. To examine the influence of these outliers, the analyses were conducted with and without the outliers present. Without the outliers, the results maintained significance and did not vary greatly. Because of the small sample sizes and similarity in results, I decided to present the analyses with the outliers present.

With these decisions made, I computed the weighted mean of the effect sizes, weighing by the inverse variance weights, so that I could test my first five hypotheses. I also determined the confidence interval for the mean, which is useful to show the degree of precision of the estimate and test for homogeneity of the distribution. Testing for homogeneity of the distribution allowed me to determine whether there are differences among the effect sizes that have some source other than subject-level sampling error. To be conservative, it is assumed that there may be random differences between studies associated with variations in procedures and settings that go beyond subject-level sampling error. This assumption requires the use of a random effects or mixed effects model. Typically, if the homogeneity test determines that the variability of the effect sizes is likely to have resulted from subject-level sampling error alone, the model can be

simplified to a fixed-effects analysis. However, small sample sizes can affect the accuracy of the Q statistic for determining the presence of heterogeneity (Huedo-Medina, Sánchez-Meca, Marinnez, and Botella, 2006). Since some of my samples are small, I chose to be conservative and proceed with random effects models to test my hypotheses. To conduct this analysis, I used the macros developed for Stata by Dr. David Wilson (available at <http://mason.gmu.edu/~dwilsonb/ma.html>).

The final stage of this meta-analysis was to examine the relationship between the mean effect size findings and certain study characteristics. Because my moderator variables are all categorical, I used analog to the ANOVA models to determine whether these variables, including the two proxies for moral intensity proposed in my sixth hypothesis, explain significant variability across effect sizes. Once again, I chose to be conservative and used mixed effects models for the analog to the ANOVA analyses. Mixed effects models assume that the effects of between-study variables are systematic but that there is a remaining unmeasured random effect in the effect size distribution in addition to sample error. Thus, variability in the effect size distribution is attributed to systematic between-study differences, subject-level sampling error, and an additional random component (Lipsey & Wilson, 2001). The mixed effects model is similar to the random effects model except that the estimate of the random effects variance component is based on the residual variability (after the systematic portion of variance is controlled for) rather than the total variability. Mixed effects models do have lower statistical power than fixed effects models, increasing the chance of type II errors, but they also have more accurate type I error rates (Lipsey & Wilson, 2001). Given the goal of the



moderator analysis, I decided it would be more prudent to risk a higher rate of false negatives than false positives.

Using Dr. Wilson's macros (available online at <http://mason.gmu.edu/~dwilsonb/ma.html>), I ran the mixed effects analog to the ANOVA models for each moderator variable of interest. The investigation of the components of moral intensity are theoretically driven, and there is practical reason to assume that certain countries and certain industries may implement codes more effectively than others. The examination of the methodological variables, though, is more exploratory to determine whether, given the diversity of quality represented in the studies, certain methodological variables can explain the systematic variance across effect sizes. Because I run several analog to the ANOVA models, it is possible that some of these are statistically significant by chance alone. Therefore, results from these analyses are interpreted with caution.

## Chapter IV: Results

### *Description of Eligible Studies*

The study characteristics for all 36 studies are summarized in Table 3 (p. 82). The vast majority of these evaluations were conducted in the United States (89.2%). It is also notable that over three-fourths of the studies came from journal articles while the second largest source was dissertations (13.5%). Only 8.1% of studies were lab or in-basket experiments, 18.9% were vignette experiments with the presence of the code randomized, and the rest were questionnaires that relied on self-reports to sort respondents into code and no-code groups. The dependent variable was overwhelmingly collected using self-report data (86.5% of studies), and it tended to cover either unethical (40.5%) behavior or a combination of unethical and illegal behavior (32.4%) rather than focusing on strictly illegal behavior. Similarly, the studies were most likely to concentrate on acts against society (51.4%) or a mix of behaviors against society and the company (32.4%); very few studies focused solely on behaviors against the company (8.1%). From the data provided in these studies, effect sizes were calculated in a variety of ways. The majority of effect sizes were calculated using F, t, or z-tests (29.7%), correlations (21.6%) or means and standard deviations (18.9%). The fewest effect sizes were calculated using p-values (5.4%) and categorical p-values (2.7%), which is good since these methods require the most approximation for estimating effect sizes.

**Table 3. Study Characteristics**

<b>Variable</b>	<b>Category</b>	<b>Percent of Studies</b>
Country of Study	United States	89.2%
	Other	10.8%
Study Source	Book	2.7%
	Book Chapter	5.4%
	Journal Article	78.4%
	Dissertation/Thesis	13.5%
Study Type	Experiment (Lab/In-Basket)	8.1%
	Vignette Experiment	18.9%
	Quasi-experiment/Non-equivalent control	73%
DV Collection	Official Data	5.4%
	Researcher Observed	8.1%
	Self-reported	86.5%
Illegal or Unethical	Illegal	27%
	Unethical	40.5%
	Both	32.4%
Society or Company	Society	51.4%
	Company	8.1%
	Both	40.5%
Data Used to Calculate ES	Means & Standard Deviations	18.9%
	F, t, or z-test	29.7%
	Proportions	10.8%
	Correlations	21.6%
	Regression Coefficients	10.8%
	P-value	5.4%
	Categorical p-value	2.7%

Table 4 (p.83) provides frequencies for study quality variables for all 36 studies. Three-fourths of studies verified the reliability of their survey instrument either by using a survey that had been used and verified in the past or by checking the reliability of items through a pre-test of the instrument. On the other hand, only 35.1% of studies verified their measurement of the dependent variable; in some cases self-reports of the dependent variable were verified using official data or by comparing responses from more than one individual in a company. Almost half of the studies (48.6%) used random samples, but only 27% of studies assessed response bias caused by non-respondents in surveys or

subjects who did not participate in experiments. The majority of studies (73%) relied on natural assignment to code/no-code groups. About half of the studies (48.6%) used control variables in their analysis of the effect of codes on ethical decision-making.

**Table 4. Study Quality Frequencies**

<b>Variable</b>	<b>Category</b>	<b>Percent of Studies</b>
Survey Instrument Verification	Yes	75.7%
	No	24.3%
DV Measure Verification	Yes	35.1%
	No	64.9%
Random Sample	Yes	48.6%
	No	51.4%
Response Bias Assessed	Yes	27%
	No	73%
Method of Assignment	Random	27%
	Natural	73%
Controls	Yes	48.6%
	No	51.4%

Characteristics of the samples used in all 36 studies are displayed in Table 5 (p.84). The majority of studies (81.1%) used professionals for their samples, but what is most apparent from Table 5 is that a substantial number of the studies did not provide a great deal of information on their samples. Close to one-third of the studies did not provide information on sample age, 40.5% failed to present information on gender, and nearly 38% neglected to report the work experience of their sample. Of the studies that did provide sample information, the majority were 35 years or older, male, and had less than 10 years of work experience. While one-third of the studies did not collect information on the respondent's management area, the majority of the respondents came from marketing and sales (24.3%), other areas (16.2%), and computer/information technology (10.8%). The majority of studies collected samples from a mix of industries (43.2%) and the manufacturing industry (18.9%).

**Table 5. Sample Characteristics**

<b>Variable</b>	<b>Category</b>	<b>Percent of Studies</b>
Respondents	Students	13.5%
	Professionals	81.1%
	Mix	5.4%
Average Age	35 Years and Over	45.9%
	Under 35 Years	21.6%
	Unknown	32.4%
Predominant Gender	More than 60% Male	40.5%
	Even Mix of Male/Female	19%
	Unknown	40.5%
Work Experience	More than 10 Years	27%
	Less than 10 Years	35.1%
	Unknown	37.8%
Predominant Management Area	Marketing/Sales	24.3%
	Accounting	8.1%
	Computer/Information Technology	10.8%
	Foodservice	8.1%
	Other	16.2%
	Unknown	32.4%
	Predominant Industry	Manufacturing
Finance		5.4%
Transportation		2.7%
Services		8.1%
Mix		43.2%
Unknown		21.6%

*Overall Mean Effect Sizes Across Studies*

As mentioned earlier, I used Dr. Wilson's Stata macros to calculate the mean effect sizes, confidence intervals, and Q statistics. While I report the Q statistic and its significance for each model, a shortcoming of the Q statistic is that it has poor power to detect true heterogeneity among studies when the meta-analysis includes a small number of studies (Huedo-Medina et al., 2006), as is the case with many of my models. Thus, to be safe, I assumed heterogeneity and used random effects models in order to take into account both within- and between-studies variability. (A summary of all the following

results can be seen at the end of this section in Table 18, p. 109). The results in Table 6 support my first hypothesis and show that ethics codes have a positive and significant influence on individuals' ethical judgments, intentions, and behavior; that is, individuals working in companies with ethics codes indicated more ethical judgments, intentions and behavior than individuals working in companies without codes.<sup>21</sup> Interestingly, the mean effect size is biggest for ethical intentions, indicating that codes may have a somewhat larger effect on what people say they will do than on actual actions. These results can be seen graphically in the forest plots shown in Figures 3 through 5 below, which display the distribution of individual effect sizes. The graphs show an overall pattern of small positive effects.

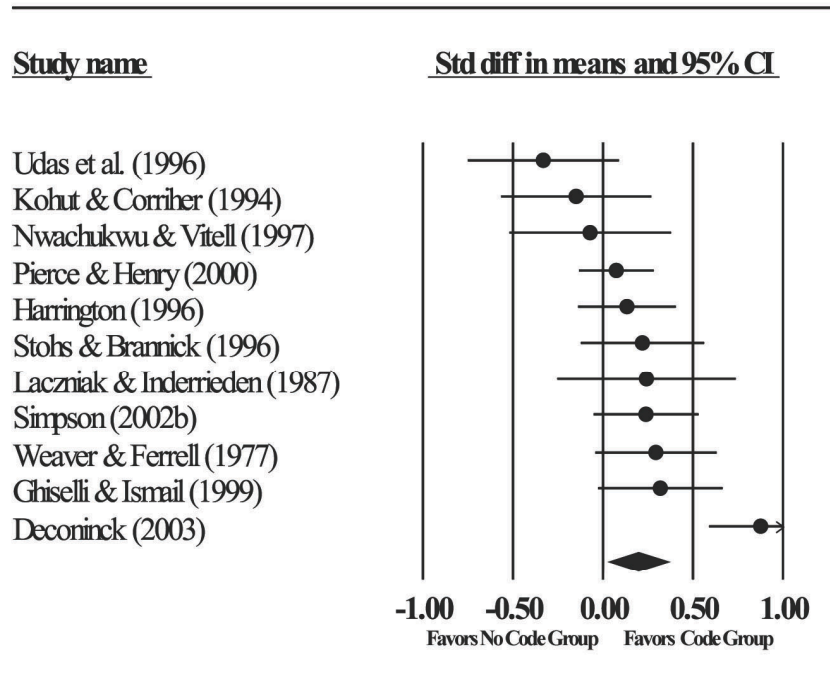
**Table 6. Weighted Mean Effect Sizes for Presence of Code (Individuals)**

<b>Outcome</b>	<b>Mean ES</b>	<b>95% Confidence Interval</b>		<b>Q</b>	<b>Number</b>
		<b>Lower</b>	<b>Upper</b>		
Ethical Judgments	0.186*	0.001	0.371	33.14**	11
Ethical Intentions	0.282*	0.010	0.553	13.60**	5
Ethical Behavior	0.202**	0.090	0.314	9.91	8

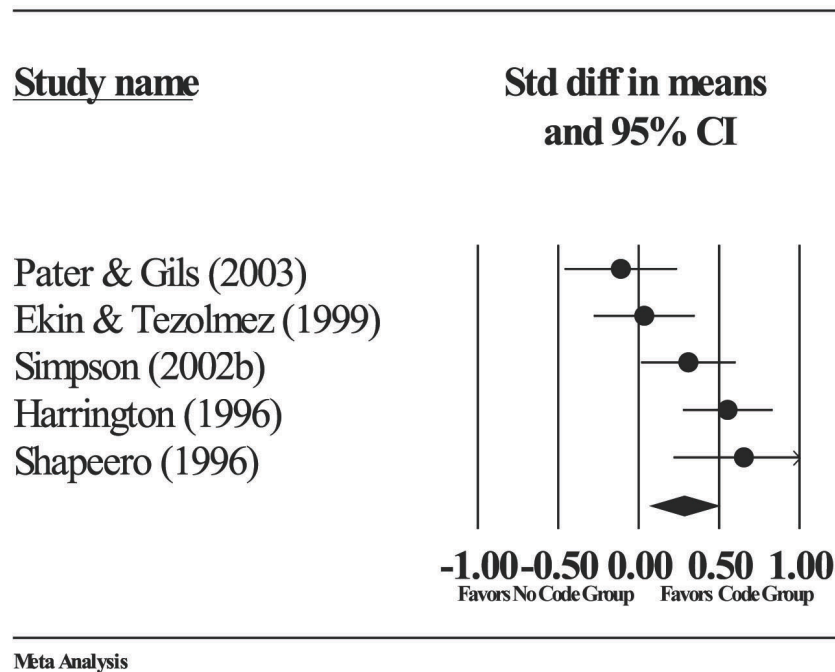
\*p<0.05, \*\*p<0.01

<sup>21</sup> The studies on ethical judgments included one outlier, Deconinck (2003), which can be seen in Figure 3. As mentioned earlier, I ran the analysis without this outlier to determine whether it altered the results. Without the Deconinck (2003) study, the mean effect size was a little smaller at 0.120, but the results were still significant at the 0.05 level with a confidence interval from 0.008 to 0.232.

**Figure 3. Presence of Code on Individual Judgments**



**Figure 4. Presence of Code on Individual Intentions**



**Figure 5. Presence of Code on Individual Behavior**

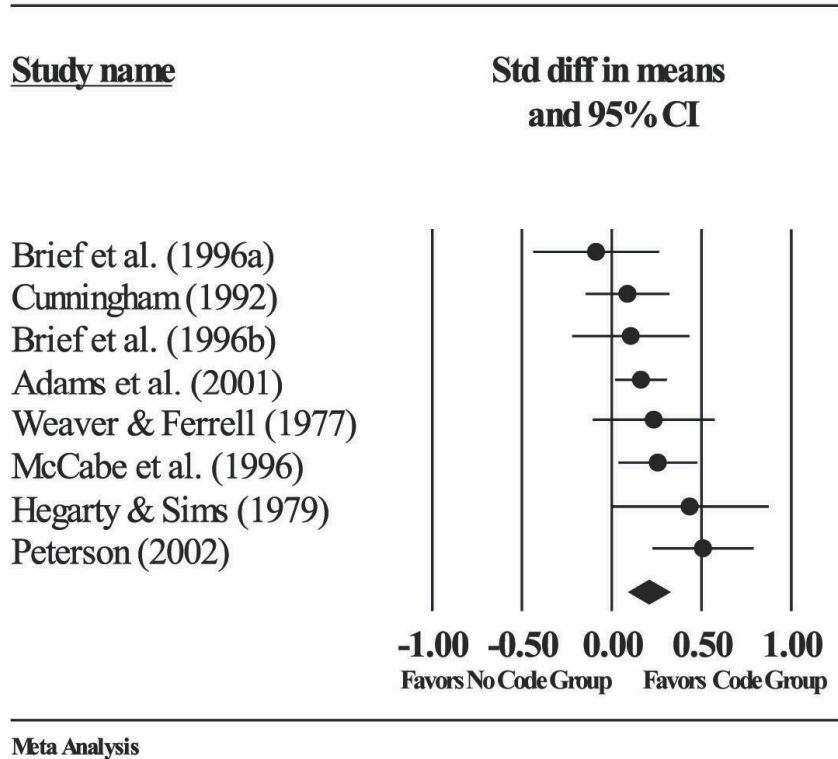


Table 7 (p. 88) shows the results for my second hypothesis that predicts a positive relationship between the presence of a code and the ethical judgments, intentions, and behavior of companies.<sup>22</sup> These results confirm a positive relationship, but only ethical intentions and behavior are significant.<sup>23</sup> Individuals in companies with codes, compared to individuals in companies without codes, predict that their companies will act more ethically when faced with difficult situations. Clearly, this finding should be viewed as preliminary given that it is based on two studies, but it is based on the evidence available

<sup>22</sup> Recall that company judgments and intentions are measured as employee perceptions of how the company would judge an act and how a company would act while company behavior was collected through employee reports or official data.

<sup>23</sup> The studies on ethical behavior included one outlier, Somers (2001), which can be seen in Figure 8. As mentioned earlier, I ran the analysis without this outlier to determine whether it altered the results. Without the Somers (2001) study, the mean effect size was a little smaller at 0.131, but the results were still significant at the 0.05 level with a confidence interval from 0.006 to 0.257.



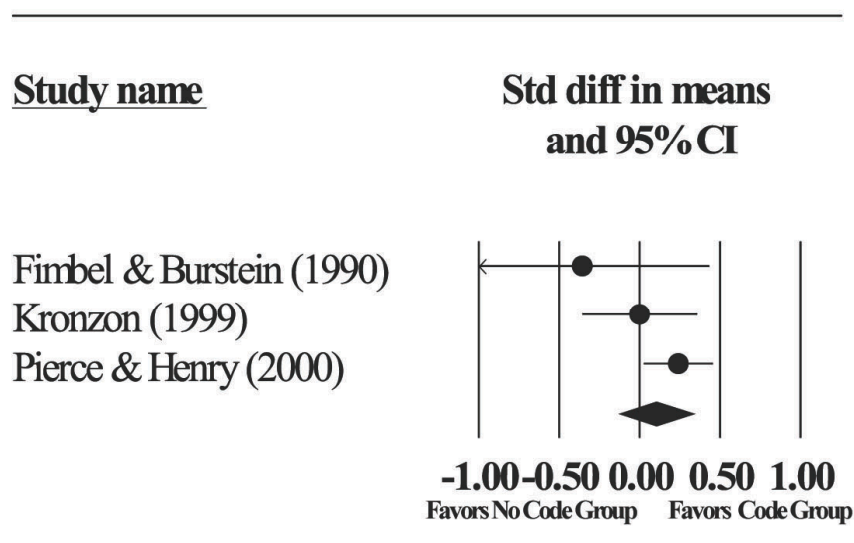
and suggests that codes can assist in shaping employees' perceptions of the way their companies will act. Further, this finding is bolstered by the fact that ethical behavior is significant, showing that individuals in companies with codes, compared to individuals in companies without codes, report more actual ethical behavior within their company. This finding is based on a larger group of studies (N=10) and so provides more support that codes have a significant effect on ethical decision-making. The forest plots depicting these results are provided in Figures 6 through 8 below.

**Table 7. Weighted Mean Effect Sizes for Presence of Code (Company)**

Outcome	Mean ES	95% Confidence Interval		Q	Number
		Lower	Upper		
Ethical Judgment	0.149	-0.150	0.360	2.922	3
Ethical Intention	0.396**	0.163	0.628	1.00	2
Ethical Behavior	0.172*	0.037	0.307	30.35**	10

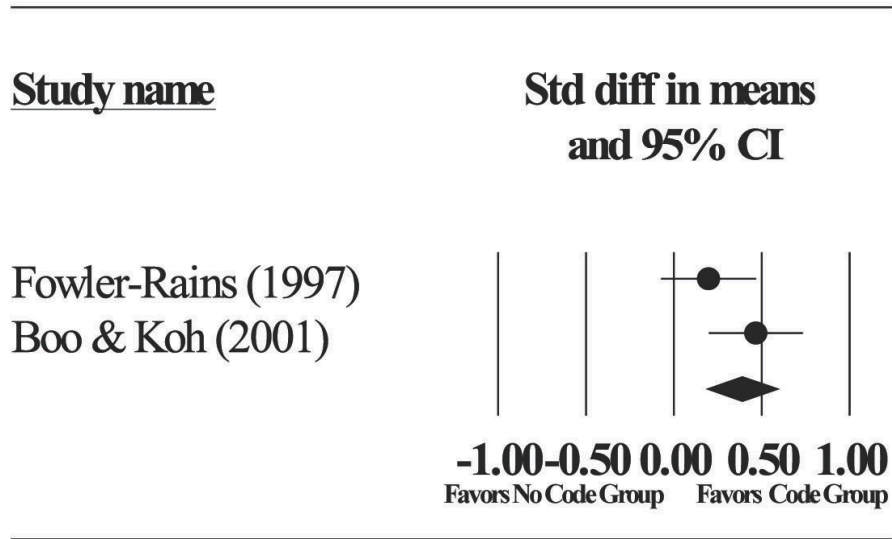
\*p<0.05, \*\*p<0.01

**Figure 6. Presence of Code on Company Judgments**



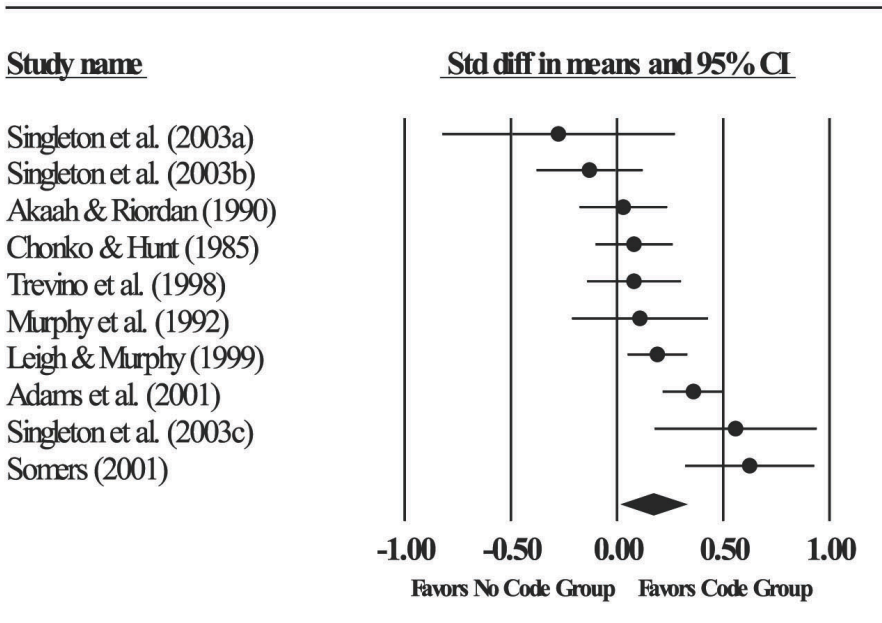
Meta Analysis

**Figure 7. Presence of Code on Company Intentions**



Meta Analysis

**Figure 8. Presence of Code on Company Behavior**



Meta Analysis

The results of my third hypothesis, which specifies a positive effect of code enforcement on individual judgments and intentions and company behavior, are displayed in Tables 8 and 9. The findings for the presence of enforcement of the code are positive, but they are not significant. Table 9 (p.91) shows the findings for enforcement of the code when it is measured on a scale and company unethical behavior.<sup>24</sup> These results are positive and significant at the .05 level, and they show that individuals agreeing with the statement that their companies punish unethical behavior tend to work in companies that commit fewer unethical acts. The general consensus is that continuous measures are superior to dichotomous measures when the phenomenon being measured has an inherently continuous nature (Hunter & Schmidt, 2004; Newton & Rudestam, 1999). Continuous variables capture more information and so are more sensitive to change. Further, artificially dichotomizing a continuous variable can attenuate its effect (Hunter & Schmidt, 2004). It makes some sense then, that the continuous measure of enforcement is significant while the dichotomous measure is not. A company may either have a code or not, but a company likely has some degree of enforcement of the code. Thus, the continuous measure of enforcement is likely more accurate, and my third hypothesis receives some support. Figures 9 through 11 (below) present the graphic form of these results.

**Table 8. Weighted Mean Effect Sizes for Presence of Enforcement of Code (Individuals)**

<b>Outcome (d-type ES)</b>	<b>Mean ES</b>	<u>95% Confidence Interval</u>		<b>Q</b>	<b>Number</b>
		<b>Lower</b>	<b>Upper</b>		
Ethical Judgment	0.175	-0.070	0.420	6.25	4
Ethical Intention	0.378	-0.003	0.758	8.15*	3

\*p<0.05, \*\*p<0.01

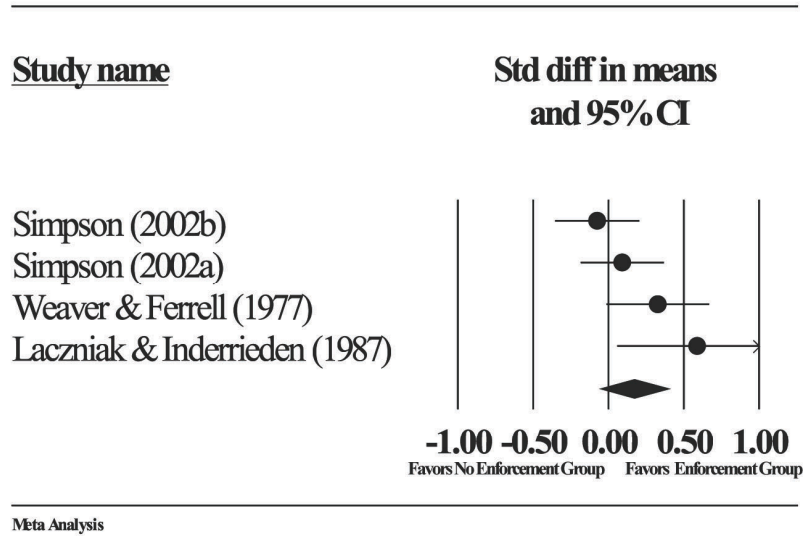
<sup>24</sup> Typically, enforcement of a code was measured on a scale by asking respondents to rate their agreement with the statement that the code in their company is enforced.

**Table 9. Weighted Mean Effect Sizes for Enforcement of Code (Company)**

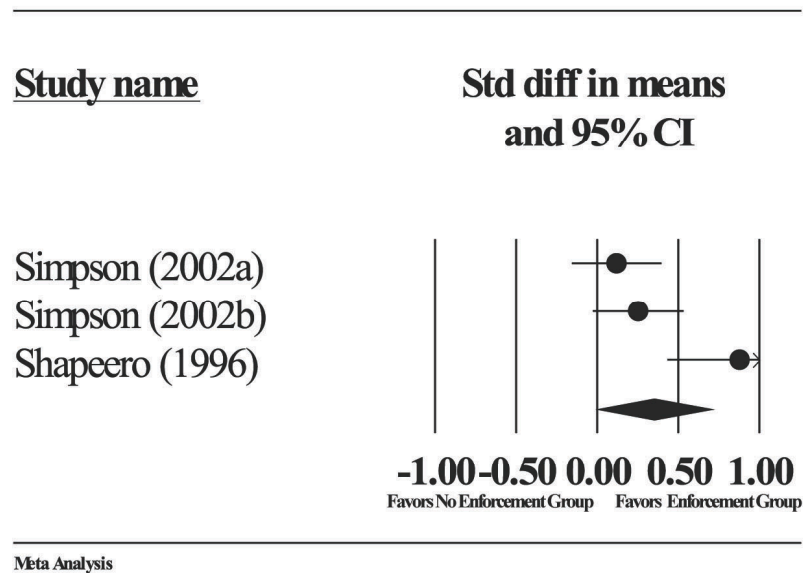
Outcome (r-type ES)	Mean ES	95% Confidence Interval		Q	Number
		Lower	Upper		
Ethical Behavior	0.144*	0.006	0.281	11.92**	2

\*p<0.05, \*\*p<0.01

**Figure 9. Presence of Enforcement on Individual Judgments**



**Figure 10. Presence of Enforcement on Individual Intentions**



**Figure 11. Agree Enforcement of Code on Company Behavior**

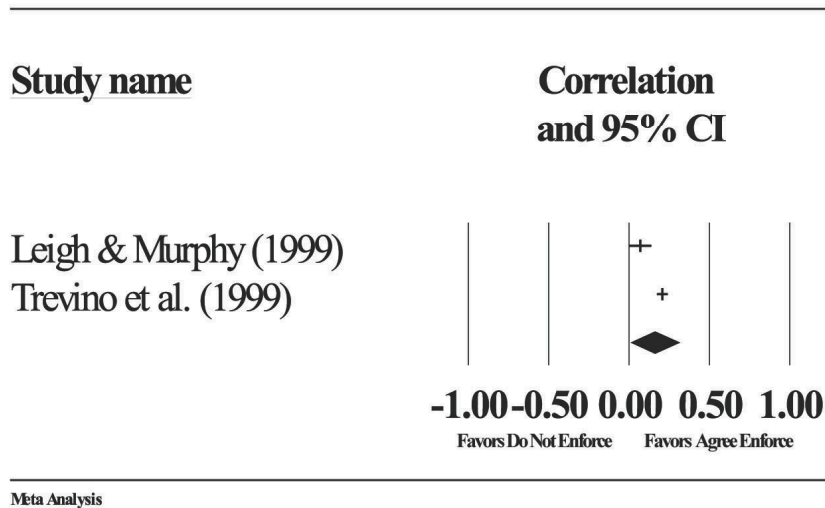


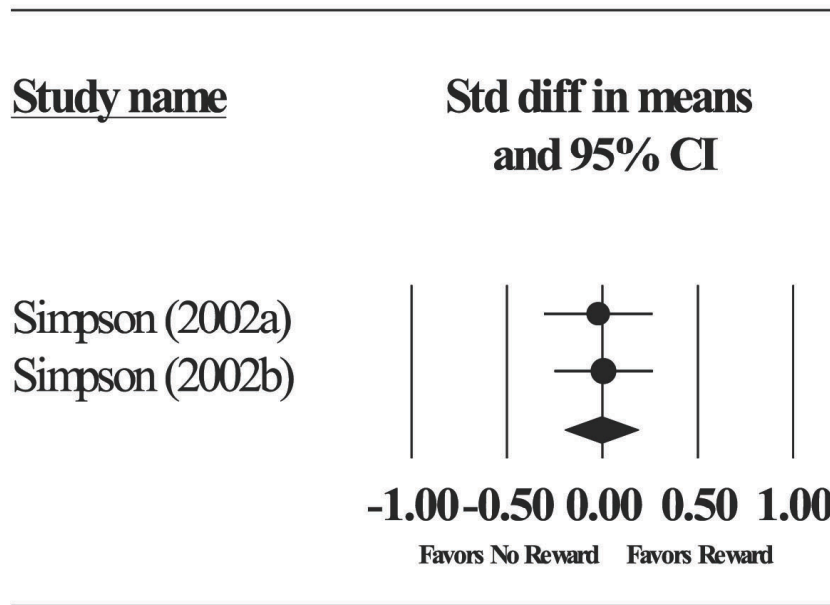
Table 10 (p.93) shows the results for my fourth hypothesis regarding the positive influence of rewards on ethical judgments and intentions. In this case, the studies available tested whether rewarding unethical behavior would encourage unethical judgments and intentions to behave unethically. The mean effect sizes were near zero, indicating that rewarding unethical behavior in scenarios did not influence individuals to judge the behavior more ethically nor did it encourage them to respond that they would commit the unethical act. Thus, rewards of unethical behavior did not significantly influence unethical judgments and intentions in a corporate crime context. Unfortunately, there were no studies available that tested whether rewarding ethical behavior influenced ethical judgments, intentions, and behaviors in a corporate crime context. The forest plots displaying the individual effect sizes can be seen in Figures 12 and 13 below.

**Table 10. Weighted Mean Effect Sizes for Rewarding Unethical Behavior (Individuals)**

Outcome	Mean ES	95% Confidence Interval		Q	Number
		Lower	Upper		
Ethical Judgment	-0.006	-0.198	0.185	0.02	2
Ethical Intention	-0.014	-0.206	0.177	0.032	2

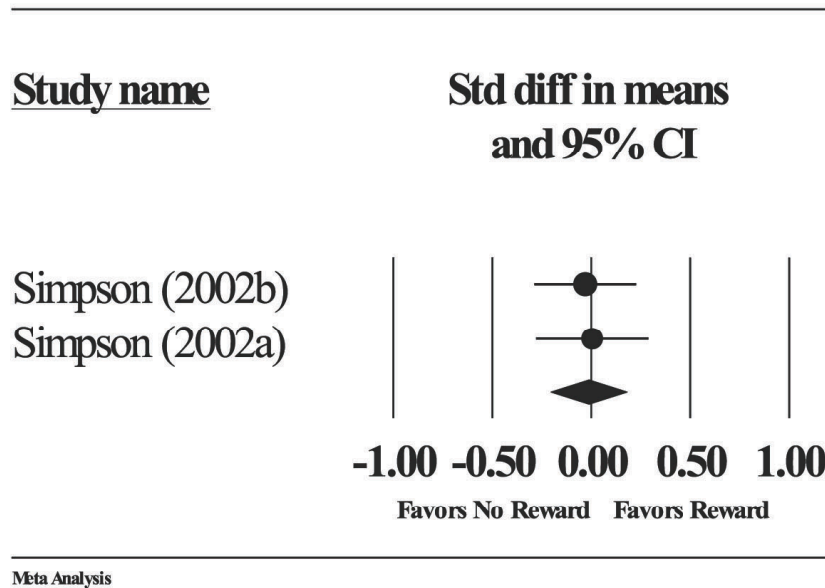
\*p<0.05, \*\*p<0.01

**Figure 12. Presence of Reward on Individual Judgments**



Meta Analysis

**Figure 13. Presence of Reward on Individual Intentions**



Finally, Tables 11 and 12 provide the findings for my fifth hypothesis, which specifies a positive influence of top management support for ethics codes on individual ethical judgments and intentions and on company behavior. As discussed earlier, the results are presented separately for studies that randomized the presence of top management support and studies that measured top management support on a scale because a different type of effect size is calculated for dichotomous and continuous independent variables.<sup>25</sup> Table 11 (p. 95) shows the results for the presence of top management support on individual ethical judgments and intentions. These results are positive but not significant. However, Table 12 (p. 95) shows that when top management support is measured as a continuous variable on a scale, it has a positive and significant

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<sup>25</sup> Recall that the studies using a continuous measure for company behavior were coded as r-type effect sizes using the product-moment correlation effect size and that all of the effect sizes were calculated from correlations except for one which was calculated using a standardized regression coefficient. Since there are some reservations with using the standardized regression coefficient, I ran the analysis without that study effect size to see if it had a large effect on the results. The results were almost exactly the same with a significant mean effect size of 0.223 compared to 0.226 reported below.

effect on individual intentions and company behavior.<sup>26</sup> This indicates that individuals in companies with top management support for the ethics code are significantly more likely to report they would behave ethically in the situations presented. Similarly, in companies where top managers are ranked highly for their support of ethics codes, the companies commit more ethical acts and fewer unethical ones than companies where top management is rated lower on support for ethics. Like with enforcement of the code discussed above, top management support for codes is an inherently continuous phenomenon since there can be degrees of support within a company. Measuring this construct as a dichotomous variable is a likely cause of the insignificant results in Table 11. The graphs of the individual effect sizes are shown in Figures 14 through 17 below.

**Table 11. Weighted Mean Effect Sizes for Presence of Top Management Support (Individuals)**

<b>Outcome (d-type ES)</b>	<b>Mean ES</b>	<b>95% Confidence Interval</b>		<b>Q</b>	<b>Number</b>
		<b>Lower</b>	<b>Upper</b>		
Ethical Judgment	0.022	-0.163	0.206	0.20	2
Ethical Intention	0.010	-0.175	0.194	0.18	2

\*p<0.05, \*\*p<0.01

**Table 12. Weighted Mean Effect Sizes for Top Management Support**

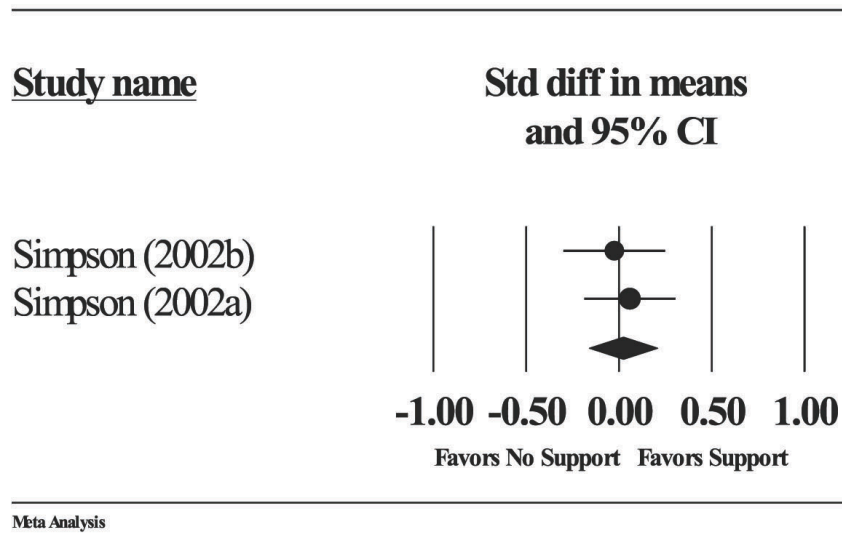
<b>Outcome (r-type ES)</b>	<b>Mean ES</b>	<b>95% Confidence Interval</b>		<b>Q</b>	<b>Number</b>
		<b>Lower</b>	<b>Upper</b>		
Individual Ethical Intention	0.163**	0.069	0.257	0.00	2
Company Ethical Behavior	0.226**	0.165	0.288	6.76	5

\*p<0.05, \*\*p<0.01

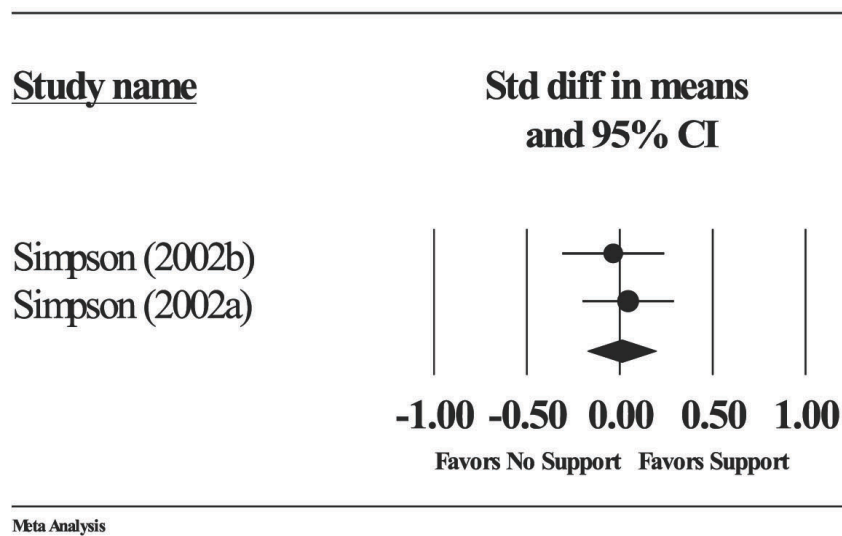
<sup>26</sup> One of the five studies included in this analysis of top management support used a scale that was a little broader than the other scales in that it included measures of some elements of organizational practices, like the use of ethics audits and hotlines. I ran the analysis without this study to make sure it was not driving the results, and the results were very similar with a mean effect size of 0.253 that was significant at the .01 level. Thus, I chose to maintain the fifth study to increase the sample size and power of the analysis.



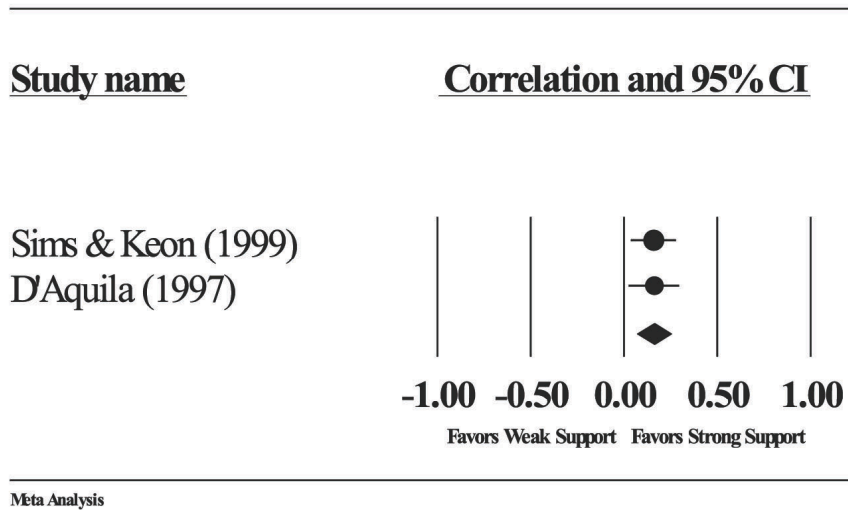
**Figure 14. Presence of Top Management Support of Code on Individual Judgments**



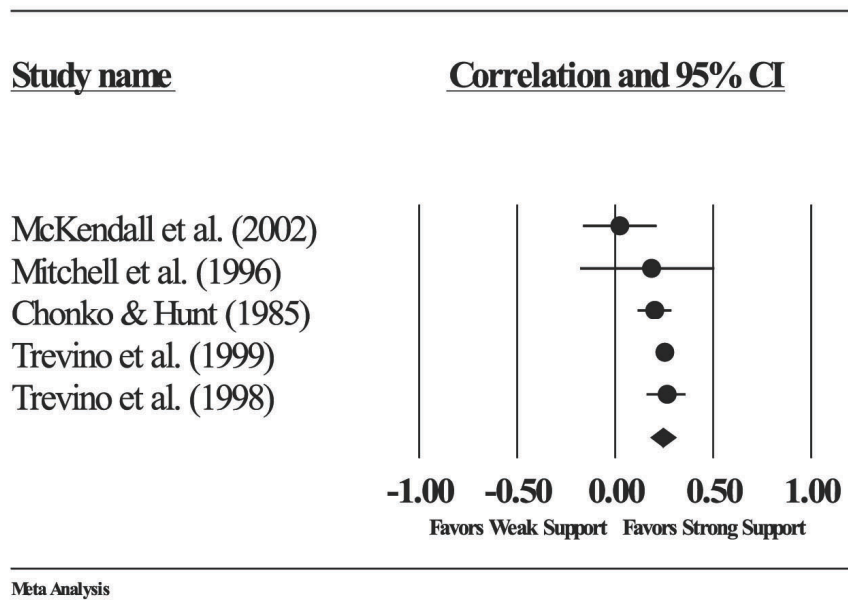
**Figure 15. Presence of Top Management Support of Code on Individual Intentions**



**Figure 16. Strength of Top Management Support of Code on Individual Intentions**



**Figure 17. Strength of Top Management Support of Code on Company Behavior**



### *Meta-Analytic Analog to the ANOVA Models*

It is possible that the results presented above vary by the characteristics of moral intensity, the context in which the codes are implemented, and the quality of the studies. I tried to capture important study differences by coding information from each study, as discussed above; however, my ability to code many relevant study features was limited by the quality of the descriptions provided by the primary authors. Most studies did not provide information on the type of code, the manner of implementation, or relevant sample characteristics, so it was not possible to examine these features. However, it is possible that codes are created and implemented in a more effective manner in the United States compared to other countries because the United States has been using codes for a longer period of time than other countries. Similarly, codes may be more successful in certain industries and less successful in others because of industry norms or goals (Sethi & Sama, 1998). I was able to examine the impact of these variables, as well as several methodological characteristics. Thus, I ran analog to the ANOVA models to examine the possibility that the mean effect sizes significantly differed across categorical levels of these variables. If the variability explained by the categorical variable (Qb statistic) is significant, it indicates that there is significant variability across the means. These results are presented in the tables below.<sup>27</sup>

Table 13 (p. 100) shows no support for my sixth hypothesis; the proxies for two

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<sup>27</sup> Unfortunately, it was not possible to explore moderator effects for all my results since several models only had sample sizes of two. Adding even one independent variable to these models would use up all the degrees of freedom. Thus, I do not run analog to the ANOVAs for all the models. Also, because studies were divided into groups based on level of analysis and outcome of interest (judgments, intentions, and behaviors), not all methodological variables applied to each group. For instance, in some cases all the studies used to examine an outcome were questionnaires so there was no variation on study design or method of assignment to code/no-code groups. This meant I needed to use a different variable to explore quality of study. Therefore, results are provided for different variables in each model based on the data/variability.

components of moral intensity, social consensus and magnitude of consequences have no significant effect on the relationship between codes and ethical judgments. Whether the act presented to respondents was illegal or unethical did not affect individuals' judgments of the behavior. Similarly, judgments were not affected by whether an act was against society or the company. All studies except for one were conducted in the United States, and not enough of the primary authors provided data on industry so I was unable to examine these two variables. Thus, I turn to the exploratory examination of the methodological variables, which must be interpreted cautiously since it is possible, given the number of models, that some would be significant by chance. Of the methodological variables, only method of assignment explained significant variability in effect sizes for individual ethical judgment with studies that used random assignment to groups producing the largest mean of 0.491. This finding suggests that more methodologically rigorous studies, those employing random assignment, found stronger evidence of a positive effect of codes of conduct. The effectiveness of codes to influence individual judgments did not vary across other methodological variables, like whether a random sample was used, whether response bias of sample was assessed and whether controls were used.

**Table 13. Meta-Analytic Analog to the ANOVA for Presence of Code of Individual Judgments, Mixed Effects Model**

Variable	Category	Mean	Std. Err.	Lower CI	Upper CI	# of ES
Illegal (Qb=0.197, df=1, RE Var.=0.088)	Yes	0.239	0.332	-0.412	0.890	1
	No (Unethical)	0.204	0.1219	-0.050	0.458	7
	Both	0.103	0.212	-0.312	0.519	3
Against Society (Qb=0.070, df=2, RE Var.=0.091)	Yes	0.207	0.146	-0.079	0.492	6
	No (Against Company)	0.175	0.236	-0.287	0.637	2
	Both	0.141	0.206	-0.263	0.544	3
Study Design (Qb=2.123, df=1, RE Var.=0.057)	Experiment (lab/in=basket)	0.242	0.353	-0.449	0.933	1
	Vignette	0.351*	0.148	0.060	0.641	4
	Questionnaire	0.075	0.120	-0.161	0.310	6
Survey Instrument Verification (Qb=0.163, df=1, RE Var.=0.075)	Yes	0.166	0.110	-0.050	0.381	9
	No	0.269	0.231	-0.184	0.721	2
Random Sample (Qb=1.602, df=1, RE Var.=0.055)	Yes	0.106	0.110	-0.110	0.322	7
	No	0.342*	0.151	0.047	0.637	4
Response Bias Assessed (Qb=0.729, df=1, RE Var.=0.074)	Yes	0.317	0.183	-0.042	0.675	3
	No	0.131	0.117	-0.098	0.360	8
<i>Method of Assignment</i> (Qb=5.506*, df=1, RE Var.=0.034)	Random	0.491**	0.148	0.200	0.781	3
	Natural	0.083	0.090	-0.094	0.260	8
Controls (Qb=2.469, df=1, RE Var.=0.052)	Yes	0.318*	0.120	0.083	0.553	6
	No	0.043	0.128	-0.207	0.293	5

\*<0.05, \*\*<0.01

Table 14 (p. 102) displays the analog to the ANOVA results for presence of a code on individual intentions. My sixth hypothesis receives some support with actions against society explaining significant variability across effect sizes. Studies that measured intentions for behaviors against the company produce the largest mean effect size of 0.655 while behaviors against society have a mean effect size of 0.438. For individual intentions, then, there is some indication that the characteristics of moral intensity matter. The country of study variable is also significant at the .01 level with the studies conducted in the United States producing a positive mean of 0.476. It is difficult to explain such variation with certainty because it is possible that, as suggested, codes in the United States are created or implemented in a more effective fashion, or it could be that the studies done in the United States were more likely to show a positive effect because of the manner in which the studies were conducted. The reason for this difference is not immediately clear from these data, and I will return to this finding in the discussion section. Returning to the remaining results in Table 14, the methodological variables (random sample and controls) did not explain significant variability for individual ethical intentions.

**Table 14. Meta-Analytic Analog to the ANOVA for Presence of Code on Individual Intentions, Mixed Effects Model**

Variable	Category	Mean	Std. Err.	Lower CI	Upper CI	# of ES
Illegal ( $Q_b=0.937$ , $df=1$ , RE Var.=0.092)	Yes	0.433	0.238	-0.034	-0.900	2
	No (Unethical)	0.246	0.258	-0.258	0.751	2
	Both	0.035	0.344	-0.638	0.708	1
<i>Against Society</i> ( $Q_b=11.839^{**}$ , $df=1$ , RE Var.=0)	Yes	0.438**	0.104	0.235	0.641	2
	No (Against Company)	0.655**	0.224	0.216	1.094	1
	Both	-0.030	0.120	-0.265	0.205	2
<i>Country</i> ( $Q_b=11.067^{**}$ , $df=1$ , RE Var.=0)	United States	0.476**	0.094	0.292	0.661	3
	Other Country	-0.030	0.120	-0.265	0.205	2
Random Sample ( $Q_b=0.056$ , $df=1$ , RE Var.=0.102)	Yes	0.315	0.211	-0.100	0.729	2
	No	0.237	0.253	-0.259	0.733	3
Controls ( $Q_b=0.990$ , $df=1$ , RE Var.=0.075)	Yes	0.109	0.226	-0.334	0.552	2
	No	0.401	0.188	0.033	0.769	3

\* $p < 0.05$ , \*\* $p < 0.01$

The homogeneity test (Q-statistic) for the weighted mean effect sizes was not significant for individual behavior, indicating no excess variance to be explained, but as mentioned, the Q-statistic is less reliable with small samples so I still conducted an exploratory examination of moderators. The results reported in table 15 (p. 104) show that hypothesis six is not supported by the findings for individual behavior; neither illegal nor against society is significant. Once again, country and industry could not be examined, but the type of data used for the calculation of the effect size is significant. The category means show that effect sizes calculated from complete significance testing

statistics, like from an F, t, or z-test, contributed the largest mean (0.339) while means and standard deviations provided the second largest mean (0.163). This suggests that the effect sizes based on the least amount of approximation were more likely to show a positive effect of codes. As for the methodological variables, only study type explains significant variability in effect sizes for individual behavior with vignette studies contributing the largest mean effect size (0.508) and questionnaires providing a significant, though smaller, mean (0.175). This result raises questions about the significant finding for individual behavior; it indicates that the less methodologically rigorous studies may be driving the results since the three experiments did not contribute a significant mean effect size while the questionnaires did.



**Table 15. Meta-Analytic Analog to the ANOVA for Presence of Code on Individual Behavior, Mixed Effects Model**

Variable	Category	Mean	Std. Err.	Lower CI	Upper CI	# of ES
Illegal ( $Q_b=2.234$ , $df=1$ , RE Var.=0.009)	Yes	0.015	0.139	-0.257	0.287	2
	No (Unethical)	0.241	0.072	0.099	0.383	5
	Both	0.256	0.146	-0.030	0.543	1
Against Society ( $Q_b=0.583$ , $df=1$ , RE Var.=0.013)	Yes	0.120	0.127	-0.129	0.370	3
	No (Against Company)	0.234	0.209	-0.175	0.643	1
	Both	0.233	0.080	0.076	0.389	4
<i>Data for ES Calculation</i> ( $Q_b=6.842^{**}$ , $df=1$ , RE Var.=0)	Means & Standard Deviations	0.163*	0.074	0.018	0.308	1
	F, t, or z-test	0.339**	0.075	0.193	0.485	4
	Proportions	0.017	0.122	-0.223	0.256	2
	Correlations	0.088	0.120	-0.147	0.322	1
<i>Study Design</i> ( $Q_b=5.438^*$ , $df=1$ , RE Var.=0)	Experiment (lab/in-basket)	0.112	0.108	-0.099	0.322	3
	Vignette	0.508**	0.145	0.225	0.791	1
	Questionnaire	0.175**	0.052	0.072	0.278	4
DV Measure Verification ( $Q_b=2.044$ , $df=1$ , RE Var.=0.005)	Yes	0.282	0.078	0.129	0.436	4
	No	0.127	0.075	-0.020	0.274	4
Random Sample ( $Q_b=0.017$ , $df=1$ , RE Var.=0.011)	Yes	0.214	0.098	0.021	0.406	4
	No	0.197	0.080	0.041	0.353	4
Method of Assignment ( $Q_b=0.645$ , $df=1$ , RE Var.=0.009)	Random	0.118	0.121	-0.119	0.355	3
	Natural	0.230	0.068	0.097	0.362	5
Controls ( $Q_b=0.014$ , $df=1$ , RE Var.=0.012)	Yes	0.189	0.135	-0.076	0.454	2
	No	0.208	0.070	0.070	0.345	6

\* $p<0.05$ , \*\* $p<0.01$

Table 16 (p. 106) provides the results of the analog to the ANOVA analysis for the relationship between codes and company behavior. My sixth hypothesis regarding moral intensity was not supported; neither illegal nor against society was significant, although illegal behaviors did contribute the larger mean effect size compared to studies that used unethical behaviors or both illegal and unethical behaviors. Again, it is possible that codes are more effective in certain industries. Industry was significant with studies conducted on the manufacturing industry producing the largest effect size. This suggests that codes are more effective in encouraging ethical behavior in the manufacturing industry, but this result was produced by one study so it may also be something about that study driving the results. All the studies in this area used questionnaires to gather their data so there was no variability on study design or on method of assignment. Thus, to examine methodological differences, I tested whether assessing response bias and use of controls accounted for any variability across effect studies, but these two methodological variables were not significant.

**Table 16. Meta-Analytic Analog to the ANOVA for Presence of Code on Company Behavior, Mixed Effects Model**

Variable	Category	Mean	Std. Err.	Lower CI	Upper CI	# of ES
Illegal ( $Q_b=0.372$ , $df=2$ , RE Var.=0.039)	Yes	0.225	0.135	-0.039	0.488	4
	No (Unethical)	0.170	0.108	-0.042	0.382	4
	Both	0.092	0.171	-0.242	0.427	2
Against Society	Yes	0.162	0.102	-0.037	0.360	6
	Both	0.182	0.103	-0.019	0.385	4
<i>Predominant Industry</i> ( $Q_b=4.912^*$ , $df=1$ , RE Var.=0.025)	Manufacturing	0.624**	0.221	0.191	1.058	1
	Finance	0.061	0.142	-0.216	0.339	3
	Transportation	0.108	0.227	-0.338	0.553	1
	Mix	0.156	0.081	-0.003	0.316	5
Response Bias Assessed ( $Q_b=0.480$ , $df=1$ , RE Var.=0.035)	Yes	0.104	0.122	-0.135	0.343	3
	No	0.209	0.091	0.032	0.387	7
Controls ( $Q_b=0.758$ , $df=1$ , RE Var.=0.032)	Yes	0.105	0.105	-0.101	0.310	4
	No	0.228*	0.095	0.041	0.415	6

\* $p < 0.05$ , \*\* $p < 0.01$

The results for the analog to the ANOVA analysis for top management support and company behavior and displayed in Table 17 (p. 108). Hypothesis six receives some support from these findings; illegal explains significant variability in effect sizes with the “both” category contributing the largest effect size of 0.261 and unethical behavior providing the second largest effect size (0.205). I was unable to test the moderating influence of against society for this model because it lacked variability; four out of the five studies analyzed behaviors that were both illegal and unethical. The studies on top management support and company behavior provided enough data to analyze one sample characteristic, the predominant industry of the sample. This variable is significant

showing that studies that analyzed the effect of top management support across a mix of industries contributed a larger effect size (0.254) than studies that analyzed the effect in just the manufacturing sector (0.059). This indicates that top management support for codes was more effective in studies examining a mix of industries. It is not possible to determine if this result is due to the form of top management support used in the mix of industries or the methodology of the studies conducted on those industries. Of the methodological variables, only DV measure verification is significant. Studies that did not verify the dependent variable contributed the larger mean effect size (.261), but both mean effect sizes were significant. This suggests that the finding of the impact of top management support on company behavior was robust to variation on this methodological variable. As mentioned earlier, a summary of all the results can be found in Table 18, p. 109)

**Table 17. Meta-Analytic Analog to the ANOVA for Top Management Support on Company Behavior, Mixed Effects Model**

<b>Variable</b>	<b>Category</b>	<b>Mean</b>	<b>Std. Err.</b>	<b>Lower CI</b>	<b>Upper CI</b>	<b># of ES</b>
<i>Illegal</i> ( <i>Qb</i> =6.124*, <i>df</i> =1, <i>RE Var.</i> =0)	Yes	0.059	0.087	-0.111	0.229	2
	No (Unethical)	0.205**	0.047	0.114	0.297	1
	Both	0.261**	0.017	0.226	0.295	2
<i>Predominant Industry</i> ( <i>Qb</i> =4.323*, <i>df</i> =1, <i>RE Var.</i> =0)	Manufacturing	0.059	0.087	-0.111	0.229	2
	Mix	0.254**	0.017	0.221	0.275	3
<i>DV Measure Verification</i> ( <i>Qb</i> =3.910*, <i>df</i> =1, <i>RE Var.</i> =0)	Yes	0.172**	0.041	0.092	0.253	3
	No	0.261**	0.018	0.226	0.295	2
Response Bias Assessed ( <i>Qb</i> =0.382, <i>df</i> =1, <i>RE Var.</i> =0.004)	Yes	0.260	0.076	0.111	0.409	2
	No	0.205	0.044	0.118	0.292	3
Controls ( <i>Qb</i> =3.771, <i>df</i> =1, <i>RE Var.</i> =0)	Yes	0.171	0.042	0.089	0.254	2
	No	0.260	0.018	0.226	0.295	3

\* $p < 0.05$ , \*\* $p < 0.01$

**Table 18. Tabular Summary of the Results**

<b>Hypothesis</b>	<b>Support</b>	<b>Conditioned by Methodological Variables</b>
H1a: Ethics codes have a positive effect on individual ethical judgments.	Yes	Methodologically stronger studies using random assignment supported hypothesis.
H1b: Ethics codes have a positive effect on individual ethical intentions.	Yes	Possible methodological differences between studies conducted in U.S. and other countries – those in U.S. find stronger support.
H1c: Ethics codes have a positive effect on individual ethical behavior.	Yes	Weaker study designs (questionnaires compared to experiments) contributed significant results.
H2a: Ethics codes have a positive effect on company ethical judgments.	No	Not explored
H2b: Ethics codes have a positive effect on company ethical intentions.	Yes	Not explored
H2c: Ethics codes have a positive effect on company ethical behavior.	Yes	Not explored
H3a: Enforcement of ethics codes has a positive effect on individual ethical judgments.	No	Not explored
H3b: Enforcement of ethics codes has a positive effect on individual ethical intentions.	No	Not explored
H3a: Enforcement of ethics codes has a positive effect on company ethical behavior.	Yes	Not explored
H4a: Rewarding unethical behavior has a positive effect on individual unethical judgments.	No	Not explored
H4b: Rewarding unethical behavior has a positive effect on individual unethical intentions.	No	Not explored
H5a: Top management support for ethics codes has a positive effect on individual ethical judgments.	No	Not explored
H5b: Top management support for ethics codes has a positive effect on individual ethical intentions.	Partial	Not explored
H5c: Top management support for ethics codes has a positive effect on company ethical behavior.	Yes	Robust findings across methodological variable DV verification.
H6a: The magnitude of the consequences of the behavior has a moderating effect on the relationships explored.	Weak	Not applicable
H6a: The social consensus of the behavior has a moderating effect on the relationships explored.	Weak	Not applicable

## Chapter V: Discussion & Conclusion

Since the 1970s, codes of conduct have been one of the primary policy responses to large scale acts of corporate crime; they have been proposed and endorsed by legislators and private sector commissions and widely adopted by corporations (Benson, 1989; Preston, 1990; White & Montgomery, 1980; Brief et al., 1996; Nagel & Swenson, 1993; Murphy, 1995; Montoya & Richard, 1994; McKendall et al. 2002; Navran & Pittman, 2003). Codes have been a popular response over the years because they are believed to counteract pressures to behave unethically by providing attitudes favorable to the law and ensuring that ethical values and behavior govern the company culture. Codes are also a visible way of demonstrating the ethical nature of a company to the public. However, critics of codes claim that codes may only be successful under certain circumstances, such as specific industries or competitive environments and under specific enforcement patterns (Sethi & Sama, 1998; Laczniaik & Murphy, 1985). Others argue that codes are incapable of altering employee judgments or behaviors (Dienhart, 1995; Harrington, 1996; Cressey & Moore, 1983). Another argument is that codes are ineffective and costly and may actually lead to more illegal behavior because they furnish companies with the appearance of ethicality without requiring them to change their actual behavior (Krawiec, 2003; Laufer, 1999).

The key issue to settling this debate is to determine whether corporate codes of conduct are effective in producing more ethical decision-making and behavior from employees. The effectiveness of codes has been the focus of many studies in both the criminology and business literature. These studies tend to produce mixed results with some studies showing that codes influence individual and company behavior (Somers,

2001; Murphy et al., 1992; Schnatterly, 2003; Hegarty and Sims, 1979; Skinner, 1988; McCabe et al., 1996; Adams et al., 2001; Peterson, 2002) and others demonstrating no effect (Akaah & Riordan, 1990; Chonko & Hunt, 1985; Mathews, 1987; McKendall et al., 2002; Cunningham, 1992; Brief et al., 1996) or even the opposite effect (Singleton et al., 2003).

Despite this growing literature on codes, though, there have been few efforts to unravel these mixed results and make sense of the existing body of scholarship. Two literature reviews have attempted to aggregate the evidence regarding the influence of codes, and they both concluded that the majority of studies support an influence of codes on ethical decision-making. These reviews are limited, though, because they review a selective number of studies, some of which are not quantitative in nature, and they rely on vote-counting methodology, meaning they qualitatively compare the number of studies that find significant effects to those that do not (Ford and Richardson, 1994; Loe et al., 2000).

Thus, the research goal of this dissertation was to carry out a systematic review of the existing literature on codes by conducting a meta-analysis. The purpose of the meta-analysis was to address the limitations of the narrative literature reviews discussed above and to determine, if possible, the effectiveness of codes in preventing corporate crime. These goals were achieved by relying on the strengths of meta-analysis: a methodical search was conducted for quantitative studies on code effectiveness, and all located studies published prior to 2004 were included in the analysis. Next, the relative strength, or effect size, or the empirical relationship between codes and ethical-decision making and behavior was established. I was also able to conduct an exploratory examination of the



relationships between study findings and study features such as the moral intensity of the behaviors measured, potential conditions affecting the success of codes (such as industry), and methodological variables.

In the remainder of this chapter I present a more detailed discussion of the results from this meta-analysis. First, the results from the previous chapter are revisited to explore possible explanations of the findings as well as draw some final conclusions. Second, the limitations of the study are noted. Third, the implications of this study for future research are discussed. Finally, I arrive at some policy implications based on my results.

### *Discussion of Results*

The results are summarized in Table 18 (p. 109), and they demonstrate that ethics codes had a significant positive effect on individual ethical judgments, intentions, and behavior. The weighted mean effect sizes for all three outcomes were on the small side, but nevertheless indicate that individuals in companies with codes report more ethical judgments and intentions and undertake more ethical actions than individuals in companies where no code is present. The preliminary results from the moderator analysis showed that these results did vary by some methodological variables. For individual ethical judgments, the moderator analysis actually bolstered the findings by indicating that the methodologically stronger studies employing random assignment produced the larger significant mean effect size of 0.491 compared to the studies relying on natural assignment that produced a non-significant effect size of 0.083. While the analog to the ANOVA models of the methodological variables were exploratory and possibly produced significant results by chance, the difference in these mean effect sizes is substantial.

These findings suggest that codes are capable of influencing individual judgments, which lends support to my argument that, drawing from Fishbein and Ajzen (1975), codes can affect ethical judgments by enforcing old beliefs or providing new beliefs that can tip the scale in favor of ethical judgments. It also strengthens the argument that values can be taught in work situations through the use of codes. There are arguments that, counter to social learning, the relationship between organizational culture and crime is spurious. This view posits that ethical people are not socialized into unethical behavior by a criminogenic work environment, as argued here, but that unethical people select into businesses that are tolerant of unethical business practices (Apel & Paternoster, 2009). If the randomized studies in this analysis are indeed driving the results that codes influence ethical judgments in organizations, it is evidence for socialization over selection, which supports the theoretical arguments made here.

The findings for ethical intentions were not conditioned by any methodological variables according to the moderator analysis. However, this analysis did find that studies conducted in the United States contributed a larger and significant effect size (0.476) compared to studies in other countries that actually produced a negligible effect size of  $-0.030$ . It is possible that a methodological difference between studies conducted in the United States and other countries caused the variation, but the only measured methodological difference is that one (Simpson 2002b) of the studies conducted in the United States used a vignette design with random assignment while both studies from other countries used questionnaires with natural assignment. To investigate this potential explanation, the Simpson study was dropped from the analysis under the assumption that if it was the randomization of this study driving the results, country would no longer be

significant. Without the Simpson study, though, country of study maintained significance with the studies from the United States still producing the significant mean effect size of 0.583. While it is possible that this finding is still related to some unmeasured methodological characteristic, the United States may have an edge in creating and implementing effective codes, at least compared to the Netherlands and Turkey, the two countries represented by the other studies. Studies on adoption rates of codes in European countries generally show that European countries lag behind the United States. Using data from the early 1990s, Schwartz (2001) found that about 90% of organizations in the U.S. had adopted a code while only 51% of German companies and 30% of French companies had adopted codes. A study of Norway's adoption rate revealed it to be at 49% (Marnburg, 2000). Similarly, Ekin and Tezolmez (1999) discuss a report analyzing the ethical state of Turkish companies, which showed increasing interest in the subject, but companies reported they were still at the beginning of the process. It seems there is reason to believe that, given the head start in the U.S., American companies have had longer to revise their codes and adjust their implementation procedures, thereby producing more effective codes. Regardless, the results suggest that codes are able to influence individual ethical intentions.

The analog to the ANOVA models raised questions about the findings for ethical behavior; this exploratory analysis showed that studies employing weaker methodological design, questionnaires without random assignment, contributed a significant mean effect size (0.175) while more rigorous experimental designs did not produce a significant mean effect size. However, the studies using experimental design did show a positive effect of codes (0.112), and the vignette study, which also utilized

random assignment, produced the largest significant effect size of 0.508. This seems to indicate that the results were not driven by the weaker studies alone. Given these mixed results, it is uncertain how much of a threat this finding is to the weighted mean effect size results, especially since the analog to the ANOVA results could be significant by chance alone.

At the company level, ethics codes had a positive and significant effect on intentions and behavior. The results for company ethical intentions were significant, indicating that codes can shape employees' perception of the way the company will behave. Individuals in companies with ethical codes predicted their companies would act more ethically when faced with an ethical dilemma. This provides support for the idea that codes can shape the ethical culture in companies, but this result is tentative given that it is based on two studies. The results for ethical behavior, though, provide stronger support that codes affect ethical behaviors because it is based on more studies (N=10).

An interesting question is why codes would significantly affect individual judgments but not company judgments. Codes should affect employees' perceptions that their company regards an action as right or wrong. This could be an artifact of a small sample size (N=3) or due to some unmeasured methodological difference. It is also possible that the studies of ethical judgments were conducted in companies where the ethics code was present but not supported, enforced, or rewarded. Thus, codes would not shape the belief that the company judges unethical behavior to be wrong, and in fact the transparent flouting of the code within a company could shape beliefs that, despite the presence of a code, a company does not value ethical behavior. Another explanation is that this finding is a result of people's tendency to believe that they are ethically superior

to others. Studies have shown that individuals tend to rate their own beliefs and behavior as more ethical than those of their peers and managers (Shapeero, 1996; Adams et al., 2001). Thus, individuals in companies with codes may report their own ethical judgments as higher than those of their company, which makes the company appear less ethical, even in the presence of a code.

My third hypothesis, that enforcement of the code has a positive effect on ethical decision-making, was not supported for individuals and received weak support for companies. Enforcement of ethical codes had a positive but insignificant effect on individual ethical judgments and intentions and a small significant effect on company behavior. The significant effect was achieved when enforcement was measured as a continuous variable as the employees' agreement that the code is enforced as compared to a dichotomous measure of the presence or absence of enforcement. This discrepancy is not surprising since enforcement is inherently continuous and dichotomizing it may attenuate the effects (Hunter & Schmidt, 2004). However, it could also be that the weaker methodologies are producing the discrepant results since both company behavior studies (using continuous variables) were questionnaires relying on self-reports of enforcement while the majority of individual judgment and intention studies (5/7) used random assignment in vignettes or lab settings. This area in particular would benefit greatly from more research to clarify these results since they are based on small sample sizes.

The results for my fourth hypothesis provided no support; rewarding unethical behavior did not produce unethical judgments or intentions in individuals. These findings are based on vignette studies that utilized randomization; however they both

draw from the two samples presented by Simpson (2002) and so it could be something about this one study that did not produce a positive effect since there is ample theoretical and empirical evidence to believe that rewarding behaviors encourages those behaviors. Clearly, much more research is needed on whether rewarding ethical behavior influences ethical decision-making and behavior in a corporate setting.

My fifth hypothesis that top management support of ethics codes has a positive effect on ethical decision-making received some support. When the presence of top management support was measured as a dichotomous variable, it had no effect on individual ethical judgments and intentions. But when top management support was measured on a scale as employees' agreement that top management cares about/supports the code and ethical behavior, top management support positively and significantly influenced individual intentions and company behavior. As stated previously, the continuous measure is likely a more accurate measure of top management support because it does not artificially reduce the amount of information captured like a dichotomous measure of a continuous variable does. Thus, the *r*-type effect size results, while based on smaller samples, are encouraging in that these variables show a relationship between top management support for codes and ethical decision-making.

Finally, I hypothesized based on the Jones (1991) model that two components of moral intensity would moderate the results. Jones (1991) argued that there is a contextual nature to ethical decision-making in that it can depend on characteristics of the behavior in question. I was able to measure proxies for two of these components, the magnitude of consequences and the social consensus of the behavior. The results demonstrated that these two components did not moderate the relationship between codes and individual

judgments and behavior. For individual intentions, the magnitude of consequences moderated the relationship, but studies that tested the relationship using behaviors against society and against the company both contributed significant medium-sized mean effects and only studies that measured both found negligible results. This indicates that the positive result may be an artifact of the measurement of this variable since without the “both” category, the results would have been robust across the two other categories.<sup>28</sup>

As for social consensus, it moderated the positive relationship between top management support and company behavior. Studies that focused on unethical behaviors rather than illegal ones found a significant positive mean effect (0.205), but so did studies that used both unethical and illegal behaviors. Once again, this is difficult to interpret because of the way I had to code this variable, but it seems to indicate that top management support had a positive effect on behavior when that behavior included an ethical dilemma rather than strictly an illegal one. These null results could be due to the measurement of the variables, or they could be due to the fact that I did not test a direct effect of moral intensity on ethical decision-making, as specified by Jones (1991). Thus, while my hypotheses regarding moral intensity were not supported, this is not strong evidence against the Jones (1991) model.

### *Limitations*

Clearly, there are some limitations to this research. First, some of my conclusions must be regarded as preliminary because the sample sizes are small and reduce statistical power to uncover effects as well as affect the generalizability of the results.

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<sup>28</sup> Recall that some studies used more than one behavior to assess the relationship between codes and intentions, and I aggregated these results because including them all in the meta-analysis would violate the assumption of independent data. Thus, some studies were coded as using behaviors that were against society and against the company.

Unfortunately, sample size is something that cannot be adjusted since a meta-analysis is limited by the number of studies that have been conducted on a topic. One benefit of meta-analysis is that these results can be updated and verified as more research becomes available. Since sample size was an issue in this study, the findings are suggestive, but they statistically summarize the current research available and seem to show a clear pattern of significant results. Codes appear to have an effect on ethical decision-making.

Another limitation of this research is the quality of the studies used to assess the relationships. Meta-analyses are only as good as the studies included in them. Typically, researchers can either run separate analyses with and without weaker studies or they can use analog to the ANOVA or meta-analytic regressions to assess the effects of methodological variables on their studies. Because I was dealing with a limited number of studies to begin with, I chose the latter strategy. This strategy was not perfect because I was sometimes prevented from exploring the influence of variables by small samples or by a lack of information provided by the primary authors. Further, the methodological analog to the ANOVA models were more exploratory and may have produced significant results by chance. While the quality of studies is an issue, almost all of the studies rank as 3s or higher on the University of Maryland's Scientific Methods Scale developed by Farrington, D.P., Gottfredson, D.C., Sherman, L.W., and Welsh, B.C., 2002 (see Appendix, p. 142), and this is not an abnormal standard for meta-analysis. In addition, the quality of the study has to be balanced by the generalizability of the study. In some cases, the highest quality studies, like experiments, are not the most representative because they are conducted in labs or classrooms rather than in the "real world". Thus, while not all of my studies are 5s, they may be more representative of true business



experiences. Thus, these results represent the knowledge available to be summarized, and quality was addressed as best as possible with the analog to the ANOVA models.

My inability to code many relevant study features, such as characteristics of the code itself and the implementation of the code, was another limitation of this research. Without these characteristics, I was prevented from assessing whether certain types of codes are more effective and whether codes are more effective in certain situations, i.e., particular industries. For instance, it has been hypothesized that industry specific codes may be more useful than general codes. Similarly, more detailed codes may be more effective than shorter more abstract codes. Implementation features could also affect the utility of codes. Codes that are not widely disseminated, not updated and revised, and not accompanied by a training session to go over the code may not be as successful in influencing ethical decision-making. Unfortunately, I was unable to examine these features because the primary authors did not provide more description of the codes and the implementation process.

This research was also limited by a potential publication bias. It has been suspected that the published literature is biased toward studies showing statistically significant findings, and findings support the idea that the effects of published studies tend to be larger than those reported in unpublished ones (Lipsey & Wilson, 2001). Thus, by not including unpublished studies, researchers risk introducing an upward bias in effect sizes. If unpublished studies are included in the meta-analysis, this bias can be assessed in the moderator analysis. As mentioned in the methods section, steps were taken to locate unpublished studies, but despite these efforts, no unpublished studies on the effectiveness of codes that were available prior to 2004 were located. However, I did

calculate fail-safe Ns to determine the number of studies with effect sizes of zero that would be needed to reduce the mean effect size to a specified criterion level. I calculated the number of studies needed to reduce the findings to a mean effect size of 0.100. In most cases, the fail-safe N was larger than the number of studies one would expect to find “in the file drawer” given the thorough search and the number of studies located. Thus, while it is still possible a publication bias exists, it would require quite a few studies to reduce the mean effect sizes for most of my findings. In addition, I can update these results in the future through the current year and include the two unpublished studies that I located to determine whether those studies change the current findings.

**Table 19. Fail-Safe Ns for Mean Effect Sizes Greater than 0.100**

Relationship Tested	Mean ES	N of studies producing Mean ES	N of studies needed to reduce Mean ES to 0.100
Code, Ind. Judgments	0.186*	11	9.5
Code, Ind. Intentions	0.282*	5	9
Code, Ind. Behavior	0.202**	8	8
Code, Co. Judgments	0.149	3	1.5
Code, Co. Intentions	0.396**	2	6
Code, Co. Behavior	0.172	10	7
Enforce, Ind. Judgments	0.175	4	3
Enforce, Ind. Intentions	0.378	3	8
Enforce, Co. Behavior	0.144*	2	1
Top Manage, Ind. Intentions	0.163**	2	1
Top Manage, Co. Behavior	0.226**	5	6

#### *Implications for Future Research*

There are a number of implications that can be drawn from the review for future research on the effectiveness of codes of conduct. First, as is commonly recommended, more quality research needs to be done in this area. Seven studies were dropped from the analysis because they did not include a comparison (no-code) group, and only nine

studies out of 36 included in the analysis ranked as 5s on the University of Maryland Methods Scale. The prevalence of codes in businesses today is starting to make questionnaire studies of this topic difficult, and so researchers should focus on experiments or vignette studies where they can randomize the presence of a code, enforcement of the code, and top management actions.

While it is difficult to single out certain areas given the overall need for investigation in this field, this research points to a few specific areas that are particularly in need of more quality studies. The literature on enforcement and rewards for following the code and whether these reinforcements lead to more ethical decision-making and behavior is sparse. I was able to locate more studies in these areas than I ended up being able to use in the analysis, but most of them were dropped because they lacked a comparison group, they reported on a different outcome than the rest of the studies, or the authors did not provide enough information to calculate effect sizes.

This issue regarding a lack of information leads to another familiar recommendation. Researchers need to include more detailed information in their studies. Four studies had to be dropped because the authors did not provide enough detail to calculate effect sizes. Basic information, such as means and standard deviations, would be helpful for future meta-analysis. As mentioned earlier, more detail on study features, such as sample characteristics and code implementation would also be very beneficial.

As for recommendations specific to these research findings, it would be interesting for future research to explore the finding here that code evaluations conducted in the United States reported more influence on ethical intentions. In this analysis, the finding was restricted to individual ethical intentions, but that is one of the few areas

where there was enough variability to examine this moderator since most of the studies came from the United States. Thus, we need more research on code effectiveness in other countries to determine whether the greater success of codes here is due to environmental differences, code differences, implementation differences, or simply a methodological artifact.

Future research could also explore whether my lack of findings on moral intensity is accurate or the result of poor measurement. There are abundant theoretical reasons to believe that context plays a role in ethical decision-making. As Jones (1991) argues, the context of the behavior being evaluated seems particularly relevant to a person's ethical decisions. My results did not support the hypothesis that two of Jones' components of moral intensity would moderate the influence of codes on ethical decision-making, but this could be due to the manner in which these two components were measured. Or it could be that moral intensity does not moderate the relationship between codes and ethical decision-making but has a direct effect on ethical-decision making, as originally proposed by Jones (1991). A focus on the components of moral intensity and how they operate when codes are present would be useful.

In this study, I proposed that both social learning theory and rational choice theory support a relationship between codes and ethical decision-making. This argument stressed the similarity between the two theories, but it did not ignore the fact that the theories specify different mechanisms through which codes would have an effect. Unfortunately, I was unable to test whether one theory better explains the relationships examined here between codes and their supportive components and ethical decision-making. Future research could examine which theory better explains the function of a

code. Surveys asking people to rank why they adhered to or violated a code could give us an idea of whether it is the attitudes and behaviors of co-workers and managers (social learning theory) or the fear of informal and formal sanctions (rational choice theory) at work. Or more vignettes similar to those used in Simpson (2002) in which informal and formal sanctions for contravening the code and co-worker's/manager's/friend's attitudes and behaviors toward the code are randomized might also allow for an examination of the strength of the two theories in explaining the effect of codes.

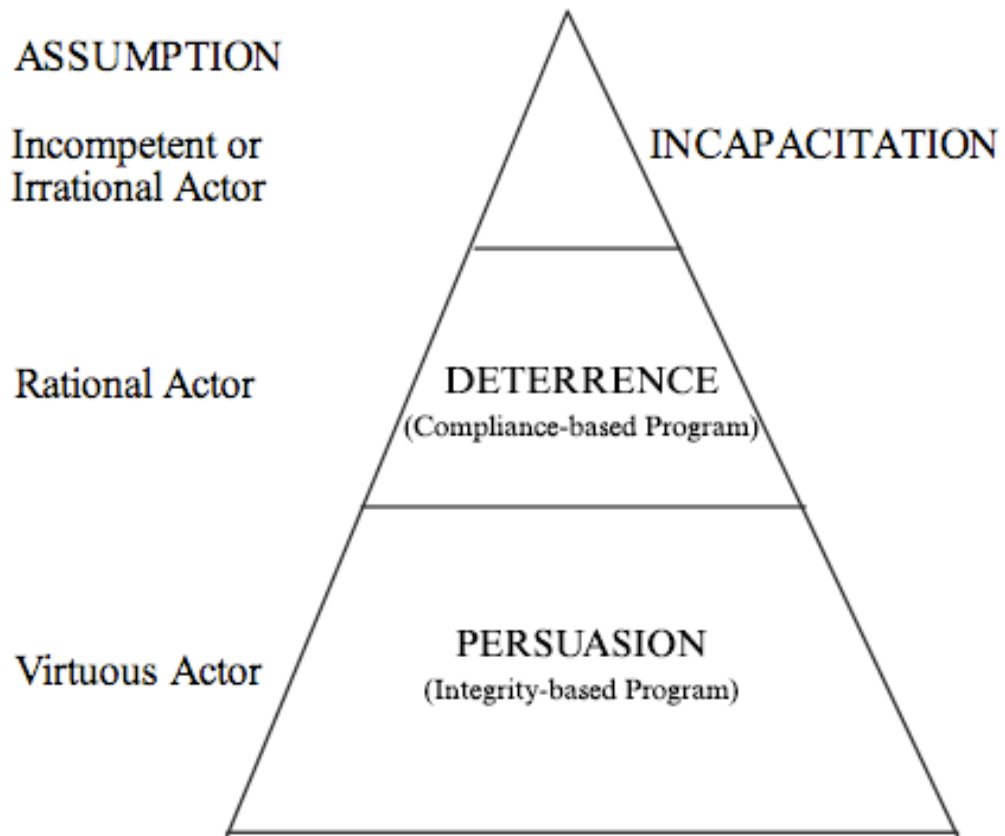
### *Implications for Policy*

My results are generally supportive of a relationship between codes and individual and company ethical decision-making and top management support for codes and ethical behavior, but they showed less support for the effect of enforcing codes and no support for the influence of rewards on ethical decision-making. These results are preliminary, given the quality of the studies and the sample sizes, but they suggest that codes have the ability to influence ethical decision-making and behavior. Thus, contrary to critics' claims, codes seem to be capable of preventing unethical behavior and corporate crime and deserve the central role in policy that they have played over the last 30 years. Unfortunately, the authors of the studies did not provide information on the type of codes or implementation policies used in the companies, and so I am not able to make specific recommendations about the codes and implementation. Based on my findings, though, I would propose an integrated approach regarding self-regulation, one that includes both the integrity-based compliance programs and the more command and control compliance-based programs discussed in the theory section.

Braithwaite's (2002) Enforcement Pyramid (p. 126) calls for regulation to be

based largely on persuasion with the assumption that most people are virtuous actors who want to comply with the law. Deterrence is reserved for rational actors that require the threat of detection and punishment to comply. The hypothesis of the enforcement pyramid is that it is best to start with policies requiring less intervention at the base of the pyramid, and only move up the pyramid when the lower strategies fail. My results showed that codes alone and top management support for those codes had a preventative effect on unethical decision-making and behavior. Thus, it seems reasonable to rely on those less interventionist strategies first. This would resemble the integrity-based programs discussed earlier, which are designed to infuse the company with ethical values and gain compliance through the internalization of those values. Likely, these strategies will work for most people in the company, but there will be some that require the threat of detection and sanction in order to comply with codes. Research has shown that there are people with certain individual traits that require sanctions to deter them from crime. For instance, Simpson (2002) discovered that employees scoring high on morality did not need formal sanctions to deter them from misconduct, but employees scoring low on morality were deterred by formal sanctions. The pyramid provides for these less morally driven employees by having sanctions available that specify punishments for contravening the code. My results also suggested that enforcement of the code has a deterrent effect. The results found here, then, support the use of a code, top management support, and enforcement in preventing corporate crime, and a good use of these policies would be to integrate them into a regulatory program that relies mostly on integrity-based principles and reserves compliance-based components for employees who need them.

**Figure 18. Braithwaite's (2002) Enforcement Pyramid**



## Appendix

### Ethics Codes Coding Sheet

#### I. Eligibility Check Sheet

1. Document ID: \_\_\_ \_\_\_ \_\_\_

2. Author(s): \_\_\_\_\_

3. Study Title: \_\_\_\_\_

4. Journal Name, Volume, & Issue \_\_\_\_\_

5. Coder's Initials: \_\_\_ \_\_\_ \_\_\_

6. Date Eligibility Determined: \_\_\_ \_\_\_ \_\_\_

A study must meet the following criteria in order to be eligible. Answer each question with a "yes" or a "no".

a. The study is an empirical evaluation of the effectiveness of codes of conduct \_\_\_\_\_

b. The study includes a comparison group (or a pre-intervention comparison period in the case of pre-post studies) that did not operate under a code of conduct. \_\_\_\_\_

c. The study reports on at least one crime/unethical outcome.<sup>29</sup> \_\_\_\_\_

d. The study is written in English. \_\_\_\_\_

e. The study was published before 2004. \_\_\_\_\_

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<sup>29</sup> Many studies on codes address effects of codes on stages of ethical decision-making and ethical behavior, rather than strictly illegal behavior. Thus, the focus of this study was widened to be more inclusive; the effect of codes on illegal behavior is still addressed, but I also examine the effect codes have on the ethical decision-making process and ethical behavior. This seems justified since illegal and unethical behaviors often share common characteristics and lend themselves to empirical inquiry in combination (Smith et al., 2007). Studies on fraud provide evidence of the correlation between ethics and illegal behavior; Heiman-Hoffman et al. (1996) surveyed 130 external auditors who ranked 30 commonly cited warning signs of fraud. Ethics-related attitude factors, like dishonesty and lack of integrity, were more indicative of fraud than situational factors. This overlap between ethics and the law is further supported by the fact that the U.S. Sentencing Commission believes that ethical compliance programs featuring codes of conduct will reduce illegal corporate behavior (McKendall et al, 2002).



If the study does not meet the criteria above, answer the following question:

7. The study is a review article that is relevant to this project (e.g., may have references to other studies that are useful, may have pertinent background information). \_\_\_\_\_

Eligibility Status:

\_\_\_\_\_ Eligible

\_\_\_\_\_ Not Eligible

\_\_\_\_\_ Relevant review

Notes:

## II. Coding Protocol

### Reference Information

1. Document ID: \_\_\_ \_ \_

2. Author(s): \_\_\_\_\_

3. Study Title: \_\_\_\_\_

4a. Publication type: \_\_\_\_\_

1. Book
2. Book chapter
3. Journal article
4. Thesis or dissertation
5. Working paper
6. Conference paper
7. Regulatory Agency report
8. Corporate Report
12. Other (specify)

4b. Specify other \_\_\_\_\_

5. Publication Date (year) \_\_\_\_\_

6a. Journal Name: \_\_\_\_\_

6b. Journal Volume: \_\_\_\_\_

6c. Journal Issue: \_\_\_\_\_

7. Date Coded: \_\_\_\_\_

8. Coder's Initials: \_\_\_ \_ \_

Study Characteristics

9. What is the unit of analysis in this study?
1. Individual Decision-Making/Behavior
  2. Company Decision-Making/Behavior
  3. Other (specify): \_\_\_\_\_
10. Country where study was conducted: \_\_\_\_\_
1. United States
  2. Other Country
- 11a. Type of study: \_\_\_\_\_
1. In-basket/lab experiment
  2. Vignette experiment
  3. Nonequivalent control
  4. Other (specify)
- 11b. Specify other \_\_\_\_\_
12. Number of crime/misconduct outcomes reported in the study: \_\_\_\_\_
13. Outcome recorded on this coding sheet: \_\_\_\_\_
14. Was it the primary outcome of the study?
1. Yes
  2. No
  3. Unknown
15. Did the researcher assess the quality of the data collected?
1. Yes
  2. No
- 16a. Did the researcher express any concern over the quality of the data?
1. Yes
  2. No
- 16b. If yes, explain: \_\_\_\_\_
- 

Sample Descriptors

17. Who were the participants of the study? \_\_\_\_\_
1. Unemployed students
  2. Working students
  3. Both unemployed & working students
  4. Professionals

5. Both students and professionals

18. Was the sample randomly selected? \_\_\_\_\_

1. Yes
2. No

19. Sample Size \_\_\_\_\_

20. Mean Age of Sample (if mean age cannot be determined, enter 99.99): \_\_\_\_\_

21. Predominant Race: \_\_\_\_\_

1. Mostly white
2. Mostly black
3. Mostly Hispanic
4. Mostly Asian
5. Mixed, none more than 50%
6. Mixed, cannot estimate proportion
7. Unknown

22. Predominant Sex: \_\_\_\_\_

1. More than 60% male
2. More than 60% female
3. Even mix male and female
4. Unknown

23. Marital status:

1. Mostly married
2. Mostly single
3. Mostly divorced
4. Unknown

24. Average Income: \_\_\_\_\_

25. Average Education Level: \_\_\_\_\_

1. High school degree or less
2. Some college
3. B.A. or more
4. Unknown/Not reported

26. Work experience of the target population: \_\_\_\_\_

1. No work experience
2. Less than 10 years
3. 10 or more years
4. Unknown
5. Multiple levels of experience included in sample

27. Industry of sample companies: \_\_\_\_\_

28. Average size of company: \_\_\_\_\_

29. Average profit: \_\_\_\_\_

30a. Did they assess response bias?

1. Yes
2. No

31b. If yes, were significant differences found between responders and nonresponders?

1. Yes
2. No

32c. If yes, what did the researcher do to address these differences?

33a. Did the authors assess differences between code/no-code groups?

1. Yes
2. No

33b. If so, were differences found between code and no-code groups?

1. Yes
2. No

34c. If yes, what did the researcher do to address these differences?

#### Dependent Variable

35. What is the dependent variable? \_\_\_\_\_

1. Ethical Perceptions
2. Ethical Judgments
3. Ethical Intentions
4. Unethical Behavior

36a. How was the DV collected? \_\_\_\_\_

1. Actual number of violations (official data)
2. Observed behavior (experiment/in-basket)
3. Self-reported frequency
4. Other (specify)

36b. Specify other \_\_\_\_\_

37a. How was the DV measured?

1. Scale
2. Composite
3. Raw number of violations
4. Dichotomous measure

5. Other (specify)  
37b. Specify other: \_\_\_\_\_

38. Is the dependent variable measured using illegal or unethical behavior?  
1. Illegal  
2. Unethical  
3. Both

39. Does the behavior affect the company or society (according to Akers' (1977) list)?  
1. Company  
2. Society  
3. Both

### Control Variables

40a. Circle all the controls used in this study:  
1. Gender  
2. SES  
3. Race  
4. Age  
5. Size of company  
6. Industry  
7. Top management actions  
8. Job commitment  
9. Attitudes toward ethical issues  
10. Leadership  
11. Ethics training  
12. Communication of ethics  
13. Enforcement of ethics  
14. Firm profits  
15. Industry profits  
16. Employee role in company  
17. Other (specify)

40b. Specify  
Others \_\_\_\_\_

---

### Independent Variables

41. How was the sample assigned to code v. no code?  
1. Random  
2. Natural

42. Does the study measure enforcement of codes? \_\_\_\_\_

1. Yes (If yes, fill out enforcement coding sheet)
2. No

43. Does the study measure actions/attitudes of top management? \_\_\_\_\_
1. Yes (If yes, fill out top management coding sheet)
  2. No

#### Analysis

44. What analysis was used to investigate the effectiveness of codes? \_\_\_\_\_
1. Correlations
  2. T-test
  3. Z-test
  4. Chi-square
  5. ANOVA, MANOVA
  6. ANCOVA, MANCOVA
  7. Regression
    - a. OLS
    - b. Logistic
    - c. Tobit

#### Effect Size

45. Total sample size of the code group: \_\_\_\_\_
46. Total sample size of the no-code group: \_\_\_\_\_
47. Raw difference favors (i.e. shows more success for):
1. Treatment group (or post period)
  2. Control group (or pre period)
  3. Neither (exactly equal)
  4. Unknown/Not applicable
48. Did a test of statistical significance indicate statistically significant differences between the control and treatment groups?
1. Yes
  2. No
  3. Unknown
  4. Not applicable
49. Was a standardized effect size reported?
1. Yes
  2. No
50. If no, is there data available to calculate an effect size?
1. Yes

2. No

51a. Type of data effect size can be calculated from:

1. Means and standard deviations
2. T-value or F-value
3. Chi-square (df=1)
4. Frequencies or proportions (dichotomous)
5. Frequencies or proportions (polychotomous)
6. Pre and post
7. Correlations
8. Regression
9. Other

1. Means and standard deviations
2. T-, F-, or Z-test
3. Frequencies or proportions (dichotomous)
4. Correlations
5. Regression coefficients
6. P-value
7. Categorical p-value

51b. Specify other \_\_\_\_\_

52. Code group mean: \_\_\_\_\_

53. Control group mean: \_\_\_\_\_

54. Code group standard deviation: \_\_\_\_\_

55. Control group standard deviation: \_\_\_\_\_

56. *n* of treatment group with successful (noncriminal) outcome: \_\_\_\_\_

57. *n* of control group with successful (noncriminal) outcome: \_\_\_\_\_

58. Proportion of treatment group with successful (noncriminal) outcome: \_\_\_\_\_

59. Proportion of control group with successful (noncriminal) outcome: \_\_\_\_\_

60. *t*-value: \_\_\_\_\_

61. *t*-test p-value: \_\_\_\_\_

62. *z*-value: \_\_\_\_\_

63. *z*-test p-value: \_\_\_\_\_



64. *F*-value: \_\_\_\_\_
65. *F*-test p-value: \_\_\_\_\_
66. Chi-square value (df=1): \_\_\_\_\_
67. Chi-square p-value: \_\_\_\_\_
68. Correlation: \_\_\_\_\_
69. Regression coefficient: \_\_\_\_\_
70. Regression p-value: \_\_\_\_\_
71. Calculated effect size: \_\_\_\_\_

Conclusions made by the author(s)

*Note that the following questions refer to conclusions about the effectiveness of the intervention in regards to the current outcome/problem being addressed on this coding sheet.*

72. Did the assessment find evidence for the effectiveness of the treatment?
1. Yes
  2. No
  3. Not tested
73. Did the author(s) conclude that the corporate crime prevention strategy was beneficial? \_\_\_\_\_
1. Yes
  2. No
  3. Can't tell
74. Did the author(s) conclude there was a relationship between the corporate crime prevention technique and a reduction in illegal corporate activities/violations?
1. Yes
  2. No
  3. Can't tell
75. Additional notes about conclusions:
- 
-

### III. Enforcement Coding Sheet

1. Document ID: \_\_\_ \_ \_
2. Author(s): \_\_\_\_\_
3. Study Title: \_\_\_\_\_
4. How is enforcement measured? \_\_\_\_\_
  1. Dummy variable
  2. Scale
  3. Other \_\_\_\_\_
5. Can you calculate an effect size?
  1. Yes
  2. No
6. If yes, type of data effect size can be calculated from:
  1. Means and standard deviations
  2. T-value or F-value
  3. Chi-square (df=1)
  4. Frequencies or proportions (dichotomous)
  5. Frequencies or proportions (polychotomous)
  6. Pre and post
  7. Correlations
  8. Other (specify)
- 6b. Specify other \_\_\_\_\_
7. Code group mean: \_\_\_\_\_
8. Control group mean: \_\_\_\_\_
9. Code group standard deviation: \_\_\_\_\_
10. Control group standard deviation: \_\_\_\_\_
11.  $n$  of treatment group with successful (noncriminal) outcome: \_\_\_\_\_
12.  $n$  of control group with successful (noncriminal) outcome: \_\_\_\_\_
13. Proportion of treatment group with successful (noncriminal) outcome: \_\_\_\_\_
14. Proportion of control group with successful (noncriminal) outcome: \_\_\_\_\_
15.  $t$ -value: \_\_\_\_\_

16. t-test p-value: \_\_\_\_\_
17. z-value: \_\_\_\_\_
18. z-test p-value: \_\_\_\_\_
19. *F*-value: \_\_\_\_\_
20. F-test p-value: \_\_\_\_\_
21. Chi-square value (df=1): \_\_\_\_\_
22. Chi-square p-value: \_\_\_\_\_
23. Correlation: \_\_\_\_\_
24. Regression coefficient: \_\_\_\_\_
25. Regression p-value: \_\_\_\_\_
26. Calculated effect size: \_\_\_\_\_

#### IV: Management Attitudes/Actions Coding Sheet

1. Document ID: \_\_\_ \_ \_
2. Author(s): \_\_\_\_\_
3. Study Title: \_\_\_\_\_
4. How is management attitudes/actions measured? \_\_\_\_\_
  1. Dummy variable
  2. Scale
  3. Other \_\_\_\_\_
5. Can you calculate an effect size?
  1. Yes
  2. No
6. If yes, type of data effect size can be calculated from:
  1. Means and standard deviations
  2. T-value or F-value
  3. Chi-square (df=1)
  4. Frequencies or proportions (dichotomous)
  5. Frequencies or proportions (polychotomous)
  6. Pre and post
  7. Correlations
  8. Other (specify)
- 6b. Specify other \_\_\_\_\_
7. Code group mean: \_\_\_\_\_
8. Control group mean: \_\_\_\_\_
9. Code group standard deviation: \_\_\_\_\_
10. Control group standard deviation: \_\_\_\_\_
11. *n* of treatment group with successful (noncriminal) outcome: \_\_\_\_\_
12. *n* of control group with successful (noncriminal) outcome: \_\_\_\_\_
13. Proportion of treatment group with successful (noncriminal) outcome: \_\_\_\_\_
14. Proportion of control group with successful (noncriminal) outcome: \_\_\_\_\_
15. *t*-value: \_\_\_\_\_

16. t-test p-value: \_\_\_\_\_
17. z-value: \_\_\_\_\_
18. z-test p-value: \_\_\_\_\_
19. *F*-value: \_\_\_\_\_
20. F-test p-value: \_\_\_\_\_
21. Chi-square value (df=1): \_\_\_\_\_
22. Chi-square p-value: \_\_\_\_\_
23. Correlation: \_\_\_\_\_
24. Regression coefficient: \_\_\_\_\_
25. Regression p-value: \_\_\_\_\_
26. Calculated effect size: \_\_\_\_\_

## Studies Dropped from Meta-Analysis

<b>Author</b>	<b>Located</b>	<b>Outcomes</b>	<b>Reason for Not Including</b>
Akaah & Riordan (1989)	Cited in article	Judgments	Did not provide information for calculating effect size.
Cleek & Leonard (1998)	Database – ABI	Intentions	Code measured as familiarity with term “code of ethics,” no code/no-code groups.
Farrell et al. (2002)	Database - PsycINFO	Behavior	Does not examine stage of ethical decision-making; examines whether code affects consistency and congruence of behaviors.
Ferrell & Skinner (1988)	Database – BSP	Behavior	Did not provide information for calculating effect size.
Ferrell & Weaver (1978)	Database – PsycINFO	Judgments	Repetitive sample (Weaver & Ferrell, 1977).
Finegan & Theriault (1997)	Database – BSP	Judgments	Code is evaluation of code, not code/no-code groups.
Giacobbe & Segal (2000)	Database – ABI	Judgments	Code is measured as familiarity with code, not code/no-code groups.
Granitz (2003)	Database – BSP	Intentions	Examines effect of code on sharing and variation of ethical reasoning.
Hunt et al. (1984)	Database – ABI	Behavior	Repetitive sample (Chonko & Hunt, 1985).
Matthews (1987)	Database – Econlit	Behavior	Sampling level differed from rest of studies: collected violations at company level rather than having individuals report company behavior.
Paolillo & Vitell (2002)	Database – ABI	Intentions	Code measured on scale rather than code/no-code groups.
Rallapalli et al. (1998)	Database – ABI	Judgments	Code used as moderating variable, not predictor.
Schepers (1998)	Dissertation & Thesis	Perceptions	Only study with effect size information for ethical perceptions.
Schnatterly (2003)	Cited in article	Behavior	Code measured on scale rather than code/no-code groups.
Singhapakdi & Vitell (1991)	Database – ABI	Perceptions	Code groups confounded by enforcement/rewards; groups were no code/top management condones unethical behavior and enforced code.
Snell et al. (1999)	Database – BSP	Behavior	Do not use code/no-code groups, survey companies after adoption of code and 8 months later to detect change.
Snell & Herndon (2000)	Database – ABI	Behavior	Do not use code/no-code groups, survey companies after adoption of code and 8 months later to detect change.
Stohs & Brannick (1996)	Database – ABI	Judgments	Repetitive sample (Stohs & Brannick, 1999).
Turner et al. (1995)	Database – ABI	Judgments	Did not provide information for calculating effect size.
Weeks & Nantel (1992)	Database – ABI	Behavior	All respondents from same company so measured understanding of code rather than code/no-code groups.

### University of Maryland Scientific Scale

1	Indicates some correlation between treatment and outcome; usually no comparison group is present.
2	A comparison group is present but lacks comparability to the treatment group.
3	A comparison group is present but differs slightly from the program group.
4	A comparison group is present and it is very similar to program group, or a comparison group is present but it differs slightly from the program group, however, the data analysis controls for observed differences, or random assignment with large attrition.
5	Random assignment and analysis of comparable program and comparison groups, including controls for attrition.

*Source:* Farrington et al., 2002

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