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TOWARD A THEORY OF MORALITY: AN EMPIRICAL STUDY OF COGNITIVE MORAL DEVELOPMENT IN MARKET CHANNEL DYADS IN THE CONSTRUCTION INDUSTRY USING THE DEFINING ISSUES TEST

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By
James N. Reischl

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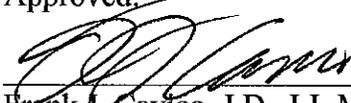
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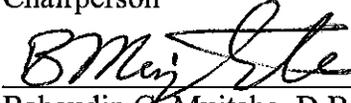
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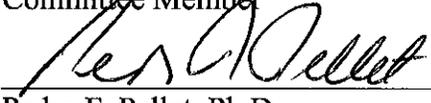
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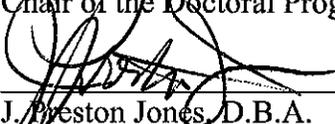
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ABSTRACT

TOWARD A THEORY OF MORALITY: AN EMPIRICAL STUDY OF COGNITIVE MORAL DEVELOPMENT IN MARKET CHANNEL DYADS IN THE CONSTRUCTION INDUSTRY USING THE DEFINING ISSUES TEST

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This dissertation tackles the ageless human debate of the body versus the soul. Based on Kohlbergian theory, the multidisciplinary literature review advances the proposition that moral development proceeds in waves of referential egoism leading to nonreferential altruism that is couched in power—the apple of the eye.

Many *inter* organizational studies using the Defining Issues Test have compared moral maturity levels coming from various academic backgrounds. Previous studies have purported that education is the chief moderating variable for moral maturity, with little regard for paradigmatic bases of power. Yet, in this study noncoercive power is carefully controlled because of the highly technical procurement process used in construction contracting. Coercive power and position in the food chain become the main moderators, because success is not measured by charm or wisdom or even social relations, but only by the low bid in accordance with the contractual specifications. The results from 93 respondents of the Iowa Architects Institute of America ($n = 93$) indicated that despite the higher education and aesthetic interests, the sample of architects ranked low on moral maturity level when compared to the average of the DIT data bank as a whole. Postconventional scores were 36.4 versus 39.1, respectively.

Few *intra* organizational studies have been conducted examining moral maturity levels among groups in the same work setting. This research also compared the moral maturity of intra industry groups in marketing dyads consisting of architects, contractors, and suppliers using the Defining Issues Test and ANOVA. Again it was expected that architects with higher education and aesthetic interests would rank highest. So in addition to the architects, the members of the Iowa Associated General Contractors and Iowa Associated Builders and Contractors were solicited. This added 32 contractors ($n = 32$) and 27 suppliers ($n = 27$), to the total sample ($n = 153$). Findings showed significant differences among the groups ($F(2, 150) = 3.64, p = .05$). Yet post hoc comparisons revealed that there was no significant difference in moral maturity levels between architects and contractors engrossed in the same power paradigm ($p = 1.00$). However, a significant difference existed between architects and suppliers ($p = .024$). This implication is consistent with the teleological pattern that is prevalent in research studies of salespeople. In summary, performance-based organizations and theorists of stakeholder theory may expect no less than orthodox and opportunistic choices in the real world of business as long as performance remains the ultimate criterion of success.

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I would like to dedicate this dissertation to my father, Joseph John Reischl. He passed away in 2005, which was the year after my DBA quest began. Admittedly, so much of what I think and do is truly a reflection of “the leader of the gang.”

I am grateful for the privilege of knowing great educators and human beings at Nova Southeastern University. Frank Cavico, Bahaudin Mujtaba, and Pedro F. Pellet, you’re the best! In fact, all of the instructors at Nova Southeastern have helped focus our efforts on the goal at hand—the dissertation.

Figure 9 displays a momentary frequency distribution for the choices of all living people in the whole world. As such, our time is like the grass of the fields; we flourish like a flower, but the wind blows and we are gone. This place remembers us no more (Psalm 103: 15-16).

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Chapter I

Introduction

“Anyone, then, who knows the good he ought to do and doesn’t do it, sins” (James 4:17, New International Version). These ancient words suggest the essence of morality: sensitivity, judgment, motivation, and character (Rest, 1994). Albert Einstein surmised this dilemma commenting on the occasion of the first nuclear reaction: “Everything has changed except our way of thinking” (Cascio & Aguinis, 2005, p. 10). These words echo down the halls of academia with a resounding theme of General Omar Bradley (as cited in Drumm, 2002, p. 17) during a 1948 Armistice Day speech saying, “...the world has achieved brilliance without conscience. Ours is a world of nuclear giants and ethical infants.”

Certainly, no issue is more relevant or more important than moral development of individuals as they act and react in various organizations of this 21st century. The brilliance of organizational success has been overshadowed by moral gaps, dilemmas, and breakdowns that plague public, private, and non-for-profit entities. It is the “dark side” of market-driven economies.

Background and Business Examples: Anyone for a Fig Leaf?

In the most basic terms, accounting is a communication system expressing value exchanges. Stakeholders benefiting from reporting are not only the stockholders, but also are prospective buyers, government, bankers, employees, communities, and a host of other constituents. Reporting honestly and clearly is foundational to the integrity and success of the profession.

Management Accounting by Hansen and Mowen (2005) briefly discussed the topic of ethics in business in approximately 10 pages of text; the total number of pages in the book is 875. It seems the authors present two ends of a long continuum stating that the “[w]illingness to sacrifice one’s self-interest for the well-being of the group is the heart of ethical action” (Hansen & Mowen, p. 17). The listing of 10 core values and the Standards of Ethical Conduct for Management Accountants supplements the lofty code of ethics of the profession. Yet, a dichotomy in terms emerged with the focus of the text on profits stating: “Virtually all management accounting practices were developed to assist managers in maximizing profits” (Hansen & Mowen, p. 16).

Managers are under extreme pressure to show Wall Street that earnings are increasing year after year. Even the most liberal financial manager is startled by the extent that companies and accountants have pushed the limits of propriety.

Compensated heavily through stock options, top executives realized that they could become fabulously rich merely by increasing their company’s earnings for just a few years running. Hundreds of companies violated the spirit, if not the letter, of accounting principles – turning their financial reports into gibberish, tarding up ugly results with cosmetic fixes, cloaking expenses, or manufacturing earnings out of thin air. (Graham, 2003, p. 322)

A study of one 10-year period discovered that of the Fortune 500 firms, 62% were guilty of illegal acts (Richards, 1999). The debacle of WorldCom and Enron has shaken the business community and caused a backlash, affecting accounting reporting for thousands of U.S. corporations. The new word is *transparency*.

With the passage of the Sarbanes-Oxley Act, the U.S. government is requiring a myriad of additional reporting procedures that aim to ensure transparency. Along with government regulation of the accounting profession come stiff fines for those who step over the line. The new Securities and Exchange Commission's chairman, Christopher Cox, has announced the new guidelines. He stated that penalties "...ought not to be a matter of what the judge had for breakfast as to whether a penalty is higher or lower" (Swartz, 2006, p. 24). So, fines for wrongdoers will increase according to prevalent conditions of corruption and fraud as follows: (a) fraudulent intent, (b) profiting from violations, (c) widespread complicity, and (d) deterrence of others. Penalties actually may decrease for companies that (a) cooperate in the investigation, (b) take quick remedial action, and (c) cause little shareholder harm (Swartz).

Shareholder harm is an underpinning issue to the SEC because some of those hurt most by fraud have been the company's shareholders. In the past, large penalties were considered as exacerbating their punishment, but the SEC is determined: Violators should no longer benefit from violations. However, a remediation feature of Sarbanes-Oxley sets aside fines into a "Fair Funds" bank to directly pay stockholder victims (Swartz, 2006).

So, how may SEC charges of corruption result in actual penalties? Table 1 is a telling example of two companies that were caught cheating.

Table 1

Business Examples of Government Intervention

	Violation	Considerations	Penalty
McAfee	McAfee engaged in a long-term, “pervasive” scheme to overstate net revenue, artificially inflate stock, and make acquisitions.	McAfee profited by more than \$600 million; it was strong enough to survive a fine.	McAfee was fined \$50 million; high-level executives, including controller and chief financial officer are facing criminal charges.
Applix	Applix employed fraud on two distinct transactions that allowed revenues to be overstated and net losses understated in 2001.	Applix did not profit as much; board responded quickly; its shareholders would be harmed by fines.	No fine was levied; no company executives have faced criminal charges.

Note. From “SEC Will Punish Companies, Not Shareholders,” by N. Swartz, 2006, *Information Management Journal*, 84, p. 25.

Although big penalties make headlines, they are rare. Before 2002, fines were minimal. Since then, the government has levied fines on only 25 companies. There are still 2,000 such cases on the books that are yet unresolved (Swartz, 2006). Ironically, if a colleague is asked about ethics at his/her workplace, an unfettered response will illicit

stories of bribery and “cooking the books.” Government regulation and punishment may not be the solution.

The question that begs an answer is as follows: Why is there such an enormous gap between the lofty codes purported by the professionals and what happens in the “real world”? Part of the solution may be found in the integrity and values of the leaders of the organization. Scientific research aimed at identifying truly effective leaders has discovered a positive correlation between transformational leaders and high levels of integrity with rich value systems (Northouse, 2004).

Michael Josephson, founder of the Josephson Institute of Ethics, advises companies about the necessity of ethics. Using a quotation from the British poet Samuel Johnson, he claimed, “Integrity without knowledge is weak and useless, but knowledge without integrity is dangerous and dreadful” (Josephson, 2006). Examples of transformational leaders are Nelson Mandela and Mohandas Gandhi. While little doubt exists that leaders are a key component of a complex equation, the “bottom line” is whether integrity and values can be taught to both leaders and followers. To say the least, it may be questioned how effective current cursory attempts at teaching ethics have been. Business schools need a new model and a fresh start to answer this riddle of effectively employing ethics in the business community.

In summary, this background section has attempted to shed light on a pervasive problem. Unethical behavior undermines communication systems like accounting as well as the fabric of every business entity in the country. To understand the phenomenon, motives must be fleshed out as an integral part of the independent variable. Was Aristotle right in his reasoning that happiness (goodness) could be maintained best in the middle of

the road? When driving through a blinding snowstorm, northerners have a saying: “Keep it between the ditches.” No matter how carefully one navigates, the unpleasant experience sometimes is disastrous. It seems evident, then, that research studies must capture higher levels of abstract thinking that solidly place men and women on a pedestal of integrity. Leaders as well as followers need the character and conscience to stay the course, no matter the storms of unrest and uncertainty.

A Theory Base to Support the Dissertation Research Study

Generally speaking, public perceptions maintain that character can be developed through imprinting rules and virtues by modeling, teaching, rewarding, and punishing. However, some of the first research conducted on character training by Hartshorne and May (as cited in Duska & Whelan, 1975) determined that this was not the case. The initial work focused on cheating, lying, and stealing over extended periods of time. Consistent conclusions were as follows (Duska & Whelan, p. 6):

1. There is no correlation (relationship) between character training and actual behavior.
2. Moral behavior is not consistent in one person from one situation to another. A person who does not cheat in one situation may cheat in another. The circumstances are the most important factor.
3. There is no necessary relationship between what people say about morality and the way they act. People who express great disapproval of stealing and cheating actually may steal and cheat as much as everyone else.

4. Cheating normally is distributed around a level of moderate cheating—that is, normally everyone cheats a little.

Landmark research studies by Jean Piaget (1932/1969) posited that the process of moral development and judgment occurs by cognitive reorganizations. The study of children from the youngest age to age 12 found that moral rules start out cogitatively as sacred constraints laid down by authority. Rules are not even clearly understood. As growth occurs physically, mentally, and socially, the rules are understood in the context of community life and internalized as ethical principles. Thus, moral awareness moves along a continuum from an external orientation to internal (Duska & Whelan, 1975).

The body of research initiated by Piaget was advanced by the more recent work of Lawrence Kohlberg (as cited in Duska & Whelan, 1975) that began with an 18-year study of American males from 10 years of age to 16 years of age. A hallmark of his study was interviews that offered a moral situation (a dilemma) in which the subject's reason for a specific course of action was the focus. Therefore, concentrating on the *reason* for an action rather than the person's statement or action itself shifted the focus from behavior to maturity levels. Table 2 summarizes the important components of Kohlberg's Cognitive Moral Development theory (CMD).

Table 2

Components of Kohlberg's Cognitive Moral Development Theory

Stage	Maturity level
Pre-conventional	
Stage I	Reasoning occurs from the basis of fear.
Punishment & obedience	Judgments are made to avoid negative consequences. Descriptors include: appeal by hell, small, weak, dependent, inferiority to authority, egoism, and reasoning is concrete. Equilibrium distress occurs as authority figures fall off pedestals and make mistakes.
Stage II	Reasoning occurs from the basis of pleasure.
Instrumental relativism	Judgments are made to seek pleasant consequences. Descriptors include: appeal by heaven, quid pro quo thinking, fairness, egoism, and reasoning is concrete. Equilibrium distress occurs with cognitive recognition of group rules.
Conventional	
Stage III	Reasoning occurs from the basis of esteem.
Interpersonal concordance	Judgments seek favoritism in groups. Descriptors include: psychological pleasure, "good ol' boy" thinking, approval and loyalty, some egoism, and reasoning is less concrete. Equilibrium distress occurs because of bad role models.
Stage IV	Reasoning occurs from the desire of law and order.
Law & order	Judgments are made to conform to majority wishes.

Stage	Maturity level
Stage V	<p>Descriptors include: member of society thinking as well as law and order and abstract reasoning begins.</p> <p>Equilibrium distress occurs with skepticism and cynicism.</p> <p>Post-conventional</p>
Social contract	<p>Reasoning occurs from the basis of skepticism.</p> <p>Judgments are made seeking both personal good and public good.</p> <p>Descriptors include: autonomy, thinking for oneself, no harm to others, democratic utilitarianism, relativism, and abstract reasoning.</p> <p>Equilibrium distress occurs as unjust laws bind majority ideas on the minority, but the majority does not obey the law themselves.</p>
Stage VI	Reasoning occurs from the basis of freedom and the “Golden Rule.”
Instrumental relativism	<p>Judgments are made out of concern for others.</p> <p>Descriptors include: abstract reasoning—data is sparse.</p> <p>Equilibrium distress is unknown at the highest level of moral maturity.</p>

Kohlberg noted constraints to reasoning as follows: (a) an individual progresses through the various stages sequentially, (b) cognition cannot occur more than one level above the subject’s existing stage, (c) subjects are attracted to reason at the stage above their existing level and shun falling below to previous levels, and (d) transition is made through a level because of disequilibrium (Duska & Whelan, 1975). Therefore, CMD is

based on how the subject maintains and balances justice in cognitive reasoning (Rest, 1993). The CMD theory is widely accepted and is supported with a vast empirical research base. Before Kohlberg died in 1987, he focused much of his efforts on improving moral education. Age and education have proven to have the greatest impact on whether people reach the desired higher stages of moral judgment (Trevino, 1992).

“The next major milestone in moral judgment research was methodological and occurred with the development of the DIT” (Nichols & Day, 1982, p. 202). The Defining Issues Test (DIT) solved the complexity of ranking subjects as previously required in Kohlberg’s interview process. By objectively scoring responses and assigning a number relative to importance, a continuous index number is produced that correlates with the six stages of moral judgment of CMD. A subject is given the multiple choice questionnaire that begins with a brief reading of a moral dilemma and a corresponding decision or course of action. The subject then must choose among three scenarios according to what he/she would have done. Next, 12 statements are posed that describe possible ideas for fixing the problem. The respondent is asked to (a) rate the importance of the statement and (b) rank the four most important (Nichols & Day).

The DIT has been subjected to extensive study of its properties, which are reviewed by Davison and Robbins (1978). For the 6-story version, test-retest reliabilities in the high .70s or .80s are reported, and internal consistency, using Cronbach’s Alpha, is reported in the high .70s. (Nichols & Day, 1982, p. 203)

The Problem Statement

This researcher, having been employed in the construction industry for more than 30 years, is familiar with the motives and relationships within the construction industry.

The building owners desire a quality building at a fair price. The architects desire reputation for creative design and flawless implementation of a construction project. Their advanced education in both quantitative and qualitative studies as well as an established association with a code of ethics makes them ideally professional entities. Because of competitive bidding, the general contractor and subcontractor work in an environment of a “level playing field”: They desire to maximize total profits. This mentality is a survival instinct in an industry that shares one of the highest bankruptcy rates in the U.S. (only restaurant businesses are higher) (Knaup, 2005). The construction laborer, following the lead of their employer, desires a decent living and, of course, fair work conditions. The suppliers, like their contractor constituents, desire to make profits. However, lacking the policing function between the architect and contractor, there is a more relational atmosphere.

The question that this dissertation study seeks to resolve is whether there is a relationship between work position in the construction industry and moral judgment level on Kohlberg’s scale as measured by the Defining Issues Test. Therefore, this research used the DIT’s Principled Score (P-score) to examine and compare cognitive moral development of architects, construction contractors, and construction suppliers. The study purposes to answer the following questions:

Question 1: Do architects have a higher moral maturity level as measured by the P-score than the average of all subjects tested in the DIT data bank?

Question 2: Do architects have a higher moral maturity level as measured by the P-score than contractors in the construction industry?

Question 3: Do architects have higher moral maturity level as measured by the P-score than suppliers in the construction industry?

The second step in the research study examines the moral motivation of architects, contractors, and suppliers in the construction industry by simply asking them their propensity to put into action moral decisions in a competitive bid situation. This part of the study, in effect, moves the test from a test of theory to an application of theory by measuring the subject's ethical decision making. It is expected that the higher the P-score, the higher the propensity to act in a manner to refrain from opportunism and employ *good* behavior as represented by the M-score. The motivation scores are measured against each other individually and collectively to answer the following research questions:

Question 4: Do architects have a higher ethical motivation as measured by the M-score than contractors in the construction industry?

Question 5: Do architects have a higher ethical motivation as measured by the M-score than suppliers in the construction industry?

Question 6: Do construction constituents with significantly higher CMD as measured by the P-score also have significantly higher ethical motivation as measured by the M-score?

The Importance and Justification of the Study

The primary goal of this study is to add to the current body of knowledge encompassing moral judgment. Does the professional standing and education of the architect result in a higher level of cognitive moral reasoning? The validity and reliability of the stages of moral development have been examined in over 1,000 research studies

that identify correlations among many demographic and situational factors using DIT testing. Few studies, however, have been aimed at constituents across entire industries.

The contrasting motives and educational levels among the constituents may very well (a) explain the importance of motives and education, (b) suggest rebalancing actions in industrial business organizations that will appropriately guide ethical outcomes, and (c) recommend areas of focus for academia in developing an effective learning environment for “transformational” leaders and followers. It may seem evident that industries that focus on maximizing profits with little advanced education and little ethical training would equate to lower levels of moral development; they may in fact be prone to unethical decisions. Added to this mix is the presence of a police mentality; but empirical evidence is needed to substantiate expected outcomes, to understand the extent in which work setting influences moral judgment, and to provide a platform for further scientific research (Trevino, 1992).

Scope and Delimitations of the Study

An ongoing discussion persists among researchers whether cognitive moral development does in fact lead to ethical decision making. Mitigating factors are likely those intense desires that arrest reason, such as those identified in the study. However, there is a growing body of research centered on the relationship between education and its transference to ethical decision making (Abdolmohammadi, Gabhart, & Reeves, 1997; Bishop, 1992; Izzo, 2000; Loe & Weeks, 2000; Rest, 1979, 1986b). Even though some results have been mixed, the preponderance of recent empirical evidence does imply the positive correlation.

The sample set was drawn from the construction industry in Iowa and may not be representative of the nation as a whole. The sample was not drawn randomly, but all firms in the 2007-2008 Iowa membership directories of Associated Builders and Contractors (ABC), Associated General Contractors (AGC), and Architects Institute of America (AIA) were canvassed. Also, the construction industry in its entirety is much larger than the arena of publicly bid jobs, and thus the sample herein may not represent the entire industry. The CMD theory is based on how the subject maintains and balances justice in cognitive reasoning, rather than examining other bases for morality, like religious beliefs or social norms as used by alternative moral reasoning theories (Rest, 1993).

Assumptions

The study assumes that the respondents understood the questions, answered them truthfully, and ranked the values in order of importance.

Definitions

Philosophical definitions:

Philosophy: “...three parts are: metaphysical, the political and ethical, and the philosophy of knowledge” (Cavico & Mujtaba, 2005, p. 4).

Moral philosophy: “...theories that describe what is good for people and what is bad...” (Cavico & Mujtaba, p. 4).

Ethics: a referential or partially referential manifestation of choice that often is described as good or bad, right or wrong.

Morals and morality: a nonreferential or cognitive manifestation of choice that often is described as good or bad, right or wrong.

Beliefs and knowledge: “criteria of thought and ways people think about given concepts” (Cavico & Mujtaba, p. 6).

Values: rankings or priorities formed to encompass an individual’s beliefs; values drive human behavior (Cavico & Mujtaba).

Judgments: the forming of a notion or conclusion; the two types are: descriptive judgments that describe and interpret the characteristics of existing abstract things, and prescriptive (or normative) judgments that appraise, appreciate or evaluate physical objects (Cavico & Mujtaba).

General definitions:

Ethical principles: “...very general, pervasive, basic, and fundamental standards that are used to evaluate the rightness or wrongness of behavior and to determine the truth or falsity of moral issues” (Cavico & Mujtaba, 2005, p. 8).

Moral rules: an individual’s mental statement of an ethical principle (Cavico & Mujtaba).

Social conventions: “usages, practices, and habits of the members of a social group or a society” (Cavico & Mujtaba, p. 8).

Personal taste: individual opinions that express likes and dislikes (Cavico & Mujtaba).

Organization of the Study

This research study seeks to resolve whether there is a relationship between work positions in the construction industry and Kohlberg's scale as measured by the DIT. The presentation is made in five chapters.

Chapter I begins with poignant statements to draw attention to the necessity of ethical conduct in society. Background information outlines current relevant issues in business environments that parallel the construction industry. The discussion underscores organizational variables, including rules, authority structures, motivation, punishment, and leadership. Then, current substantial theory is laid out before proposing important questions to be researched in the construction industry. The research questions are evaluated according to purpose, significance, scope, limitations, and assumptions. Finally, important definitions are examined.

Chapter II discusses and applies the knowledge base of theory and literature to the problem. Chapter III explains the methodology employed as well as the data needed and the means of gathering the data. Chapter IV discusses the result of the DIT, and finally, Chapter V interprets the results of the research study.

Chapter II

Review of Literature

“To be, or not to be: that is the question: Whether ‘tis nobler in the mind to suffer the slings and arrows of outrageous fortune, or to take arms against a sea of troubles...” (Hamlet, Act III, Scene 1)

These haunting words penned by Shakespeare (1602/1992) capture the moral map of humankind and the ever-present desire to experience life anew—whether it is a nobler choice to feel or to not feel at all. It is the internal contest between ingratiating the works of one’s hands versus the words of one’s mind. Life itself happens in an instantaneous snapshot that is lived in a moment of time. Then, it is stored away as a memory to be resurrected when need be. It is an intra personal event directed by our sensibilities. Figure 1 depicts a single moment of life of the entire population of humankind. Thus, the contest is played out between the five senses (the body) and the sixth sense (the mind).

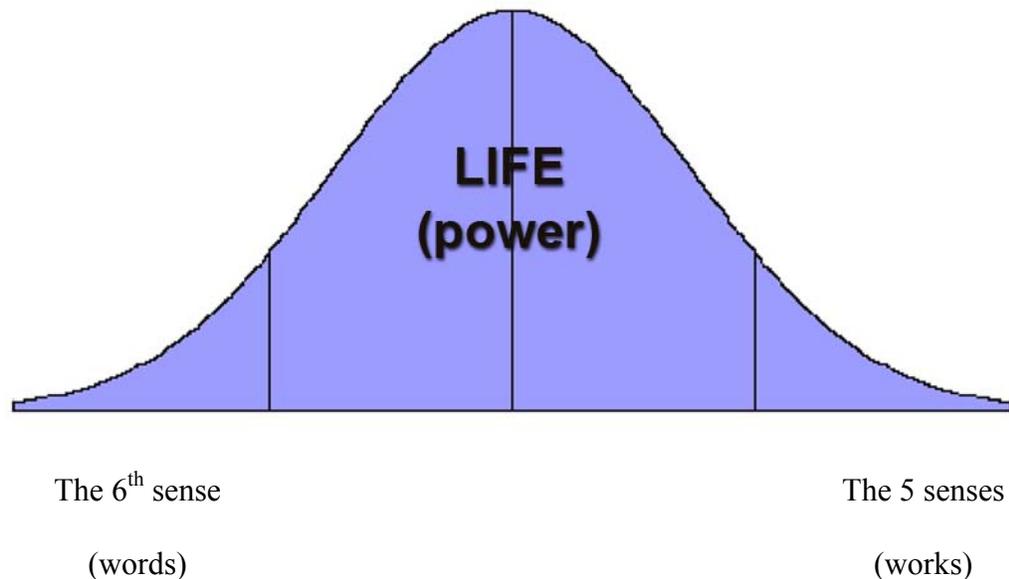


Figure 1. *A parsimonious model of the experience of human morality and ethics.*

The Gaussian distribution suggests that “if a random variable is affected by many independent causes, and the effect of each cause is not overwhelmingly large compared to the other effects, then the random variable will closely follow a normal distribution” (Aczel & Sounderpandian, 2006, p. 176). Basically this means while the mechanisms underlying morality often are unknown, the use of the normal model is theoretically justified by assuming that many small independent effects are additively contributing to each observation. Hence, the bell curve portrays the ultimate momentary interpersonal experience of mankind. The primary purpose of this research study is to examine inductively a small sample of the population shown in Figure 1, assigning them an index score based upon their propensity to utilize the ascribed frameworks of *works* (descriptive judgments) or *words* (prescriptive judgments). It is an examination of a sample of many mini frequency distributions and whether or not they typify the bell curve of the total population.

“We use the term *moral thinking* to refer to people’s judgments about right and wrong” (Narváez, Getz, Rest, & Thoma, 1999, p. 478). Scholars occasionally comment about the child as a moral philosopher as they try to make sense of the experiences of life and interactions with environments. Lewis (1965) commented about the average person as a moral philosopher stating,

There is one thing, and only one, in the whole universe which we know more about than we could learn from external observation. That one thing is Man. We don’t merely observe men, we *are* men. In this one case we have, so to speak, inside information; we’re in the know. (p. 20)

Undoubtedly, immoral behavior is empirically validated by the history of humankind, and much can be learned from people by listening: “I shouldn’t have yelled at the kids;” “I was rude to pull in front of the on-coming car;” “Whoops, the clerk undercharged me.” It is not like the laws of nature. For instance, the law of gravity can be tested reliably to act the same time after time. “You have the facts (how men do behave) and you also have something else (how men ought to behave). In the rest of the universe there needn’t be anything but the facts” (Lewis, 1965, p. 15). The human mind is the faculty that keeps track of choices. One way of thinking about the mind is that it holds court on the individual’s behavior. It is a *register* that documents, it is an *accuser* that lodges a complaint, it is a *witness* that supports, it is a *defender* that props up, it is a *judge* to free or condemn, and it is an *executioner* to validate behavior (MacArthur, 1994).

The purpose of Chapter II is to deductively exegete (draw-out) the strains of this moral framework that are inherent in academic disciplines across time and history. These strains of morality and ethics are directly related to the study at hand. After describing the linguistic background and variables in the study, a brief history of a number of academic disciplines is reviewed in relation to morality and ethics. These disciplines include philosophy, natural sciences, psychology, and business. Finally, the study focuses on economics and marketing to set up the study at hand.

The Linguistic Background Encompassing Morality

The Body versus Mind Debate

Cognitive moral development (CMD) encompasses an umbrella presupposition that under girds every decision made in business. However, in the same vein as Koontz’s (1980) label “management theory jungle,” the manager soon discovers that searching for

answers in ethics is like solving a “Where’s Waldo” puzzle. The picture of humanity blurs into a collage of countless faces that defy clarity, and at every concerted glance it seems that Waldo has moved again. Schrader (1999) explained that “research enterprises stem from different paradigms and speak different languages” and will continue “until we as moral researchers can construct a new way of examining the field that transcends our current perspective on it” (p. 52).

Certainly, grammar, semantics, and syntax play the pivotal role in understanding. All people have grown up with an understanding of words. But words often do not express the reality behind them (Osborne, 2006). For instance, in the expression “William built a house,” the word “house” denotes a symbol of a house. Yet there also is implied a sense and a reference, which is denoted by a mental response (descriptive sense) like a large house and a reference (prescriptive sense) like the Hearst castle. Words range from fully referential to non-referential. Much of the human experience is derived from nouns and adjectives that describe how the five senses process life. In other words, one can see, smell, hear, touch, and even taste a house. At the other end of the spectrum, nouns and adjectives also describe the experience from the point of view of the 6th sense, which is the mind. Table 3 depicts the range for the reference of the word house.

Table 3

A Diagram of the Degrees of Reference

Non-referential	Partially referential	Mostly referential	Fully referential
Aesthetic aspects	Depth and design	Structural components	Hearst castle

In essence, CMD discovers the tendency for a referential framework of the subject's moral decisions in life. Kohlberg described the reasoning range as abstract versus concrete. It is the contest between

- words versus works
- theory versus practice
- qualitative research versus quantitative research
- social constructivism versus empiricism
- Freudianism versus behaviorism
- art versus science
- altruism versus egoism
- freedom versus fear
- morality versus ethics

The pattern is succinctly evident in scholarly literature; it is multidisciplinary and cross cultural. Mahoney (1991) posited that in ontology “the two most enduring debates have focused on the nature of reality (with idealism and realism as opposite poles) and on the related issue of how (and whether) physical and nonphysical realms can relate to one another” (pp. 35-36). In academia, scholarly expressions serve as both barriers to entry and tools of explaining fine-grained attributes.

Bases of Power Used in Life

Furthermore, the very moment of *life* experience is captured in verbs that portray various combinations of the referential and non-referential symbols and senses. French Jr. and Raven's (1959) well known concept of power is used here to bundle the various arguments attested to in literature to invoke the power thesis into the common theoretical framework. Life is expressed in terms of the internal bases of power—referent, expert, legitimate, reward, and coercive. These are enumerated with their definitions as follows:

1. *Reward power* results from the ability to reinforce a desired behavior by either creating positive consequences or removing negative ones.
2. *Coercive power* refers to the capabilities to punish unwanted behavior.
3. *Legitimate power* is based on an inferior actor's internalized values and roles that prescribe that the more powerful actor has a legitimate right to influence the inferior party and that the latter has an obligation to accept this influence.
4. *Referent power* arises when an actor serves as an object of identification for others. This usually is a consequence of respect and esteem.
5. *Expert power* is founded on one actor's assumption that another actor is better informed. This premise may make the inferior party accept the expert's information as given facts and act accordingly (Rezabakhsh, Bornemann, Hansen, & Schrader, 2006).

There is no doubt that the bases of power have overlapping dimensions, but they do stand on their own referentially. The construction worker uses coercive power to set a 2 by 4 in place in much the same way that his/her foreman criticizes, saying "speed it up." Although the latter is abstract words, both are a coercive use of force. When the

superintendent “steps up to the plate,” it often is with a measure of reward power. Employee paychecks and subcontractor release of payments keep people in motion. When the owner visits a job site, legitimate power is apparent. In fact, a central tenant of Western democracy is property rights as an extension of self. In summary, coercive power is very referential, but the use of power by people moves toward partially referential (reward power) and even partially nonreferential (legitimate power). In fact, academics often describe power paradigms as either simply coercive or noncoercive.

Next, noncoercive power is examined. Expert power is an attribute of the architect’s position. Since they have been trained extensively in both the structural and aesthetic qualities of construction, their authority carries the most weight on a construction project. Finally, referent power coincides with Kohlberg’s stage 6 CMD, suggesting the involvement of the Golden Rule to encourage cooperative leader/follower effort. Of course, both expert power and referent power belong on the partially nonreferential side and even the nonreferential side of the continuum.

The experience of life is a renewing upward progression described by *development* or a degrading downward spiral described by *regression*. The richness of verbs that portray management experience has been thoroughly developed in business leadership literature. For instance, coercive power is doled-out by directing and guiding. Reward power is given by persuading and explaining. Legitimate power is participated in by problem solving and encouraging. Expert power is shared by observing and monitoring (Hersey & Campbell, 2004). At the risk of belaboring the point, it is apparent that these every day expressions describing the actions of life move along the continuum

from referential to the five senses to nonreferential to the five senses (Hence, abstractly referential only to the mind.)

Finally, it is noteworthy to be reminded that there are three components involved in the moral map of Figure 1: the five senses, the sixth sense, and life. The following section defines the finer-grained aspects of morality within the human cognitive mechanism. The linguistic patterns of the “*words versus works*” metaphor are an overarching component of cognition and choice that is used here to convey the polar extremes. Yet once an experience is lived, the memory must be encoded cognitively in the brain as a symbol and decoded referentially for the senses as a meaning (Cross, Ambrose, & Cross, 2007).

The Research Variables Encompassing Morality

Measured Endogenous Variables of Morality

Moral judgment. *Moral judgment* is a summary description of the different cognitive choices reflecting the words versus works debate, which can be measured by Principled-score (P-score). Looking at Figure 1, the idea of skewness aptly describes the concept of moral judgment. A left-skewed distribution would suggest an individual who has a higher moral maturity score (an abstract-based thinker) than the average individual, while a right-skewed distribution would suggest an individual who has a lower moral maturity score (a rule-based thinker) than the average.

Piaget (1932/1969) laid the groundwork for CMD in his seminal research of children. Piaget studied the natural growth of reasoning in children, which he determined to be cumulative and sequential. Before 2 years old, a child is in the *sensorimotor* stage. From about 2 to 7 years old, a child is in the *preoperational* stage. At this stage children

are described in terms of blind obedience. They base decisions on the requirements of parents and other authority figures. From ages 7 to 11, the child is in the *concrete operational* stage. Here the child seeks to interpret and follow rules and conventions of their social environment. This level is described as the interpretation of rules stage. The fourth and final stage is *formal operational*. Children begin to display autonomous moral choices depending on their own conscious values.

Piaget often used a biological metaphor to explain assimilation and accommodation, which are the mechanism for movement through the four stages. A new experience is assimilated into the child's existing conceptual structure. Then, at a critical moment, their conceptual structure is transformed in order to accommodate the various experiences that were previously assimilated. Piaget's (1932/1969) view of development excluded the idea that morality was a result of interaction with the social environment, but was internally constructed by the individual. A limitation of Piaget's theory has emerged as the abilities of children have defied scholars. Children at very young ages have proven to inhere much greater moral capacity than was previously anticipated (Rest, Narváez, Bebeau, & Thoma, 1999).

Kohlberg basically built upon the work of Piaget. He purported that individuals view rules as external requirements. So principles like prudence and authority would appeal to the *pre-conventional* mindset, similar to Piaget's preoperational stage. However, interactions with others eventually cause self-centered behavior to give way to quid pro quo reasoning and reciprocity. For *conventional* reasoning, good behavior is a matter of adhering to rules in order to please others in the peer group. Motives like living up to expected roles and fulfilling obligations become paramount as well as acceptance

and common good (Trevino, 1992). Oftentimes, Kohlberg's writings mention philosophic theories tied to stage 6, *post-conventional* cognition. His writings point to common roots of John Rawls, John Dewey, and Immanuel Kant since "...justice is an umbrella concept for them, covering concerns of liberty, equality, and respect for persons" (Boyd, 1980, p. 191). Justice is demonstrated by fairness and reciprocity.

Kohlberg did not claim that individuals exhibiting post-conventional cognition were any more moral than pre-conventional. However, he did state that post-conventional reasoning was more advanced because it required (a) more differentiation of ideas and (b) greater inclusion of lower stage criteria. Thus, the full range of Kohlbergian principles was available to the individual. That is, "prudence (and self-realization); welfare of others; respect for authority, society, or persons; justice" (Macdonald, 1980, p. 383). It is noteworthy that the welfare of others and justice are the only remaining factors at stage 6 reasoning, according to Kohlberg.

The steady support for CMD since Kohlberg's passing in 1987 must be attributed in part to the work of Rest and his colleagues. In answer to serious criticisms of theory and methodology, Rest recasts both. Apparently, the alterations also conform to empirical validations performed by thousands of researchers who have employed Rest's DIT instrument. Core ideas retained are: (a) the emphasis on cognition; (b) the self-constructed concepts of justice, duty, rights, and social order; and (c) the idea of growth, at least from conventional to post-conventional reasoning. Important concepts changed include: (a) a "macro morality" approach that applies CMD to structures of society (strangers) rather than a "micro morality" approach that deals with everyday acquaintances, (b) gradual stages represented by shifting distributions rather than the

metaphor of hard stair-stepped stages, and (c) an admission that morality reflects other components and processes rather than implying that cognition is the endpoint (Brady & Hart, 2007). Besides these, stage 6 cognition as well as stage 1 have fallen to the wayside. What remains, then, are merely two *levels* of cognition according to Rest – conventional and post-conventional. Post-conventional thinking is described more narrowly. The reason for the changes is lack of empirical evidence and peer criticism (Rest, Narváez, et al., 1999).

Moral motivation. Rest, Narváez, et al. (1999) purported a four-component model of morality that represents a “synthesis” of all the psychological models as follows:

1. Moral *sensitivity* (interpreting the situation, role taking how various actions would affect the parties concerned, imagining cause-effect chains of events, and being aware that there is a moral problem when it exists)
2. Moral *judgment* (judging which action would be most justifiable in a moral sense—purportedly DIT research has something to say about this component)
3. Moral *motivation* (the degree of commitment to taking the moral course of action, valuing moral values over other values, and taking personal responsibility for moral outcomes)
4. Moral *character* (persisting in a moral task, having courage, overcoming fatigue and temptations, and implementing subroutines that serve a moral goal). (p. 101)

Excluding moral judgment from the list above, sensitivity, motivation, and character could conceptually be separated as a summary description for motivation that is

measured by Motivation-score (M-score). Looking at Figure 1, the idea of kurtosis aptly describes the concept of motivation. An extremely peaked curve would suggest an individual who is highly motivated compared to the average individual, while a flat distribution would suggest an individual who is less motivated compared to the average. For instance, at any one moment there is a part of the total population who would be described as the idiot or the innocent. Also, people like to live in the darkness of egoism, which is perhaps the primary reason for poor moral choices. They would experience life in a relatively flat bell curve, not really knowing if actions were right or wrong.

Vroom (1964) parsed the semantics similarly, but more succinctly, in his expectancy theory of motivation. Vroom posits that motivation equals expectancy times instrumentality times valence. Therefore, the conceptual basis between Rest's theory and Vroom's theory is similar as follows: (a) character represents expectancy when ability is adequate for performance, (b) sensitivity represents instrumentality when performance leads to reward, and (c) motivation represents valence when the reward is of value. Yet, Vroom's model is intuitively clearer because motivation is framed in reference to outcomes. First, if the individual believes in his/her ability (expectancy), he/she is more likely to courageously overcome fatigue as suggested by the term moral character. Second, if the individual imagines the outcomes to be probable given an effort (instrumental), he/she is sensitive to make the connection between cause and effect that is suggested by the term moral sensitivity. Third, if the individual affectively values the reward (valence), he/she is motivated to take responsibility for the outcome as suggested by the term, moral motivation (Holt, 1993; Vroom).

Summary. The primary research variable in this study is CMD, which has enjoyed a relatively straightforward history in terms of theory building. The secondary research variable in this study is motivation, which has been studied from varied perspectives. No matter how motivation is fleshed-out in terms of semantics, it tremendously affects the choices in life. Miner (as cited in Latham, 2007, p. 127) argues “If one wishes to create a highly valid theory, which is also constructed with the purpose of enhanced usefulness in practice in mind, it would be best to look to motivation theories...for an appropriate model.”

Unmeasured Endogenous Variables of Morality

The depiction in Figure 1 represents a snapshot of conscious life. However, it is apparent that only a fraction of mankind’s experience of life occurs consciously. If the underbelly of the bell curve was drawn out, it would require an extremely large area to show the subconscious aspects of the mind and brain that surface as moral choices. Table 4 depicts ways in which character can be described in terms of the nonreferential and referential treatments.

Table 4

A Diagram of the Degrees of Reference for the Subconscious

Non-referential	Partially referential	Mostly referential	Fully referential
Subconscious and values research	Personality research	Abilities and training	The brain and central nervous system

Although it is unknown exactly how the subconscious parts of the human psyche work, some research has been conducted to explicate their function in the broadest sense of morality and ethics. Several areas of research include values and personality.

Values research. Fowler (1980) purported that faith stages run parallel and even precede cognition. Faith is a way of learning about life. Because of the competition to interpret powerful images that unify our experiences, faith serves as a powerful acknowledgment of trust in centers of value. Faith “is a matter of composing an image of the ultimate environment, through the commitment of self to a center (or centers) of value and power giving it coherence” (Fowler, p. 156). Kohlberg collaborated with his Harvard colleague, James Fowler, in his 1974 article, *Education, Moral Development and Faith*, and quoted an early version of stage theory *in extenso*.

Table A1 shows the developmental stages side-by-side as described by Piaget, Kohlberg, and Fowler. Fowler (1980) stated: “In some passages he [Kohlberg] writes as though faith stages and moral judgment stages are two comparable strands of a larger developmental process, such as ego” (p. 150). Thus, Fowler’s faith system theory seems a plausible addition to CMD. However, it has been criticized because of the lack of empirical data and peer review. Yet, “goodness-of-fit” models have expanded current research that supports relationships between values, environmental context, and motivational attitudes (Ambrose, Arnaud, & Schminke, 2008).

Personality research. Buckingham and Clifton (2001) explained the impact of personality stating that man’s ego seems to grow backward in the odd organ, the human brain. On the 42nd day after conception, the brain encounters a 4 month growth spurt. During this time, neurons that connect brain cells grow from 1 to more than 100 billion.

Sixty days after birth these neurons reach out to make connections with brain cells; these connections are called synapses. A 3-year-old will have formed 15,000 synapses for each of the 100 billion neurons. These interwoven patterns are unique, intricate, and ultimately become one's personality. In fact, as certain patterns emerge, most synaptic connections die out, which makes the brain smaller but more intelligent. Through these patterns of traits, electrical impulses charged with emotions are exacerbated by hormonal activity that flows through the blood stream that feeds the brain. Throughout the experiences of life, patterns in the brain are reinforced, which continue its specialization and its decrease in size. Table A2 lists a number of the personality patterns, which call for matching people in teams according to their strengths to achieve organizational purpose.

Interestingly, the main concept behind trait theory is that individuals cannot change people: so why not learn how to harness their dominant characteristics—otherwise known as talents.

Another well known example of scientific research in personality is the California Personality Inventory 434. It also is referred to as the CPI 434, which is an acronym for the name as well as a designation for the number of questions in the test. The actual questionnaire comes with a substantial document, the *CPI Manual*, 3rd edition, which has been written by its developers and authors, Harrison Gough (1996) with Pamela Bradley. Ordinarily, judgments are made to recognize people's (a) unique traits and (b) predict their future behavior. These everyday variables are what the CPI 434 terms *folk concepts*. The developers pride the instrument as providing a useful, true-to-life portrayal of the individual (Gough, 1996).

Since 1950, folk concept scales have reduced personality to four or five major factors. The strongest evidence of the CPI factors was designated as self-confidence (self-realization and personal adjustment) and personal integrity (respecting rules and compliancy). In 1963, scientific research led to the aforementioned variables neatly becoming scales on a continuum. The first factor stressed something similar to introversion/extroversion. The second measured one's ability to persevere under pressure or, conversely, lack of ability to handle stress. By 1980, the formulations developed with the addition of a third component that showed an inner harmony/dispirited scale (Gough, 1996).

Extensive empirical proof has developed from actual trials of the instrument. These have established its validity and reliability; additionally, the three scales have little overlap. The manual reports reliability data with an overall mean of 0.76 (Gough, 1996).

The CPI 434 questionnaire provides a complex yet highly accurate portrait of an individual's professional and personal styles. For more than 50 years, coaches, counselors, and human resource experts have trusted the powerful assessment tool to help them create efficient and productive organizations, promote teamwork, build leadership competencies, and find and develop employees who are destined for success. (CPP, 2007, ¶ 1)

Recent surveys indicate that 40% of employers across the country conduct personality testing as a tool for selection (Bates, 2002). Examples of using the instrument include police departments searching for candidates with high mental stability or insurance companies looking for agents with a high extroversion trait. CPI inventory

scores show a significant relationship to CMD scores, although the magnitude is modest (Loviscky, Trevino, & Jacobs, 2007).

Summary. The presence of values and personality as subconscious aspects of morality and ethics is tenable. These endogenous variables are not explicitly measured in the study. However, their manifestation is holistically indicated by a simple question reflecting the subject's moral judgment and character as described above.

Other Unmeasured Exogenous Variables of Morality and Ethics

Many decisions are “run of the mill,” everyday decisions; but the moral ones always involve internal cognitive processes grounded in values and the issue of *ought* as well as the external issue of someone else in the individual's space and time (Ponemon & Glazer, 1990). Notwithstanding the aforementioned discussion of internal mechanisms of morality, certain external factors also affect morality and ethical choice as well: time, space, and interpersonal exchanges.

Looking again at Figure 1, it is conceptually plausible to add the dimension of depth to the bell curve to represent the dimension of space. In the largest sense—all of mankind's existence—mankind has existed in only a tiny fraction of the totality of space. In fact, according to astronomers, where man has trodden and experienced life is a relatively small area of the universe. Second, it is conceptually plausible to draw a ball around the bell curve to represent the dimension of time. Again, in the largest sense—all of mankind's moments—mankind has existed in only a tiny fraction of the totality of time. In fact, according to anthropologists, when man has trodden the planet and experienced life has been a relatively short period since the universe began. Lastly, the total bell curve is composed of many much smaller ones, suggesting that individuals

bump into one another and ultimately influence each other. Scientific research into the external variables of space, time, and interpersonal relationships parse them separately or combine them as *situational* aspects of morality. The byword today is culture.

Culture. “The oldest of all societies, and the only natural one, is that of the family ... [and] ... man’s first law is to watch over his own preservation” (Rousseau, 1762/1968, p. 50). Preservation includes taking care of family, which fulfills the driving need for companionship. In every type of complex organization, culture has evolved from some sort of family, clan, or horde (Durkheim, 1982). Many philosophers from the past and present agree that the only way for humankind to survive is to unite their individual strengths, which flies in the face of isolationism. Donne (1631/1975) coined the phrase, “No man is an island, entire of itself” (p. 62). So once again, the contest is apparently played-out through the base instincts of the individual that point to the opposing ends of the referential framework. That is, contributing to the delinquency of one’s own sensibilities or another’s sensibilities.

To begin to understand the dynamics of culture, it must be examined in its totality as well as broken down to its many constituent parts. The real founder of civil society was “the first man, who having enclosed a piece of ground, bethought himself of saying ‘This is mine,’ and found people simple enough to believe him” (Donovan, 2006). Thus, various organizations of mankind have embarked upon the precipitous journey toward the complex social organisms of today, which always are inhabited by the pyramidal hierarchy to control resources. The pushing and pulling for freedom versus constraint is well documented between constituents in both economic and political history (Leavitt, 2007). The construction of morality in the context of culture is well documented.

Now the focus of culture is shifted to its fine-grained parts. A question emerges as to whether the individual's conception of reality (or morality, life, choice) is internally generated or externally generated. The arguments have been poured out by scholars of both sides, with Piaget being the poster child of the internal camp and Vygotsky being the poster child of the external camp. Cole and Wertsch (1996) claimed that, in fact, both Piaget and Vygotsky acknowledged the internalities and externalities of moral development. However, their perspectives for treating morality stemmed from their respective interests. Whereas internal mechanisms for forming moral choice involve the senses, the subconscious, and the conscious, external mechanisms for forming moral choice involve artifacts of culture. Artifacts include both the active environment and the accumulated products of prior generations. The interweaving of person and personhood mediates choice causing rediscovery and rearranging of reality such that the inside and outside is transformed.

Finally, the seminal work of Hofstede (2001) elucidated several dimensions of culture that divided internal and external influences as power distance, uncertainty avoidance, individualism, and masculinity. These were formulated around the central assumption that culture is stable over time. His work has been supported by many other researchers including the longitudinal study of Barkema and Vermeulen (1997) that examined 828 entities in 72 countries.

Morality and corruption in culture. Usually a discussion of morality evokes the idea of good morality as opposed to immorality, even though the latter often dominates cognition because of egoism. Immorality is a reflection of the internal existence and consequences for poor choices. Broadening the discussion to the context of culture, the

effect of immorality on culture is captured in the expression of corruption, which is the misuse of public resources for private gain. International business literature is replete with the characteristics of corruption emanating politically from (a) the risks and costs of getting caught, (b) legal culture, (c) historical traditions such as religion, (d) the end of the Cold War, (e) lack of information, (f) the increase of democratic countries, (h) globalization, (i) the greater role of nongovernmental organizations, (j) the greater reliance on market economies, and (k) the influence of the U. S. internationally (Tanzi, 1998). For instance, Treisman (2000) reports that countries with a greater number of Protestants had less corruption, which suggests that the Protestant ethic is a robust predictor of moral decision making in cultures.

Economic theorists point to trade as axiomatic to the starting point for examining society and posit that a society free of corruption could exist only in an ideal state. One way the atypical behavior of the actors can be viewed is in terms of attribution theory, which allows for situational exigencies to explain choices that reinforce distinctiveness or consensus (Desplaces, Melchar, Beauvais, & Bosco, 2007; Getz & Volkema, 2001). Another conceptual argument centers on “game theory” to demonstrate that it may be optimal for some level of corruption to exist in society (Wilson, 2006). However, this fatalist view is not shared by those demanding the eradication of corruption.

The elimination of corruption is plausible only with a sufficient dose of expert power that is inherent in the argument for transparency. The most powerful nongovernmental organization today affecting the ethics of countries around the world is Transparency International (TI). They have disseminated yearly governmental report cards aimed at spotlighting corruption and bringing the pressures of respectability to bear

on cultures. In fact, the whole burgeoning industry of information technology has played a significant role in whistle-blowing the unseemly practices of industry.

Situational leadership in organizations and culture. Scientific research shows that the behavior of superiors is one of the most influential dynamics in the process of moral choice (Arlow & Ulrich, 1988; Baumhart, 1961; Brien, 1998; James & Rassekh, 2000; Schminke, Wells, Peyrefitte, & Sebor, 2002). Classic explanations of leader behavior cluster their activities into two categories: a focus on task and/or a focus on people (Schminke et al.). The noteworthy efforts of Lewin (1890-1947), Likert (1903-1981), and Rogers (1902-1987) led to empirical research known as the Michigan studies. By simply making “focus on task” the X-axis and “focus on people” the Y-axis, their framework suggested appropriate choices for relational behavior between leader and followers. These depended on the situational context. Figure 2 shows the well known management model.

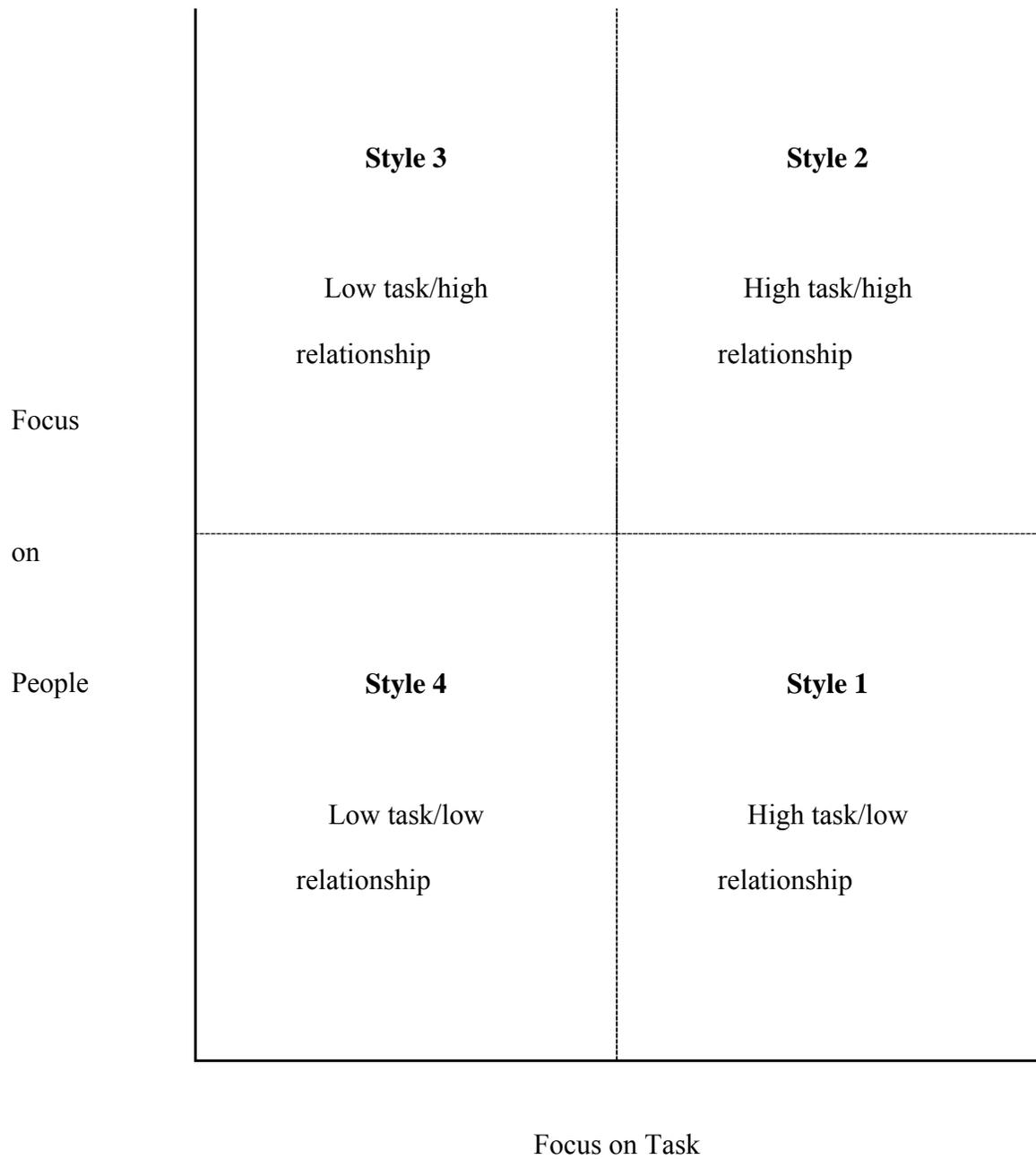


Figure 2. The situational leadership framework.

The intersection of situational leadership styles and Kohlberg's CMD model suggests an overlap that bears a great deal of real world application as follows:

1. Style 1 (high task, low relationship behavior) – This style of influence applies to Kohlberg's Stage 1 maturity level. Moral decisions are made for obedience sake and to avoid punishment (Trevino, 1992). The need for rules and regulations calls for the leader to tell, direct, structure, inform, establish, form, instruct, and/or guide (Hersey & Campbell, 2004). Coercive and connection power bases work best for influencing (Colby & Kohlberg, 1987; Weber & Wasieleske, 2001).
2. Style 2 (high task, high relationship behavior) – This style of influence applies to Kohlberg's Stage 2 and Stage 3 maturity levels. The need for structure gives way to seeking pleasure through quid pro quo thinking and signals a monumental divergence from pre-conventional reasoning to conventional. Eventually, pleasure is derived from seeking favoritism in groups that involves “good ol’ boy” thinking. The need for acceptance in the group calls for the leader to sell, mentor, persuade, coach, teach, convince, explain, and/or train (Hersey & Campbell, 2004). Reward and legitimate power bases work best for influencing. Most managers use this stage to resolve dilemmas in the work place (Weber & Gillespie, 1998; Weber & Wasieleske, 2001).
3. Style 3 (low task, high relationship behavior) – This style of influence applies to Kohlberg's Stage 4 and Stage 5 maturity levels. First, there is the recognition of the individual's place in the context of the organization, but

only in relation to interpersonal goals (Colby & Kohlberg, 1987; Weber & Wasieleske, 2001). Occasionally, Stage 4 reasoning is experienced among managers (Colby & Kohlberg; Weber, 1990). The need for living up to what's expected gives way to a desire to fulfill duties and conform to majority wishes as a member of society. Eventually, the individual thinks in abstract terms about autonomy and democratic utilitarianism. The individual recognizes that rules conflict overall, but the good of all persists in personal moral obligations (Weber & Wasieleske, 2001). This again is a divergence in moral reasoning to post-conventional thinking. Few managers reason at Stage 5 (Weber, 1990). The need for law and order calls for the leader to participate, encourage, commit, facilitate, support, involve, empower, and/or problem solve (Hersey & Campbell, 2004). Referent and information power bases work best for influencing.

4. Style 4 (low task, low relationship behavior) – This style of influence applies to Kohlberg's Stage 6 maturity level. The need for social contract gives way to a desire to live for justice and the golden rule. Moral reasoning at the Stage 6 level is purported to be rare. (Colby & Kohlberg, 1987; Weber & Wasieleske, 2001). The need for doing good to others calls for the leader to delegate, observe, monitor, entrust, track, attend, assign, and/or empower (Hersey & Campbell, 2004). An expert power base works best for influencing.

A well known framework that categorizes styles of behavior is Hersey and Campbell's (2004) Situational Leadership model. It has been used extensively in

organizations for development and training. The model has been subjected to many refinements over the years, and many management concepts purported by academics can be explained in the context of the situational leadership model (Northouse, 2004). Hersey adapted the model to explain corollary areas, such as situational selling, situational service, and situational parenting. Kohlberg himself made the connection between moral stages and situational ethics:

Now it is clear that our conception of principle implies a “situation ethic” in the sense that it reduces all moral obligations to the interests and claims of concrete individual persons in concrete situations... True principles guide us to the obligating elements in the situation, to the concrete human claims there. (Kohlberg, 1980, pp. 60-61)

Obviously, Kohlberg’s “elements” included leadership style and his “situation ethic” acknowledged the tenacity of the individual to change course in different settings.

Cultural anthropologists posit that individuals select different roles at work and home that allow them to accept differing values, norms, and behaviors (Trevino, 1992). In addition, moral reasoning patterns vary from issue to issue for both leaders and followers (Hoffman, 1998; Jones, 1991). Trevino (1986) developed a Person-Situation Interactionist model and found that the job context moderated moral reasoning.

Research studies of decision making in organizational settings have shown that managers who understand the needs of the group make better choices (Mumford, Helton, Decker, Connelly, & Van Doorn, 2003). Other studies show that managers with

demonstrated expertise of the task and of their subordinates make better decisions (Mumford et al.; Zaccaro, Mumford, Connelly, Marks, & Gilbert, 2000), and managers with a viable vision make better choices, especially in turbulent situations (Mumford et al.)

Transformational leadership in organizational culture. Leadership is the capacity to influence followers for the accomplishment of goals. People associate names such as Nelson Mandela, Mother Theresa, Martin Luther King, Jr., or even Michael Jordon with larger-than-life character, true greatness, and charisma! Transformational leadership is about great men and women with the ability to transform organizations to achieve outstanding outcomes. Thus, leaders and followers are inextricably bound together in a change process that emphasizes intrinsic rewards and the expression of the work as an expression of self (Northouse, 2004). Transformational leadership is about the superhuman power of charisma making outstanding things happen.

The importance of transformational leadership in organizational behavior lays in its intuitive appeal and fact that one-third of recent leadership research focuses on charismatic/transformational leadership (Northouse, 2004). Northouse stated: “Clearly, many scholars are studying transformational leadership, and it occupies a central place in leadership research” (p. 169). A refined view of the model of leadership was purported by Bass, which built on the previous work of Burns and House (as cited in Northouse). As shown in Table 5, three types of leaders are identified: transformational, transactional, and laissez-faire.

Table 5

Leadership Factors

Transformational leadership	Transactional leadership	Laissez-faire leadership
Factor 1	Factor 5	Factor 7
Idealized influence	Contingent reward	Laissez-faire
charisma	constructive transactions	nontransactional
Factor 2	Factor 6	
Inspirational motivation	Management-by-exception, active and passive corrective transactions	
Factor 3		
Intellectual stimulation		
Factor 4		
Individualized consideration		

Note. From *Leadership Theory and Practice*, by P. Northouse, 2004, p. 175. Copyright 2004 by Sage Publications, Inc.

Few Americans have served as a better role model for youth than Michael Jordan, who inspired the slogan, “I wanna be like Mike.” The Factor 1 variable, charisma, is attributable to a transformational leader who people identify with, respect, and deeply trust. The leader’s vision and sense of mission are underscored by high standards of ethical and moral conduct. The inspirational variable in Factor 2 suggests a leader who communicates through symbols and emotional appeals; this motivates followers to put group goals above self interest. Martin Luther’s “I Have a Dream” speech certainly

qualifies as an appropriate example. Stimulating all members of an organization to inhabit innovative thinking is characteristic of a Factor 3 variable. The old TV show “MacGyver” showed how thinking things out and careful problem-solving could overcome insurmountable dilemmas. The Factor 4 variable, individualized consideration, stands for leaders who listen to, care for, and support followers. Training and mentoring gives way to delegation of tasks that strengthen affiliation in the organization (Northouse, 2004).

In summary, transformational leaders described by the four factors mentioned have personality traits as follows: dominance, a desire to influence, confidence, and a high sense of moral values. In addition, their behavioral style may be described as follows: strong role-modeling, competent, arousing task motives, and articulate in communicating high expectations and goals. Their visions become inseparable from follower needs. Followers develop trust, belief, acceptance, warmth, obedience, identification, and heightened goals under the charismatic leader (Northouse, 2004).

During the past decade, transformational CEOs like Jack Welch of General Electric, Sam Walton of Wal-Mart, and Roy Vagelos of Merck have created new industries, spearheaded new technological revolutions, and changed the course of behavior in their organizations (Holt, 1993). Certainly, their accomplishments mask the degree to which their leadership created value for their employees; their influence knit individual lives into the fabric of organizations where workers could be all that they could be.

Now discussed are leadership theories that emphasize making adjustments in behavior in order to accommodate diverse interests and situations. In Table 5, the

transactional leader describes manager/follower exchanges, which makes up the bulk of other leadership models. The Factor 5 variable, contingent reward, means that management exchanges something of value for value received. An incentive pay program would describe this factor. The focus of the variable is not on training or individualizing needs. The Factor 6 variable, management-by exception, suggests a leadership style that employs corrective criticism and negative feedback to keep people on track (Northouse, 2004).

If leadership was placed on a continuum, transformational leadership would be placed on one end, and transactional leadership might be depicted in the middle. At the opposite end of the continuum, there would be the Factor 7 variable, which is no leadership at all—*laissez-faire leadership*. Unfortunately, many have experienced the ambiguity that exists when organizations give no direction.

The strengths of the transformational theory include: (a) wide qualitative research in prominent companies, (b) intuitive appeal, (c) a process that puts needs of followers in an important position, (d) an approach that augments other leadership models, and (5) strong emphasis on moral responsibility. Criticisms include: (a) there exists a lack of conceptual clarity; (b) the validity is questionable; (c) the trait approach suggests training may be problematic; (d) elitist attitude puts follower needs in a subordinate position; (e) heroic leadership fails to give attention to the role of followers in influencing leaders; (f) the research is aimed primarily at top executives, leaving out lower-level leaders; and (g) there is a potential for abuse.

Transformational leadership makes sense in any organization where change is needed. A research study by Tichy and DeVanna (as cited in Northouse, 2004) suggested

that the “how” of organizational change occurs through a three step process: (a) recognizing the need, (b) creating a vision, and (c) institutionalizing the changes.

Transformational leadership is a general way of thinking and not prescriptive.

Development of charismatic leadership requires improving behaviors that motivate subordinates to identify with the changing dynamics of the organization. For example, a leader may learn to be more confident in expressing goals or may encourage subordinates to better tolerate “outside the box” views in a group setting (Northouse).

The Multifactor Leadership Questionnaire (MLQ) is a widely-used instrument that measures a leader’s charisma (transformational leadership) and even identifies behavioral improvements. The questionnaire, developed by Bass and refined by Bass and Avolio (as cited in Northouse, 2004), involves answering a battery of questions that correspond to the seven factors of the model. The questionnaire also could be used to rate one’s personal degree of leadership charisma. Additional research is needed to explore how and perhaps why followers perform for certain leaders. The search is for a “reasonable explanation for what is happening inside the ‘black box’ between observed leader behaviors and measured follower outcomes” (Howell & Hall-Merenda, 1999, p. 680).

Codes of conduct in organizational culture. The National Commission on Fraudulent Reporting concluded that codes are important in facilitating ethical decision making; so more corporations need to enact codes (Rich, Smith, & Edwards, 1997). A study by Hegarty and Sims, Jr. (1979) found that an ethics policy reduced incidences of unethical choices in a business organizations. Banking and health care companies are likely to have implemented codes of conduct, while others, including computer services,

construction, and consulting, are likely to not have codes of conduct (as cited in Weber & Wasieleske, 2001).

However, the critics of formal codes of conduct argue that there is a gap between codes and results (Robin, Gallourakis, David, & Moritz, 1989). They raise a number of claims against using codes of conduct. First, companies often do not see any changes in workers after the enactment of codes (Rich, Smith, & Mihalek, 1990). Secondly, organizations fail to fully inform subordinates about the implications of codes (White & Montgomery, 1980). Lastly, organizations fail to consistently and uniformly enforce codes (Lindsay, Lindsay, & Irvine, 1996).

Summary. The external issues that encompass culture are dynamic and overarching. Latham (2007) posits that “The effect of priming on nonconscious goal-setting appears to be so powerful that it may some day raise ethical issues in the workplace” (p. 193). This section has discussed culture and ethics as a whole as well as various components that are integral to the subject matter. However, these exogenous variables are not measured in the study at hand.

A Brief History of Philosophy

The history of ideas is not merely a conceptual search for the abstract. It is more importantly a search for explanations for human activity and destiny, both individually and corporately. The burning question—how mankind orders life—has changed little over time. Even novel forms of philosophy still strike at abiding questions regarding order, power, meaning, and purpose (Foucault, 1965). The framework for these questions and controversies is suggested in part by Figure 1.

The First Axial Period—The Mind and Body Debate

Socrates wondered why “men know what is good, but do what is bad?”

(Meninger, 1973, p. 230). Even before the famous code of Hammurabi, a Sumerian king, Ur-Nammu (2050 BC) promulgated a code of morality. His laws forbade such crimes as cheating with weights and measures, taking advantage of widows or orphans, and stealing (Meninger, 1973). Verne (1981) argued:

The first men lived in a world of “real worlds,” of the passionate action of the bodies of nature moving in relation to each other... imagine a beginning point of human experience in which all was body and bodily motion, in which meaning was an action between bodies, and in which human thought was nothing more than the bodily act of sensation... Sensation is the act that underlies or is the first moment in any act of knowing. It is a necessary act through which the mind initiates for itself what is to be known or thought. (pp. 84-85)

Yet, even though primitive man’s world revolved around the temporal aspects of living, history reveals the intellectual’s quest for developing mental capacities.

Plato’s Doctrine of Form’s. Plato (427 BC-347 BC) developed ethics theory in opposition to other philosophies of his time that suggested true knowledge was unattainable or completely relative. Plato purported that reality, knowledge, and good all were concrete in human existence and could be reasoned in people’s minds. He compared the highest ethic, the Form of Good, to the sun as an unchanging standard with which to judge people’s lives. The Doctrine of Forms was applied to the “good” state as follows: (a) at the top, visionary and intellectual leaders were responsible for wise rule; (b) next, the auxiliaries carried out commands of the rulers with courage and determination; (c)

finally, the producers were the most numerous class and they carried out commerce with desire for pleasure and acquisition of goods. The “just person” operated cooperatively, while the unjust person lost control of their emotions and desires (Cavico & Mujtaba, 2005).

Corporations of today theoretically mirror the good state in many ways. Positions such as the CEO, middle managers, and workers fit the social and economic dynamics of Plato’s Doctrine of Form. A criticism of the theory was its insistence, an elitist group of intellectuals at the top of the ruling pyramid, while workers slaved away at everyday tasks.

Aristotle’s Doctrine of Mean and virtue ethics. Aristotle (384 BC-322 BC) held that human beings are above all other living creatures because of the power to reason. Through the intellect, self-realization, good, and happiness are fulfilled. Ironically, Aristotle was criticized for having his head in the clouds, but reckoned that common man needed guidance on affairs of living. His practical Doctrine of Means asserted that a human should live a “virtuous” existence punctuated with moderation. An example is choosing between rashness and cowardice for the middle ground—courage. Thus, a life of balance underscores a virtuous life applying the Mean Principle (Cavico & Mujtaba, 2005).

Aristotle’s significant contribution in the field of philosophy was laying the foundation of ethics “out of the clouds” and onto the habits of everyday people in everyday life. The idea that moral good, reason, right choices, judgments, habits, and character transcend state law and social conventions makes these concepts applicable to modern business organizations and much of the theory base of cognitive moral

development. Aristotle, as well as Plato, formulated the normative research basis of ethics with “virtuous” morals being the fulfillment of personal self-actualization, not an external duty (Cavico & Mujtaba, 2005). Carr (as cited in Chan, 2008, p. 348) cited the analogy of a game of poker to support the conceptual basis of walking the “middle path between immorality (deception) and morality (honesty) in business.”

Protagoras and the Sophists’ relativism. “Sophia” is the Greek word for wisdom, which was given to a group of teachers who traveled the Mediterranean countries about the 5th century BC. Protagoras was one of these teachers. During this time, political ideologies moved toward democratic rule. This was the impetus for the Sophist philosophers to educate a diverse audience of the rich about various subjects and skills that were necessary to be successful in their new world order. Although no school of philosophy was attributed to the Sophists, their contribution to ethics and philosophy was significant.

First, the skill of rhetorical speaking included the ability to debate both sides of an argument. Sophists taught students that people could be persuaded about anything. Forget the truth, but speak well. This “sophisticated” approach has implications for many organizational fields and functions, such as law, advertising, marketing, consulting, politics, and public relations. Secondly, power was the ultimate virtue held by some sophists; hence the saying “might makes right.” Thirdly, the saying “Man is the measure of all things” underscores their concept of relativism. Indeed, relativism says that it is acceptable to placate people with affirmations about religion, right, morality, knowledge, pleasure, etc., as long as they are instrumental in achieving personal egocentric goals. All of these seem cold and calculating, but they all are present in the organizational settings

of today. Many feel that the teaching of the Sophist is completely immoral. Yet, they did tell people they could think on their own. The danger of Sophist teaching is skepticism and cynicism (Cavico & Mujtaba, 2005).

The Sceptics' ethical relativism. The school of philosophy founded by a group of ancient Greeks, the Sceptics, emphasized a relativistic view of morality in society. That is, there were no universal rules and it was a waste of time to seek ethical truths. This did not mean that rules are not to be followed; it simply meant that the individual must follow the rules that were instrumental in each society. The theory has practical implications in the global dealings of all international business. This means participating firms must show respect and empathy for varying conventions and norms (Cavico & Mujtaba, 2005).

Epicurus' hedonism. Although pleasure is as old as the hills, Epicurus (342 BC–270 BC) is attributed with the egotistic theory of hedonism. Epicurus recommended a balanced, tranquil life rather than the vulgar renditions often suggested by overindulgent behavior (Cavico & Mujtaba, 2005).

Gnosticism. “Gnosis” is a Greek verb meaning knowledge. The dualistic theory swept society during the 2nd century AD. It was a melting of Alexandrian philosophy and oriental Zoroastrianism. The system of thought, which was elaborate and speculative, purported that there existed an abstract world of good accessible by philosophers (knowing ones) and the material world of evil where common people were condemned to work out their lives (Orr, Nuelsen, & Mullins, 1939).

Summary. Despite the period's flirtation with abstract ideologies, such as philosophy, totalitarian monarchs ruled the minds and hearts of the people. Civilization was rule-based and intellectualism was reserved for the few elitists at the top, while the

masses toiled away in obscurity. For example, the ancient Egyptians were farmers during the high Nile, but turned to construction during much of the year. The largest pyramid, which required crews of 100,000 workers, was built at Giza in approximately 2500 BC. It stood 450 feet tall and 756 feet on a side (Hoerth, 1998). Buildings erected by pharaohs of subsequent regimes would only be half as large. Other colossal artifacts of this period in history lay under tons of dirt that preserved and protected their secrets until archeologists of modern age have begun to rediscover them. One of the first was Austin Henry Layard who, in the mid-19th century, excavated the Assyrian city of Nineveh, filling the British Museum with magnificent monuments of this past civilization. By rough calculation, he removed 9,880 feet or nearly 2 miles of bas-reliefs (Larson, 1996). Layard made a number of reconstructions of the Assyrian palaces with the architect and art historian James Fergusson, which is depicted in Figure 3. The entrance to the throne room of Sennacherib's palace gives an impression of their power and majesty. There can be no doubt that works dominated everyday life during the first axial period—a right-skewed morality and ethics distribution.

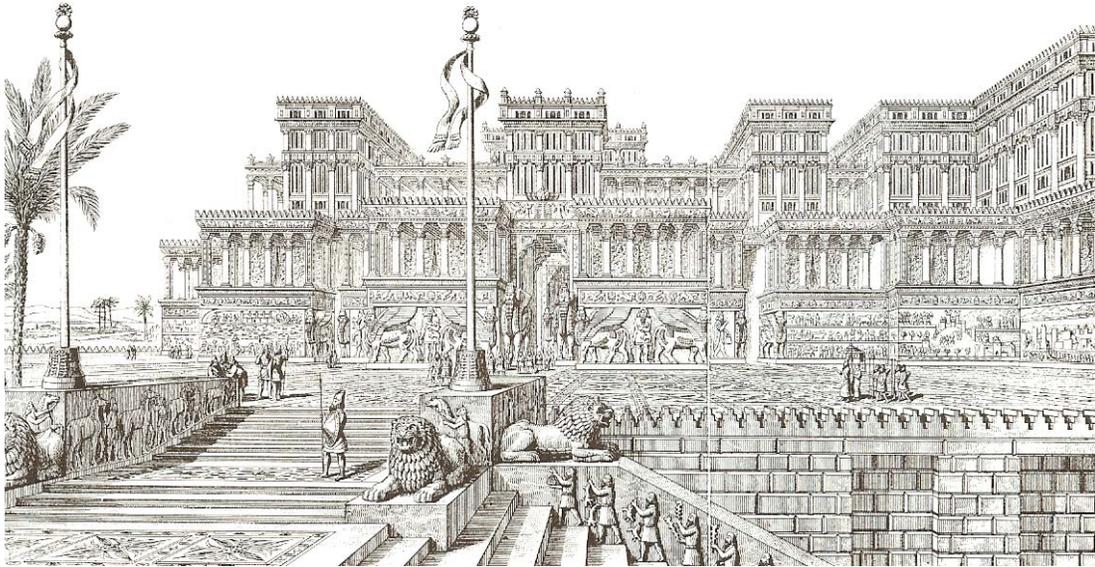


Figure 3. A drawing of an artifact from the First Axial Period.

From “The Conquest of Assyria: Excavations in an Antique Land,” by M. T. Larsen, 1996, New York: Routledge.

The Second Axial Period—Grace versus Law Debate

The Apostle Paul’s letter to the Galatians. Although many of his followers missed the point, Paul (5-65) wrote: “It is for freedom [grace] that Christ has set us free: stand firm, then, and do not let yourselves be burdened again by a yoke of slavery [law]” (Gal 5:1, New International Version). The Christian system, which is based on a dualistic premise (body and soul), always was meant to destroy humankind’s reliance on a system of rules and regulations as well as material works. The famous golden rule that emanated from this philosophy emerged from a spirit of cooperation, not law.

Martin Luther’s theses. In 1534, Luther (1483-1546) nailed his theses to the doors of the cathedral in Wittenberg, Germany. Thus began a revolution; it was a reforming of

pretenses and ideologies that were brought to bear on the people by the papacy of Rome after centuries of infallible rule. America owes its civil liberties to these reformers who ended the eras known as the Dark and Middle Ages (Campbell, 1974). Ironically, what started as a rejection of rule-based authority ushered in the flood of rule-based empiricism rooted in the natural sciences.

Summary of the second axial period. Looking back in time, modern scholars loathe delving into the affairs of intellectualism or lack thereof during the period of the 1st to the 14th centuries (Casti, 2000). The Dark Ages carries the stigma that the progression of knowledge came to a standstill (Mahoney, 1991). Starting in the 4th century under Constantinople, authority over the people was dominated by theology, with the masses living the life of simple peasants. Again intellectualism was for a very few at the top of society, and even many of the intellectuals pronounced their vows of ascetic living. The physical artifacts of the period are just as lacking, with nothing major to talk about. Yet, it is possible to discern that for hundreds of years, their simple lives were wed with the idealism of religion. Late in the period, however, arbitrary rules became such a burden that their own theologians rejected them. While it would be conjecture to estimate the people's quality of life, it hardly could go unnoticed that the morality and ethics distribution was skewed to the "left" during the second axial period.

The Third Axial Period—Empiricism versus Social Constructivism Debate

The suppression of ideas from the 4th to the 14th centuries was ended by the violent Renaissance period in which authority was challenged everywhere and the human right to question and reflect was defended. With the swinging of the pendulum away

from the emphasis on the soul, human inquiry concentrated on the undiscovered qualities of the material world.

Francis Bacon's scientific method. In contrast to the occult trends of his day, Bacon (1225-1274) championed a scientific revolution based upon inductive reasoning and his methodology of experimentation, observation, and testing of hypothesis. The threads of empiricism and posteriori observation can be seen in earlier writings of Aristotle, Epicurus, and Aquinas as well as the later writings of Locke, Hume, Russell, and Dewey. The peripatetic saying is that nothing is in the mind that is not in the senses first ("Francis Bacon," 2006).

Thomas Hobbe's psychological egoism and legal positivism. Ultimately, everyone is motivated to seek pleasure, avoid pain, please oneself, and advance oneself. The difficult writings of Hobbes (1588-1679) provide a framework for the theory of egocentric psychology and utilitarianism. Egoism is a fact of the human psyche. Yet, it is empirically possible for people to step outside of self-interest for the benefit of others, such as in the case of caring parents or beloved heroes (Cavico & Mujtaba, 2005). The initial stages of Kohlberg's CMD coincide with egoism, but the individual's thinking departs from self-interest as principled reasoning develops.

Hobbe's pessimistic view of the state of "nature" (society before government) held that people eventually would destroy themselves. Consequently, social contracts allowed humans to escape fear, establish order, and employ the benefits of civilization through government and the choice of a sovereign who exercised absolute authority. This reasoning laid the foundation for legal positivism, which rejects the idea of the transcendence of moral law because it is hopelessly subjective. Hence, governmental law

encompassed morality. The theory is applicable to organizational business settings as people unquestionably submit themselves to authority structures. However, the criticism of legal positivism was that legislated morality falls short of establishing “right” conduct because of the complexity, diversity, and amenability of ethical norms in society (Cavico & Mujtaba, 2005).

John Locke’s Natural Law and Natural Rights. Stemming from the thinking of the Greek Stoics, Locke’s (1632-1704) *Treatise on Civil Government* held that moral order emerged from the evolution of the materialistic universe and transcends all. “Natural law is the corpus of universal, constant, and enduring moral rules, discoverable and interpreted by reason, valid for all societies and states, at all times, and independent of any legal conventions, proclamations, and agreements” (Cavico & Mujtaba, 2005, p. 112). Locke’s culminating notion was embodied in natural rights, such as the right to life, liberty, and happiness, which are delineated in the U.S. Declaration of Independence. Of course, these concepts underlie organizational behavior in all free market societies.

Adam Smith’s ethical egoism. Smith’s (1723-1790) *Wealth of Nations* provided a “real world” basis for ethics in market-driven economies. The individual’s moral obligation for maximizing profits was tantamount to egoism, which may be compromised only to the extent that long-term interests were attained by promoting the good of others. Present business examples might be lowering turnover or enhancing reputation with job enrichment programs. Thus, Smith’s “invisible hand” principle suggested that everyone should freely and selfishly endeavor to progress. This would result in the best society. The theory is normative; it focused on how managers should act, and it recognized that

managers have various goals, such as those that were more abstract like esteem, happiness, pleasure, knowledge, or power (Cavico & Mujtaba, 2005).

David Hume's ethical emotism. According to the Scotsman Hume (1711-1776), emotions were in the driver's seat of moral judgment. The question is, "How is the individual feeling today: enraged, ashamed, cautious, smug, depressed, overwhelmed, hopeful, lonely, love struck, jealous, bored, surprised, anxious, shocked, shy, exhausted, confused, ecstatic, guilty, suspicious, angry, hysterical, frustrated, sad, confident, embarrassed, happy, mischievous, disgusted, or frightened?" The theory sounds like ethical relativism and is criticized by the fact that humans often override feelings for sound reasoning (Cavico & Mujtaba, 2005).

Immanuel Kant's Categorical Imperative. The 1778 thesis of the German Kant (1724-1804) corresponds with Kohlberg's CMD theory in regards to the foundational concept of human reasoning—moral judgment rests upon it. In the *Groundwork of the Metaphysics*, Kant argued that desires and happiness were inconsequential to the categorical imperative, which was duty. Hence, the test of morality or good was taking actions that (a) were universally consistent with others' choice, (b) respected fellow human beings, and (c) checked that the act was acceptable whether the giver or receiver.

Kantian ethics

Promote a framework of formal justice that serves to preserve the integrity of society and facilitates its fair operation. Kantian ethics promotes a principled society whose members relate to one another on the basis of mutual recognition and respect for each other's freedom and dignity. (Cavico & Mujtaba, 2005, p. 109)

Georg Hegel's Phenomenology of Spirit. The difficult writings of the German philosopher Hegel (1770-1831) explained how freedom as an absolute goal has come about in history, art, political science, metaphysics, nature, and society. The means for realizing freedom has been through the subjective side of knowledge and will. The triune change process purported by Hegel has come to be known as the dialectic. Hegel was heavily influenced by the German Enlightenment and the French Revolution that were taking place in his day. He was a popular teacher that was criticized by many of his contemporaries, but undoubtedly is one of the most influential minds of the last two centuries (Williams, 2003-2004).

Jeremy Bentham's and John Stuart Mill's utilitarianism. Bentham's (1748-1832) and Mill's (1806-1873) contribution to ethics consisted of a systematic and scientific application of "the greatest good" to both morality and law. Essentially, utilitarianism used the concepts of hedonism and relativism to the benefit of the vast middle class. Yet, everyone had an equal vote and was equally valuable. The ideology is prolific in society and state because it corresponds with the operation of government, decision making, and cost-benefit analysis. However, utilitarianism thinking often is abandoned because of its limitations that include the difficulty in applying qualitative elements to an objective formula, the unpredictability of long-term consequences, and the necessity to perform blatantly unjust acts. Perhaps the biggest obstacle of utilitarianism is the reluctance of the "haves" to distribute to the "have-nots" (Cavico & Mujtaba, 2005).

Bertrand Russell and analytic philosophy. Russell (1872-1970) won the Nobel Prize in literature in 1950 due to his varied and significant literature championing freedom of thought and humanitarian issues. Russell's most enduring contribution to

interdisciplinary academia was analytic philosophy or logical positivism. It was based on the logical analysis of evidence and attention to detail through the scientific method (“Bertrand Russell,” 2006).

Summary of the third axial period. The third axial period is grounded in empiricism with some overtones of the aesthetic aspects of cognition.

A Brief History of the Natural Sciences

People like to think that they live in a natural world, especially when things are well and good. In society, the rules of discourse between peoples are self-evident, and it is hard to imagine how other people lived or why they believed the propositions that encompassed their living. In fact, it only is in times of upheaval that new paradigms have been able to capture the reality of the next generation. It is noteworthy to conclude that progress is a long and arduous process, which never reaches the end. Jonathan Swift was inspired to write the following poem one day after a scientist used a microscope to observe a tinier mite on a tiny flea:

So naturalists observe, a flea

Has smaller fleas that on him prey

And these have smaller still to bite ‘em

And so proceed *ad infinitum*. (as cited in Behe, 1996, p. 13)

Therefore, this natural science section of the literature review demonstrates three important points. First, the progress in the natural sciences mirrors the debate of other academic disciplines regarding what can be empirically demonstrated in laboratories and what must be left to whatever reality that is constructed in the mind. This means that while science is a “*reality-generating mechanism* ... [it] is always tentative” (Casti, 2000,

pp. 1-2). Second, the paradigmatic shifts in the natural sciences provide an example of the historical pathway of knowledge. Third, as the agent itself for moral functioning, the moral mind is integrated with cognition, affection, and conation through the stimulus and response mechanism.

Biology

Physics involves the study of matter; biology involves the study of living matter. Biological evolution means an unfolding change and is based on the premise that the tree of life sprang from a singular beginning. The progress of biology could be described as a *black box*, which suggests the whimsical idea of a container that one cannot comprehend. A computer is an excellent example. A normal person who opens the case would have no idea what was inside, even though the individual could master all kinds of its products, such as printing reports, playing games, and sending emails. There is no connection in intellectual ability to use the machine and intellectual capacity to comprehend what is inside the box.

Imagine Aristotle with a computer. He would be in awe, and with some luck he would understand how some rudimentary key strokes could be stored within. In the Middle Ages, someone would have taken the cover off of the box, gazed upon its inner workings, and suggested some basic ideas on how the thing worked. Biology has been in existence since the dawn of life. Slowly, science is exposing the black box that was totally misunderstood in past times. Box after box is being decoded (Behe, 1996).

The earliest doctor of biology was Hippocrates (400 BC), who supposed that matter was composed of four elements: earth, air, fire, and water. Living organisms, he theorized, were made up of elements as well: blood, yellow bile, black bile, and phlegm.

Of course, he had no idea of the composition of physics or biology. Soon after Hippocrates, another great philosopher and biologist came upon the scene, who was Aristotle. He guessed correctly on simple classifications of animals based on scientific observation that still stands today, such as vertebrates and invertebrates. In the second century, Galen practiced dissection of humans purporting that the heart pumped blood to irrigate tissues; he claimed that blood was continuously manufactured. The erroneous idea was taught for nearly 1,500 years until an Englishman, William Harvey, posited that blood made a complete circuit. During all this time biology waxed silently (Behe, 1996).

With the Renaissance, scientific discovery took off with significant discoveries based on the established principle of observation and keen reasoning skills. Early botanists described plants, early zoologists classified species of animals, and natural scientific discovery was linked to diverse disciplines of life. Yet discovery reached a plateau because the naked eye cannot see beyond one-tenth of a millimeter. A great deal of activity goes on at the micro level inside of the next black box. The next milestone was made with Galileo's invention of the microscope. Overturning entrenched notions, a whole new world was found like the compound eyes of insects, the circulation of blood through capillaries, and even a bacteria cell. Cell theory had been born (Behe, 1996).

Scientists of the 18th century started to discern the central importance of the black spot in the cell, the nucleus, and found that the cell structure of plants and animals were similar as they reproduced themselves. However the black box of the cell could not be opened even with the most powerful microscope—further technological advances were needed. One scientist, Matthias Schleiden, asked: “Thus the primary question is, what is the origin of this peculiar organism, the cell?” (Behe, 1996, p. 9). In those days it seemed

reasonable that cells appeared instantaneously, like maggots that appeared on rotten food; the advocates of Darwinian evolution posited that the simplest solution seemed most plausible. That is, the cells were simple—just like a glob of chemical Jell-O. This parsimonious explanation of what is in the black box remained a paradigmatic conclusion, despite clear evidence to the contrary. Yet, during the same period, a historian of science, Charles Singer, reported:

The infinite complexity of living things thus revealed was as philosophically disturbing as the ordered majesty of the astronomical world which Galileo had unveiled to the previous generation, though it took far longer for its implications to sink into men's minds. (Behe, 1996, p. 9)

Indeed, it seems that when new boxes are discovered that require science to revise all their theories, great consternation can arise (Behe).

Biochemistry

After the end of World War II, technological breakthroughs in electron microscopes allowed new cellular substructures to be observed. The same feelings of awe struck scientists as when they had first seen the first bacteria cell. The cell that appeared to look so simple revealed holes in the nucleus, double membranes around the cell's power plant, and complexities never imagined (Behe, 1996).

Everyone knows that living things look and feel different from inert materials. Hide and hair feel different from sand and rocks. Through much of scientific history, it was quite common to think that living organisms were composed of quite different material than nonliving matter (Behe, 1996). Peering inside the black box with the

microscope eventually enabled scientists to the discovery that everything is made up of chemicals. The story of biochemistry began in the mid-1800s when scientists, like Justus von Liebig, showed the process of metabolism in the blood from the breakdown of chemicals. These proteins were discovered to be made up of amino acids that were far too small to be seen with the microscope. The question of how life works had been posed. That is, how are cells used for seeing, or how does blood clot, or how do cells fight disease (Behe, 1996)?

Technology and discovery go hand in hand in science. So, with the invention of X-ray crystallography, scientists saw the pattern of even smaller detail, such as the atoms that make up the molecular structure (proteins) of the cell. In addition, the procedure required difficult mathematics. The real inception of biochemistry occurred in 1958, when J. C. Kendrew first determined the structure of the myoglobin. What did he find? Not the salt-like crystal expected, but “convoluted, complicated, bowel-like structures that reek of complexity. One scientist, Max Perutz, groaned, ‘Could the search for ultimate truth really have revealed so hideous and visceral-looking an object?’” (Behe, 1996, p. 12).

Since 1959, biochemistry has advanced at a breakneck pace. Watson and Crick discovered the DNA molecule. Others have been able to solve the molecular puzzles of enough proteins, nucleic acids, and enzymes to know what they look like. With advances in physics and chemistry, as well as the invention of a nuclear magnetic resonance instrument, a lot of the finer detail has been revealed (Behe, 1996).

When Darwin conceived the theory of uniformitarianism in the *Origins of Species*, he surmised how change occurred in animals and even living organisms. For

instance, on the Galapagos Islands finches varied, and he figured that they descended from the same ancestor. This example of microevolution (small jumps) has been proven in variation changes for unknown birds introduced by Europeans settlers in North America, or in mutations of viruses like the one that causes AIDS (Behe, 1996).

Darwin also discussed the evolution of organisms, such as the eye—this explanation required a much larger leap of faith. Realizing that if an organ as complicated as the eye suddenly appeared, it would be tantamount to a miracle. He cleverly proposed its development occurred with little variations over huge time periods. He pointed to tiny animals with merely a group of pigmented cells that are light-sensitive and meet the creature's needs. Other animals have crude lenses that barely sense the direction of light focusing on the retina. So Darwin did not attempt to explain the real pathway of how things came to be (origins), but convinced science from analogies that amounted to little leaps of simple matter over huge periods of time (Behe, 1996).

Darwin had a good reason for not explaining the origin of the eye: He could not have known. In the 19th century, however, scientists had figured out how the eye worked. The pupil of the eye acts as a shutter to let a certain amount of light in depending if it is a bright day or a dim nighttime. The lens gathers the light and focuses it on the retina that forms a distinct image. The eye's muscles allow the eye to move quickly. Varying colors of light come from different wave lengths that would be blurry, except the lens changes density to fix the chromatic aberration. Yet this explanation did not solve deeper questions, like the process of how the nerves pick-up the images, or what causes the muscles of the eye to move, or what is the origin of the eye (Behe, 1996).

Biochemistry has learned that life is a molecular phenomenon. All activities of cells work like nuts, bolts, gears, and pulleys in tiny molecular machines that are vastly complex. For Darwin, the process of vision was a mysterious black box. Yet now a sketchy approximation of how the eyes work can be explained molecularly: “Now the black box of the cell has been opened, and the infinitesimal world that stands revealed must be explained” (Behe, 1996, p. 22).

The Moral Mind

Despite incredible intricacy and complex language regarding the physiology of the brain, the connection between physical stimulus and moral response is unmistakable. According to brain research by MacLean (1990) sexual sensitivity is the seat of neural processing culminating in moral cognition. The following description is a feeble explanation of the laddering process of referential sensation to non-referential moral agency. The ladder begins with primitive level sexual impulses that stimulate a collection of eight tiny beadlike bits of brain situated on the roof of the mouth. Second, the great limbic lobe that borders and surrounds the brain stem provides a large screen in which a picture can be displayed by written or spoken language. Yet even more remarkable is its capability for the elaboration of feelings. Third, an overlapping subdivision of the limbic lobe, called the amygdala, is primarily responsible for self preservation, such as the search for food and fighting for food. Fourth, another overlapping subdivision of the limbic lobe, called the septum, is primarily responsible for procreation, such as sexual functions, mating, and copulation. Some research on animals suggests that the septum also functions as a precursor to parental behavior, such as nest building and care of young (MacLean, 1990).

So far two divisions of the mind have been discussed: (a) the hypothalamus and (b) the limbic subdivisions. These amount to the *feeling* mind; they urge the subject to choose between “fight or flight behavior of an aggressive relationship—or a mutual choice of toleration or cooperative behavior” (Loye, 2002, p. 138).

Fifth, the thalamocingulate division sets the stage for the *thinking* mind evidenced by parental instincts, such as (a) maternal care including nursing, cleaning, weaning; (b) audio/vocal communication with offspring; and (c) activities of play including chasing, grabbing, mocking, biting, and wrestling. This has led to the conclusion that herein resides the primary capability for emotions and social instincts ranging from parental care to the acquisition of language (MacLean, 1990). Sixth, the cerebral cortex is like the cap of a mushroom enclosing the brain that houses reason. It “seem[s] to be involved in the answering of the three questions of what to do, how to do it, and when to do it” (Pribram, 1991, p. 242). The information processing involves not only monitoring past events but also visualizing future consequences. In terms of foresight, this points “to the essential involvement of the capacity for foresight in the development of altruism and morality” (Loye, 2002, p. 144).

Summary

No academic discipline is closer to reliance on physical proofs for the reality of life and its origins than the natural sciences. Generally speaking, whereas the discipline of philosophy has searched for the proof of reality cognitively, the natural sciences have searched for proof physically. What is astounding, however, is the fact that the more that is known physically, the less that is known cognitively. In other words, as science has unlocked the secrets of heretofore nonreferential aspects of reality, explanations have

become infinitely intricate and complex such that referential answers have slipped further and further into the recesses of cognitive explanations. More than ever, reality only can be explained by faith in the unseen.

A Brief History of Psychology

The word psychology comes from the Greek *psyche* and *logos*, meaning study of the soul. “For Kohlberg (1981) the work of philosophy is to provide insight into the *ought* and the work of psychology is to provide insight into the *is*” (Richmond & Cummings, 2004, p. 199). While the burgeoning academic discipline of psychology has only recently passed its 100th birthday, no field of study could possibly be more convoluted and splintered. Even the lines between countless other areas of interest, such as sociology and culture, are indeed blurred. Back in the 1980s, there were more than 230 different counseling therapies, and the current Diagnostic Statistical Manual of Mental Disorders (DSM-IV-TR), which elucidates a common language for counselors, lists 1,000 pages of mental illnesses. Perhaps, the common denominator for mental illness is the lack of responsibility, meaning giving-up the power and ability to act. That is, being a reactor, not owning up to *respond*-sibility.

The challenges of morality are varied and multifaceted. The U.S. is the most violent nation in the industrialized world, with more than 2 million people each year beaten, knifed, shot, or assaulted. Alcohol abuse, drug abuse, and teenage pregnancy rates are extremely high. Traveling through many U.S. neighborhoods, schools, subways, and streets in the nation is simply not safe. Some cities like Los Angeles and Miami are ever on the brink of rioting (Lickona, 1991). Reports for what is supposed to be the bastion for moral development—the nation’s colleges and universities—are not much better. Swaner

(2005) reported that over 70% of college students binge drink. Rising rates of serious mental maladies include, “eating disorders (by 58%), classroom disruption (by 44%), drug abuse (by 42%), gambling (by 25%), and suicide attempts (by 23%)” (Swaner, p. 17).

Sigmund Freud’s Psychoanalytic Approach

All counseling approaches extend, modify, or emerge as a reaction to Freud’s (1856-1939) seminal work in psychology. Freud explicated the importance of the unconscious patterns of the mind that lies below the conscious. Thus, psychotherapy involved uncovering the personality by free association and interpretation, emphasizing the sexual and aggressive motivations of the subject. It definitely was a nonreferential cognitive approach.

B. F. Skinner’s Operant Conditioning Approach

In general, behavioral psychology sees people as products of their social environment. When a response is followed by a satisfying state of affairs, it tends to be repeated. Conversely, when a response is followed by an unsatisfying state of affairs, it tends not to be repeated. A famous example comes from the Russian researcher Pavlov who noticed his dog salivating when food was brought into the room. Pretty soon Pavlov began an experiment by ringing a bell before feeding time and noticed that the bell elicited the same response; this story amounted to the first documented case of behavior modification.

Skinner’s (1904-1990) operant conditioning model was developed at Harvard University and is the most enduring method used in psychology today. It employs strategies of reinforcement, extinction, or punishment. The application of operant

conditioning to business is huge and consequently has emerged as a whole disciplinary field of study known as organization behavior modification (OB). Looking at the bell curve in Figure 1, OB undoubtedly focuses on the right side of the frequency distribution. It definitely is a referential sensory approach.

Jean Piaget's Developmental Psychology

It is hard to imagine the controversy stirred up by Piaget's argument in the 1950s when behavioral theory dominated psychology. Behaviorists purported that moral development was a matter of learning, accepting, internalizing, and behaving in accordance with the norms of society. For instance, burping in public would be considered immoral. The same argument would be true for segregating a restaurant by race. Turning this socialization theory up-side down, Piaget said that the individual determines what is right and wrong. Thus began the "cognitive revolution" (Latham, 2007, p. 175; Mahoney, 1991, p. 68; Rest, 1994, p. 3). Next is a synopsis of the underpinnings of human change and development played out in the history of CMD.

The most physiologically determinant feature of the human being is the built-in instinct for preservation and procreation. Thus, humans are cleverly anchored to an urgent need to control power through change. Such change involves discovering new ways of relating to ourselves and others as well as resolving conflicts in our shared environments. The classical Confucian thought from *I Ching* (Book of Changes) reflects the idea of "opposite tensions" emanating from *yin* (the passive) and the *yang* (the active) forces of change, which is a central expression of Taoist and Buddhist religious systems (Mahoney, 1991, p. 10). All elements of existence are jeopardized unless moral development balances knowledge and power with wisdom and responsibility. The "*self-*

protective theory of resistance” suggests that it is “healthy for an individual to resist moving too far and too quickly beyond his or her familiar sense of self” (Mahoney, p. 18).

It is not enough for social scientists to propose models of the content of mind and body. Next, the question becomes (a) whether and to what extent the human can change and (b) how can change be facilitated. Figure 4 portrays the first part of the argument from the point of view of the orthodox psychoanalytic theorist and the orthodox behaviorist.

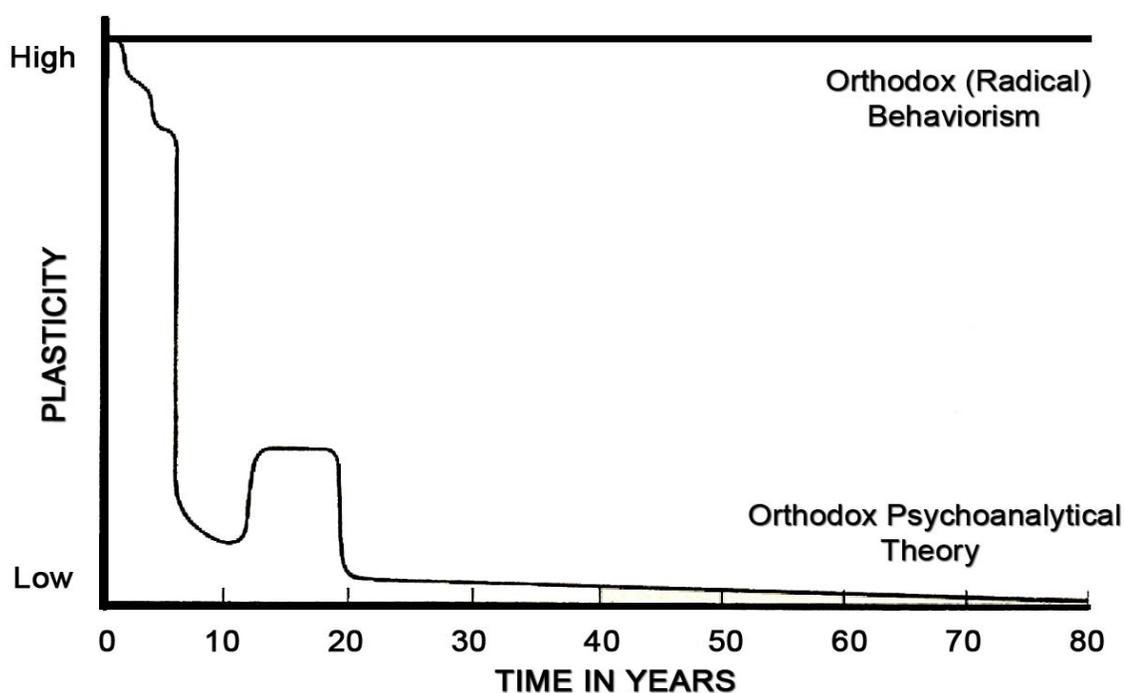


Figure 4. Human plasticity as viewed by the Orthodox behaviorism and Orthodox psychoanalysis.

From “Human change process: The scientific foundations of psychotherapy,” by M. J. Mahoney, 1991, Delran, NJ: Basic Books.

The unmistakable difference in views is apparent. Change is nearly impossible after adulthood (Freud) or change is highly feasible and constant (Skinner). However, with the cognitive revolution espoused by scholars of the 1950s, such as Piaget and Kohlberg, it only was logical that the stages in CMD would be transposed upon the plasticity argument of the orthodox psychoanalytic. But are the theoretical models interchangeable? Tantalizing to the assumption is whether jumping ships in the middle of the ocean is theoretically sound. Yet, changing philosophy is common practice in psychology as the majority of counselors today use eclectic methods that draw upon a maze of viable approaches (Mahoney, 1991). So now the discussion of developmental psychology becomes more convoluted with views diverging from solely theoretical models.

Lawrence Kohlberg's Education Program

During the formative ages of youth, the traditionalist adheres to the cultural transmission model of moral education that suggests “children must be *instructed* about knowledge, values, and virtues of civil societies” (Richmond & Cummings, 2004, p. 197). The transmission of Aristotelian virtue ethics is based on exclusively normative teleological ethics that relate human values to actual human experience. Yet with the cognitive revolution, this view would be called into question.

Kohlberg objected to the transmission of “a bag of virtues” in the secondary education when students apparently were malleable to learning (see Figure 4 which shows the *bump* between the ages of 12 and 20). He purported that a “hidden curriculum” emerged in public schools, such as the curriculum in Russia that Durkheim (1982) described as the assimilation of rules and discipline.

The fact that teachers and schools are engaged in moral education without explicitly and philosophically discussing or formulating goals and methods. Thus, the hidden curriculum is a set of ‘learnings’ or goals of socialization constantly in operation through the action contexts and their implicit intentions and meanings for the development of the learner. (Macdonald, 1980, p. 385)

Of course U.S. schools, while striving to protect constitutional minority rights, exemplified a random potpourri of haphazardly espoused ideals. This simply meant teaching whatever value seemed best at the time. Kohlberg (1980) claimed that the result is an amoral stance because, in his opinion, values were arbitrary and irrational. “In practice, most working educators...shuttle from one of these positions to the other depending upon the situation with which they are confronted” (Kohlberg, p. 24).

Macdonald (1980) stated,
 ...perceiving morality from Kohlberg’s position has major educational advantages – it is identifiable, it has known dimensions, it is observable, it is manipulatable, and it can be assessed. Having managed this, he also, as was said, takes morality out of the morass of emotions unamenable to logic or empirical study. All to the good! In the back of our minds, however, we may well wonder what price in exclusion we have had to pay for the positive gain...Thus,...[it is] not reflective of total human moral capacity. (pp. 388-389)

Consequently, according to Kohlberg, moral education for students could best be facilitated by dialogue with individuals at the more advanced stages of moral

development, which Berkowitz (1984) termed “sociomoral discourse.” The discussion caused the student to analyze, extend, and logically critique the arguments of others. The extension of this model involved engaging secondary school students in “just communities” where democratic self-governance promoted a group-based moral atmosphere. Thus, the purpose of school was not simple content mastery but moral development through comprehension of self in the larger social setting (Kuhrasch, 2007; Swaner, 2005). Table 6 is an explanation of this dialectal process that was first espoused by Hegel.

Table 6

<i>The Dialectal Process</i>		
THESIS	ANTITHESIS	SYNTHESIS
Tradition-knowing	Transition-feeling	Transformational reasoning
POSITION	NEGATION OF	DETERMINATION
What do you think about?	NEGATION Right to say no.	Individual is a change agent.
DEFINITION	CONFLICT	NECESSITATION
Could you explain?	What are the consequences?	Individual thinks for self.
REALIZATION	MEDIATION	CAUSATION
Have you considered alternatives?	Which is best?	Individual possesses praxis.

Note. From “The Dialectic & Praxis: Diaprax and the End of the Ages,” by D. Gotcher, 2002. Retrieved September 24, 2007, from <http://www.professionalservice.com/doublespeak/diapraxBC.htm>

Kohlberg saw development as a two-way street and stated that “moral education must deal directly with action and not just with reasoning” (Reimer, Paolitto, & Hersh, 1983, p. xiii). Kohlberg’s six year grant from the Danforth Foundation resulted in the implementation of “just communities” in several high school settings. Of course, the goal was to raise the principled level of thinking in the same way a situational leader may effectively establish codes of ethics, teach values, support beliefs, and delegate responsibility. Kohlberg believed that growth would best come about from peer pressure of community life (Reimer et al.). Recent research studies have found that moral identity is gained from interaction in peer relationships (Davidson & Youniss, 1991; Hardy & Gustavo, 2005). Additional studies suggest that family context also develops moral identity (Hardy & Gustavo) and that three ethical frameworks contribute to the moral growth of the individual: freedom, community, and divinity (Walker, 2004).

The Association of American Colleges and Universities (AACU) has endorsed the call for ethics education (Swaner, 2005). Ethics training is a commonplace occurrence in America’s colleges, such as ethics courses, ethics components, and service learning projects (Weber & Sleeper, 2003). In business schools, ethics training is designed to develop students’ behavioral and cognitive competencies (Rossouw, 2002). Even the American Assembly of Colleges and Schools of Business (AACSB) requires either separate ethics courses or ethics instruction as part of each course for universities maintaining accreditation (Bodkin & Stevenson, 2007). King and Mayhew (2002) conducted a literature review of 29 research studies that measured CMD using Rest’s DIT instrument. All but one found significant moral development growth from freshman to senior status. Rest and Thoma (1985) argued that statistical differences persist even

after age is controlled and declared “a growing awareness of the social world and one’s place in it” leads to the findings (Rest & Deemer, 1986, p. 57).

Yet other researchers have claimed that ethics is not a primary concern in business school curriculum and that schools have failed to produce morally-oriented graduates (Sims, 2002; Wilkes, 1989). The lowest blow to America’s universities is the charge that they are built upon self-interest and profit motivation (Thurow, 2001). Some studies have suggested that business students are more willing to cheat compared to non-business students, especially after entering the business world (McCabe, 1992). One study of MBA graduates with ethics training found that pressure for conformity to poor practices from the organization—not supervisors—resulted in unethical behavior (Badaracco & Webb, 1995).

However, some studies of teaching ethics in business organizations have not produced favorable outcomes (Cole & Smith, 1995; Wynd & Maget, 1989). In addition, some researchers claim that literature not only tends to be efficacious (Gautschi & Jones, 1998), but also tends to rely on impoverished analysis (Petrick & Quinn, 2001). For instance, a salesman may be judged to be unethical because he wittingly sticks up for his company’s poor product. However, the facts of the situation dictate submissive compliance, because his wife and family are depending upon him for a livelihood (Williams & Dewett, 2005). Crandall, Parnell, and Shadow (1996) argued that ethics training has not produced behavioral changes in organizations.

Summary

CMD research often has shown marginal correlation between cognition levels and actual behavior. Researchers have estimated that CMD amounts to only 20% of

behavior (Rest, Narváez, et al., 1999). Even Kohlberg later agreed to a narrowed definition of CMD (Kohlberg, 1986; Rest, Narváez, et al.). One thing is for sure: With the blurring of referential treatments for change and development, the cognitive revolutionist has struggled with matching ideas to results, and it seems that the business practitioner has been oblivious to much of the debate.

A Brief History of Business

The grammar, semantics, and syntax used in business activity are largely referential, meaning that corporate activity is definitely a hands-on and a measured work. It is a matter of producing goods or services as well as defining and organizing systems for the primary benefit of external constituents. It is not true that business is a mindless cognitive enterprise, but obviously, empirical results happen to be the measure of all things. In regards to morality and ethics, opportunistic behavior is the seat of activity, which is borne out by the lower ethics scores of graduating business students (Harris, 1991; St. Pierre, Nelson, & Gabbin, 1990).

Frederick Taylor's Scientific Management

For millennium, economic activity focused on providing human basic needs. Yet, at the turn of the 20th century, Taylor (1856-1915) and his contemporaries turned to engineers and managers to forge new alliances between physical sciences and labor. Thus, technological innovation and specialization of labor swept American and European economies such that material affluence became the cornerstone of Western free markets. Before the 19th century, more than 90% of the U.S. population was agrarian and steeped in traditional family ethical social systems. The industrial revolution ushered in the need

for the emerging free market economy and business management as well as a corresponding emergence of the disciplines of psychology, sociology, finance, and ethics.

The scientific movement was all about structuring the task of work. Improvements needed to be made in materials, equipment, tools, methods, and the standardization of work. The genius of Taylor was to methodically analyze these components through time studies. Frank Gilbreth (1868-1924) and Lillian Gilbreth (1878-1972) added time and motion studies by employing tactics of the burgeoning motion-picture industry. Many others added to the phenomenal success of the free market America. The Frenchman Henri Fayol's (1841-1925) contribution was recognized much later than his life. Yet he succeeded in galvanizing a functional communication system among managers that is known today as administrative management—planning, organizing, leading, and controlling (Wren, 2005).

The human factor during these revolutionary movements was, of course, the most difficult to predict. The times were occasionally characterized by “wild cat” strikes and the emergence of labor unions, such as the American Federation of Labor, under the leadership of Samuel Gompers, who emphasized immediate economic gains for workers. Yet, the prevalent management and worker theology was the social gospel, which can be explained best by Max Weber's Protestant ethic (Wren, 2005). That is, the perceived duty to God to be thrifty and to work diligently.

Riding on the wave of affluence created by the goods and services, the number of workers in industrial America grew to 80% of the population during the 1920s. The social gospel began to crumble. Why would one want to work for a pittance and live miserly while the industrialists got fat from their success? Management's answer to this

dilemma began to emerge in the winter of 1924 with the most famous social experiment of its day, the Hawthorne experiments. The study started with the premise that improvements in illumination levels would result in better work performance, but they would not end until nearly a decade later, concluding with monumental insights into the dynamics of individuals in group settings. Researchers like Elton Mayo observed individuals in the organization. Mayo revealed how workers were drawn into the larger social organization by protection internally from indiscretions of the members and externally from outside interference of management (Wren, 2005).

Consequently, the human relations movement was born. For the first time in U.S. history, the Horatio Alger type hero was called into question. The story of this character romanticizes the robust, handsome farm boy who, by his own labors, works his way to the top through duty, hard work, and thrift (the Protestant ethic). Called into question was authority. "Mayo felt that the world must rethink its concepts of authority by abandoning the notion of unitary authority from a central source, be it the government, the church, or the industrial leader" (Wren, 2005, p. 297).

A further refinement of the human relations movement was progressivism. It began with the work of Mary Parker Follett (1868-1900). She was influenced heavily by the German idealists Georg Hegel and Johann Fichte as well as Gestalt psychology. Her concept of the "Great Ego" purported that mankind is interrelated and coming together as a world state. If management was thinking progressivism, what was the populace thinking? As thousands of soldiers poured back into society after World War II, it was obvious that the establishment wanted no more to do with Protestant ethic, and workers

willingly obliged; consumerism was expanded beyond anything that could have been imagined (Wren, 2005).

Ohno and Shingo's Lean Production

Lean Production (LP) was rooted in the success of the Toyota Production Systems (TPS) that emerged after WWII. It spread world-wide as just-in-time production (JIT) and has become arguably the most efficient standard for the assembly of discrete parts. The founders of TPS were Taiichi Ohno (1912-1990) and Shigeo Shingo (1009-1990). They described its essence in complementary terms. Ohno (1988) stated, "...the fundamental doctrine of the TPS is the total elimination of waste" (p. 1). Waste was defined as any activity that did not add customer value. Shingo (1981) emphasized high value-added production flow. LP operates with balanced, synchronized material flow.

The spread of TPS was aided by the International Motor Vehicle Project (IMVP), which first used the term lean production. IMVP claimed that LP resulted in one-third fewer labor hours and one-third fewer defects compared to other mass produced autos (Conti, Angelis, Cooper, Faragher, & Gill, 2006). The overall results in LP organizations are lower costs of production, speedy throughput, better quality, and on-time deliveries of goods (Fullerton, McWatters, & Fawson, 2003).

The idea that LP methods provide better profits and return on assets has been tested empirically with positive results. A study of 25 U.S. manufacturers concluded the following:

A positive relationship exists between firm profitability and the degree to which waste-reducing production practices, such as reduced setup times, preventive maintenance programs, and uniform workloads, are

implemented. These findings complement the view of Womack and Jones (1996) that lean enterprises employing JIT manufacturing techniques are consistently more profitable than their counterparts. (Fullerton et al., 2003, p. 400)

However, there also is extensive contradictory research on Lean Production. The United Auto Workers (UAW) described Lean Production as *management-by-stress* (Parker & Slaughter, 1988). Several studies were ethnographic analyses of Japanese auto plants in the U.S.: Toyota (Parker & Slaughter), Mazda (Fucini & Fucini, 1990), Subaru/Isuzu (Graham, 1995), and Mitsubishi (Bruno & Jordan, 2002). They depicted fast paced, high intensity, high stress environments. After six months working as a “covert observer” at a single Subaru-Isuzu plant, Graham generalizes that “The Japanese model (LP) is not equipped to deliver on its promises to its workers. During a corporation’s quest to maximize profits, workers simply become expendable” (p. 154). Studies like Graham’s provide rich details and insights not possible with survey research, but they lack the statistical validity to generalize their results.

Manufacturers’ responses to opposition have been to locate their new plants in Southern right-to-work states. In fact, capital intensive industries have sprung up worldwide. All of this has busted union opposition. Thus, while LP is all about the control of materials, machinery, and people, the most important component—the will of people—often has been noncompliant.

F. Edward Deming’s Kaizen Cycle

Following World War II, the consummate statistician, Deming (1900-1993) was assigned to teach Japanese engineers manufacturing process controls. By applying

statistical quality controls, Deming contributed heavily to the industrial rebirth of Japan worldwide. The concept of continuous quality improvement is denoted by the *kaizen cycle* where

- An operation is standardized
- Measurement finds the cycle time and amount of in-process inventory
- Measurements are gauged against requirements
- Innovations are implemented to meet requirements and increase productivity
- The new improved operation is standardized
- The cycle is continued *ad infinitum* (Kruger, 2001)

Deming's concepts of continuous quality improvement accidentally swept the U.S. at a time when American manufacturers were losing market share from better quality imports of foreign competitors. On June 24, 1980, NBC aired a program entitled, *If Japan Can... Why Can't We?* NBC discovered that Deming had been lecturing Japanese corporations for more than three decades concerning quality and was himself named as the donor for their most prestigious business award—the Deming Prize (Wren & Greenwood, 1998). Deming, who was a featured speaker on the program, started a quality revolution across the globe.

Niccolo Machiavelli and Risk Management

The theoretical basis for risk management was suggested by the Sophists of the 5th century BC. Yet the seeds of consequential ethics came to fruition with the writing of Machiavelli's (1469-1527) *The Prince*. Rejecting virtuous ideologies and the acceptance of fate, Machiavelli warned people that they have the ability to shield themselves from misfortune by using power for self-determination. Is there anything inherently wrong

with management practices such as “Machiavelli virtues of astute, sharp, cold-blooded calculation of self-interest, readiness to take a risk, and use of whatever means are available to promote the acquisition and maintenance of one’s power?” (Cavico & Mujtaba, 2005, p. 59). Not necessarily, especially when competitors are doing the same. Given this milieu, it is all the more incumbent upon management to strategically assess their risks in the light of 21st century demands.

The word risk comes from the Italian *risicare*, which means *to dare* (Faisal, Banwet, & Shankar, 2006a). So, like the “double-dog dare” of youth, organizations handle risk by (a) identifying its sources, (b) analyzing its challenges, (c) ranking its eminency, (d) reducing its impact, and (e) monitoring its return. Risk management has been practiced extensively in such industries as banking and financial performance as well as supply chain management. Organizations that thrive through years of risk have managed to raise their level of preparedness. Companies must first understand the variety of risks and the circumstances that drive them. Then, they can proceed to tailor strategies that will mitigate risk (Chopra & Sodhi, 2004). Table 7 describes areas of risk and strategies for mitigation.

Table 7

Management Risk and Mitigation

Category of risk	Drivers of risk	Mitigation strategy
Disruptions	▪ Natural disasters	▪ Redundant plants
	▪ Labor disputes	▪ Plant location in labor friendly communities
	▪ War, terrorism, and government actions	▪ Relocatable factories
Delays	▪ Soldiering	▪ Best practices in hiring and retaining, and training
	▪ Turnover	▪ Hiring compliant workers
		▪ Plant location
Systems	▪ Compensation systems	▪ Congruence between pay and performance
	▪ Manufacturing systems	
	▪ Supply chain	
Forecast	▪ Inaccurate forecasts are due to long lead times, seasonality, product variety, short life cycles, and a small customer base	▪ Effective strategic planning
Intellectual property	▪ Job quits ▪ Espionage, sabotage	▪ International property rights agreements
Capacity	▪ Cost of capacity	

Note. Adapted from “Managing Risk to Avoid Supply-chain Breakdown,” by S. Chopra & M. Sodhi, 2004,

MIT Sloan Management Review, 46(1), p. 54.

Labor disruptions occur infrequently, but are very damaging when they occur. Such things as earthquakes, bombings, and wars are dispersed throughout our global history so as to minimize individual organizational risk. Even “wild cat” strikes are rare. They are so loathed by management that they seem to have been removed from labor vocabulary. Yet even today, news of such incidents reaches the daily news. On December 13, 2006, federal agents raided six Swift & Co. plants and seized more than 1,300 illegal immigrants at plants in six states. The employees were herded onto buses. With serious criminal charges pending, such as aggravated identity theft, the men and women will likely never be heard from again in the U.S. (Robinson, 2006). Recovering from such drastic labor disruptions may take years and have far reaching effects on the company’s ability to run LP processes.

Delay emerges as an insidious factor in risk management. One example is the effect of soldiering that slows work velocity and undoubtedly consumes the bulk of LP waste. At the heart of the soldiering issue is fairness. Adams (1963) posited that perceived inequities lead to behavioral changes, such as decreasing performance. Ask any U.S. worker what aggravates them most about compensation. The response is: The obscene pay checks garnered by top executives while the worker languishes in a sea of expletives about how the labor force must maintain a global competitive edge. In 2003, CEO compensation was 500 times the average worker (Brumback, 2006). Selling equity is essential in labor management relations and mitigating engagement risk. For instance, turnover in the U.S. increased nearly 50% in one 5 year period between 1994 and 1999. In 2000, 15% of the work force was replaced. Realizing the damage to productivity has

caused many firms to evaluate separation costs, replacement costs, and training costs. Strategies to retain valuable employees have been initiated (Griffeth & Hom, 2001).

The more a company networks, the greater the risk of systems breakdown because “the threat of a failure anywhere can cause failure *everywhere*” (Chopra & Sodhi, 2004, p. 56). Systems risk here is defined as threats to any ordering mechanism that provides for the labor force. For instance, providing health care for retired workers is a ticking bomb for U.S. auto manufactures. It has put them at a huge competitive disadvantage. While Toyota provides insurance for only 3,000 retirees, GM has 339,000 employees. These costs amount to a staggering \$3.6 billion, which adds more than \$1,500 of cost for every GM auto produced (Treece, 2005). Obviously, if the risks of making such far reaching agreements were properly considered in the beginning, the predicament would have been mitigated today.

Forecast risk is another form of risk, such as the issue of lifetime employment. Employment levels and overtime are inextricably linked to many factors, such as alliances, mergers, acquisitions, takeovers, product life cycle, competition, political pressure, and economic fluctuations (Faisal, Banwet, & Shankar, 2006b). The fact is that they all exert pressure randomly and differently to LP.

One of the incipient barriers to foreign direct investment is piracy of intellectual property rights, which cost U.S. firms nearly \$24 billion in 1986. Yet, in developing countries where technology and value-added products are foundational to growth, empirical studies show the positive relationship between protection of these rights and the amount of foreign direct investment (Seyoum, 1996).

Milton Friedman's Freedom and Capitalism

Friedman (1912-2007) was the economist and Nobel Prize Laureate who was oftentimes tagged with the idea that the purpose of companies is to make money. While this may be a true sentiment, Friedman's real message was that money is a measure of success; money is instrumental in free market economies. His stern warning for government to lay-off the U.S. free market has caused academia to rewrite their textbooks in economics and political science. Friedman posited: "Underlying most arguments against the free market is a lack of belief in freedom itself" (Friedman, 1962, p. 15).

European influence has caused corporations to question the long held profit motivation explicated by Friedman. In fact, some free market corporations in the 21st century are beginning to report to shareholders concerning the triple bottom line (Ballou, Heitger, Landers, & Adams, 2006; Norman & MacDonald, 2004). These organizations are compelled to report not only yearly profits, but also what they have done for the community and the planet.

Thomas Friedman's Globalization

In his book, *The World is Flat*, Friedman (1995-) graphically reported about the profound 21st century phenomenon of globalization that currently is sweeping the planet. Even though exporting and outsourcing has long been a basic subject of economists, what is different now is the extent to which economic barriers have fallen, creating a less heterogeneous cultures. The forces that have contributed include (a) the fall of centrally planned governments allowing personal empowerment, (b) computer digitization of information and its flow through fiber optic cable, (c) open software that allows automatic workflow and collaboration, (d) unlimited access to information and peer

review, (e) outsourcing, (f) off shoring, (g) supply-chaining, (h) insourcing, (i) informing, and (j) the ability to collaborate in a way that is digital, mobile, virtual, and personal (Friedman, 2005).

Buckley and Hashai (2004) argued,

The basic notion of the global system view dates back to Robertson (1923) and to Coase's (1937) transaction cost theory. Essentially, each value-adding activity can be located in any location and coordinated by a variety of institutional arrangements (within a firm, through the market, by the state, or through institutional/social networks). The number of firms that would eventually exist, their location and their organisational boundaries (in terms of the value-adding activities) are expected to minimise both the overall cost of the system and the cost of each firm. Equilibrium will not be achieved as long as there is a profit opportunity somewhere in the system that enables actors within it to reduce costs. At one extreme there would be as many firms as the number of potential locations multiplied by the number of relevant value-adding activities (each firm performs one activity in one location). At the other extreme, a single multinational enterprise (MNE) would exist and would internalise the whole world. (p. 42)

For instance, U.S. multinational enterprises (MNEs) now are making increasing investments into Asia to exploit low wage levels and to secure entry into new markets. In general, studies show that MNEs go into foreign countries with similar political and economic systems and relatively close cultures. Bandwagon effect has occurred after liberalization and infrastructure improvements in the host countries (Sethi, Guisinger, Phelan, & Berg, 2003).

An important issue in globalization is the effects of trade liberalization on wages and productivity. Empirical studies support the hypothesis that temporary job loss is overcome by the spillover effect of higher demand for highly skilled labor and growth in productivity due to increased competition. However, there are serious methodological challenges and disagreements about the strength of the evidence (Arbache, Dickerson, & Green, 2004; Winters, 2004).

Summary

Two ironies have engulfed the first 100 plus years of scientific management. First, the success of scientific management has rested in the harnessing and control of power—uncontrollable power. For material processes it meant controlling machines, such as the steam engines, generators, computers, and even atomic particles. For labor it meant controlling the actions of people even to the point of time and motion studies. The greatest social concern today is whether the planet or the people are “in control” physically and/or morally.

Little has changed as far as labor’s reaction to scientific management, which was termed soldiering by Taylor. Norms set by labor reigned-in (a) the rate buster, the individual working too hard; (b) the rate chiseler, the individual not keeping-up; and (c) the worst of all, the squealer, the individual succumbing to management (Wren, 2005). Secondly, American’s insatiable appetite for goods and services (materialism) quickly became the fulcrum to move labor into compliance. Yet, ironically, a seed of discontent always has existed in the minds of intellectuals, labor, and even management. Taylor’s original argument to labor was that they would not be working themselves out of jobs. Could labor have been right all along that those resources represented by people and

things are finite? Has incremental waste of process merely been supplanted by monumental waste in utilization? If so, labor has every reason to question management.

In the ancient past, it was totalitarian governments that sat in the seat of moral authority. Later, it was theocratic government. However, with the dawning of the 21st century, U.S. private corporations have subsumed the role, setting the moral agenda for the nations. Godfrey (1999) elucidates this warning:

...the pendulum motion of the seat of moral authority offers a sanguine reality check for those enamored with market capitalism as a moral agent. The weight of moral authority will again swing in the direction of the public sector if the private sector proves an unworthy steward of this authority. (pp. 363-364)

Writing about the threads of ethics in business history is a difficult endeavor. Plato believed that writing was similar to painting. He compared the two by saying, “The painter’s products stand before us as though they were alive, but if you question them, they maintain a most majestic silence” (Fishbane, 1975, p. 713). Thus, the lives of those who have gone before in business history can be imagined in any way that suits the beholder’s purposes. However, Perrow (1986) forcefully argues for future research using context-free approaches that allow human meaning-making methods rather than instrumental approaches that rely solely on the economic theory orientation—lest it be said “enthusiasm has often outrun careful research” (p. 90). The role of power processes is central to such research.

The Research Perspective of Economics and Marketing

Within the framework of the political economy, scholarly research has explicated theoretical models to identify salient features of buyer-seller exchange. Two streams of

research have resulted. One concentrates on economic fitness and the other on social fitness. Although organizations do indeed pay attention to focal strategies in economic markets, the ever-changing nature of the environment requires a continual rebalancing act of ubiquitous influences. In fact, flexibility may be the most important feature of successful alliances.

If human judgment—expressed in terms of flexibility—is primary in market dyads, then secondary is the use of power, because power happens to be the force that consummates the exchange in the absence of equality. Empirical research literature bundles these concepts of power into hermeneutical constructs that show causal relationships. Yet, the multiple relationships among variables obfuscate a holistic conceptualization of microeconomics in the political economic environment. Sen (1977) posited: “It can be argued that some of the difficulties in general theory of social choice arise from a desire to fit essentially different classes of group aggregation problems into one uniform framework and from seeking excessive generality” (p. 53). Mintzberg (1983) argued that firms choose a primary goal, which they endeavor to maximize. Other objectives fell in line behind the primary goal as constraints to be satisfied. Recent research supports this hypothesis (Achrol & Etzel, 2003).

One of the focuses of this study is to examine the primary role of coercive power shown by opportunistic behavior in markets while proposing an amalgamation of the two streams of thought. That is, coercive power in economic fitness literature and noncoercive power in social fitness literature. Coercive power is likely the most prolific force in buyer-seller transactions. Yet, its artifact, opportunistic behavior, is seldom studied as it manifests itself in market dyads. When opportunistic behavior is examined it

often is operationalized under the abstraction of ethics. However, an enormous gulf exists between theory and practice. This study examines the relationship between an individual's ethical development and opportunistic behavior. Therefore, understanding the link between opportunistic strategies and practices in market transactions holds significant promise for all organizations of this 21st century.

Economic Fitness Versus Social Fitness

One stream of research literature focuses on economic fitness. For instance, Cook and Emerson (1978) purported that equity theory applied when two parties, say party A and party B, know how much each other benefit in the exchange—then the two parties simply share equal profits. As depicted in the Edgeworth-Bowley Box in Figure 5, party A and party B have some proportion of resources denoted by x and y . Both party A and party B have an indifference curve, a_1a_3 and b_1b_3 , respectively. These curves map the set of possible exchanges to which each party is indifferent. Let X and Y denote the quantities exchanged, and let a_x and a_y denote the unit values (also utility or preference for) of the resources x and y for party A. Similarly, let b_x and b_y denote the unit value for party B. Starting at point L , the two parties interact through offers and counteroffers of amounts of x and y until a mutually beneficial optimum is achieved along the line represented by E —the contract curve. The line defines the maximum joint benefit that each party will tend to gravitate toward. Then, equity in terms of equal profit is: $a_yY - a_xX = b_xX - b_yY$. Any offer not on the contract curve line can be improved and is said to be indeterminate (Coddington, 1968).

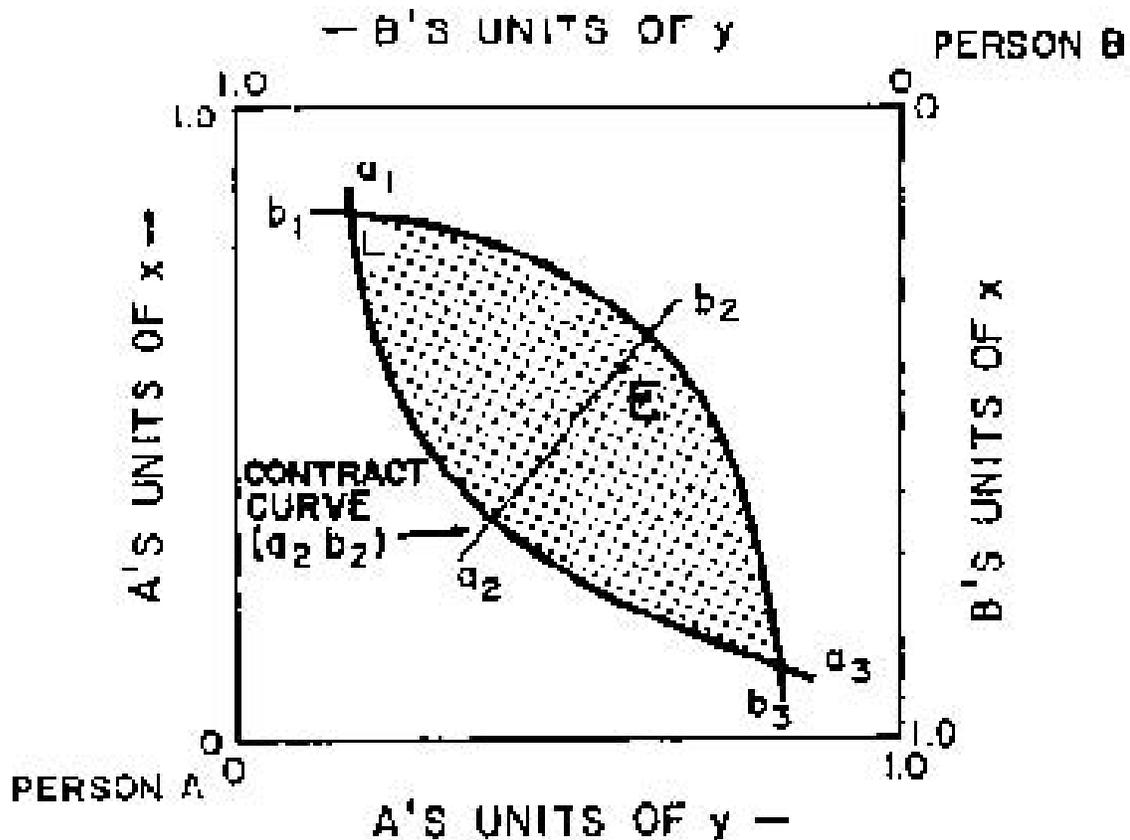


Figure 5. A schematic representation of dyadic exchange as intersecting indifference curves, a and b, for persons A and B.

Note: From "Power, Equity and Commitment in Exchange Networks," by K. S. Cook and R. M. Emerson, 1978, p. 722. Copyright 1978 by American Sociological Review.

Conventional microeconomics theory leaves two-person interaction indeterminate because it is a theory organized around *individual decision making* in an *asocial market* of many traders. But when only two parties engage one another in reciprocally tactical interaction, be they husband or wife or organized labor and management, the market mechanism is replaced by *social interaction*. (Cook & Emerson, 1978, p. 722)

Equal exchange with equal knowledge rarely occurs (Meeker, 1971). Consequently, power practices step in to consummate the transaction. Social power can best be conceived as a contest played out along the contract curve. “It has been argued that in primitive societies the prime determinants of behavior are social rather than economic” (Joy, 1967, p. 5). Friedman (1962) claims there is no such thing as absolute freedom of choice in markets. Therefore, markets dictate “unanimity without conformity,” as in real world cases where a party is being thrown off the contract curve due to superior power (Friedman, p. 24). Yet, the deal is sometimes made begrudgedly. Braguinsky (1996) argues that growth in the purely competitive markets is theoretical unjustified unless Schumpeterian growth enters the scene with an inevitable amount of corruption. It is explicated as intramarginal returns or rents. “[C]orruption almost inevitably is limited and transient and is likely to bolster economic growth and welfare” (Braguinsky, p. 19).

Bases of power are explained in terms of five succinct categories: expert, referent, legitimate, reward, and coercive. One of the contributions of economic fitness literature has been its practical defining of performance constraints in marketing channels. However, little has been done to explicate the individual bases of power and how they affect practice. In fact, empirical studies have tended to lump the various bases of power into two categories: coercive and noncoercive.

So, a second stream of researchers focuses on social fitness. For instance, Morgan and Hunt (1994) purported a model of relationship marketing. The independent variables consisted of (a) relationship termination costs, (b) relationship benefits, (c) trust, (d) relationship commitment, (e) shared values, (f) communication, and (g) opportunistic behavior. Thirteen hypotheses supported positive correlations between these antecedents

and outcomes in their empirical study of 204 tire retailers. For 54% of the dealers, their major supplier was a single source, which is indicative of the strong relationship paradigm. The key moderating variables in the study of relationship were, of course, trust and commitment. Figure 6 depicts their relational model.

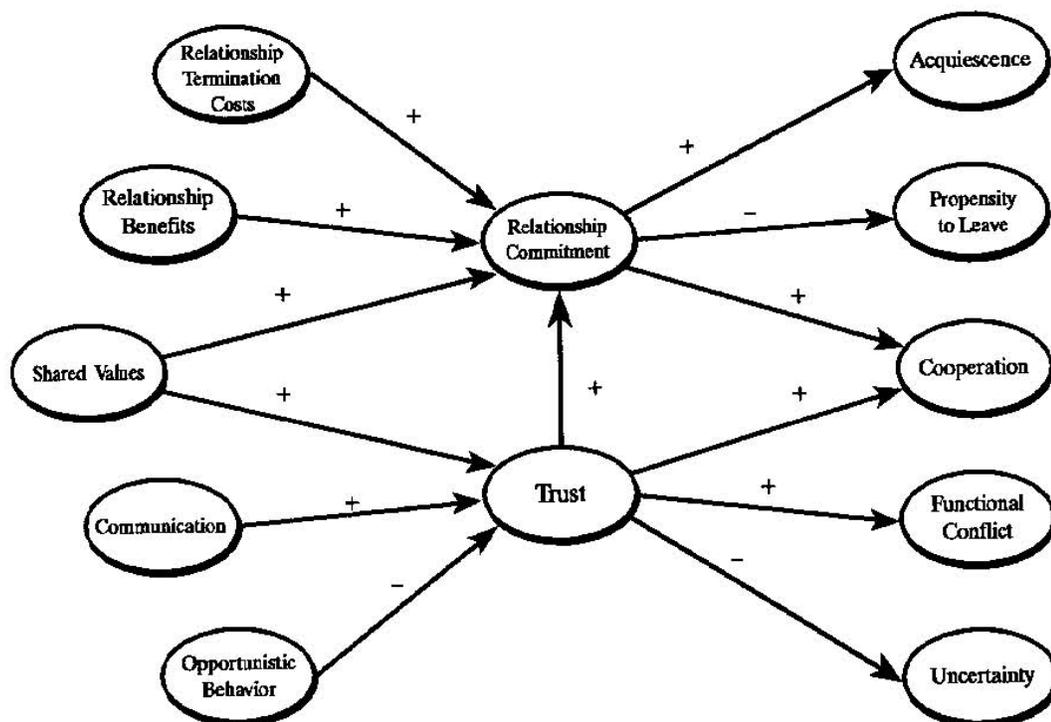


Figure 6. A model of relationship marketing.

Note: From "The Commitment-Trust Theory of Relationship Marketing," by R. M. Morgan and S. D. Hunt, 1994, p. 22. Copyright 1994 by Journal of Marketing.

The contribution of social fitness models is in their robust development of causal relationships between antecedents and outcomes. However, these empirical research studies are arranged under an implicit primary goal (base of power) that fits their framework under development. One study may focus on relationship marketing, another institutional marketing, and still another communications marketing. Consequently, the

paradigmatic models portray a deterministic conceptualization of the macroenvironment in the political economy environment.

An old axiom is: “It’s easy to spend someone else’s money.” This is the case in many paradigmatic marketing channel frameworks, since opportunism is presented as a constraint to be merely satisfied and not the primary goal. In other words, researchers seem to abandon the intrinsic profit motivation in an effort to show some type of casual relationship. Yet organizations that take their eyes off of economic fitness may be doomed to failure in the long run. Peterson (1980) argued that the U.S. will never “get to the roots of the crisis in contemporary market capitalism—a crisis dramatized by persistent and simultaneous excesses of inflation and unemployment—until we come to terms with economic power and its uses” (p. 827). Consequently, this study of individuals in buyer-seller exchange ends up focusing on the reward base of power that is manifested in opportunistic behavior. The study is admittedly not a holistic conceptualization, but an examination of an important slice of the economic environment.

An Amalgamation of Power and the Casual Antecedents in Research

Communications. Communications are artifacts of expert power. In the core area of market politics in network hierarchies, information may be the most important use of power, which is person-specific rather than firm-specific (Mudambi & Navarra, 2004; Thorelli, 1986). The quality, quantity, and content of communication are important precursors to market channel success. One study by Thomas Publishing showed that 80% of the sales to organizations are made after the fifth contact. Yet only 10% of market efforts go beyond three calls (McLellan, 2003). Obviously, the research literature is replete

with the benefits and dangers of informal and formal information sharing that is both timely and meaningful.

Attitudes and intentions are developed through communications between channel organizations in regards to programs and products (Frazier & Sheth, 1985). Intelligence is shared through communication that reduces uncertainty (Huber, 1990). Information theory refers to the phenomena as signaling and screening. For instance, P & G has implemented electronic “efficient consumer response” systems aimed at instantaneously updating retail chains about competitive forces and market strategies (Frazier, 1999, p. 229). Interactions include control systems designed not only for price mechanisms but also for contracts, programs, and promotions (Stern & Reve, 1980). One study by Bello and Gilliland (1997) of U.S. manufacturers found a positive relationship between monitoring foreign distributor indicators, such as sales, volume, and market penetration and higher performance results.

Commitment and trust. Commitment and trust are artifacts of referent power.

Arising from social exchange theory, the conceptual basis of relationship marketing comes from an “an enduring desire to maintain a relationship” (Moorman, Zaltman, & Deshpande, 1992, p. 316). Thus, commitment is an integral part of (a) social exchange theory (Cook & Emerson, 1978), (b) services relationship marketing theory (Berry & Parasuraman, 1991), (c) organizational behavior theory (Reichers, 1985), (d) marriage theory (Thompson & Spanier, 1983), and (e) brand equity theory (Assael, 1987), as well as relationship marketing theory (Morgan & Hunt, 1994). According to all of these models, commitment is not only integral but also the key moderating variable.

Equally important to relationship marketing is the concept of trust, which permeates the literature. Trust—or the ideation of high integrity—is related with attributes

of consistency, competency, honesty, fairness, responsibility, helpfulness, and benevolence (Rotter, 1971). Similarly trust has been posited as an integral and key part of (a) social exchange theory (Kingshott & Pecotich, 2007), (b) services relationship marketing theory (Berry & Parasuraman, 1991), (c) organizational behavior theory (Barney, 1990), and (d) marriage theory (Thompson & Spanier, 1983), as well as relationship marketing theory (Moorman et al., 1992). Relationship marketing basically defines commitment and trust, hence the adage, “[to] be an effective *competitor* ... requires one to be a trusted *cooperator*” (Morgan & Hunt, 1994, p. 20). The conceptualization of relationship marketing entails primacy of goals that settle on social fitness.

Shared values. Shared values are artifacts of legitimate power. Organizations align their behaviors according to the demands of key stakeholders who yield legal power. People and organizations identify with these values that they share and internalize (Maignan & Ferrell, 2004). Beliefs that are held in common affect behaviors, goals, policies, and the extent to which actions are right or wrong. These norms define the culture, which is a popular target for study under the umbrella of organizational behavioral research. Many suggest that culture is the best measure of organizational fit (Chatman, 1991). Kelman’s (1961) seminal study of culture suggested two kinds. First, rewards and punishments in complying with norms are assessed instrumentally. Second, values are identified with and sought after internally.

The institutional environment relies on the primacy of (a) laws developed through the process of regulatory institutions (Kelman, 1987), (b) professional and nonprofessional codes developed through the processes of normative institutions (Selznick, 1984), and (c) habitual actions developed through the process of cognitive institutions (Berger &

Luckmann, 1967). These processes result in an institutional environment or culture in which interactions are regulated, validated, and habitualized (Grewal & Dharwadkar, 2002). The key source of power within the context of culture is *legitimacy*, which is defined as “a generalized perception or assumption that the actions of an entity [channel member] are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions” (Suchman, 1995, p. 574).

Termination costs and benefits. Termination costs and benefits are artifacts of reward power. The costs of ending an arrangement with a channel provider come from the idiosyncratic investment of time and money in switching to new providers or perhaps dropping a product line. Termination costs are very high unless, of course, alternatives are available and plausible, which often is the case in market economies. Marketing channels often are marked by great uncertainty (Morgan & Hunt, 1994). Adding value to the going concern is tantamount to delivering value to its customers. In market channels, providers who receive benefits and add value can be relatively sure of their part in the overall strategy.

Opportunistic behavior. Opportunistic behavior is an artifact of reward and/or coercive power. It oftentimes is associated with aberrant behavior and egoism. Morgan and Hunt (1994) defined it as “guileful, self-interest maximization in axiomatic transaction cost analysis” (p. 25). The term “axiomatic” implies a terse saying that holds a general truth that is self-evident. In fact, some researchers seem to “dump” this variable into a bin of negatives to any kind of transaction possibility. Yet, organizations set themselves up for condoning opportunistic behavior all the time. After Christmas, the longest line at the local mall is the return counters.

Warranties and price equalization are other examples of condoning opportunistic behavior. In market channels, deals are struck all of the time that allow for maintenance of the partners. Some of these allowances are implied in the policies themselves, but oftentimes bending the rules is normative to getting the deal done. Opportunism is defined as the practice of adapting actions to expediency, or circumstances, often with the implication of sacrificing principle. Opportunistic behavior then runs the gamut along a continuum from transparent and acceptable to hidden and immoral. “Baston et al. (1997, 2006) point out that little attention has been given to moral motivations” (as cited in Watson & Sheikh, 2008, p. 261). After nearly a decade of research involving 10 independent studies, Baston et al. (as cited in Watson & Sheikh, p. 261) conclude that people “want to appear moral without paying the price.” This they term “moral hypocrisy.”

Performance goals in efficiency-based task environments are dominated primarily by coercive power. One study of franchisers showed that 83% of perceived power over the franchisee was explained by coercive power, which was tested by decision variables such as determining hours of operation, software, product lines, advertising, prices, standards of cleanliness, and number of employees (Hunt & Nevin, 1974). The ability of one party to take advantage of another party, whether by “hook or crook,” suggests the behavioral aspect of opportunism. In reciprocity, the other party may well attempt to “even the score” by aberrant activity. Thus, “exchange theory has the advantage of bringing power, as the capacity to exploit, and justice, equity or other normative restraints upon exploitation together in a single analytic framework” (Cook & Emerson, 1978, p. 721).

The free market system is about barter. That is, the exchange of value is a dynamic rebalancing act of optimizing returns while incurring the least risk. So it is

expected for each side in a transaction to take advantage of every opportunity to offer their goods or services in the best possible light. Yet when does one step over the line of propriety to get what is wanted? Certainly, the continuum from egoism to altruism is a foggy conception at best, and aberrant behavior is not only a common tool but an indispensable one. Cascio (1998) asserted that ethical behavior adapts in response to norms and needs. Even relationship marketing models have this pesky box termed “Opportunistic Behavior” (Morgan & Hunt, 1994).

The researcher proposes to empirically test various constituents in the construction industry. It seems that other research studies unintentionally arrange the designs to test paradigmatic bases of power. However, this study purposefully tests coercive power by examining the relationship of cognitive moral development and motivation to opportunistic behavior.

General contractors work under a marketing paradigm in which exacting contract documents are developed by architectural professionals who nullify (a) communications (expert power), (b) commitment and trust (referent power), and (c) shared values (legitimate power). So all of these noncoercive independent variables are controlled, which leaves opportunistic behavior (reward and coercive power) for the study. Success is measured only by a *low bid* in this industry that aims for a level playing field. So some amount of rule-bending is a common practice for contractors who try to get an edge-up on the competition.

The profession of building design, contracting, and construction is highly regulated through rigorous training, licensing, and accepted business practices. Yet, according to Transparency International (TI), the global watchdog group, the construction

industry has the highest potential for unethical practices. The Berlin-based TI reported that “public works/corruption” topped its Bribe Payers Index in 2002; another survey of 851 international respondents reported that nearly 23% viewed standards as deteriorating further in the future (Reynolds, 2004).

On the local level, fraud oftentimes goes unnoticed except for rare cases, such as 31 architects and real estate brokers “caught red-handed” in a 1999 bid-rigging scandal. Representing 24 firms in New York and New Jersey, the criminals lost their licenses and livelihoods. Just a few months earlier, five big contractors in the same municipalities also were caught for collusion. Yet without any licensing constraints, they soon were back in business or relocated; they were able to convince clients that their questionable conduct was just an aberration (Croghan, 1999).

Miller (2005) reported 18 defective construction lawsuits against contractors in Colorado amounting to 20-65% of original values. In a survey of members of the Construction Management Association of America, other “most critical issues” were ranked as “payment games, bid shopping, reverse auctions, over-billing, change order games, unreliable contractors, and claims games” (Parson, 2005, p. 52). One result is that clients are more aware of *caveat emptor*.

Businesses developing their infrastructures may or may not have considerable wealth and trade. The construction of related facilities requires hefty amounts of highly specialized material and labor. Contracting for infrastructure tends to be secured through the traditional process that exists around the various regions of the world. An “invitation to bid” may originate from various procurement sources including independent reporting services, constituent associations, governmental channels, and even local newspapers.

Generally, building owners employ a team of architectural design and engineering professionals to steer them through the delicate process of feasibility, design, contract award, and construction. Sometimes the project will be broken down to subcategories to encourage the participation of small and medium-sized specialty constructors. With millions of dollars often on the line, everything is geared to stimulate optimum competition.

General contractors enter the fray soliciting numerous specialty subcontractors and suppliers to estimate the costs for various portions of the project. Along with familiarizing themselves with exacting plans and specifications including contract documents, the general contractor must secure a financial relationship with a surety company for the performance bond and the labor and material payment bond. It is not unusual for the documentation to consist of as many as 100 2 by 3 foot plan sheets and several 1,000 page volumes of specifications. Estimating systems must employ rigorously trained specialists who can combine the intricacies of design, dollars, and delivery. Estimators must be detailed, competent, and aware of many factors. The practices are widely known and accepted since they have been used for many years through generations of building construction cycles. Cost estimating is the primary step in the endeavor. Errors in cost estimates can occur when mistakes are made, but they always are borne by the contractor who throws his/her hat in the ring with a 10% guarantee to go through with the deal if successful with the low bid.

The actual bid day is a “zoo” with hundreds of costs funneled into the actual bid. Although the track record of the general contractor is vital, award is practically a given for the low price. In some corners of the marketplace further negotiations are predicated

on alternative laundry lists of additions and deductions to the base bid. The wit to be successful requires extensive experience and knowledge of the potential reactions of the negotiator on the other side of the table. Finally, actual construction begins only after the administration of contract documents including shop drawings identifying each building component.

Throughout the entire process, opportunities for opportunism creep in. Sometime they are subtle and other times they are salient. The “give and take” between constituents is as natural as breathing for the seasoned team involved in the construction project. In addition, the line of propriety tends to blur back and forth between the background and forefront of moral choice. The contract is between owner, architect, general contractor, specialty contractors, and suppliers. In an ideal world, the contract between buyer and seller would be even-handed with equal advantage. In practice, however, contract language and customs may be filled with onerous allowances the further one goes down the food chain.

Current Scholarship on CMD: The Bridge from Past to Present

Inter-Disciplinary Studies

Moral maturity is recognized as an overarching component of high ethic-interface disciplines, such as the health professions. Here, people’s wellness literally hangs in the balance between life and death. Educators and researchers have deliberated on developing curriculum that would increase CMD as well as moral motivation. Rest and Narváez (1994) argued for a methodological approach, which included “dilemma discussion, deliberate psychological education” and “directly teaching justice operations” (pp. 41-43). The experimental labs at the University of Minnesota focused on the

disciplines of nursing, teaching, counseling, accounting, dentistry, and medicine. The researchers' efforts were supported with rising moral maturity levels, despite the admission that such tightly targeted audiences would be difficult to replicate over entire campuses.

The fascination for cross-sectional comparisons has been a popular theme in many research studies. Searching for naturally occurring traits as a common denominator in occupations has been a tacit hypothesis, yet an illusive one. The question is whether individuals trained in certain fields of study are more or less experts in moral decision making. Schulte (1997) measured the CMD of 92 respondent members of the American Hospital Association. Their mean P-score was 41.1. Reavy (1999) studied 207 members of the American Board of Vocational Experts and/or members of the Certified Disability Management Specialists. Their mean P-score was 41.5. Evans' (2005) study of 122 members of the National Black Masters of Business Association reflected P-scores at a mean of 36.99. Ariail (2005) surveyed 306 CPA respondents whose mean score was only 33.53. In addition, the large majority of these recent participants were at a Master's level of education.

Recent empirical studies of Bachelor's level participants have shown some dispersion of results. Galla (2006) reported the mean P-score of 61 finance students and 60 accounting students at 23.45 and 26.67, respectively. Finally, Loescher (2004) examined 349 business students with no ethics training. Their P-score was approximately 37, while a target group of business students with ethics training ranked at only 30.38, which appears to be counterintuitive to heuristic methods of teaching ethics.

Intra-Disciplinary Studies

Many researchers have envisioned that the answer for increasing moral maturity inheres in the identification of existential factors across disciplines. Yet, the study of CMD among cohorts of the same industry holds significant promise for understanding power relationships in connection with moral maturity, even though testing is quite limited. The difference is discovery within disciplines versus between disciplines.

Drumm (2002) examined the moral maturity of 412 public servants, namely, fire chiefs, public works superintendents, police chiefs, and village/city administrators. Interestingly, the participants' mean ratings were 53, 41, 32, and 30, respectively. Drumm's literature review emphasized the social expectation for relatively high ethical standards, because public servants have been thrust to the forefront of the public eye since 9/11. Consequently, it seems that fire chiefs and public works superintendents ranked highest in moral maturity, even though their education level was significantly lower than the others (mostly Bachelors and below). Perhaps, the better educated administrators and police chiefs do indeed fit the *laissez faire* ethical patterns that are reflected by anecdotal presentations explored in the media.

Some interesting lines have been drawn in these intra-disciplinary relationships. Drumm argued that the politically correct perspective (along with lower scores) of administrators and police chiefs emanates from a legalistic framework. Their attitude is necessary to survive in the tough arena of town politics. On the other hand, the fire department chiefs reflect the high degree of trust (along with higher scores) typified by their exemplary office. Rest (1986a) made reference to "political toleration" to explain the phenomenon of moral maturity resulting from positions in their respective disciplines.

Not-so-subtle positional relationships could explain a great deal about CMD—even more so than the often touted affect of education level. In the throes of power, moral reasoning may best be assigned to schemas that reflect actual industry practice. Hence, life is all about power—the “apple of the eye.” While educational level has been parsed as the most salient feature of moral maturity level, occupational studies within industries may prove to be just as prolific in affecting P-score.

The question that this dissertation study sought to resolve is whether there is a relationship between work position in the construction industry and moral judgment level on Kohlberg’s scale as measured by the Defining Issues Test. Therefore, this research used the DIT’s Principled Score (P-score) to examine and compare cognitive moral development of architects, construction contractors, and construction suppliers. This study purposed to answer the following questions:

Question 1: Do architects have a higher moral maturity level as measured by the P-score than the average of all subjects tested in the DIT data bank?

Question 2: Do architects have a higher moral maturity level as measured by the P-score than contractors in the construction industry?

Question 3: Do architects have higher moral maturity level as measured by the P-score than suppliers in the construction industry?

The second step in the research study examined the moral motivation of architects, contractors, suppliers, and workers in the construction industry by simply asking them their propensity to put into action moral decisions in a competitive bid situation. It was expected that the higher the P score, the higher the propensity to act in a

manner to refrain from opportunism and employ *good* behavior as represented by the M-score. The motivation scores were measured against each other individually and collectively to answer the following research questions:

Question 4: Do architects have a higher ethical motivation as measured by the M-score than contractors in the construction industry?

Question 5: Do architects have higher ethical motivation as measured by the M-score than suppliers in the construction industry?

Question 6: Do construction constituents with significantly higher CMD as measured by the P-score also have significantly higher ethical motivation as measured by the M-score?

The purpose of Chapter II was to deductively explore the strains of this moral framework that are inherent in academic disciplines across time and history. After describing the linguistic background and variables in the study, a brief history of a number of academic disciplines was reviewed in relation to morality and ethics. These disciplines included philosophy, natural sciences, psychology, and business. The focus of economics and marketing elaborated on the positional dimension of the architect, general contractor, and supplier in market dyads that emerges from the procurement process, which inheres in the highly competitive atmosphere. Finally, current inter-disciplinary studies were examined as well as one intra-disciplinary study. Drumm's (2002) study of public servants suggested that positions may play an important role for moral maturity and motivation similar to this test of construction constituents.

Summary and Conclusions

The theme of this research study incorporated the advice of Abraham Maslow who said that if one wants to understand a phenomenon, examine the outliers. There were two outliers in this research study—those with high scores and those with low scores. Consequently, being anchored to a schema of progressivism suggests commitment to utilitarian principles that should prevent competitors from using unethical practices. Acquiring this schema gives individuals a sense of appeal to ideals and logical coherence that is gained by social consensus. Additionally, being anchored to orthodox or rule-keeping behaviors should prevent competitors from using rule-breaking behavior. Acquiring this schema gives individuals a sense of appeal to moral and social order that is gained by personal maintenance. It is consonant with legal positivism.

Rest, Narváez, et al. (1999) composed a “Mega” sample of more than 800 studies with nearly 50,000 subjects. With the average score of 39.1 and standard deviation of 14.84, the data suggested that a large part of the population ranks near the mean. The overall findings suggest that the masses of people live between the progressivism and orthodoxy schemas. Consequently, it follows that there would be a greater propensity toward unethical behavior without the context of coherence by consensus or maintenance by social order. In a sense, confusion reigns.

The purpose of this research study was to determine the relationship between cognitive moral development and aberrant behavior using the Defining Issues Test and supplementary questions. Contractors do not have the luxury of dwelling on morality. Instead, their focus is on surviving. The tools they grab from their “bag of tricks” (strategies) to succeed are intriguing. Sometimes they pull out a small finish hammer

when they need to apply just enough pressure to win someone over. At other times they may forego the 20 pound mall approach because it is beyond what they consider is right.

It may seem evident that industries that focus on maximizing profits with little advanced education and little ethical training would equate to lower levels of moral development; they may in fact be prone to unethical decisions. Added to this mix is the presence of a police mentality on the part of architectural firms. Yet empirical evidence is needed to substantiate expected outcomes, to understand the extent in which moral judgment level influences aberrant behavior, and to provide a platform for further scientific research (Trevino, 1992).

The primary goal of this study was to add to the current body of knowledge encompassing bilateral monopoly and moral judgment. Since 1985, joint ventures between U.S. firms and international partners have been growing at a rate of 27% per year. The most important reason for these alliances is the ability to be flexible, which suggests that firms must strategically make judgments from various bases of power. Yet, one-third of these alliances fail (Stratford, 1992). The contrasting motives and educational levels among the constituents may very well (a) explain the importance of motives and education, (b) suggest rebalancing actions in industrial business organizations that will appropriately guide ethical outcomes, and (c) recommend areas of focus for academia in developing effective learning environment for “transformational” leaders and followers.

The same schema displayed by contractors may very well explain the thoughts, actions, and behaviors of the local consumers as they bargain for products and services at the local mall. The question of “bad apples” or “bad barrels” evokes the common concern

whether ethics are essentially an individually or a contextually derived phenomenon (McMahon & Harvey, 2007). Finally, as far as morality, one of the most important calls of the 21st century is for transparency, which this research study attempts to explore.

Chapter III

Methodology

Overview

In Chapter I, the general background and purpose of the empirical research study was elucidated. In Chapter II, a parsimonious model for morals and ethics was proposed within the framework of the multidisciplinary underpinnings of current theory and practice. Chapter III explains the research instrument, the methodology, the sample population selection, and the means of data analysis.

The Defining Issues Test (DIT) is the principal research instrument used to test the research questions, which depend upon the DIT's reliability and validity to predict moral development. By far, the DIT is the most widely used instrument as a test of cognitive moral development (Lovisky et al., 2007). Rest, Narváez, et al. (1999) cited over 400 published journal articles since 1974 with 150 new publications added yearly in the U.S. and over 40 foreign countries across various professions including accounting, marketing, nursing, dentistry, teaching, veterinary, and medicine. The consistency of the findings over the years is a testimony to the instrument's reliability and validity.

Scoring

The useful index score, traditionally called the Principled score or P-score, represents the subject's propensity to reason from post-conventional thinking by ranking their choices in regards to ethical dilemmas. The scores range from a low of 0 to a high of 95. So the higher the subject's P-score, the higher their level of moral maturity. A large sample of more than 800 studies comprising 45,856 subjects during the years 1989 through 1993 were compiled into a "Mega" sample. The P-scores were converted from

raw scores to percentages. The mean of the distribution was 39.1; the standard deviation was 14.84. The P-scores were approximately normally distributed, as shown in Figure 7. Through the years there has been some debate about stages of CMD versus schemas, and exactly where orientations kick in. Yet, in general, the far right person is described as a rule-based thinker (orthodoxy) while the far left person is described as an abstract-based thinker (progressivism).

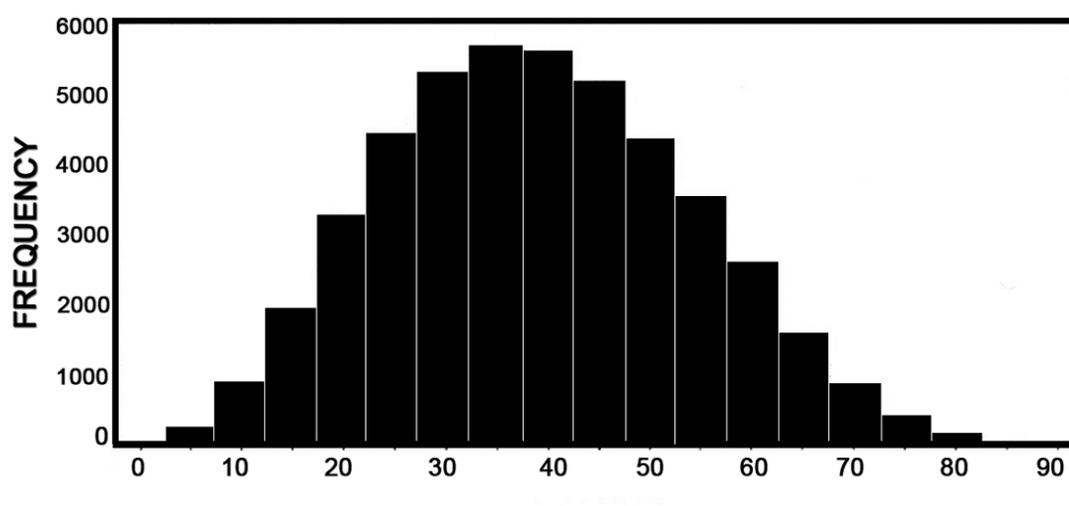


Figure 7. Histogram of P-scores for the "Mega" sample.

Note: From *Postconventional Moral Thinking: A Neo-Kohlbergian Approach*, by J. R. Rest, D. Narváez, M. J. Bebeau, and S. J. Thoma, 1999, Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Another index score called the Motivation score or M-score is derived from the respondent's answer to questions of his/her propensity to refrain from opportunistic behavior (or choose good behavior rather than bad or ugly) in a marketing dyad of near perfect competition. The higher the subject's M-score, the higher their level of motivation. The cut-off points have been arbitrarily set for respondent's scores for (a)

good behavior at greater than 0.75, inclusive; (b) bad behavior at lower than 0.25, inclusive; and (c) ugly behavior at anything between 0.25 and 0.75.

Research Questions and Hypotheses

One of the most consistent findings of DIT studies is that education and age are the best predictors of high P-scores. The first step in the research study examined the moral maturity scores of architects, contractors, and suppliers in the construction industry. Given their advanced education, architects are predicted to have the highest DIT scores. In comparing the architect's scores to the aggregate database for the DIT, the norms of these and other constituents in the construction industry are predicted to the general population. The scores were measured against each other individually and collectively to answer the following research questions.

Research Question 1: Do architects have a higher moral maturity level as measured by P-score than the Mega sample?

H₀1: There is no significant difference between the moral maturity level of architects as measured by the P-score and the mean score of 39.1 of the aggregate Mega sample of DIT respondents.

H₁1: There is a significant difference between the moral maturity level of architects as measured by the P-score and the mean score of 39.1 of the aggregate Mega sample of DIT respondents.

Research Question 2: Do architects have a higher moral maturity level as measured by the P-score than contractors in the construction industry?

H₀2: Architects do not have a significantly higher moral maturity level as measured by the P-score than contractors in the construction industry.

H₁₂: Architects do have a significantly higher moral maturity level as measured by the P-score than contractors in the construction industry.

Research Question 3: Do architects have higher moral maturity level as measured by the P-score than suppliers in the construction industry?

H₀₃: Architects do not have a significantly higher moral maturity level as measured by the P-score than suppliers in the construction industry.

H₁₃: Architects do have a significantly higher moral maturity level as measured by the P-score than suppliers in the construction industry.

The second step in the research study examined the moral motivation level of architects, contractors, and suppliers in the construction industry by simply asking them their propensity to put into action moral decisions in a competitive bid situation. This part of the study, in effect, moved the test from a test of theory to an application of theory by measuring the subject's ethical decision making. It was expected that the higher the P-score, the higher the propensity to act in a manner to refrain from opportunism and employ *good* behavior as represented by the M-score. The motivation scores were measured against each other individually and collectively to answer the following research questions.

Research Question 4: Do architects have a higher ethical motivation as measured by the M-score than contractors in the construction industry?

H₀₄: Architects do not have a significantly higher motivation level as measured by the M-score than contractors in the construction industry.

H₁₄: Architects do have a significantly higher motivation level as measured by the M-score than contractors in the construction industry.

Research Question 5: Do architects have a higher ethical motivation as measured by the M-score than suppliers in the construction industry?

H₀5: Architects do not have a significantly higher motivation level as measured by the M-score than suppliers in the construction industry.

H₁5: Architects do have a significantly higher motivation level as measured by the M-score than suppliers in the construction industry.

Research Question 6: Do construction constituents with significantly higher CMD as measured by the P-score also have significantly higher ethical motivation as measured by the M-score?

H₀6: Construction constituents with significantly higher ethical maturity level as measured by the P-score do not also have significantly higher motivation level as measured by the M-score.

H₁6: Construction constituents with significantly higher ethical maturity level as measured by the P-score also have significantly higher motivation level as measured by the M-score.

The DIT Survey

The DIT Construct

As reported in Chapter I, the basis of this research study is grounded upon Piaget's and Kohlberg's seminal research designs purporting that the individual's schema of moral development grows from external to internal. That is, the cognitive processes that underlie ethical decision making develop from socialization and education interaction. Kohlberg's general model suggested three broad levels—pre-conventional, conventional, and post-conventional—with two stages in each category. Many variables

influence a person's reasoning and many people realize the different stages (that is, quality) of thinking. It is the quality of thinking that places the individual in a stage of CMD. Yet people do not necessarily confine their choices to one schema. In fact, movement is gradual over time, which reflects the propensity of the individual to use higher stages more as well as lower stages less (Woodward, Davis, & Hodis, 2007).

While Kohlberg's Moral Judgment Interview method qualitatively measured interviewees' responses to hypothetical dilemmas to determine their stage of development, it quantitatively measured the interviewees' number of responses in a particular stage to give them their total or highest ranking. The DIT functions similarly but has several advantages including (a) less time to administer, (b) less training for the interviewer, and (c) less reliance on verbal skills of the respondent. James Rest was a faculty member of the College of Education and Human Development at the University of Minnesota when he developed the DIT, which now is the sole property of the Center for the Study of Ethical Development (Rest, Narváez, et al., 1999).

The DIT presents the subject with stories of moral dilemmas. In each case the subject reads, rates, and ranks standard statements that tap into their preferred schema. In other words, statements that make a lot of sense are rated highly, while those that are overly simplistic and unconvincing are scored lowly. Statements are delivered in such a way as to provide just enough train of thought to activate a stage schema. Then, the subject has to fill in the pre-existing idea from the schema that was in the case subject's head. Rest, Narváez, et al. (1999) explained this as a balance of bottom-up and top-down processing, respectively.

To calculate the P-score, points are awarded for each principled answer (those reflecting stage 5 or 6 reasoning). The points are then totaled and converted to a percentage based on the maximum of 60 points. The P-score may range from 0 to 95. According to Rest, Thoma, and Edwards (1997) the P-score has “survived because it consistently gave better trends for the theoretically expected findings than did other ways of indexing” (p. 498). Interestingly, Rest, Narváez, et al. (1999) suggested that putting people in stages is really inappropriate. Their recommendation is to merely recognize subjects on the basis of two groups: principled (P-score > 50) and non-principled (P-score ≤ 50).

The DIT 1 Short Form Version

The standard DIT-1 has five dilemmas, while the DIT-1 Short Form uses only the first three of the five stories, which is the only difference. Appendix B shows the three-story DIT-1 and answers. The actual instrument has two parts: the booklet with instructions and the answer sheet that is computer-scored by penciling-in the appropriate response. The dilemmas included in the short form are as follows: (a) should Heinz steal a drug from an inventor to save his wife who is dying, (b) should a man who escaped from prison be reported to authorities even though he has been living an exemplary life, and (c) should a student newspaper be shut down by a high school principal after the newspaper stirs up a controversy in the community?

For this study, the DIT-1 Short Form was employed. The reason for using the DIT Short Form is because it requires approximately 15 minutes less time to complete. This may make the difference for a construction respondent to complete the survey rather than shucking it in the trash. Granted that using the short form may cost 10 points in both

reliability and correlations with other variables, the probability of adequate sample size outweighs these concerns. A short form has not been tested with the new DIT-2 dilemmas (Center for the Study of Ethical Development, 2006).

Since 1998, the Center for the Development of Ethical Development has produced a new DIT-2 that uses different stories, but the same items, ratings, and rankings. The new DIT-2 index, called the New Index (N2), has been shown to provide even better results. Basically, N2 scoring adds the degree to which the lower stages of CMD are used. To calculate the N2 portion, points are awarded for each nonprincipled answer (those reflecting stage 2 and stage 3 reasoning). Then, the average of the principled answers is subtracted from the average of the nonprincipled answers before dividing by the standard deviation of the total of the 4 stages. In order that comparisons can be made easily between P-scores and N2 scores, the new scoring is adjusted to have the same mean and standard deviation as the 1995 Mega sample (Rest, Narváez, et al., 1999).

Construct Validity

Rest, Narváez, et al. (1999) provided detailed explanations of validity of the DIT stating

A test of moral judgment should:

1. Differentiate groups assumed to be of greater or lesser expertise in moral reasoning (e.g., moral philosophers are expected to show higher scores than junior high school students).
2. Show significant upward change in longitudinal study.
3. Be sensitive to interventions designed to improve moral reasoning (e.g., show pre-/posttest gains on moral education programs).

4. Show evidence of a developmental hierarchy (i.e., that higher is better or more advanced).
5. Significantly predict to real-life moral behavior.
6. Significantly predict to political attitudes, political choices, and the way in which a person participates in the larger society. (p. 61)

Dozens of research studies from the 1970s through the 1990s showed a remarkably consistent pattern that substantiates these six criteria of validity. For example, regarding criteria #1, 30-50% of the variance in DIT scores has been attributed to education in more than 30 independent studies as well as Rest's 1995 composite sample study. In fact, professional groups have been the focus for more than 100 published studies with the education variable being the most significant predictor of DIT. For criteria #2 and #3, developmental theorists have conducted longitudinal studies and short-term interventions that show the P-score rising by as much as 10 points in both long and short term aspects. For criteria #4 and #5, the P-score has been found to have significant correlation with other moral development measures, such as reflective judgment. Even though CMD shows little in common with some behavioral measures like happiness, 37 out of 47 internal measures reported similarities that were significant, such as cheating, cooperation, whistle-blowing, aggression, delinquency, and prosocial behaviors. Finally, in regards to external attitudes and choice, again studies have shown a strong and consistent association. In each of the six criteria, more than 30 independent studies have been conducted (Rest, Narváez, et al., 1999).

One of the most widely used diagnostic measures of reliability is based on the reliability coefficient of Cronbach's alpha. Two aspects of reliability are consistency

when subjects are retested at different points in time (test-retest) and consistency of individual items to measure the same construct (internal consistency). The score for Cronbach's alpha ranges from 0 to 1; a score of 0.70 indicates the low end of acceptability (Hair, Black, Babin, Anderson & Tatham, 2006). "For the 6-story version [of the DIT], test-retest reliabilities in the high .70s or .80s are reported, and internal consistency, using Cronbach's Alpha, is reported in the high .70s" (Nichols & Day, 1982, p. 203). Thus, when answers differ, it is because of different opinions rather than confusing or multiple interpretations.

Two other methods of reliability have been employed using the DIT. First, some of the statements in the instrument are completely meaningless, which appear in four of the six dilemmas. The meaningless statements indicate the subject's tendency to endorse a pretentious meaning rather than moral choices. Consequently, a subject who received a high meaningless score should be removed from the survey. Second, the consistency between ratings and rankings are checked, which is another indicator of usability of the data (Ishida, 2006).

Participant Information and Demographics

Along with the cover letter (see Appendix C), participant information was requested of the respondents (see Appendix D). The demographics included their work position (architect, engineer, general contractor, specialty contractor, or supplier), their highest level of education, their years of work experience, their age, their sex, and their previous ethics training. Additionally, the respondents were requested to answer two questions regarding their ethical decision making in practice. The description and rationale for these questions follow.

Rest, Narváez, et al. (1999) performed research studies to examine the extent that subjects prioritize concepts of justice-based rationale versus care, social convention, or religious prescription. They came up with a utilization score. Similarly, this study delineated the prioritization of behavioral choice based on opportunism—the election of reward power. This second step in the empirical study would, in effect, move the test from a test of theory to an application of theory by measuring the subject's ethical decision making. This part of the study relied on economics theory where a buyer and seller are represented by indifference curves that meet on the contract line. The public bid arena represented an excellent opportunity for the study because reward power can be measured *ceteris paribus*, especially for the general contractor who is the center of attention in the competitive public bid. Some of the conditions are as follows:

- Perfect information with exacting plans and specifications as well as performance bonds
- Many buyers who are willing to price the job but will move on to other bids, if unsuccessful
- Absolutely, the lowest price is awarded the job

What happens in practice in the construction industry is that whenever opportunity meets reward power, a party often will move the deal off of the contract line. The terminology is known as *cutting corners* (delivering less of the contractual product) or *cutting prices* (lowering the price to get the job).

For the second part of the study (motivation score), the respondents were asked two questions:

- Given that you want to win a competitive bid with another party, what percentage of the time would you decide to cut corners or prices, *assuming the other party was never going to know*?
- Given that you want to win a competitive bid with another party, what percentage of the time would you decide to cut corners or prices, if *the other party happened to know* what was going on?

With these last two questions, a blank line was provided to write in a percentage with the explanation: Please respond with a rough, estimated percentage. So the first question examined the infusion of opportunity (coercive and reward power) and the second question examined the infusion of transparency (legitimate and expert power) into the equation. The latter question will be used for future research.

The questions in the survey also are theoretically based on the empirical studies of Hartstone and May (as cited in Duska & Whelan, 1975) that indicate people actually will lie or cheat 50% of the time. The characterization as good, bad, or ugly is intuitively based on the Hartstone and May studies as well as Chebyshev's theorem that 75% of a set of observations will fall within two standard deviations from the mean. Thus, the mean of the population should indicate ugly behavior from 75-25% of the time.

Now, the research focus is drawn to the relationship between theory and practice—the relationship between P-score and M-score. This researcher's proposition is that between the various players in a competitive bid, the subjects with relatively high DIT scores (architects) or relatively low DIT scores (contractors) would test high on M-score. This is argued from Kohlberg's suggestion that a high P-score is best (for example, Kohlberg admired Martin Luther King—an abstract thinker). The idea of low P-scores is

argued on the basis of how fundamentalists rigorously choose normative behavior (for example, Kohlberg deplored Henry Wallace—a rule thinker). It also was predicted that the masses of people—all those who are stuck somewhere near the mean for both P-score and M-score—account for the high occurrence of ugly behavior. Of course, on a continuum, opportunistic behavior ranges from altruism to egoism. Finally, note that other types of noncoercive power bases, such as referent, expert, and legitimate, were included as moderating but latent controlled variables, especially in the case of the general contractor who is constrained by the dictates of the public bid.

Study Population

A crucial aspect of this research study was to develop a criterion for the selection of the sample in order for conclusions to be generalizable to the general population. Since the study focused on the architects as the primary subjects, first the Iowa chapter of the American Institute of Architects (AIA Iowa) was solicited for a current listing of all their members in the association. The AIA Iowa is made up of 750 individual member architects who are working in the field of architecture as well as 93 associate members who are working as supplier/service providers in the construction industry. Second, the Associated General Contractors of Iowa (AGC Iowa) was solicited for a current listing of all their members in the association. The AGC Iowa is made up of 185 individual member contractors who are working in the field of construction. Third, the Associated Builders and Contractors (ABC Iowa) was solicited for a current listing of all their members who are working in the field of construction. The ABC Iowa is made up of 474 individual member contractors who are working in the field of construction. The criterion for selection were any architects, contractors, and suppliers who have actively worked in

both the estimating and awarding of construction agreements. The surveys were mailed first-class to more than 1,200 architects, contractors, and suppliers in Iowa with postage-paid return envelopes.

Cover Letter

Each packet containing the survey instrument contained a cover letter as shown in Appendix C. The letter was addressed to the architect, contractor, or supplier. The purpose and scope of the survey was explained in the letter.

In mail surveys the justification for the study is given in a letter that accompanies the questionnaire. Dillman (1978) has presented a careful discussion of what this letter should contain. The points covered should include: what the study is about and its social usefulness, why the respondent is important, promise of confidentiality and explanation of identification number, reward for participation, what to do if questions arise, and a thank you. (Sudman & Bradburn, 1982, p. 217)

Data Collection and Analysis

Step One

The answer sheets for the DIT and the participant information were collected. Then the pre-printed sheets were sent to the Center for the Study of Ethical Development at the University of Minnesota for scoring. All of the data was input into a SPSS data file for statistical testing and data analysis, and a data disk was returned from the University of Minnesota containing all of the data. The data disk contained the moral development stage scoring (P-score), internal reliability testing, and consistency check for every respondent.

Each survey was subjected to scoring protocols that screen out bogus data. First, a random response problem was indicated by haphazard patterns of penciling-in the answer sheet. Consequently, each survey received a consistency rating based on the fact that items frequently rated highly important also should be ranked as the top statements. Second, missing data became a problem when too many responses were left blank. Third, nondiscrimination occurred when the respondent rates 11 or more items the same on two or more stories. Fourth, an alien test-taking set occurred when the respondent chose items based on the lofty sound of words. The inclusion of five meaningless items identified the respondent who carelessly answered the DIT. Any one of these problems resulted in the participant's survey being thrown out of the analysis. Data also was tested for a normal distribution.

Research questions 1 through 5 focus on the comparative moral judgment scores of the groups of architects, contractors, and suppliers. The average P-scores and the average M-scores were tested utilizing a *t*-test and ANOVA, which was used when there was one dependent variable and one or more independent variables. Thus, the P-score and the M-score were tested separately as the dependent variable. The various occupations in the construction industry were the independent variables. The key statistic in ANOVA is the F-test of difference of group means, which determines whether the means of the groups that are formed by the independent variables are significantly different. If they do not differ, then the inference is that work position played no part on the DIT score. However, if there is a statistical difference, then work position would be a predictor of moral maturity. The significance level is set at 0.05.

Step Two—Structural Equation Modeling (SEM)

For research question 6, the SEM technique offers many advantages by portraying a truer assessment of the links between moral theory and ethical practice. The statistical technique models the concepts of ethical decision making in a one-step framework rather than a series of piecemeal regressions. Now the independent variables can be tested as dependent variables. Thus, the interactions among the variables are modeled. The major objective is to establish the model from theory that has a close fit to the sample data in terms of the difference between the sample and the model-predicted covariance matrices. In other words, does the data collected fit the proposed model? If the model is correct, the hypothesis that the observed covariance matrices and the model are equal is not rejected.

This research study posited that ethical decision making (good, bad, or ugly, as measured by M-score) has a number of relationships between concepts such as P-score and demographics as shown in Figure 8.

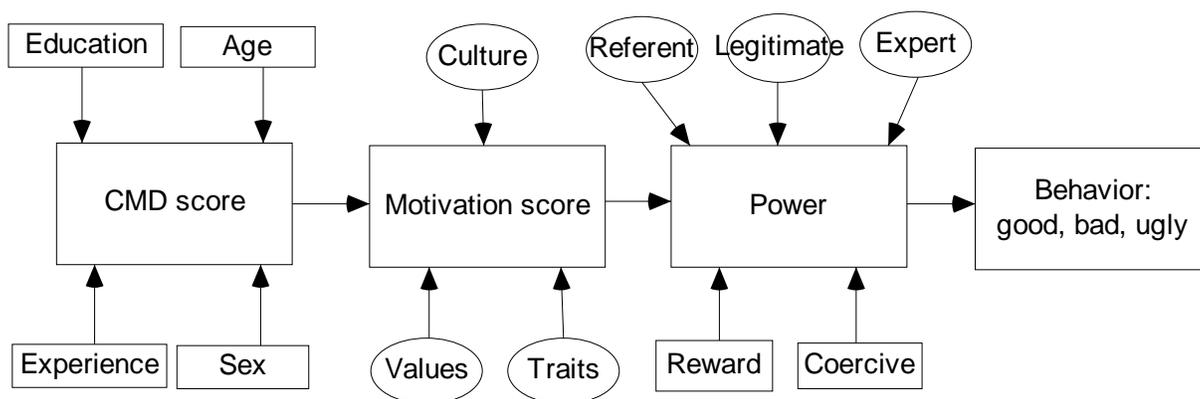


Figure 8. SEM for moral theory and practice in the construction industry.

The boxes represent an observed or measured variable of the research concept, and the arrows indicate relationships. Education, work experience, age, sex, and

transparency are exogenous variables not influenced by any other variables, while both the P-scores and M-scores are endogenous. Certain latent variables are designated by ovals, such as culture, values, traits, referent power, expert power, and legitimate power. In the case of the general contractors, the latent power variables have little impact because of the looming competitive bid and its award based on low price. Hence, the claim is that the study measures reward and coercive power, *ceteris paribus*.

For the other constituents in the construction industry, the other forms of influence become powerful moderators of coercive power. The advantages of SEM include the ability (a) to test the significance and strength of all coefficients in the model simultaneously within the context of the complete model; (b) to allow variables to be tested in a dependent or independent role; (c) to access multi co-linearity by modeling the relationships between predictor variables, which yields a more valid predictor-dependent coefficient in which variance is accounted for; and (d) to eliminate measurement error when using latent variables.

One of the important features of SEM is that it captures variance resulting from three types of error variables alongside of either the measured or latent variables:

- Random measurement error in the observed variables
- Unique variance in the observed variables (not part of other variables)
- Residual variance in endogenous or latent variables

Since the strengths of the coefficients are reduced by random error variation, it is desirable to remove its effect by making adjustments for it.

Although SEM does not establish causality to the same rigor that experimentation does, each single-headed arrow implies a casual relationship. Assumptions to be met by

SEM are (a) the sample is large enough, (b) the variables are univariate normal, (c) the hypothesized model is valid, and (d) the scale of measurement is continuous. Results may suffer when using categorical data with less than three dimensions, such as sex. For instance, Pearson correlations may be lowered and Chi squared will be inflated, especially if the data is skewed.

Summary

Chapter III has explained the research instrument, the methodology, the sample population selection, and the means of data analysis. Chapter IV goes on to present and discuss the results of the empirical research study and the statistical analysis of the data.

Chapter IV

Analysis and Presentation of Findings

Overview

Six hypotheses were presented in Chapter III that were developed from the research literature on cognitive moral development as well as the Defining Issues Test. The research questions aim to empirically test the construction industry, namely, whether architects have a higher P-score than

1. The average of all subjects in the DIT data bank (Hypothesis #1)
2. Contractors (Hypothesis #2)
3. Suppliers (Hypothesis #3)

In addition, the subjects were asked if they would “cut corners” or “cut prices” in competitive bidding. Their responses indicate whether architects have a higher M-score than

1. Contractors (Hypothesis #4)
2. Suppliers (Hypothesis #5)

Finally, in hypothesis #6 the relationship between P-score and M-score was examined by determining whether subjects with a high P-score also have significantly higher M-scores.

Chapter IV examines the results of the empirical analysis of the moral reasoning abilities of the construction industry in Iowa. After reviewing the selection of the particular sample set that was used for the study, important demographical information was displayed. The research findings are presented regarding P-score and M-score as discussed in the research questions.

Sample

The Iowa chapter of the American Institute of Architects (AIA) was solicited for a current listing of all their members in the association. The AIA of Iowa represents 750 individual member architects who are working in the field of architecture as well as 93 associate members who are working as supplier/service providers in the construction industry. Second, the Associated General Contractors of Iowa (AGC) and the Associated Builders and Contractors of Iowa (ABC) were solicited for a current listing of all their members. These organizations were represented by 185 and 474 members, respectively.

DIT surveys with cover letters and demographics questionnaires were mailed first-class to 1,502 architects, contractors, and suppliers in Iowa with postage-paid return envelopes. One hundred sixty-six construction industry constituents participated in the survey, representing the Iowa AIA, ABC, and AGC Associations. Statistical testing and analysis for CMD was conducted by the Center for the Study of Ethical Development at the University of Minnesota. The scores of 5 respondents were purged because of too many missing data and/or meaningless responses that were detected by the reliability checks of the DIT instrument. The scores of another 8 respondents were purged because their occupation was indeterminate or simply not in the construction field. For instance, several participants who completed the DIT test failed to fill in the demographics questionnaire. Other respondents indicated that they were not involved in construction, as in the case of a CPA, a trainer, and a scientist. Thus, the final study sample was 153 ($n = 153$); this response rate was 10.2%. The executive director for the AIA cooperatively emailed members about the survey. This boosted the response rate among architects to 94 respondents, while contractors and suppliers were only 32 and 27, respectively.

Data Reliability Checks

As explained previously, the DITs of 5 respondents were eliminated because of failure to pass the reliability checks required by the Center for the Study of Ethical Development. Four of the 5 subjects were purged because of too much missing data. Some missing data is tolerated by the scoring program by adjusting the indexes to accommodate for the subjects' missed ratings or rankings. However, leaving out more than 3 of the 12 ratings (in any one story) results in elimination of the subject from the study. Similarly, if the subject failed to respond to more than three of the rankings, his or her results were eliminated. The fifth subject elimination came from a failure to pass the meaningless test. Certain answers contain unusual pretentious words or complex syntax, but are meaningless. When the subject endorses too many of these, it is possible that he or she is responding to words, not meaning, and the questionnaire is purged.

In addition to the three reliability checks discussed, the scoring protocol examined consistency between ratings and rankings. In other words, if the subject rates a certain item of greatest importance in the story, then the ranking that follows also should indicate that the item was ranked highest.

The last check is not differentiating between items. If too many answers are scored with the same ratings or rankings, the survey is purged. The Center for the Study of Ethical Development reported purge rates as high as 15% in some studies. Thus, the 3% purge rate in this study actually was good, which may be an indication of the industry's seriousness toward ethics. An indication of this "politically correct" attitude to the issue of ethics is further indicated in the sample's responses to practicing opportunistic behavior that unfolds further in the chapter.

Demographics

The subjects responded to a number of additional questions concerning their demographical information as follows: (a) construction field, (b) education, (c) work experience, (d) age, (e) sex, (f) previous ethics training, and (g) code of ethics.

Respondents also were asked about their propensity to practice opportunistic behavior (a) when the other party knew and (b) when the party did not know that “cutting corners” or “cutting prices” was in progress.

The demographic results were used to explore the statistical significance between construction field and DIT P-score using ANOVA. The respondents’ answer to the question regarding the percentage of times they would practice opportunistic behavior (when all parties did not know) and their construction field also were relevant to the research questions. Some of the demographics were not critical to the research questions but will be used for possible future research.

Construction Field

Six construction categories were offered to the respondents as follows: (a) architect, (b) engineer, (c) general contractor, (d) specialty contractor, (e) supplier, and (f) other. For purposes of this study, the responses of architects/engineers were combined as well as general contractor/specialty contractor. Only four of the design professionals were engineers rather than architects. The split between general contractors and specialty contractors amounted to 13 versus 19, respectively.

Education

Six categories were offered to the respondents concerning their years of education as follows: (a) high school, (b) associate’s degree, (c) bachelor’s degree, (d) master’s

degree, (e) doctoral degree, and (f) other. These responses were ordinal data reflecting their years of education as follows: 12, 14, 16, 18, and 20, respectively.

The higher education level of architects was indicated by the profile of the sample. Sixty percent ($n = 56$) had bachelor's degrees compared to 53% for contractors ($n = 17$) and 41% for suppliers ($n = 11$). Master's degrees and above were shared by 31% of architects ($n=32$) compared to only 9% of contractors ($n = 3$) and 11% of suppliers ($n = 3$). Conversely, the lower level of education for contractors and suppliers is indicated. Thirty-eight percent of contractors ($n = 12$) had education levels below the bachelor's degree, 48% of the suppliers ($n = 13$) had education levels below the bachelor's degree, while only 6% of the architects ($n = 6$) had lower education levels. The respondents' education demographic is listed in Table 8.

Table 8

<i>Respondents' Education</i>			
	Architect	Contractor	Supplier
High School	1	5	5
Associate's	5	7	8
Bachelor's	56	17	11
Master's	32	2	23
Doctoral		1	
Other			
Mean	16.53	15.19	14.89

Work Experience and Age

The respondents filled-in their years of work experience and age. Generally, these continuous variables are well-distributed across the spectrum with the exception of older architects. There were 35 architects out of 94 (37%) with more than 30 years of work experience. The longest record was 65 years of work at an age of 87. Tables 9 and 10 list the subjects' work experience and age.

Table 9

<i>Respondents' Work Experience</i>			
In years	Architect	Contractor	Supplier
1-5	14	1	1
6-10	8	3	6
11-15	8	5	1
16-20	13	5	9
21-25	8	4	4
26-30	8	3	4
Greater than 30	35	11	1
Mean	25.07	24.78	18.63

Table 10

<i>Respondents' Age</i>			
In years	Architect	Contractor	Supplier
20-30	11	1	2
31-40	17	6	9
41-50	16	11	8
51-60	26	9	7
61-70	12	5	1
Greater than 70	12		
Mean	51.39	49.06	44.7

Other Demographics

Not surprisingly, the majority of construction industry respondents were males, accounting for 87% of the sample; almost all of the exceptions were architects (16 female architects, 2 female contractors, and 2 female suppliers). Ninety-four percent of the sample was aware of their association's code of ethics. About half (47%) reported that they had received previous ethics training. This information was gathered for a frame of reference and for future research purposes and correlations.

P-score—Research Findings for Research Questions #1, #2, and #3

The most important index of the DIT test is the subjects' recognition of post-conventional ideations as indicated by P-score, which is the primary measure of CMD. Colby et al. (as cited in Rest et al., 1999) defined conventional and post-conventional moral thinking accordingly:

At Stage 4 the individual takes the perspective of a generalized member of society. This perspective is based on a conception of the social system as a consistent set of codes and procedures that apply impartially to all members. The pursuit of individual interests is considered legitimate only when it is consistent with maintenance of the sociomoral system as a whole. The informally shared norms of Stage 3 are systematized at Stage 4 in order to maintain impartiality and consistency. A social structure that includes formal institutions and social roles serves to mediate conflicting claims and promote the common good. That is, there is an awareness that there can be conflicts even between good role occupants. This makes it necessary to maintain a system of rules for resolving such conflicts. The perspective taken is generally that of a societal, legal, or religious system that has been codified into institutionalized laws and practices...

The Stage 5 prior-to-society perspective is that of a rational moral agent aware of universalizable values and rights that anyone would choose to build into a moral society. The validity of actual laws and social systems can be evaluated in terms of the degree to which they preserve and protect these fundamental human rights and values. The social system is seen ideally as a contract freely entered into by each individual in order to preserve the rights and promote the welfare of all members. This is a “society-creating” rather than a “society-maintaining” perspective. Society is conceived as based on social cooperation and agreement. (pp. 35-36)

The rating and ranking protocol in the six-story version of the DIT produces a score totaling 0 to 57 of the post-conventional ideations. These are then converted to

percentages which can range from 0 to 95 for the subject's actual P-score. The overall P-score of the study sample, the construction industry, was 34.4 with a standard deviation of 15.32 and a range between .00 and 76.67. Apparently the construction field ranks solidly in Stage 4 cognitive moral reasoning.

Inter-industry Group Findings—Research Question #1

For the study at hand the architects had the highest P-score, with a mean of 36.4. Contractors followed with 34.06, and suppliers had a P-score of 27.65. Table 11 lists the average scores of each group as well as their standard deviations and ranges.

Table 11

Descriptive Statistics for P-score in Various Construction Fields

Field	Sample Size	Mean	SD	Range
Architects	94	36.4	16.27	.00 to 76.67
Contractors	32	34.06	12.32	3.33 to 56.67
Suppliers	27	27.65	12.01	10 to 46.67
Total	153	34.3648	15.10843	.00 to 76.67

Two architects tied for the highest individual P-scores, which were 76.67. The lowest P-score was also an architect at zero. As far as the ranges of the subjects' P-scores, architects placed between .00 and 76.67, contractors placed between 3.33 and 56.67, and suppliers placed between 10 and 46.67. Consequently, the ranges for architects, contractors, and suppliers were 76, 56, and 36, respectively.

The primary purpose of this research study was to compare the P-score of architects to certain other construction industry constituents as well as the DIT Mega sample. Evens (as cited in Rest et al., 1999) compiled a large sample from DITs that were scored by the Center for the Study of Ethical Development from 1989 to 1993. Over 800 studies were included that examined people of all walks of life dispersed all over the United States. Figure 7 in Chapter III displays the histogram that was approximately normally distributed with a mean of 39.1 and a standard deviation of 14.84. The range was from 0 to 91. Table 12 lists where architects fit into the overall scheme of P-scores as well as contractors and suppliers.

Table 12

<i>P-scores for Various Groups</i>		
Group	Average P-score	Source
Moral philosophy graduate students	65.2	Rest (1994)
Law students	52.2	Rest (1994)
Doctors	49.2	Rest (1994)
Fire chiefs	53	Drumm (2002)
Graduate business students	42.8	Cavico and Mujtaba (2009)
Average college students	42.3	Cavico and Mujtaba (2009)
Average adults	40	Cavico and Mujtaba (2009)
<i>Architects</i>	36.6	Reischl (2009)
Certified Public Accountants	33.5	Ariail (2005)
<i>Contractors</i>	33.4	Reischl (2009)

Group	Average P-score	Source
City administrators	30	Drumm (2002)
<i>Suppliers</i>	27.7	Reischl (2009)
Prison inmates	23.5	Cavico and Mujtaba (2009)
Finance business students	23.45	Galla (2006)
Delinquent 16-year old boys	18.9	Cavico and Mujtaba (2009)

Note: Reischl (2009) refers to current research.

The construction industry is known for the tacit “rules of the game” as indicated by their propensity to maintain bidding norms in day-to-day practice, which is reflected in the low P-scores for the contractors and even lower P-scores for the suppliers. The architects scored 28.6 points lower than moral philosophers and only 17.7 points above juvenile delinquents. Compared to the DIT data bank mean of 39.1, architects scored only 36.4 on moral maturity level. Essentially, this means that when these groups think about moral problems and dilemmas, little thought is given to the betterment of society as compared to moral philosophers and the like. The results are indicative of conventional reasoning required for maintaining the norms in the construction industry in lieu of post-conventional reasoning that searches out the welfare of the social system. This is despite their higher education level, which is counterintuitive to other research studies.

In summary, research question #1 queried, do architects have a higher P-score than the average of the DIT data bank? Architects obviously did not have a higher P-score than the average in the DIT data bank. Thus, the null hypothesis is accepted and the alternative is rejected for research question #1.

Intra-industry Group Findings—Research Questions #2 and #3

Is there a statistical difference in P-score between architects, contractors, and suppliers? The first step in the data analysis was a covariate screening to determine whether the dependent variable (P-score) was significantly related to either of three covariates—years of education, years of work, or years of age. Bivariate correlations were conducted to evaluate the effect of the potential covariates and their relationship with the independent variable. Table 13 displays the correlation matrix. The correlations showed that P-score was not significantly related to years of education, years of work, or years of age. Consequently, none of the variables were used as covariates in the statistical model.

Table 13

Bivariate Correlations for P-score in Intra-industry Groups

	1	2	3	4
P-score (1)	---	.15	.01	-.01
Years of education (2)		---	.04	.07
Years of work (3)			---	.91**
Years of age (4)				---

*Note: *p < .05, **p < .01*

The second step in the data analysis involved satisfying the assumptions for running AVOVA. The values for P-score were standardized by group, which resulted in z-scores. Standardized scores that were greater than 3 should be eliminated. However, the process revealed no outliers. The groups were tested for normality utilizing the

Kolmogorov-Smirnov test. The groups did not significantly differ, which indicated that the dependent variable was normally distributed in each case. Finally, the univariate of analysis (ANOVA) was conducted. Levene's test of equality of variances indicated no significant differences, suggesting homogeneity between the group variances.

The third step was examining the ANOVA to evaluate the relationship between P-score and construction field. So, the independent variable, construction field, consisted of architects, contractors, and suppliers, while P-score was the dependent variable in the study. Table 14 displays the ANOVA table. It shows a significant difference in P-score between the groups, $F(2, 150) = 3.64$, $p < .05$ ($\eta^2 = .05$, power = .67). Post hoc tests were conducted to evaluate the pairwise differences among the means of the individual groups. Table 15 displays these results. Bonferroni multiple comparison tests indicated that there was a significant difference in the means between the architects ($M = 36.4$, $SD = 16.27$) and suppliers ($M = 27.65$, $SD = 12.01$), but no significant difference existed between either the architects and contractors or the suppliers and contractors.

Table 14

<i>One-way ANOVA on P-scores for Intra-industry Groups</i>					
Source	SS	df	Mean Square	<i>F</i>	Sig.
Between Groups	1,606.29	2	803.15	3.64	.029
Within Groups	33,089.94	150	220.60		
Total	215,380.48	153			

Table 15

Bonferroni Post Hoc Tests for Intra-industry Findings

(I) Field	(J) Field	Mean	SE	Sig.	95% Confidence	
					Interval	
		Difference (I-J)				
					Lower	Upper
Architects	Contractors	2.33	3.04	1.00	-5.03	9.69
	Suppliers	8.74	3.24	.024	0.89	16.59
Contractors	Architects	-2.33	3.04	1.00	-9.69	5.03
	Suppliers	6.41	3.88	.302	-2.99	15.81
Suppliers	Architects	-8.74	3.24	.024	-16.59	-0.89
	Contractors	-6.41	3.88	.302	-15.81	2.99

In summary, research question #2 queried, do architects have a higher moral maturity score than the average of contractors? The question is not supported in the study. While the average P-score of architects was 36.4 and the average P-score of contractors was 34.06, the difference is not significant and could be attributed to chance. As such, the null hypothesis is accepted and the alternative hypothesis is rejected. Architects' and contractors' moral maturity levels are similar in the research study.

Research question #3 queried, do architects have a higher moral maturity score than the average of suppliers? The question is supported in the study. Bonferroni's multiple comparison post hoc test did indicate a significant effect at a level of $p = .024$ for the relationship between architects and supplier. As such, in this case the null hypothesis is rejected and the alternative hypothesis is accepted. Architects have a significantly higher moral maturity level than suppliers in this research study.

M-score—Research Findings for Research Question #4 and #5

Respondents were asked the percentage of time that they would “cut pricing” or “cut corners” in a dyadic exchange. The percentage, which was answered as a continuous variable in the study, indicated the subjects’ motivation to carry out moral decision making versus opportunistic behavior. Eight additional respondents left the motivation question blank (3 architects, 3 contractors, and 2 suppliers) and were eliminated from the statistical analysis. The overall mean for the sample indicated an average of .145 with a standard deviation of 0.226 and a range of 0.00 to 1.

Regarding the question of practicing opportunistic behavior, there is little difference among the groups who all indicated a very low occasion of taking advantage of opportunistic situations. This is evidenced by the similar means which were approximately 15% as well as the standard deviations of 20%. Finally, the ranges of scores generally ran the gamut from 0 to 100%. Table 16 lists the M-score of construction constituents according to their respective grouping.

Table 16

Descriptive Statistics for M-score in Various Construction Fields

Field	Sample size	Mean	Standard deviation	Range
Architects	91	.143	.236	.00 to 1
Contractors	29	.119	.207	.00 to .8
Suppliers	25	.182	.214	.00 to .7
Total	145	.1459	.225	.00 to 1

These answers were unexpected. After all, who could possibly claim that 100% of the time they would make the right choice? Yet, 68 respondents claimed they would. Or conversely, who could possibly claim that they would make the wrong choice 100% of the time? Yet 3 respondents claimed they would. The evidence from the responses indicated a strong disposition toward answering the question of practicing opportunistic behavior in a politically correct fashion. However, such integrity has not necessarily been evident in the construction industry.

For the statistical analysis of research questions 4 and 5, the same three-step process was used. First, the covariate screening was conducted to determine if the practice of opportunistic behavior (M-score) was significantly related to three potential covariates—years of education, years of work, or years of age. Bivariate correlations were conducted to evaluate the effect of the potential covariates and their relationship with the independent variable. Table 17 displays the correlation matrix. The correlations showed that M-score was not significantly related to years of education, years of work, or years of age. Consequently, none of the variables were used as covariates in hypothesis testing.

Table 17

Bivariate Correlations for M-score in Intra-industry Groups

	1	2	3	4
Practicing Opportunistic Behavior (1)	---	.06	-.03	-.04
Years of Education (2)		---	.06	.09
Years of Work (3)			---	.90**
Age (4)				---

Note. * $p < .05$, ** $p < .01$

The second step in the data analysis involved satisfying the assumptions for running ANOVA. The values for M-score were standardized by group, which resulted in Z-scores. Standardized scores greater than 3 should be eliminated. Therefore, four outliers were identified on the high end of the scale and were eliminated from the data set. Despite the precaution of eliminating the outliers, a Kolmogorov-Smirnov test conducted for each group indicated that the distributions for the dependent variable differed significantly from normality.

The third step in the data analysis was conducting the ANOVA. But since the normality assumption for ANOVA was violated in the sample set, an alternative test was conducted, which was the Kruskal-Wallis test. This non-parametric equivalent to ANOVA does not rely on normality or homogeneity of variance. Tables 18 and 19 display the means ranks and Kruskal-Wallis statistics, respectively. The analysis indicated no significant difference for M-score (practicing opportunistic behavior) between architects, contractors, and suppliers. The statistics were $\chi^2 (2) = 4.26, p > .05$.

Table 18

Means Ranks for M-score

Construction field	N	Mean rank
Architects	88	70.01
Contractors	28	62.46
Suppliers	25	84.04

Table 19

Kruskal-Wallis Statistics for M-score

Statistic	M-score
Chi-Square	4.26
df	2
Sig.	.119

In summary, research questions #4 and #5 queried, do architects have a higher M-score than contractors and suppliers, respectively? Neither question is supported in this study. The averages for architects, contractors, and suppliers were 11.0%, 11.8%, and 18.2%, respectively. Although the evidence of opportunistic behavior does increase marginally, the size of increase is simply too small to rule out chance as the motive operand. As such, the null hypotheses are accepted and the alternative hypotheses are rejected. It cannot be shown in the study that architects have significantly higher M-scores than either contractors or suppliers.

Linking Theory and Practice—Research Findings for Research Question #6

Do construction constituents with significantly higher CMD as measured by the P-score also have significantly higher ethical motivation as measured by the M-score? The Structural Equation Modeling (SEM) technique, as discussed in Chapter III, Methodology, could not be used since a model could not be identified. Also, a bivariate Pearson correlation was conducted to determine the relationship between the two dependent variables: P-score and M-score. The correlation failed to reveal significant relationship between the two variables, $r = -.03$, $p > .05$. As such, the null hypothesis is

accepted and the alternative hypothesis is rejected. It cannot be shown in the study that construction constituents with higher P-scores have higher M-scores.

Summary

This chapter has presented the results of the methodological study of cognitive moral development in the construction industry, and described the analysis of the data gathered. The data did not support the hypotheses regarding the higher cognitive moral maturity of architects and the higher motivation of architects to practice moral behavior, with one exception. That is, architects scored significantly higher P-scores than suppliers, which was the substance of research question #3. The null hypothesis was accepted for the remainder of the research questions #1 through #6.

Chapter IV made no interpretations of the results and was objective in presenting the findings. Chapter V discusses the practical implications and subjective conclusions regarding CMD in the construction industry.

Chapter V

Summary and Conclusions

The primary purpose of this study was to investigate human decision making as the unit of measurement for moral development. Chapter I introduced the topic and the common thread in empirical research literature. That is, whether reality is derived from the five senses—the orthodox view—or whether reality is derived from the sixth sense—the progressive view (Rest et al., 1999). Hence, these polar opposites represent the eternal contest of the body versus the mind debate. Lawrence Kohlberg's cognitive moral development (CMD) theory posited five sequential schemas that the person progresses through as disequilibrium affects the individual's awareness of his or her social environment. These schemas often are simply referred to as pre-conventional, conventional, and post-conventional. Each individual's perspective is determined by one of these salient ideations, which is itself reflected in human choice.

Chapter II used the motif of power as arguably the most amenable way of approaching the various theories of the human psyche as well as the Kohlbergian theory that is nested into the hermeneutics of academic pursuit. Yet the discussion of moral development involved not only the evidence of power displayed in general academia, but also specifically in business that has subsumed the twentieth century role of leadership of the people's lives and times. Frederick Taylor may well have understood the contest best. The delicate balance of power and the ability to affect the course of time through human decisions always will be played-out between the "haves" and the "have-nots." Therefore, *who* is benefited the most today rests upon the subtle distinction of who, what, when, where, why, and how power is yielded.

Chapter III explained the methodology for empirically testing certain constituents in the construction industry, namely, architects, contractors, and suppliers. Thus, Rest's Defining Issues Test (DIT) was employed as an efficient and effective instrument for the identification of the subject's propensity to engage in post-conventional decision making (P-score). The idea was that architects—with advanced education and aesthetic interests—would score higher than contractors and suppliers. The question that this dissertation study sought to resolve is whether there was a relationship between work position in the construction industry and moral judgment level on Kohlberg's scale as measured by the Defining Issues Test. Therefore, this research used the DIT's Principled Score (P-score) to examine and compare cognitive moral development of architects, construction contractors, and construction suppliers. The study purposed to answer the following questions:

Question 1: Do architects have a higher moral maturity level as measured by the P-score than the average of all subjects tested in the DIT data bank?

Question 2: Do architects have a higher moral maturity level as measured by the P-score than contractors in the construction industry?

Question 3: Do architects have a higher moral maturity level as measured by the P-score than suppliers in the construction industry?

The second step in the research study examined the moral motivation of architects, contractors, suppliers, and workers in the construction industry by simply asking them their propensity to put into action moral decisions in a competitive bid situation. It was expected that the higher the P-score, the higher the propensity to act in a

manner to refrain from opportunism and employ *good* behavior as represented by the M-score. The motivation scores were measured against each other individually and collectively to answer the following research questions:

Question 4: Do architects have a higher ethical motivation as measured by the M-score than contractors in the construction industry?

Question 5: Do architects have higher ethical motivation as measured by the M-score than suppliers in the construction industry?

Question 6: Do construction constituents with significantly higher CMD as measured by the P-score also have significantly higher ethical motivation as measured by the M-score?

Finally, the substantive results were presented in Chapter IV. The sample that was drawn from various construction associations in Iowa indicated that architects' moral maturity was below average compared to others in the DIT data bank, and only marginally different than their contractor counterparts. Thus, neither research question #1 nor question #2 were supported in the study. However, architects scored significantly higher than suppliers who serve in the sales function. So research question #3 was supported in the study. Lastly, the additional question regarding the percentage of times that the subjects would use opportunistic behavior provided little useful data since the distribution was largely positively skewed. Research questions #4, #5, or #6 were not supported in the study.

The goal of Chapter V is to suggest possible reasons for the shape of the distributions of P-score from the sample drawn from the construction industry. First, general implications regarding morality theory are discussed. Then, inferences from the

analysis of the data are discussed along with ideas for future research and limitations of the study.

General Implications for Current Psychology Theory

Morality is an overarching theory that encompasses the psychology of man and woman. Indubitably business and industry have had a personal stake in understanding the human resource. In the early 1900s, the frantic effort to map a theory of performance took birth in the organizational setting. Hugo Munsterberg set up his clinic at Harvard University as the first endeavor to empirically test individuals at work, which earned him the title of “the father of industrial psychology” (Wren, 2005). The problem is that the goals of the industrial psychologist are laden with management self-interest. The word *performance* means, “You win and I lose” to ordinary workers who Taylor developed empathy for during his days at Enterprise Hydraulic where he labored as an apprentice machinist (Wren). He blamed management for “bad industrial conditions” that resulted from lack of job design and incentives (Wren, p. 122). Taylor’s remedy was piece-rate work and the improvement of tools, which get the most press in management literature. More importantly, he initiated an insightful approach to staff management positions that gave a sense of empowerment to workers. This concept—the task management system—was decades ahead of its time. Yet many of Taylor’s ideas waned after his death due to his protégés’ fascination for discovering the next neo-phenomena. Beating the worker psyche is like defying gravity; the researchers at the Hawthorne plant found this out in the late 1920s (Wren).

The Hawthorne studies taught researchers at least two things. First, researcher bias can very easily get in the way of fruitful scientific experimentation. Second, what the

researchers really were dealing with was management versus worker systems of power. In particular, class antagonisms came into play in assembly plant departments. Latham (2007) entitled this era of 1925-1950 as “dust bowl empiricism” suggesting researchers’ confusion and lack of rigor beginning in the Hawthorne studies (p. 13). While the next 50 years were full of empirical study, future researchers possibly may make the same charge. In other words, psychological research examining humans still today may be confounded by the same difficulty for controlling the many variables of the human psyche. The invention of mediators and moderators has helped to explain them, but has probably done much less to control them. For instance, Mitchell and Daniels (as cited in Latham) stated that goal-setting now is dominant in industrial psychology. The theory is underpinned by the presupposition that goals are “the situationally specific form of one’s values” (Latham, p. 176). Yet, instrumental approaches such as goal-theory are not supported by most scholars of stakeholder theory, and they “reek” of both consumerism and pre-conventional thinking (Wijnberg, 2000). A broader framework must be advanced.

A parsimonious model that encompasses pre-conventional, conventional and post-conventional thinking is depicted in Figure 9, which is based on only three waypoints. For instance, Aristotle postulated that if a person was really concerned about persuasion, rhetorical speech must be used. He claimed that rhetoric involved only three factors: ethos, pathos, and logos (Spicer & Molina, 2004). Similarly, pointing at the end points of human expression, the Apostle Paul made a similar observation: “...so these three things continue forever: faith, hope, and love” (I Corinthians 13:13, New Century version). Therefore, a straightforward explanation of human decision making is depicted in terms of the normal distribution shown in Figure 9. Two dimensions of choice are reflected in

the x and the y axes as simply horizontal and vertical motivation with the endpoints of organization and procreation. The third dimension is reflected in hope—the place chosen on the plane.

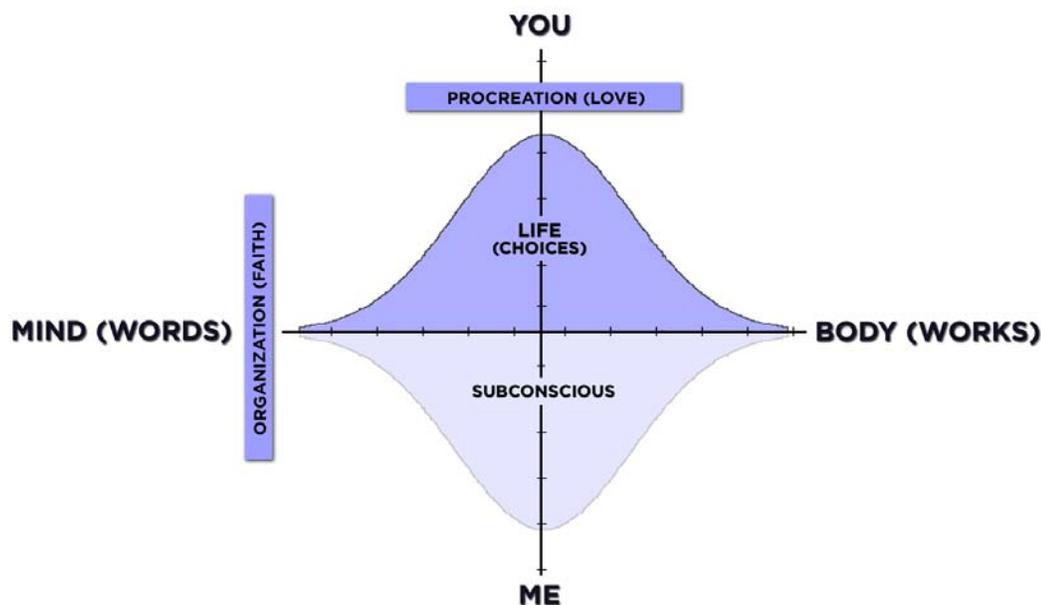


Figure 9. A momentary frequency distribution for the choices of all living people

Horizontal motivation is well documented in research literature, and perhaps Kohlberg’s CMD does the most inclusive job of any theory in depicting the range of the subject’s choice along the axis of horizontal motivation. That is, from the body externally (by the senses) to the body internally (by the mind). These thinking patterns have been labeled as preconventional, conventional, and post-conventional. Vertical motivation also is well documented in research literature. The byword today is culture. So, vertical motivation depicts the subject’s desire that ranges from intrinsic (for “me”) to extrinsic (for “you”). The physical mechanism for self-preservation or procreation begins with eight tiny beadlike structures of the brain located in the roof of the mouth, the

hypothalamus, and proceeds through both the limbic subdivisions and thalamocingulate division of the brain (Loye, 2002).

It is noteworthy that extreme pre-conventional reasoning as well as extreme post-conventional reasoning falls in the tails of the frequency distribution indicating that they have much more to do with “me” than social concerns. This fact caused one scholar to warn his students that biting and devouring each other leads to destroying each other. On the other hand, one should not use freedom to indulge oneself, but serve one another in love (Galatians 5, New International Version).

The bulk of the human experience is depicted in the middle of the frequency distribution. Thus, the philosophical argument that reality is largely socially constructed merits favor. However, the human autonomic system depicted in the shadow of the subconscious similarly encompasses a large part of life. Thus, the philosophical argument that reality is largely inwardly constructed cannot be denied. These perspectives mirror the debate between the respective adherents of Piaget and Vygotsky (Cole & Wertsch, 1996).

Using the interrogatories in life, the question *what* encompasses the right side of the horizontal axis of Figure 9. One’s senses discover and explain reality. The question of *why* encompasses the left side of the horizontal axis. One’s mind searches for connections between the physical and invisible as well as how experiences of life are explained and organized. *Who* encompasses the individual’s choices of benefitting me or benefitting you along opposite ends of the vertical axis. *How* describes various combinations of horizontal motivation versus vertical motivation. Each person selects the exact place (decision/action) on the plane of the distribution. Verbs used in semantics describe the

quality of the place on the distribution, often with a hint of power needed to sustain that choice. For instance, coercive power suggests choices using the hands for personal benefit (the lower right in the distribution) while communication power suggests choices using the mind for the benefit of others (the top center of the distribution). Finally, the *when* and *where* of the frequency distribution is here and now –the individual’s place. But the human being practices feed-forward and feed-backward to veraciously position each succeeding place in time and space. Life cannot exist without a place on the frequency distribution. If depth was added to represent all moments of time, the distribution would be immeasurable and the shape of the bell curve certainly would change according to the particular epoch that mankind happened to be enduring.

Implications for CMD Research

The study at hand tested moral thinking in the construction industry. Constituents scored in stage 4 of moral maturity—preconventional reasoning. Thus, architects, contractors, and suppliers had more in common with juvenile delinquents than moral philosophers. However, it is not surprising that social systems constrained by norms would think in common schemas. So being constrained by the rules of imprisonment may have more in common with the rules of the longstanding system of competitive bidding in the construction industry. Here organizational life is controlled by rigid specifications that contractually eliminate any form of noncoercive interaction (that is, referent, expert, and legitimate). Thus, parties cannot measure success in procuring jobs by charm or wisdom or even social relations. The low bidder always is the winner. This mindset in construction has survived through many generations of building construction cycles. Pure dyadic exchange belongs in economic systems of coercive and reward power. Equity

theory suggests how choices are made measuring risk and reward that reflect the far right side of the frequency distribution described in Figure 9.

It is noteworthy that the only research question supported in the empirical study was the significant difference in the sales function compared to architects. Suppliers in construction scored lower than everyone, which is not dissimilar to other research findings. For instance, McClaren's (2000) literature review of sales personnel and management showed that salespeople were morally less sensitive and relied on teleological considerations (CMD stage 1) rather than deontological considerations (CMD stage 2) when forming intentions for behavior. Thus, the literature suggests that sales personnel are quite likely in a "league of their own" and do not share in the construction industry power paradigm.

Finally, one aspect of this study was the control of many psychological variables in an intra-industry setting. Additional research across organizations while recognizing positions of power may add to the reliability and validity of the Kohlbergian-based framework of morality, and provide the bridge between theory and practice that is essential for real progress in mapping and helping the human condition in the organizational setting. Essentially, this means taking into account the "y" axis of the moral framework of Figure 9—culture. Even though Rest (1994) forcefully argued that age and education were the most "powerful predictor of moral development" (p. 15), this link remarkably is missing from this study. Furthermore, age and education were not significant covariates.

Ideas for Future Research

As discussed above, industrial psychology must come to grips with the issue of controlling ancillary variables in theory-building and scientific experimentation. Thus, “competent criterion research is one of the most pressing needs” (Cascio & Aguinis, 2005, p. 66). Quid pro quo thinking of pre-conventional reasoning is involved in the typical performance measures used in research. So task performance is the ultimate criterion for business research. However, pro-social thinking of conventional reasoning is involved in contextual performance. This has been labeled “organizational citizenship behavior.” In this arena, outcomes such as satisfaction become much more tenable (Organ, Podsakoff, & Mackenzie, 2006). Therefore, understanding morality as an overarching template in research can help to classify the range of these criterion possibilities. Future research conducted in the parsimonious morality framework may hold significant promise for establishing both higher reliability and validity.

The normative approach to stakeholder theory is concerned with the good produced by human choice and the underlying value. Freeman (1994) posited that all things that have value share in the nature of good. Values, then, are commensurable and theoretically can be measured and even achieve Pareto-optimality as the interests of stakeholders are balanced. Furthermore, when it comes to decision making and the resolution of conflicting interests, other values come to mind, such as justice, courage, generosity, and so forth.

Limitations of the Study

An ongoing discussion persists among researchers as to whether cognitive moral development does in fact lead to ethical decision making. Mitigating factors are likely

those intense desires that arrest reason, such as those identified in this study. However, there is a growing body of research centered on the relationship between education and its transference to ethical decision making (Abdolmohammadi et al., 1997; Bishop, 1992; Izzo, 2000; Loe & Weeks, 2000; Rest, 1979, 1986a). The limited results of this sample hardly trump the work of these scholars, but may respectfully enter the discussion for “what it’s worth.”

The sample set was drawn from the construction industry in Iowa and may not be representative of the nation as a whole. The sample was not drawn randomly, but all firms in the 2007-2008 Iowa membership directories of the Associated Builders and Contractors (ABC), the Associated General Contractors (AGC), and the Architects Institute of America (AIA) were canvassed. Also, the construction industry in its entirety is much larger than the arena of publicly bid jobs and may not represent the whole industry. The CMD theory is based on how the subject maintains and balances justice in cognitive reasoning rather than examining other bases for morality, like religious beliefs or social norms as used by alternative moral reasoning theories (Rest, 1993).

Another limitation of the study was the consistent “no” answer to the question regarding the practice of opportunistic behavior. Either the architects, contractors, and suppliers are among the most honest people around the globe or they have been trained to answer in this fashion from public pressure and peer pressure. For instance, in the late 1970s federal and state governments cracked down on illegal bidding practices with Sherman antitrust prosecution by the Department of Justice against the highway construction contractors. The targeting of a single industry is rare, but abuses were rampant, resulting in severe fines and even jail time for some of the biggest contractors in

the Midwest (Joyner, 1985). The social stigma of opportunistic behavior in construction may never subside, and future studies aimed at a true-to-life picture of work practices may have better success by using interview techniques and/or case studies.

Finally, the three-story DIT was administered to the sample rather than the five-story DIT in order to boost the chance of raising response rate. The cost in reliability is several percentage points, according to the Center for the Study of Ethical Development at the University of Minnesota (i.e., .77 versus .82) (Rest, 1993).

Summary

Apparently many studies of industrial psychologists fit a preconventional reasoning paradigm. With performance as the endpoint of the research enterprise, achieving equity has little to do with social issues concerning good. Aristotle argued that the issue of good is central to social life. So research that ignores culture ignores the middle of the frequency distribution of moral choice. Here life is about the Great Ego that was espoused by Follett and the Gestalt movement of the 1920s (Wren, 2005). Conceptually, the debate between performances versus good has caused “quite a stir” in industrial research, which is reflected by the transitive concept of satisfaction. It has been difficult to find a proper place for satisfaction in preconventional reasoning systems (Chia & Holt, 2008). This would be even more apparent should industrial psychology “move to the left” and take up the concept of the good of mankind.

Appendix A

Tables Depicting Other Endogenous Variables of Morality and Ethics

Table A1

Faith Stages by Aspects

Stage	Form of logic (Piaget)	Role-taking (Selman)	Form of moral judgment (Kohlberg)	Bounds of social awareness	Locus of authority	Form of world coherence	Role of symbols
0				Undifferentiated combination of basic trust, organismic courage, premonitory hope with admixtures of their opposites – preconceptual, prelinguistic mutuality.			
1	Preoperational.	Rudimentary empathy (egocentric).	Punishment – reward.	Family, primal others.	Attachment/dependence relationships. Size, power, visible symbols of authority.	Episodic.	Magical-numinous.
2	Concrete operational.	Simple Perspective taking.	Instrumental hedonism (reciprocal fairness).	“Those like us” (in familial, ethnic, racial, class and religious terms).	Incumbents of authority roles, salience increased by personal relatedness.	Narrative-dramatic.	One-dimensional; literal.

Stage	Form of logic (Piaget)	Role-taking (Selman)	Form of moral judgment (Kohlberg)	Bounds of social awareness	Locus of authority	Form of world coherence	Role of symbols
3	Early formal operations.	Mutual Interpersonal.	Interpersonal expectations and concordance.	Composite of groups in which one has interpersonal relationships.	Consensus of valued groups and in personally worthy representatives of belief-value traditions.	Tacit system, felt meanings symbolically mediated, globally held.	Symbols multidimensional; evocative power inheres in symbol.
4	Formal operation. (dichotomyizing)	Mutual, with self-selected group or class (societal).	Societal perspective; Reflective relativism or class-biased universalism.	Ideologically compatible communities with congruence to self-chosen norm and insights.	One's own judgment as informed by a self-ratified ideological perspective. Authorities and norms must be congruent with this.	Explicit system, conceptually mediated, clarity about boundaries and inner connections of system.	Symbols separated from symbolized. Translated (reduced) to ideations. Evocative power inheres in meaning conveyed by symbols.

Stage	Form of logic (Piaget)	Role-taking (Selman)	Form of moral judgment (Kohlberg)	Bounds of social awareness	Locus of authority	Form of world coherence	Role of symbols
5	Formal operations. (Dialectical)	Mutual with groups, classes and traditions “other” than one’s own.	Prior society, principled higher law (universal and critical).	Extends beyond class norms and interests. Disciplined ideological vulnerability to “truths” and claims of out- groups and other traditions.	Dialectical joining of judgment-experience processes with reflective claims of others and of various expressions of cumulative human wisdom.	Multisystemic symbolic and conceptual mediation.	Postcritical rejoining of irreducible symbolic power and ideational meaning. Evocative power inherent in the reality in and beyond symbol and in the power of unconscious processes in the self.

Stage	Form of logic (Piaget)	Role-taking (Selman)	Form of moral judgment (Kohlberg)	Bounds of social awareness	Locus of authority	Form of world coherence	Role of symbols
6	Formal operations. (Synthetic)	Mutual, with the common- wealth of being.	Loyalty to being.	Identification with the species. Trans- narcissistic love of being.	In a personal judgment informed by the experiences and truths of previous stages, purified of egoic striving, and linked by disciplined intuition to the principle of being.	Unitive actuality felt and participated unity of “One beyond the many.”	Evocative power of symbols actualized through unification of reality mediated by symbols and the self.

Note. From “Moral Stages and Development of Faith,” by J. Fowler, 1980. In B. Munsey (Ed.), *Moral Development, Moral Education, and Kohlberg* (pp. 152-153). Birmingham, AL: Religious Education Press.

Table A2

Aspects of Gallup's Strengths-Based Management

Strength	Theme	Managing strengths
Achiever	Explains a constant drive and need for achievement.	Ask this person to do extra jobs as he or she likes to stay busy; help him or her measure results and avoid putting him or her with slackers.
Activator	Explains an impatience for action and reoccurring question "When can we start?"	Ask this person to take on new goals and improve things; expectations energize.
Adaptability	Explains the flexible who can stay productive even during unforeseen detours.	Ask this person to take on a task that is likely to experience unforeseen difficulties.
Analytical	Explains the objective and dispassionate who likes data to "prove it."	Ask this person to make important decisions; if explaining a decision, be sure to lay out the logic.
Arranger	Explains the conductor who enjoys managing and aligning all of the variables.	Ask this person to take responsibility according to skills; he or she will be resourceful and enjoy

Strength	Theme	Managing strengths
		establishing systems.
Belief	Explains the family-oriented, altruistic, spiritual whose core values are enduring, constant and responsible.	Ask this person to do anything that you discover he or she has a passion for; natural service will be prized over rewards.
Command	Explains the take charge that does not fear confrontation in aligning others to goals.	Ask this person to jar a project loose and give plenty of room to lead.
Communication	Explains the host, the speaker, the writer who brings thoughts to life.	Ask this person to contribute to public relations.
Competition	Explains the compare and win seekers who need others.	Ask this person to take on contests and measure him or her against others.
Connectedness	Explains a soul cognizant of the collective unconscious that knows things happen for a reason; a bridge builder for unity.	Ask this person to deal with social issues and build bridges among groups.
Context	Explains the one who looks back at the past to understand the future and build confidence.	Ask this person to understand the background of decisions so he or she can commit to a course

Strength	Theme	Managing strengths
		of action.
Deliberative	Explains the careful, vigilant, and private that sees the risks, picks friends carefully, and anticipates a plan for the wrongs that happen.	Ask this person to be involved in a group that makes snap decisions; discovering land mines and negotiating contracts will be strong roles.
Developer	Explains the one who sees potential in all and looks for ways to interact, challenge, and grow.	Ask this person to take on roles where people need growth.
Discipline	Explains the organizer who imposes structure, routines, neatness, and precision.	Ask this person to bring structure to a chaotic situation and don't surprise him or her with sudden changes.
Empathy	Explains the sensitive who intuitively sees the world through the eyes of others.	Ask this person to deal with sensitive situations and arrange for him to work with positive people.
Fairness	Explains a keen awareness for balance, treating everyone the same, and guarding against inconsistencies.	Ask this person to recognize fair contributions of others and to set up routines where equality is preferred.

Strength	Theme	Managing strengths
Focus	Explains those with a clear destination with goals and priorities as a compass.	Ask this person to take on jobs with timelines and control; check-in with him or her often and talk about goals.
Futuristic	Explains the need to peer over the horizon toward a detailed picture that pulls the dreamer forward.	Ask this person to serve on the planning committee and give him or her ideas to ponder.
Harmony	Explains looking for agreement, consensus, and support while avoiding conflict.	Ask this person to be around similar people and avoid situations of conflict and wasting time over controversy.
Ideation	Explains those fascinated by ideas that can be seen from a new perspective.	Ask this person to be involved where his or her ideas will be valued; sharing insights is a powerful tool for loyalty.
Inclusiveness	Explains those who stretch the circle wider by drawing others in.	Ask this person be involved in recruitment and orientation teams.
Individualization	Explains those interested in the unique qualities of others that makes for keen observations.	Ask this person to help improve productivity or figure out the right roles for people.

Strength	Theme	Managing strengths
Input	Explains the inquisitive who collects things because of interest.	Ask this person to do research and keep him or her advised on everything because he or she wants to be in the know.
Intellection	Explains those who like to think and solve problems and enjoys introspection.	Ask this person to do evaluations and explain things to others; giving him or her time to think is important, but it may be useful to team him or her with an Activator.
Learner	Explains the love of the process of learning that is exciting in the journey from ignorance to competence.	Ask this person handle roles that require maintaining competency in fast changing fields.
Maximizer	Explains the compelling urge to take things from something average to superb.	Ask this person to investigate best practices and make them even better; measuring the effectiveness of people is another possibility.
Positivity	Explains the generous, praising, and smiling that lightens the load and whose enthusiasm is	Ask this person to bring drama and energy into the organization; his or her energy is contagious,

Strength	Theme	Managing strengths
	contagious.	but avoid placing him or her with cynics.
Relater	Explains those who pleasure in close friends that derive intimacy, comfort and encouragement.	Ask this person to develop genuine bonds with people; he or she will be loyal and trustworthy.
Responsibility	Explains the owners for things committed to and bound for completion; excuses are unacceptable.	Ask this person to handle jobs where quality of work is important as well as time commitments; be careful not to give him or her too much.
Restorative	Explains the energy of solving problems that are complex and bringing things back to life.	Ask this person to solve problems with best customers.
Self-assurance	Explains confidence and faith in strengths that are expressed through abilities and judgment.	Ask this person to make meaningful decisions that do not require hand-holding.
Significance	Explains those who want to be heard and recognized in the truest sense and associate	Ask this person to handle roles where he can stand out independently; encourage the

Strength	Theme	Managing strengths
	with the credible.	development of skills to realize the claims of excellence.
Strategic	Explains those who sort through the clutter to find the best route that forms patterns and alternative scenarios.	Ask this person to put thought into action and position on the leading edge of the organization.
Woo	Explains winning others over and the enjoyment of meeting others.	Ask this person to meet people, especially strangers.

Note. From "Now Discover your Strengths," by M. Buckingham and D. O. Clifton, 2001, New York: The Free Press.

Table A3

Aspects of the CPI Personality Test

	Traits	At best	At worst
Alphas	enterprising, dependable, outgoing, conforming to rules	doers, charismatic leaders	self-centered, manipulative, opportunistic
Betas	reserved, responsible, moderate, sources of wisdom	models of goodness and insight	conformists, constricted, fearful
Gammas	external, doubters, skeptics, adventurous, restless	innovative, creative	rebellious, disruptive, intolerant
Deltas	withdrawn, private, detached, reflective, creative	visionary	conflicted, withdrawn, fragmented

Note. From "CPI Manual" (3rd ed.), by H. G. Gough (with P. Bradley), 1996, Palo Alto, CA: Consulting Psychologists Press.

Appendix B

DIT-1

OPINIONS ABOUT SOCIAL PROBLEMS

This questionnaire is aimed at understanding how people think about social problems. Different people often have different opinions about questions of right and wrong. There are no “right” answers in the way that there are right answers to math problems. We would like you to tell us what you think about several problem stories. The papers will be fed to a computer to find the average for the whole group, and no one will see your individual answers.

Please give us the following information:

Name

In this questionnaire you will be asked to give your opinions about several stories. Here is a story as an example.

Frank Jones has been thinking about buying a car. He is married, has two small children and earns an average income. The car he buys will be his family's only car. It will be used mostly to get to work and drive around town, but sometimes for vacation trips also. In trying to decide what car to buy, Frank Jones realized that there were a lot of questions to consider. Below there is a list of some of these questions.

If you were Frank Jones, how important would each of these questions be in deciding what car to buy?

Instructions for Part A: (Sample Question)

On the left hand side check one of the spaces by each statement of a consideration. (For instance, if you think that statement #1 is not important in making a decision about buying a car, check the space on the right.)

IMPORTANCE:

Great Much Some Little No

					1. Whether the car dealer was in the same block as where Frank lives. (Note that in this sample, the person taking the questionnaire did not think this was important in making a decision.)
					2. Would a <u>used</u> car be more economical in the long run than a new car. (Note that a check was put in the far left space to indicate the opinion that this is an important issue in making a decision about buying a car.
					3. Whether the color was green, Frank's favorite color.
					4. Whether the cubic inch displacement was at least 200. (Note that if you are unsure about what "cubic inch displacement" means, then mark it "no importance.")
					5. Would a large, roomy car be better than a compact car.
					6. Whether the front connibilia were differential. (Note: that if a statement sounds like gibberish or nonsense to you, mark it "no importance.")

Instructions for Part B: (Sample Question)

From the list of questions above, select the most important one of the whole group. Put the number of the most important question on the top line below. Do likewise for your 2nd, 3rd and 4th most important choices. (Note that the top choices in this case will come from the statements that were checked on the far left-hand side – statements #2 and #5 were thought to be very important. In deciding what is the most important, a person would re-read #2 and #5, and then pick one of them as the most important, then put the other one as "second most important," and so on.)

<u>MOST IMPORTANT</u>	<u>SECOND MOST IMPORTANT</u>	<u>THIRD MOST IMPORTANT</u>	<u>FOURTH MOST IMPORTANT</u>
1	2	3	4

HEINZ AND THE DRUG

In Europe a woman was near death from a special kind of cancer. There was one drug that the doctors thought might save her. It was form of radium that a druggist in the same town had recently discovered. The drug was expensive to make, but the druggist was charging ten times what the drug cost to make. He paid \$200 for the radium and charged \$2000 for a small dose of the drug. The sick woman's husband, Heinz, went to everyone he knew to borrow the money, but he could only get together about \$1000, which is half of what it cost. He told the druggist that his wife was dying, and asked him to sell it cheaper or let him pay later. But the druggist said. "No, I discovered the drug and I'm going to make money from it." So Heinz got desperate and began to think about breaking into the man's store to steal the drug for his wife.

Should Heinz steal the drug? (Check one)

_____ Should steal it _____ Can't decide _____ Should not steal it

IMPORTANCE:

Great Much Some Little No

					1. Whether a community's laws are going to be upheld?
					2. Isn't it only natural for a loving husband to care so much for his wife that he'd steal?
					3. Is Heinz willing to risk getting shot as a burglar or going to jail for the chance that stealing the drug might help?
					4. Whether Heinz is a professional wrestler, or has considerable influence with professional wrestlers.
					5. Whether Heinz is stealing for himself or doing this solely to help someone else.

					6. Whether the druggist's rights to his invention have to be respected.
					7. Whether the essence of living is more encompassing than the termination of dying, socially and individually.
					8. What values are going to be the basis for governing how people act towards each other.
					9. Whether the druggist is going to be allowed to hide behind a worthless law which only protects the rich anyhow.
					10. Whether the law in this case is getting in the way of the most basic claim of any member of society.
					11. Whether the druggist deserves to be robbed for being so greedy and cruel.
					12. Would stealing in such a case bring about more total good for the whole society or not.

From the list of questions above, select the four most important:

Most Important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

ESCAPED PRISONER

A man had been sentenced to prison for 10 years. After one year, however, he escaped from prison, moved to a new area of the country, and took on the name of Thompson. For 8 years he worked hard, and gradually he saved enough money to buy his own business. He was fair to his customers, gave his employees top wages, and gave most of his own profits to charity. Then one day, Mrs. Jones, an old neighbor, recognized him as the man who had escaped from prison 8 years before, and whom the police had been looking for.

Should Mrs. Jones report Mr. Thompson to the police and have him sent back to prison? (Check one)

_____ Should report him _____ Can't decide _____ Should not report him

IMPORTANCE:

Great Much Some Little No

					1. Hasn't Mr. Thompson been good enough for such a long time to prove he isn't a bad person?
					2. Every time someone escapes punishment for a crime, doesn't that just encourage more crime?
					3. Wouldn't we be better off without prisons and the oppression of our legal systems?
					4. Has Mr. Thompson really paid his debt to society?
					5. Would society be failing what Mr. Thompson should fairly expect?
					6. What benefits would prisons be apart from society, especially for a charitable man?

					7. How could anyone be so cruel and heartless as to send Mr. Thompson to prison?
					8. Would it be fair to all the prisoners who had to serve out their full sentences if Mr. Thompson was let off?
					9. Was Mrs. Jones a good friend of Mr. Thompson?
					10. Wouldn't it be a citizen's duty to report an escaped criminal, regardless of the circumstances?
					11. How would the will of the people and the public good best be served?
					12. Would going to prison do any good for Mr. Thompson or protect others?

From the list of questions above, select the four most important:

Most Important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

NEWSPAPER

Fred, a senior in high school, wanted to publish a mimeographed newspaper for students so that he could express many of his opinions. He wanted to speak out against the war in Viet Nam and to speak out against some of the school's rules like the rule forbidding boys to wear long hair.

When Fred started his newspaper, he asked his principal for permission. The principal said it would be all right if before every publication Fred would turn in all his articles for the principal's approval. Fred agreed and turned in several articles for approval. The principal approved all of them and Fred published two issues of the paper in the next two weeks.

But the principal had not expected that Fred's newspaper would receive so much attention. Students were so excited by the paper that they began to organize protests against the hair regulation and other school rules. Angry parents objected to Fred's opinions. They phoned the principal telling him that the newspaper was unpatriotic and should not be published. As a result of the rising excitement, the principal ordered Fred to stop publishing. He gave as a reason that Fred's activities were disruptive to the operation of the school.

Should use principal stop the newspaper? (Check one)

Should stop it Can't decide Should not stop it

IMPORTANCE:

Great Much Some Little No

					1. Is the principal more responsible to students or to the parents?
					2. Did the principal give his word that the newspaper could be published for a long time, or did he just promise to approve the newspaper one issue at a time?
					3. Would the students start protesting even more if the principal stopped the newspaper?

					4. When the welfare of the school is threatened, does the principal have the right to give orders to students?
					5. Does the principal have the freedom of speech to have "no" in this case?
					6. If the principal stopped the newspaper would he be preventing full discussion of important problems?
					7. Whether the principal's order would make Fred lose faith in the principal.
					8. Whether Fred was really loyal to his school and patriotic to his country.
					9. What affect would stopping the paper have on the student's education in critical thinking and judgments?
					10, Whether Fred was in any way violating the rights of others in publishing his own opinions.
					11. Whether the principal should be influenced by some angry parents when it is the principal that knows best what is going on in the school.
					12. Whether Fred was using the newspaper to stir up hatred and discontent.

From the list of questions above, select the four most important:

Most Important _____

Second Most Important _____

Third Most Important _____

Fourth Most Important _____

Appendix C

Cover Letter Accompanying the DIT

REQUEST FOR YOUR ASSISTANCE.

February 1, 2008

Dear Construction Industry Professional:

As a fellow colleague, Iowa resident, and specialty contractor, I am requesting your assistance in participating in a study regarding our industry. I am a Doctoral level business student in the Wayne Huizenga School of Business and Entrepreneurship department at Nova Southeastern University. I am asking you to share your responses to the enclosed survey in an effort to gather some much needed insight into our overall work practices and thoughts behind our decision-making processes.

The purpose of this study is to understand the degree to which two or more variable are related and change together regarding our overall work practices and thoughts behind our decision-making processes. Specifically, the study aims to correlate various variables in the construction industry (i.e., social conventions, personal tastes, judgments, beliefs, knowledge, etc.) so as to add to the existing body of research. All responses are anonymous.

Please complete the survey and questionnaire and mail them back in the self-addressed, stamped envelope provided. The deadline to submit your survey is February 14, 2008. Should you have any questions whatsoever, please do not hesitate to contact me at 800.635.6422 or my Dissertation chairman, Dr. Frank Cavico, J.D., L.L.M. at 954.262.5096.

Thank you in advance for your time and responses.

Sincerely,

James N. Reischl
President, R.L. Craft Company



2509 HWY 30 EAST
DENISON, IA 51442
800.635.6422 • jnr@iowatelecom.net

Results to be presented at the Fall Convention.

Appendix D

Participant Information Questions

Please check, circle, or fill-in the appropriate response.

1. I am a construction:
 - Architect
 - Engineer
 - General contractor
 - Specialty contractor
 - Supplier
 - Other: _____
2. Education
 - High School Diploma
 - Associates Degree
 - Bachelors Degree
 - MBA
 - PhD
 - Other _____
3. Number of years you have worked in this field:

4. Your age: _____.
5. Gender: Male Female
6. I have had previous ethics courses or ethics training: yes no
7. My industry association has a code of ethics: yes no
8. Given that you want to win a competitive bid with another party, what percentage of the time would you decide to cut pricing or cut corners, **assuming the other party was never going to know**? Answer: _____% (please respond with a rough estimated percentage).

9. Given that you want to win a competitive bid with another party, what percentage of the time would you decide to cut pricing or cut corners, **if the other party knew**? Answer _____% (please respond with a rough estimated percentage).

PLEASE FEEL FREE TO ADD ANY PERSONAL COMMENTS OR FEEDBACK

ABOUT QUESTIONS 8 OR 9:

(attach additional paper if needed)

Appendix E

Correspondence—Architects Institute of America Iowa (AIA Iowa)

Email Request for Assistance to Members

REQUEST FOR YOUR ASSISTANCE.

Dear AIA Professional,

A fellow colleague and specialty contractor, James Reischl, has agreed to report to our association regarding the health of our industry. As a fellow Iowa resident, he is requesting your assistance. James is asking you to share your responses to an upcoming survey in an effort to gather some much needed insight into our overall work practices and thoughts behind our decision making processes (you will receive the survey via mail in the next few days).

Dozens of professional organizations have taken part in this survey pioneered by the University of Minnesota. The defining issues test (DIT) helps us understand how people think about social problems. The University of Minnesota has used the information to develop an ethics component in their curriculum for professional studies ranging from nursing, dentistry, and teaching. To date, the construction industry has not been examined and we would all gain valuable insight to see how our industry stacks up.

All responses are anonymous and we thank you for taking a little time out of your day to benefit our industry. Findings and conclusions to the study will be shared with all in attendance at the Fall Convention. Should you wish to receive the report once completed via e-mail, we would be happy to share in this format as well.

As noted, you will receive the anonymous survey in the mail in just a few days. Thank you in advance for your time.

Sincerely,

Suzanne Schwengles
Executive Vice President

RESULTS TO BE PRESENTED AT THE FALL CONVENTION.

Email *Reminder* Request for Assistance to Members

REQUEST FOR YOUR ASSISTANCE.

Dear AIA Professional,

You should have received a survey in the mail this week from James Reischl. As a quick recap, he is a fellow colleague, Iowa resident, and specialty contractor; he has agreed to report to our association regarding the health of our industry. You have been asked to share your responses to this survey in an effort to gather some much needed insight into our overall work practices and thoughts behind our decision making processes.

Dozens of professional organizations have taken part in this survey pioneered by the University of Minnesota. To date, the construction industry has not been examined and we would all gain valuable insight to see how our industry stacks up.

All responses are anonymous and we thank you for taking a little time out of your day to benefit our industry. Findings and conclusions to the study will be shared with all in attendance at the Fall Convention. Should you wish to receive the report once completed via e-mail, we would be happy to share in this format as well.

Thank you in advance for your time.

Sincerely,

Suzanne Schwengles
Executive Vice President

RESULTS TO BE PRESENTED AT THE FALL CONVENTION.

Original Letter of Request to AIA Iowa Association



November 19, 2007

American Institute of Architects
1000 Walnut Street, Suite 101
Des Moines, Iowa 50309

Dear Executive Committee of the AIA Iowa:

Since the Enron debacle a few years ago, U.S. businesses across the country have been called to account for their business practices. Research studies have shown mixed results whether training, codes of conduct or government intervention is the answer.

As an Iowa specialty contractor of 30 years, I would like to report to your association regarding the health of our industry. That is, architects, engineers, general contractors, specialty contractors, and suppliers. I would appreciate your cooperation in conducting my doctoral dissertation survey among your membership; it is called the Defining Issues Test (DIT), which was developed by Dr. James R. Rest of the University of Minnesota.

Many other organizational groups have been tested including the health professionals, accountants, and various education groups. Over 1,000 research studies have been conducted across the country. However, the construction industry has not been examined and we would gain valuable insight to see how our industry stacks up. The DIT test instrument takes approximately 30 minutes to complete; it is anonymous; and it scores the ethical reasoning skills of the individual. My plan is to mail out the survey between December of 2007 and February of 2008.

While we all deal with hectic day-to-day schedules, it is important to occasionally reflect upon where we are headed in the future. I know your acknowledgement would mean a great deal to the validating the survey among the membership, and I would very much appreciate your assistance as well as the opportunity to report to you in an appropriate forum such as publications or conferences regarding the insights and outcomes.

Sincerely,

James N. Reischl

Enclosures

P.S.: I have attached my cover letter to be sent with the survey.

cc: Frank Cavico, J.D., L.L.M.

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