

**An Analysis of the Factor Structure of the Multidimensional Ethics Scale and a Perceived  
Moral Intensity Scale, and the Effects of Moral Intensity on Ethical Judgment**

Joan Marie McMahon

Dissertation submitted to the Faculty of the  
Virginia Polytechnic Institute and State University  
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

in

Psychology

Robert J. Harvey, Ph.D., Chair

Danny K. Axsom, Ph.D

David L. Brinberg, Ph.D.

George A. Clum, Ph.D.

William J. FitzPatrick, Ph.D

May 6, 2002

Blacksburg, Virginia

Keywords: Ethical Decision Making, Ethical Judgment, MES, Moral Intensity

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Joan Marie McMahon

(ABSTRACT)

Two studies analyzed the factor structure of the 8-item Multidimensional Ethics Scale (MES) (Reidenbach and Robin, 1988, 1990), a 30-item MES (the 30 items used to develop the 8-item measure), and a Perceived Moral Intensity Scale. Factor analyses supported a 3-factor structure for the 8-item MES, marginally supported a 5-factor structure (but more strongly suggested a 1-factor structure) for the 30-item MES, and supported a 3-factor structure for the Perceived Moral Intensity Scale. These scales were then used in a third study that examined the effect of manipulated and perceived moral intensity (Jones, 1991) on participants' ethical judgment of actions taken in 18 scenarios of an arguably ethical nature. A within-subject design found that manipulated moral intensity had a significant effect on ethical judgment, but perceived moral intensity did not. When ethical judgment (as measured by the three factors of the 8-item MES) was regressed on age, gender, major, perceived moral intensity factors, and interactions between age, gender, major and perceived moral intensity factors, the variance accounted for ( $R^2$ ) was significant for each of the three ethical judgment factors in both high and low intensity conditions using a between-subjects design, but was only significant for one of the ethical judgment factors (Moral Equity), and this only for low intensity scenarios, using a within-subject design. One explanation for the difference in effect appears to be that the means for the three perceived moral intensity factors were significantly different for the low versus high intensity

condition using the between-subjects design, but the means of two of the three factors were not significantly different using the within-subject design. Three explanations for this were suggested: perceived moral intensity may not have reached a necessary threshold due to explicit referents for comparison; cognitive demand may have been greater when two versions of a single scenario were being evaluated; and, the online administration of the study may have introduced greater error variance than the in-person paper-pencil administration. Ethical judgment was found to be a more robust predictor of intention than perceived moral intensity using a within-subject design. Suggestions were made for future research.

## ACKNOWLEDGMENTS

Dr. R.J. Harvey deserves my sincere thanks for his help and encouragement, not only on this project, but throughout my years at Virginia Tech. I thank the members of my committee, Dr. Danny K. Axsom, Dr. David L. Brinberg, Dr. George A. Clum, and Dr. William J. FitzPatrick, who contributed to this research with their invaluable ideas and suggestions. My family and friends provided a loving support system that enabled me to see this project through to completion. I am grateful to all of you.

## TABLE OF CONTENTS

ABSTRACT .....	ii
ACKNOWLEDGEMENTS .....	iv
INTRODUCTION .....	1
LITERATURE REVIEW .....	2
Business Ethics and I/O Psychology.....	2
Determinants of Ethical Decision Making.....	3
Ethical Decision Making Models.....	4
Moral Intensity.....	9
Empirical Studies of the Moral Intensity Construct .....	11
Moral Intensity and Moral Awareness.....	11
Moral Intensity and Behavioral Intention.....	13
Moral Intensity and Ethical Behavior.....	14
Moral Intensity and Ethical Judgment .....	14
Methodological Problems with Past Research.....	18
Measuring Ethical Judgment.....	20
Development of the Multidimensional Ethics Scale (MES).....	21
Problems Associated with MES Development.....	25
Confirmatory Factor Analyses of the 8-item MES .....	27
Studies Using Reidenbach and Robin’s (1988, 1990) Initial 30 Items.....	30
Measuring Moral Intensity.....	35
Within-Subject versus Between-Subjects Design.....	38

STUDY 1 .....	45
Method .....	45
Participants.....	45
Procedure .....	45
Experimental Task .....	46
Scenario Construction.....	46
Pilot Study/Manipulation Check.....	47
Manipulated Moral Intensity.....	48
Magnitude of Consequences Scenarios .....	48
Social Consensus Scenarios.....	49
Probability of Effect Scenarios .....	50
Temporal Immediacy Scenarios .....	51
Proximity Scenarios .....	52
Concentration of Effect Scenarios .....	52
Ethical Judgment.....	53
Perceived Moral Intensity.....	54
Data Analysis .....	54
Confirmatory Factor Analyses of the MES .....	54
Exploratory Factor Analyses of the PMIS .....	56
Results .....	57
Confirmatory Factor Analyses of the MES .....	57
Exploratory Factor Analyses of the PMIS .....	59
Discussion.....	61

Confirmatory Factor Analyses of the MES .....	61
Exploratory Factor Analyses of the PMIS .....	64
STUDY TWO .....	68
Method .....	68
Participants.....	68
Procedure .....	71
Data Analysis .....	72
Confirmatory Factor Analyses of the 30 Original MES Items .....	73
Exploratory Factor Analyses of the MES30 .....	73
Confirmatory Factor Analyses of the PMIS .....	73
Results .....	74
Confirmatory Factor Analyses of the MES30 .....	74
Exploratory Factor Analyses of the MES30 .....	75
Confirmatory Factor Analyses of the PMIS .....	75
Discussion .....	76
STUDY THREE .....	77
Method .....	77
Participants.....	77
Procedure .....	78
Dependent Variables .....	78
Independent Variables .....	79
Data Analysis .....	80
Results .....	80

Discussion .....	85
GENERAL DISCUSSION .....	89
REFERENCES .....	98
APPENDICES .....	109
A. Scenarios .....	109
B. Singhapakdi, Vitell, and Kraft (1996) Measure of Moral Intensity (MIS).....	118
C. Frey (2000a, 2000b) Moral Intensity Scale .....	119
D. Perceived Moral Intensity Scale (PMIS) .....	120
E. Reidenbach and Robin's (1988, 1990) Original 30 Items .....	121
F. Multidimensional Ethics Scale (Reidenbach & Robin, 1990).....	122
TABLES .....	123
FIGURES .....	165
VITA .....	176



## LIST OF TABLES

<i>Table</i>		<i>Page</i>
1	Moral Intensity Scenarios	123
2	Means, Standard Deviations, and Coefficient Alpha for MES, Study 1	124
3	Goodness-of-Fit Indices for MES, Study 1	125
4	Factor Loadings for CFA of MES, Study 1	126
5	Means, Standard Deviations, and Coefficient Alpha for PMIS, Study 1	127
6	EFA of PMIS, Study 1, One Factor	128
7	EFA of PMIS, Study 1, Two Factors	129
8	EFA of PMIS, Study 1, Three Factors	130
9	EFA of PMIS, Study 1, Four Factors	131
10	EFA of PMIS, Study 1, Five Factors	132
11	Means, Standard Deviations, and Coefficient Alpha for MES-30, Study 2	133
12	Factor Loadings for CFA of MES-30, Study 2	134
13	EFA of MES-30, Study 2, One Factor	135
14	EFA of MES-30, Study 2, Two Factors	136
15	EFA of MES-30, Study 2, Three Factors	137
16	EFA of MES-30, Study 2, Four Factors	138
17	EFA of MES-30, Study 2, Five Factors	139
18	EFA of MES-30, Study 2, Six Factors	140
19	Means, Standard Deviations, and Coefficient Alpha for PMIS, Study 2	141
20	Factor Loadings for CFA of PMIS, Study 2	142

21	Descriptive Statistics for Study 3 Variables, Dissertation Data	143
22	Descriptive Statistics for Study 3 Variables, Prelim Data, Low Condition	144
23	Descriptive Statistics for Study 3 Variables, Prelim Data, High Condition	145
24	Paired Sample <i>T</i> -Test of Means for Low MES-30 versus High MES-30	146
25	Regression of MES-30 on Study 3 Variables, Low Scenarios, Dissertation Data	147
26	Regression of MES-30 on Study 3 Variables, High Scenarios, Dissertation Data	148
27	Regression of MESF1 on Study 3 Variables, Low Scenarios, Dissertation Data	149
28	Regression of MESF1 on Study 3 Variables, Low Condition, Prelim Data	150
29	Regression of MESF2 on Study 3 Variables, Low Scenarios, Dissertation Data	151
30	Regression of MESF2 on Study 3 Variables, Low Condition, Prelim Data	152
31	Regression of MESF3 on Study 3 Variables, Low Scenarios, Dissertation Data	153
32	Regression of MESF3 on Study 3 Variables, Low Condition, Prelim Data	154
33	Regression of MESF1 on Study 3 Variables, High Scenarios, Dissertation Data	155
34	Regression of MESF1 on Study 3 Variables, High Condition, Prelim Data	156
35	Regression of MESF2 on Study 3 Variables, High Scenarios, Dissertation Data	157
36	Regression of MESF2 on Study 3 Variables, High Condition, Prelim Data	158
37	Regression of MESF3 on Study 3 Variables, High Scenarios, Dissertation Data	159
38	Regression of MESF3 on Study 3 Variables, High Condition, Prelim Data	160
39	$R^2$ for Models Regressing MES Factors on PMIS Factors	161
40	Comparison of PMIS Factor Means, Low versus High, Within versus Between	162
41	Regression of “Ethical” , Dissertation Data	163
42	Regression of “Intention” , Dissertation Data	164

## LIST OF FIGURES

<i>Figure</i>		<i>Page</i>
1	Rest's (adapted) ethical decision making model (1986).	165
2	Ferrell & Gresham's contingency model (1985).	166
3	Hunt & Vitell's general theory of marketing ethics (1986).	167
4	Trevino's person-situation interactionist model (1986).	168
5	Theory of reasoned action (Fishbein and Ajzen, 1975).	169
6	Dubinsky & Loken's model (1989).	170
7	Theory of planned behavior (Ajzen, 1991).	171
8	A synthesis integrated model (Ferrell, Gresham, & Fraedrich, 1989).	172
9	Jones' issue-contingent model (1991).	173
10	Jones' synthesis of ethical decision-making models (1991).	174
11	Cognitive elaboration model (Street, Douglas, Geiger, & Martinko, 2001).	175

## INTRODUCTION

Since the early 1980's there has been a surge of interest in the study of business ethics. For instance, three relevant quarterly publications (*Business & Professional Ethics Journal* in 1981, *Business Ethics Quarterly* in 1991, and *Business Ethics: A European Review* in 1992), and a bi-monthly publication (*Ethikos* in 1987) all came into existence during this period of time. The *Journal of Business Ethics*, which was introduced as a quarterly publication in 1982, three years later progressed to bi-monthly publication, in 1988 began monthly publication, and in 1999 published its 1500<sup>th</sup> article on the topic (Collins, 2000).

This proliferation of scholarly interest comes at a time when one need only pick up a newspaper or turn on the nightly news to learn about the *latest* ethical fiasco in the business world. Corporate espionage... the selling of nuclear weapons secrets to political enemies... questionable accounting practices... insider trading... lies told by tobacco companies... however it manifests itself, unethical behavior is "all in a day's work" (Eisenberg, 1999, p. 58).

The costs associated with unethical behavior in a business context are great. For example, the loss of credibility in the Olympic movement due to the 2002 Salt Lake City bribery scandal put millions of dollars in corporate sponsorships of the games at risk, with Johnson & Johnson backing away from an estimated \$30 million sponsorship (Wolfson, 1999). As for corporate espionage, in 1997 alone a conservative estimate puts the loss of intellectual property, stolen from U.S. corporations, at \$25 billion (Eisenberg, 1999). And even more significantly, the Ford Explorer/Firestone Tire debacle demonstrated that unethical behavior is not only costly in terms of lost dollars, but can be devastating in terms of shattered and lost lives.

## BUSINESS ETHICS AND INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY

Although research on decision making processes dealing with ethical issues is not one of the major focus areas of research in applied psychology, questions regarding ethical decision making processes are found throughout topics in both industrial and organizational psychology. For example, ethics has been found to play a role in leadership, organizational effectiveness, job satisfaction, employee turnover, and organizational justice.

A survey of 7500 managers from a range of private and public organizations nationwide (Kouzes & Posner, 1990) found that 87% of those surveyed selected *honesty* as a characteristic of superior leaders, and *integrity* was selected as *the* most important leadership characteristic, even above competence. Both the stature and credibility of a leader appear to be enhanced when employees perceive that the leader is ethical (Morgan, 1993). Integrity is not only expected, it is essential to effective leadership and must be demonstrated in order to enlist others in a common cause and to maintain others' commitment to action (Kouzes & Posner). Subordinates judge leader integrity by the behaviors in which the leader engages. Lack of promised follow through, cover-ups, inconsistency between word and deed... all are indicators of a lack of integrity (Kouzes & Posner). Unethical leader behavior creates confusion in subordinates over corporate values, creating stress that in turn leads to conflict, indecision, and rivalry. The energy required to cope with incompatible values takes its toll on both personal effectiveness and organizational productivity (Posner, Kouzes, & Schmidt, 1985).

In addition to having an impact on leadership, business ethics is a factor in job satisfaction, turnover, and employee theft. Vitell and Davis (1990) found that all dimensions of job satisfaction (promotion, co-worker, supervisor, and work itself) were negatively correlated with perceptions of unethical behavior within one's company. Greenberg (1990) found that both

employee turnover and employee theft increased when temporary employee salary reductions were perceived as being unjust.

## DETERMINANTS OF ETHICAL DECISION MAKING

At the heart of a continuing debate among researchers who have been studying business ethics is the question of the determinants of ethical decision making. Is ethical decision making a direct result of personal characteristics of the individual decision maker, an “undersocialized perspective of individuals acting in isolation” (Brass, Butterfield, & Skaggs, 1998, p. 14)? Or, rather, is ethical decision making more heavily dependent upon organizational and societal variables, an “oversocialized view of individuals obedient to norms and culture” (p. 14)?

Characteristics of the individual that have been posited as influences in the ethical decision making process include: cognitive moral development (Ferrell, Gresham, and Fraedrich, 1989; Trevino, 1986; Trevino & Youngblood, 1990), economic, political, and religious value orientation (Hegarty & Sims, 1978, 1979), ego strength (Stead, Worrell & Stead, 1990; Trevino, 1986), ethical philosophy (Stead et al., 1990), gender (Hegarty & Sims, 1978), locus of control (Hegarty & Sims, 1978, 1979; Jones & Kavanagh, 1996; Stead et al., 1990; Trevino, 1986; Trevino & Youngblood, 1990), Machiavellianism (Hegarty & Sims, 1978, 1979; Jones & Kavanagh, 1996; Stead et al., 1990), nationality (Hegarty & Sims, 1978, 1979), and sex role orientation (Stead et al., 1990).

Proposed organizational, cultural, or situational influences include: competition (Hegarty & Sims, 1978), economic conditions (Stead et al., 1990), managerial influences (Jones & Kavanagh, 1996; Stead et al., 1990), organizational philosophy and policy (Hegarty & Sims, 1979), peer influences (Jones & Kavanagh, 1996), quality of the work experience (Jones & Kavanagh, 1996), referent others (Trevino, 1986), reinforcement contingencies (Hegarty & Sims,

1978; Jansen & Von Glinow, 1985; Stead et al., 1990; Trevino, 1986), relationships among actors (Brass et al., 1998), responsibility for consequences (Trevino, 1986), scarcity of resources (Stead et al., 1990), and stakeholders (Hunt & Vitell, 1986; Stead et al., 1990).

The resolution of this *bad apples* versus *bad barrel* debate (Trevino & Youngblood, 1990) has important implications. The bad apples argument implies that organizations should attempt to attract, select, and retain employees who are ethical individuals, those with *moral character*. On the other hand, the bad barrel argument implies that organizations should look within and attempt modifications of the corporate culture, such as restructured reward systems, ethical climate, and promotion of an organizational code of ethics (Brass et al., 1998).

#### ETHICAL DECISION MAKING MODELS

In an effort to understand the determinants of ethical decision making, a major focus in the business ethics literature has been on the formulation and testing of ethical decision making models (Dubinsky & Loken, 1989; Ferrell & Gresham, 1985; Ferrell et al., 1989; Hunt & Vitell, 1986; Rest, 1986; Trevino, 1986). It is important to note that these models are not normative models of what one *ought to do* when faced with an ethical dilemma but are, rather, models of what the authors believe one *does* when faced with an ethical dilemma. Because the resultant behavior can be ethical or unethical, labeling these as *ethical* decision making models might be considered incorrect. The term is being used here to indicate that these are models of the decision making process in which one engages when faced with an ethical dilemma.

In perhaps the simplest model (Figure 1), Rest (1986) posited a decision making process consisting of four components. The process is initiated with the first component, *awareness*, which represents the stage in which one recognizes that a situation presents an ethical dilemma. The second component, *judgment*, represents the stage in which one uses a variety of strategies

to determine which courses of action are morally right or wrong. The third component, *intention*, represents the stage in which one decides to behave in an ethical or unethical manner. And finally, the fourth component, *behavior*, represents the stage in which one engages in ethical or unethical action.

In Ferrell and Gresham's 1985 contingency model of ethical decision making in a marketing organization (Figure 2), the ethical decision making process begins with the social and cultural environment in which the ethical issue is generated. Being faced with an ethical issue, the individual engages in a decision making process that is influenced by individual factors (such as attitudes and intentions), significant others, and opportunity (in terms of professional codes, corporate policy, and reinforcement). The individual's decision to behave in a certain manner has a direct effect on actual behavior, after which the individual evaluates that behavior. The model includes a feedback mechanism in which evaluation of past ethical/unethical behavior has an effect on future behavior, mediated by significant others, opportunity, individual factors, and the individual decision making process.

In Hunt & Vitell's 1986 general theory of marketing ethics model (Figure 3) the ethical decision making process begins with both the environment (cultural, industry, organizational) and with the individual's past experiences. These have a direct effect on the individual's evaluation of norms, consequences, and importance of stakeholders. They also have a more immediate effect on the individual's perceptions of the problem, behavioral alternatives, and consequences. The individual's perception of the problem leads to perception of alternative behavior options, which leads to perception of consequences, which then has a direct effect on the individual's evaluation of the probability and desirability of consequences.



An important feature of the Hunt & Vitell (1986) model is the inclusion of the individual's philosophical evaluation as a component of the ethical decision making process. Most *normative* (ought to) ethical philosophies can be categorized as being either *deontological* or *teleological*. The difference between these two categories is evidenced in the specific focus of each. Deontology focuses on the behavior itself, and deontologists attempt to live by those rules that have been determined to be the *best* rules to live by. Teleology focuses on the outcomes of behavior, and teleologists attempt to behave in a manner that brings about the greatest good. In the Hunt & Vitell model the authors posit that the individual considers deontological norms and potential consequences, which leads the individual to a deontological evaluation and a teleological evaluation, which in turn have a direct effect on ethical judgment. At this point the model looks quite similar to Rest's (1986) model, as judgment has a direct effect on intentions, which have a direct effect on behavior. Unlike Rest's model, however, Hunt & Vitell's model includes a direct effect of the teleological evaluation on intentions, since an individual may believe that one behavioral alternative is the most ethical, but may intend to choose a different behavioral option because of preferred consequences. In addition, the Hunt & Vitell model includes the effect of situational constraints on behavior, and behavior's effect on actual consequences. The resultant consequences feed back into the model as they affect the individual's personal experiences, which will then become a factor when the individual is faced with future ethical dilemmas.

In another often cited model, Trevino's 1986 person-situation interactionist model (Figure 4), the ethical decision making process begins with the ethical dilemma. Cognitive evaluation of the dilemma is influenced by the individual's stage of cognitive moral development (Kohlberg, 1981). Situational factors such as the immediate job context, organizational culture,

and characteristics of the work have both a direct effect on cognitive evaluation, and a moderating effect on the relationship between cognitive evaluation and behavior. Individual factors such as ego strength and locus of control also moderate the effect of cognitive evaluation on behavior.

Whereas many of the ethical decision making models cited here have elements in common with the model generated by the *theory of reasoned action* (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) (Figure 5), Dubinsky and Loken (1989) specifically state that their model of ethical decision making in a marketing context (Figure 6) is founded upon that particular framework. The theory of reasoned action, with its foundation in social psychology, is based on the belief that when faced with a behavioral decision, individuals usually make a systematic, rational use of available information. The most immediate determinant of behavior is the individual's behavioral intentions, which are a result of the individual's attitude toward the behavior and the individual's subjective norm, which is the term used to indicate the social pressure put on the individual to perform or not perform the behavior in question. Attitude is a result of the individual's beliefs regarding the outcomes associated with a behavior, and the individual's evaluation of those outcomes. Subjective norm is a result of the individual's normative beliefs about the type of behavior that salient referent others would encourage and/or expect, and the individual's motivation to comply with those referent others.

The *theory of planned behavior* (Ajzen, 1991) (Figure 7), an extension of the theory of reasoned action, corrects for a limitation of the original theory by adding the individual's perception of the ease of performing the behavior in question, labeled here as *perceived behavioral control*. As in the theory of reasoned action, in the theory of planned behavior intention is the most immediate determinant of behavior. However, "a behavioral intention can

find expression in behavior only if the behavior in question is under volitional control” (p. 181). Although other ethical decision making models cited here do not explicitly include perceived behavioral control, it is generally assumed. Rest claims that in the first component of his model, awareness, “a person realizes that she/he could do something that would affect the interests, welfare, or expectations of other people” (1986, p 5). Jones, whose model has not yet been examined, concurs by stating “the action or decision... must involve choice, or *volition*, on the part of the actor or decision maker” (1991, p. 367).

Ferrell, Gresham, and Fraedrich’s 1989 integrated model (Figure 8) is a synthesis of the 1985 Ferrell and Gresham model and the 1986 Hunt and Vitell model, with the addition of a component that takes into account Kohlberg’s (1981) theory of cognitive moral development. The integration improves upon the individual models by producing one model that accounts for the most important elements of each. The ethical decision making process begins in the environment from which an ethical issue is generated. Individual and situational differences affect each of the five components in the linear process: awareness, cognitions, philosophical evaluation, intentions, and behavior. Behavioral consequences are evaluated, and that evaluation affects future ethical decision making processes.

In 1991, Jones observed that although each of these models contribute to our understanding of ethical decision making, none “does more than hint that characteristics of the moral issue itself will affect the moral decision-making process” (p. 369). Without including characteristics of the moral issue, he claimed, each of the models suggest that the decision making process is identical for all moral issues, that “... people will decide and behave in the same manner whether the issue is the theft of a few supplies from the organization or the release of a dangerous product to the market” (p. 371). Jones therefore proposed an issue-contingent

model (Figure 9), which includes a variable labeled *moral intensity*, which consists of six characteristics. In this model moral intensity has a direct effect on each of the four components found in Rest's model (awareness, judgment, intention, and behavior), while organizational factors have a direct effect on intention and behavior. Jones' synthesis model (Figure 10) attempts to integrate his issue-contingent model with the decision making models of Ferrell and Gresham (1985), Hunt and Vitell (1986), Rest (1986), Trevino (1986), and Dubinsky and Loken (1989).

The moral intensity construct (Jones, 1991) is a relatively recent addition to the ethical decision making literature, and therefore research on the topic has been somewhat limited to date. Empirical support for Jones' theory will contribute to a greater understanding of the factors that impact the ethical decision making process, which in turn will help practitioners in their development of effective business ethics training protocols. In an effort to contribute to the literature on the construct, one goal of this research was to examine the effect of moral intensity on ethical judgment.

### MORAL INTENSITY

Moral intensity refers to "the extent of issue-related moral imperative in a situation" (Jones, 1991, p. 372). As posited by Jones, the construct consists of six components: magnitude of consequences (MC), social consensus (SC), probability of effect (PE), temporal immediacy (TI), proximity (PX), and concentration of effect (CE).

*Magnitude of consequences* (MC) refers to the sum of the harms (benefits) resulting from the moral act in question. For example, an act that harms 1000 people is of greater moral intensity than an act that harms 10 people, and an act that causes death is of greater moral intensity than an act that causes minor injury.

*Social consensus* (SC) refers to the degree of social agreement that a proposed act is ethical or unethical. For example, an act that most people feel is wrong is of greater moral intensity than an act about which people's opinions vary.

*Probability of effect* (PE) refers to both the probability that the act in question will take place, and the probability that the act in question will actually cause harm (benefit). For example, a 2% probability that an act will occur is less morally intense than a 98% probability, and a 2% probability that harm (benefit) will be caused by the act is less morally intense than a 98% probability.

*Temporal immediacy* (TI) refers to the length of time between the act in question and the onset of consequences due to the act. For example, an act that will have negative consequences tomorrow is more morally intense than an act that will have negative consequences a decade from now.

*Proximity* (PX) refers to the social, cultural, psychological, or physical closeness that the moral agent feels for victims (beneficiaries) of the act in question. For example, layoffs in one's own office have greater moral intensity than layoffs in a remote office, and the sale of dangerous pesticides in the U.S. has greater moral intensity for U.S. citizens than the sale of such pesticides in another country.

*Concentration of effect* (CE) refers to the impact of a given magnitude of harm (benefit) in relation to the number of people affected. For example, an act that causes a sum total of \$100,000 in harm that affects 10 people, each incurring \$10,000 of damage, has greater moral intensity than an act that causes a sum total of \$100,000 in harm that affects 10,000 people, each incurring \$10 of damage. In addition, an act that cheats an individual out of \$1000 has greater moral intensity than an act that cheats a corporation out of \$1000.

Research on moral intensity is still in its infancy. A review of the studies that have been conducted to date is beneficial in understanding how the current studies contribute to the growing body of research into this construct.

## EMPIRICAL STUDIES OF THE MORAL INTENSITY CONSTRUCT

### Moral Intensity and Moral Awareness

Several studies have examined the effect of some or all of the moral intensity characteristics on moral awareness, the first component of Jones' model (Barnett, 2001; Butterfield, Trevino, & Weaver, 2000; Chia & Mee, 2000; Frey 2000a; Frey 2000b; Marshall & Dewe, 1997; Singhapakdi, Vitell, & Kraft, 1996). Each of these studies used the vignette approach to frame issues of moral intensity (in Barnett two work-related action statements were used) and one item to measure moral awareness. MC had a significant effect on awareness in all but Barnett and Marshall and Dewe. SC had a significant effect on awareness in all but Marshall and Dewe. (Results of that study are questionable due to a sample of  $N=7$ .) PE had a significant effect in both Frey (2000b) and Singhapakdi et al., but not in Frey (2000a) or Chia and Mee. Six of the studies (all but Butterfield et al.) looked at TI and PX, and both of these characteristics were found to be significant only in Singhapakdi et al. Five of the studies (all but Barnett and Butterfield et al.) examined CE, which was found to be significant only in Singhapakdi et al.

The results from these six studies, then, show strongest support for the effect of SC on ethical awareness, relatively strong support for the effect of MC, and mixed results for the other four moral intensity characteristics. This might suggest that the moral intensity construct should consist of fewer than the six characteristics posited by Jones (1991). Before reaching this conclusion, however, one should consider the problems that are inherent in the study of moral awareness.

The first, and perhaps most important, problem is that not every issue that is a moral issue for one person will be a moral issue for another. For example, fetal tissue research may be a highly charged moral issue for pro-life advocates, while it may not be a moral issue at all for pro-choice advocates (W. J. Fitzpatrick, personal communication, November 15, 2000). Research that decides a priori that an issue is an ethical issue and judges participants' awareness based on agreement with that a priori assessment, fails to take these differences into account. The second problem concerns the methodology used to study awareness. Questions that ask, "Is this an ethical issue?" may, merely in the asking of the question, create awareness that would not have existed without the question being asked.

One study took a different approach in examining the effect of moral intensity on ethical awareness. In an attempt to discover if Jones' (1991) moral intensity construct is empirically meaningful, Dukerich, Waller, George, and Huber (2000), attempted to determine whether real life problems that are considered to be of an ethical nature are also high in terms of moral intensity. Managers were asked to describe two problems that they judged to be important and that they had been personally involved in solving. One was to be a problem that the manager felt was a moral problem; the other was to be one that the manager did not consider to be a moral problem. Descriptions of the problems were coded for the presence of moral intensity characteristics (except for PE, since all problems had been resolved). MC, SC, PX, and CE were all significantly related to the managers' categorization of problems as moral/nonmoral, while TI was unrelated to categorization. Dukerich et al. claimed that these findings are an indication of the moral intensity construct's nomological validity. It would appear that this methodology might be preferable to the scenario approach in studying the effect of moral intensity on ethical awareness. Additional research using this methodology should be beneficial in further examining

the legitimacy of the inclusion of TI as a moral intensity characteristic, at least in so far as it affects moral awareness.

### Moral Intensity and Behavioral Intention

The effect of moral intensity on behavioral intention, the third component of Jones' model, has been the subject of a number of studies (Barnett, 2001; Chia & Mee, 2000; Frey, 2000a, 2000b; Singhapakdi et al., 1996). Except for Barnett, each of these studies used the vignette approach to frame issues of moral intensity, and one item to measure behavioral intention. (In Barnett two work-related action statements were used, and behavioral intention was measured by four items that assessed subjects' likelihood of engaging in the action described: *likely-unlikely, improbable-probable, possible-impossible, and definitely would-definitely would not.*) MC was found to have a significant effect on ethical intention in all five studies (but for only one of the two statements in Barnett). SC had a significant effect on ethical intention in all but Chia and Mee. PE was measured by all but Barnett, and had a significant effect on ethical intention in all but Chia and Mee. TI only had a significant effect in Singhapakdi et al. CE had a significant effect in Singhapakdi et al., but not in Chia and Mee or the two Frey studies. And PX did not have a significant effect on ethical intention in any of the five studies (it did have a significant effect in Barnett, but the effect was opposite from what was expected, with behavioral intention increasing with an increase in the perception that victims of the action were similar to respondents).

Paolillo & Vitell (2002) analyzed the effect of moral intensity on ethical intention using two scenarios. Perceived moral intensity of each scenario was measured on a 7-point Likert-type scale with one question for each of the six characteristics. The average of the six items was used



as the independent variable. Intention, the dependent variable, was measured with one item. The overall moral intensity variable had a significant effect on intention for both scenarios.

In those studies in which the effect of each of the six individual moral intensity characteristics on intention was measured, MC appeared to have the most robust effect. SC and PE were relatively strong, results were mixed for TI and CE, and no support was found for the hypothesized effect of PX. As was suggested earlier in regards to the studies which examined the effect of moral intensity on ethical awareness, the results of these studies might suggest that the moral intensity construct should consist of fewer than the six characteristics posited by Jones (1991). Again, before reaching this conclusion one should consider a serious problem that is inherent in the study of moral intention.

With the exception of Barnett, each of these studies measured intention with one item, using a Likert-type scale. The use of one-item measures calls into question the reliability of a study. However, other than by using semantic differential items similar to those used by Barnett, it is difficult to imagine additional ways of determining a participant's behavioral intention without confounding the results by adding qualifications (e.g. "Would you make the same decision IF...?").

#### Moral Intensity and Ethical Behavior

To date there are no published empirical studies of the effect of moral intensity on behavior that have cited Jones (1991). Research in this area is obviously needed.

#### Moral Intensity and Ethical Judgment

Although a number of studies have examined the effect of moral intensity on ethical judgment (Barnett, 2001; Davis, Johnson, & Ohmer, 1998; Decker, 1994; Frey, 2000a, 2000b; Jones & Huber, 1992; Morris & McDonald, 1995; Singer, 1996, 1998; Singer, Mitchell, &

Turner, 1998; Singer & Singer, 1997; Tsalikis, Seaton, & Shepherd, 2001), not every study has looked at all six moral intensity characteristics, and findings across studies, and even within studies, have been quite varied.

Jones and Huber (1992) conducted the first empirical study of the effect of moral intensity characteristics on ethical judgment. One scenario was used in which five of the six characteristics were manipulated (MC, SC, TI, PX, and CE). Ethical judgment was measured with four items. The study found SC to be the only significant predictor.

In 1994, Decker used one scenario to manipulate CE. In this study CE was found to have a significant effect on ethical judgment, as measured by seven items.

Morris and McDonald (1995) used three scenarios, all six moral intensity characteristics were manipulated (two per scenario), and one item was used to measure ethical judgment. Perceived moral intensity, measured by one item for each characteristic, was the predictor variable. An important contribution of this study to the literature was the finding that manipulated moral intensity often differed from perceived moral intensity. Although moral intensity was a significant predictor of ethical judgment when the six characteristics were entered together in hierarchical regression, only SC was significant as an individual predictor in all three scenarios. In this study the authors subdivided MC into magnitude of benefits and magnitude of costs. Magnitude of benefits was significant in two of the three scenarios, while magnitude of costs was significant in only one. PE, TI, and PX were significant in only one of the three scenarios. CE was not significant in any of the three.

Singer (1996, 1998) and colleagues (Singer et al., 1998; Singer & Singer, 1997) conducted a series of studies examining moral intensity and ethical judgment. Except where noted, in all of the studies three scenarios were used, judgment was measured using two items,

and perceived moral intensity was measured by two items each for MC, SC, and TI, and four items for PE (two for probability of action, two for probability of harm). All of the studies were conducted in New Zealand. In 1996 two samples were used, one a group of managers, the other from the general public. MC, SC, and PE all predicted ethical judgment (TI was not measured). SC was found to be the most impactful characteristic for managers, while the most impactful characteristic for the general public was MC. The 1997 study used a sample of undergraduates, and found that MC and SC predicted ethical judgment, and PE predicted ethical judgment in the two scenarios in which the consequences were beneficial to the decision maker. TI was not significant. Using a sample from the general public, Singer's 1998 study found that only SC had a significant effect on ethical judgment (TI was not measured). Singer et al. (1998) conducted two studies. The first used a sample of employees at a baking firm, and found significant effects for MC, SC, and PE, but not for TI. The second used four scenarios and a sample of undergraduates, and found significant effects for MC, SC, and PE, but not for TI. In addition, "need-for-cognition" was measured, and it was found that individuals that were more highly motivated to use effortful cognitive processing exhibited greater utilization of issue-relevant information than those who were less motivated.

Davis, Johnson, and Ohmer (1998) used four scenarios that manipulated MC, SC, and PX. One item was used to measure ethical judgment. Participants were MBA students from Austria, Indonesia, and the United States. SC had a significant effect on ethical judgment while MC and PX did not. Judgment was also affected by participants' socio-cultural region of origin and by ethical ideology.

Rather than using scenarios, Barnett (2001) used two statements regarding work-related actions, "An employee uses company property and services for personal use" and "A salesperson

sells a more expensive product to a customer when a less expensive one would be better for the customer” (p. 1043). Perceptions of four moral intensity characteristics (MC, SC, TI, PX) were assessed for each of the statements using a 9-point semantic differential scale that included three items for each characteristic. The 8-item Multidimensional Ethics Scale (MES) (Reidenbach and Robin, 1988, 1990) was used to measure ethical judgment. Using hierarchical multiple regression, a single score for ethical judgment was regressed on awareness in the first step, and perception of the moral intensity characteristics was entered in the second step. Perceived moral intensity resulted in a significant change in  $R^2$  for both work-place action statements. MC, SC, and PX were significant predictors of ethical judgment for the first statement, while MC and SC were significant predictors of ethical judgment for the second statement. TI was not a significant predictor of ethical judgment for either statement.

Tsalikis et al. (2001) used two scenarios to measure the effect of MC on 158 non-students’ ethical judgment, as measured by one item. MC was found to have a significant effect on ethical judgment.

Frey (2000a, 2000b) used one scenario that manipulated all six moral intensity characteristics. These studies differ from all of the previous studies in that Frey used a within-subject design (the others used a between-subject design). Participants were first presented with a version of the scenario in which all six characteristics were low in moral intensity. Ethical judgment of the scenario was measured with one item. Participants then read a second version of the scenario in which one or more of the characteristics were changed to high moral intensity. Ethical judgment of this scenario was measured. The dependent variable was the difference score for the ethical judgment item. In the first study MC, SC, and PE accounted for 63% of the variance in the difference score. In the second study (conducted on the worldwide web) MC, SC,

and PE accounted for 54% of the variance in the difference score. However, in neither study did any of the six individual moral intensity characteristics have a significant effect on the difference score.

An overview of the studies just discussed shows that SC seems to be the most robust of the six moral intensity characteristics, having a significant effect in 9 out of the 11 studies in which it was examined (Barnett, 2001; Davis et al., 1998; Jones & Huber, 1992; Morris & McDonald, 1995; Singer, 1996, 1998; Singer et al., 1998, Experiments 1 and 2; Singer & Singer, 1997). In 12 studies MC had a significant effect in six (Barnett, 2001; Singer, 1996; Singer et al., 1998, Experiments 1 and 2; Singer & Singer, 1997; Tsalikis et al., 2001) and showed some significance in one (significance varied by scenario) (Morris & McDonald, 1995). In eight studies PE had a significant effect in three (Singer, 1996; Singer et al., 1998, Experiments 1 and 2), and showed some significance in two (significance varied by scenario) (Morris & McDonald, 1995; Singer & Singer, 1997). TI was not significant in seven studies, but did show some significance in one study (significance varied by scenario) (Morris & McDonald, 1995). PX was not significant in four studies, but did show some significance in two studies (significance varied by scenario) (Barnett, 2001; Morris & McDonald, 1995). CE was significant in one out of five studies (Decker, 1994).

#### METHODOLOGICAL PROBLEMS ASSOCIATED WITH PAST RESEARCH ON THE EFFECTS OF MORAL INTENSITY ON ETHICAL JUDGMENT

Several methodological problems existed in the cited studies that have examined the effect of moral intensity on ethical judgment, and it is these problems that may have contributed to mixed findings in the past. The first has to do with the failure of some of the studies to include all six characteristics of Jones' moral intensity construct. Only 3 of the 13 cited studies (Singer et

al., 1998 includes two studies) included all six (Frey, 2000a, 2000b; Morris & McDonald, 1995), providing a richer analysis of the construct than the studies that did not. The current studies examined all six moral intensity characteristics.

A second problem has to do with the number of scenarios utilized. In four of the cited studies only one scenario was used (Decker, 1994; Frey, 2000a, 2000b; Jones & Huber, 1992), in two studies two were used (Barnett, 2001; Tsalikis et al., 2001), in five studies three were used (Morris & McDonald, 1995; Singer, 1996, 1998; Singer et al., 1998, Experiment 1; Singer & Singer, 1997) and in two studies four were used (Davis et al., 1998; Singer et al., 1998, Experiment 2). The multiple scenario studies demonstrated that the effect of a moral intensity characteristic on ethical judgment might vary depending upon the scenario used, which should serve as a warning of the danger associated with generalizing findings from studies that use a single scenario. The current studies attempted to improve upon past research by using 18 different scenarios, with three scenarios manipulating each of the six moral intensity characteristics.

A third problem has to do with measuring ethical judgment, the dependent variable. Many of the studies to date have used one item measures of ethical judgment, which calls into question the reliability of these studies. The use of a multi-item measure of ethical judgment, the Multi-dimensional Ethics Scale (Reidenbach & Robin, 1988, 1990) is one way of getting around the one-item issue. However, some questions exist regarding the factor structure of this instrument and the item reduction techniques used in its development.

A fourth problem has to do with operationalizing the moral intensity construct. Most of the studies cited have manipulated moral intensity, the independent variable, by changing the wording of a scenario to create a high or low moral intensity version. However, Morris and

McDonald (1995) found that perceived moral intensity, measured by items designed to tap the six moral intensity characteristics posited by Jones (1991), often differed from manipulated moral intensity. Questions then exist regarding the effects of manipulated versus perceived moral intensity on ethical judgment. In addition, questions exist regarding the factor structure of the moral intensity construct. Does moral intensity consist of six factors, as Jones theorized?

A final problem has to do with the design (i.e. between-subjects versus within-subject) used to test the effect of moral intensity on ethical judgment. That is, does moral intensity have the same impact on ethical judgment in a between-subjects design as it does in a within-subject design?

So, in addition to improving upon past research by measuring all six moral intensity characteristics and using multiple scenarios, this series of studies attempted to answer the following questions:

1. What is the factor structure of ethical judgment, as measured by items generated by Reidenbach and Robin (1988, 1990)?
2. What is the factor structure of the moral intensity construct, as measured by 12 perceived moral intensity items designed to evaluate the six characteristics posited by Jones (1991)? And,
3. Does the effect of moral intensity on ethical judgment vary as a result of the design (i.e. between-subjects versus within-subject) of the study?

### MEASURING ETHICAL JUDGMENT

Past studies of the effect of moral intensity on ethical judgment have varied greatly in the number of items used to measure ethical judgment. Five studies used a single item (Davis et al., 1998; Frey, 2000a, 2000b; Morris & McDonald, 1995; Tsalikis et al., 2001), five studies used

two items (Singer, 1996, 1998; Singer et al., 1998, Experiments 1 and 2; Singer & Singer, 1997), one study used four items (Jones & Huber, 1992), one study used seven items (Decker, 1994), although the face validity of those seven items was questionable (e.g. one question asked how attractive the decision maker's personality was to the participant). Single item measures are suspect due to reliability issues, and the multiple items that were used were not subjected to the rigors of test development. Only Barnett (2001) used a tested multi-item measure of ethical judgment, the 8-item Multidimensional Ethics Scale (MES), developed by Reidenbach and Robin (1988, 1990), and even in that case, questions can easily be raised on psychometric grounds regarding the degree to which an 8-item test (which in most assessment situations would be considered quite brief) is adequate to the task of assessing a complex, multidimensional construct of this nature.

#### Development of the Multidimensional Ethics Scale (MES)

In 1988 Reidenbach and Robin identified two problems inherent in the use of a single item measure of ethical judgment. The first concerns the issue of reliability and the probability that studies based on single item measures are more prone to measurement error. The second problem is that a single item measure (generally using a 7-point Likert-type scale to measure one item on the order of "is ethical/ is unethical") is not overly informative. While the one item measure does inform the researcher of the individual's overall ethical judgment, it does nothing to inform the researcher of the means by which the individual formed this judgment.

Reidenbach and Robin desired to develop a multi-item measure of ethical judgment that would tap into a number of different ethical perspectives (deontological, utilitarian, relativistic, egoistic, and justice). A brief overview of their interpretation of the five philosophical perspectives is as follows: Deontology is concerned with one's duty to follow legitimate ethical



rules. Utilitarianism, a teleological philosophy, is concerned with acting in a manner that will provide the greatest good for the greatest number. Relativism is based on the idea that ethical rules are specific to a culture, and that no universal ethical rules exist. Egoism is concerned with promoting an individual's long-term self-interests. Justice is based on the writings of Aristotle, who said that equals should be treated equally and unequals should be treated unequally.

The first step Reidenbach and Robin (1988) took in developing their measure of ethical judgment was to identify concepts associated with these five philosophies. The concepts that were derived were then translated into terms that could be used in a bipolar scale. Thirty initial items were developed in this manner (see Appendix F). The authors then used the 30 items to measure 218 undergraduates' judgment of the actions taken in three different ethical scenarios. Cronbach alphas ranged from .85 to .87, indicating a high degree of internal consistency. However, convergent validity, as measured by the intraclass correlations of the items grouped by the different philosophies they were intended to measure, was low (for the relativistic items, average  $r = .54$ ; for the justice items, average  $r = .53$ ; for the utilitarian items, average  $r = .42$ ; for the deontological items, average  $r = .31$ ; for the egoistic items, average  $r = .20$ ), indicating that the grouped items did not necessarily measure a common ethical philosophy, as intended. In addition, many of the individual items correlated highly with items purported to measure a different philosophy, indicating a lack of divergence.

A factor analysis using an orthogonal rotation was conducted on the data from the first scenario, producing 10 factors that explained 62 percent of the variance. Similar factor analyses were conducted on both the second and third scenarios, producing 5 factors that explained 60 percent of the variance in each. (In all cases only factors with an eigenvalue greater than one were retained.) Because of the radically different factor structure for the first scenario, further

analysis was conducted just on the data obtained from the second and third scenarios. The authors concluded that individuals do not rely exclusively on one ethical philosophy when making ethical judgments, and that they organize and evaluate criteria differently from situation to situation.

In 1990 Reidenbach and Robin attempted to refine their multi-item measure of ethical judgment. A second study, using the same 30 items and the same three scenarios, was conducted using 108 retail managers and owners. Factor analyses were conducted for all three scenarios. The 30 items were reduced to 14 items based on consistency of loadings across scenarios, size of loadings, low inter-item correlations with other dimension items, and respondents' feedback on their ability to apply an item. Three factors emerged at this point. A third study, using the remaining 14 items and the same three scenarios, was conducted using 105 small business operators. Using the item reduction criteria outlined above, the 14 items were reduced to 8 items, and a three-factor structure emerged (see Appendix G). A fourth study, using the final 8 items and the same three scenarios, was conducted using 152 managers. Factor analyses were conducted on the data, using principal component analysis with varimax rotation. The three-factor structure that emerged was identical to the three-factor structure that emerged in the third study, and explained 74%, 81%, and 83% of the variance in the three scenarios. The eight remaining items became a 3-factor instrument for measuring ethical judgment, and was named the *Multidimensional Ethics Scale* (MES).

Reidenbach and Robin called the first factor *Moral Equity*. This factor consists of two items that were designed to tap a justice-based ethical philosophy ("fair/unfair", "just/unjust"), one item that was designed to tap a relativistic ethical philosophy ("acceptable/unacceptable to my family"), and one item that was designed to tap a deontological ethical philosophy

(“morally/not morally right”). The authors suggest that this factor relies heavily on ethical lessons learned in childhood.

The second factor was labeled *Relativism*, and consists of two items that were designed to tap a relativistic ethical philosophy (“culturally acceptable/unacceptable”, “traditionally acceptable/unacceptable”). The authors suggest that tradition and culture shape values, which in turn influence judgments of what is right and wrong.

The third factor was labeled *Contractualism*, and consists of two items that were designed to tap a deontological ethical philosophy (“violates/does not violate an unspoken promise”, “violates/does not violate an unwritten contract”). The authors suggest that this factor reflects the social contract that exists between society and business.

In order to demonstrate the utility of the 8-item scale, Reidenbach and Robin asked the participants in the final study to evaluate the actions taken in each of the three scenarios on a 7-point scale with one item anchored by the words “ethical/unethical”. In addition, participants were asked to indicate, using a 7-point scale, the probability that they would have taken the same action if they had been the actor in the scenario (a measure of behavioral intention). Both items were regressed on the factor scores for the three dimensions.

The three dimensions of the MES accounted for an average of 72% of the variance in the single item measure of ethicality. The Moral Equity factor had the greatest effect (with beta weights ranging from .68 to .87), while the Relativistic factor (betas ranging from .18 to .23) and the Contractualism factor (betas ranging from .17 to .23) had far less impact.

The three dimensions of the MES accounted for an average of 34% of the variance in the single item measure of intention to behave in a similar manner. Again, the Moral Equity factor had the greatest effect (with betas ranging from .46 to .57), while the Relativistic factor (betas

ranging from .11 to .25) and the Contractualism factor (betas ranging from .11 to .16) were less impactful. More importantly, the 8-item scale evidenced greater power in predicting behavioral intention than the single item measure of ethicality, which only accounted for an average of 22% of the variance in intention.

### Problems Associated with MES Development

A number of methodological issues can be raised with respect to the procedures used by Reidenbach and Robin (1988, 1990) in their development of the MES. First, given that the authors suggest that the MES is a sufficient instrument to ascertain subjects' ethical judgment across a wide variety of scenarios, it would seem to follow that a wide variety of *scenarios* should have been used to develop the instrument. Instead, only three scenarios were used to elicit participants' ethical judgment, as measured by 30 original items that were generated to tap five ethical philosophies, and the factor structure was examined in a largely *within-scenario* (as opposed to *across-scenarios*) fashion. One can argue that a more robust assessment of the dimensionality of this instrument can best be obtained when appreciable variability exists with respect to the situations being described and the raters' perceptions thereof, which is not likely to occur when only a small number of scenarios are examined, and especially when raters are presented with scenarios that do not clearly vary in terms of the factors that might well influence ethical judgments and perceptions.

Second, although principal components (PC) analysis is often used as a strategy for data reduction, many methodologists have argued that "only factor analysis may be used to identify the factor structure underlying a set of variables" (Hatcher, 1994, p. 69). In particular, PC analysis has been criticized by virtue of the fact that the conceptual model that it fits to the data is based on the assumption that *no measurement errors or other construct-irrelevant variance*

exist in the item responses (i.e., that 100% of the variance of each item in the instrument is due solely to the action of the latent principal component(s) underlying the test). Such an assumption is arguably quite tenuous for most instruments, and it is equally so in the context of items used to assess ethical judgments and perceptions. The alternative view – i.e., the *common-factor* model – holds that each item in the instrument is composed of a mix of construct-relevant variance, as well as construct-irrelevant “error” variance, and that it is critical to estimate factor loadings that reflect the action of the *common* variance, and not some unknown mix of common plus error variance (as occurs in PC analysis).

Unfortunately, Reidenbach and Robin relied upon principal component analysis to identify the factor structure of the MES. In addition, they used potentially questionable strategies for making the number-of-factors decision, which is clearly a central issue in the present context. The first of the studies reported here attempted a much more conclusive examination of the validity of the a priori predictions regarding the factor structure of this instrument via confirmatory methods, not the exploratory methods seen before.

Third, consistent with the above points, it is arguably unrealistic to attempt to identify “the dimensions” of ethical judgment when one uses a strategy that *reduces* variability that would otherwise be present when ethical judgments are made across situations, and especially, across situations that vary in terms of the attributes that presumably *cause* ethical judgments. The factor analyses in the current studies were conducted on item covariance matrices computed on ratings produced from rating *different* scenarios, rather than, as in Reidenbach and Robin (1988, 1990), forming analyses on data for each individual scenario as a means to determine the factor structure of the MES in the abstract.

Finally, although it is plausible that ethical philosophies are non-orthogonal, Reidenbach and Robin (1988, 1990) used only orthogonal solutions in their reported results, a decision that effectively *forces* one to find that the factors are uncorrelated. In an effort to improve upon the test development and dimensionality determination procedures used by Reidenbach and Robin, the second of the three current studies utilized 36 different scenarios (low intensity and high intensity versions of each of 18 scenarios) as a means to elicit participants' ethical judgments as measured by the 30 original Reidenbach and Robin items in a situation that was meant to foster, rather than suppress, covariation among items. Oblique factor analyses were used to examine the factor structure of the 30 original items, using item covariances computed across the 36 scenarios.

#### Confirmatory Factor Analyses of the 8-item MES

Over the years a number of studies have conducted factor analyses of the 8-item MES. Ten studies supported the 3-factor solution posited by Reidenbach and Robin (1990) (Clark & Dawson, 1996; Cohen, Pant, & Sharp, 2001; Cruz, Shafer, & Strawser, 2000; Ellis & Griffith, 2001; Flory, Phillips, Reidenbach, & Robin, 1992; Humphreys, Robin, Reidenbach, & Moak, 1993; LaFleur, Reidenbach, Robin, & Forrest, 1996; Robin, King, & Reidenbach, 1996; Robin, Reidenbach, & Babin, 1997; Simpson, Brown, & Widing, 1998). Clark & Dawson measured 144 business students' ethical judgment of actions taken in three scenarios. Cohen et al. measured 127 accountants' and 213 students' judgment of actions taken in eight scenarios. Cruz et al. measured 67 tax professionals' judgment of actions taken in three scenarios involving tax cases. Ellis & Griffith measured undergraduate and graduate students' judgment of actions taken in seven scenarios related to information technology. Flory et al. measured 314 certified management accountants' judgment of actions taken in four scenarios. Humphreys et al.

measured 96 small business owner/managers' and 103 customers' judgment of actions taken in four scenarios. LaFleur et al. (1996) measured 251 advertising practitioner's judgment of actions taken in two scenarios. Robin et al. (1996) measured 216 attorneys' judgment of three scenarios involving attorneys. Simpson et al. measured 311 college students' judgment of a print ad. Robin et al. (1997) measured the ethical judgment of 10 different respondent groups using 18 different scenarios and concluded, "with few exceptions, these statistics support the over-all fit of the ethics model across the varied situational contexts considered here" (p. 571).

In six studies a 2-factor structure for the MES emerged (Henthorne & LaTour, 1995; LaTour & Henthorne, 1994; Razzaque & Hwee, 2002; Reidenbach, Robin, & Dawson, 1991; Snipes, LaTour, & Bliss, 1999; Tansey, Hyman, & Brown, 1992). Henthorne and LaTour measured 103 mall shoppers' ethical judgment of a black and white print ad containing erotic content and nudity, and LaTour and Henthorne measured 199 mall shoppers' judgment of the use of sexual appeal in print advertising. In both studies, factor analysis indicated a 2-factor structure, with the Moral Equity and Relativism items loading on the first factor, and the Contractualism items loading on the second factor. Razzaque & Hwee measured the ethical judgment of 109 purchasers in Singapore using six scenarios. The authors omitted the "acceptable to my family" item and added four items ("selfish/not selfish", "efficient/inefficient way of doing things", "produces the greatest/least utility", "best interest of company/not the best interest"). A two-factor solution emerged across the six scenarios, with the Moral Equity and Relativism items loading on the first factor, and the Contractualism items loading on the second factor. Tansey et al. measured 124 business majors' judgment of the usage of five ads depicting combat (ADC). The authors omitted the two Contractualism items because they felt they were unrelated to the ethical evaluation of ADC. While the Moral Equity and Relativism factors

emerged using principal component factor analysis (which does not include error variance in the model), maximum likelihood factor analyses (which do include error variance) showed that the Moral Equity and Relativism items loaded on one factor. Snipes et al. also omitted the two Contractualism items when they measured 305 mall shoppers' judgment of fear appeal ads and found that the Moral Equity and Relativism items loaded on one factor. Exploratory factor analyses done by McMahon (2001) found some support for a 2-factor model, although her results indicated that the Moral Equity and Contractualism items load on the first factor and the Relativism items load on the second.

Reidenbach et al. (1991) conducted four independent studies using 4 different types of marketers (152 retail managers, 70 automobile dealer salespeople, 70 direct marketers, and 160 sales reps for a book company) as participants. Eight scenarios were used, with each group of participants receiving three or four. Fifteen different factor analyses were conducted. While 3-factors emerged in 10 of the 15 analyses, 2-factors emerged in 5 of the 15, with the Moral Equity and Relativism items loading on the first factor, and the Contractualism items loading on the second factor. The authors offered two explanations for the 2-factor solution. First, a 2-factor structure tended to emerge for those scenarios in which participants found the action to be relatively more ethical than others. Therefore, the authors conjecture, participants may have been less cognitively involved, which created a situation in which responses to the individual items were similar. Second, the authors stated that a natural relationship is expected between what is culturally acceptable and what is fair and just. However, this does not explain why that natural expected relationship did not appear in the 10 cases in which a 3-factor structure emerged. Third, the 2-factor structure appeared for scenarios in which  $n=70$ , and the authors suggest that the lower respondent-item ratio may have produced less stable structures.



In one study a 1-factor structure emerged. Tansey, Brown, Hyman, and Dawson (1994) measured 76 insurance agents' judgment of actions taken in two scenarios related to the insurance business. Maximum likelihood analyses for both scenarios showed a 1-factor structure for the eight items. Additionally, exploratory factor analyses by McMahon (2001) found some support for a 1-factor, rather than 3-factor, structure.

One of the main objectives of Study 1 was to use confirmatory factor analysis procedures to test the factor structure of the Multidimensional Ethics Scale (MES). Because the MES was developed in 1988/1990 (Reidenbach & Robin) and has been widely used since then, confirmatory factor analysis procedures were used in view of the fact that a testable hypothesis regarding its latent structure was available. However, due to the inconsistent factor structure that emerged in past studies, it was hypothesized that:

H1-1: Confirmatory factor analyses will demonstrate that the eight items of the MES, when loaded on the three factors posited by Reidenbach and Robin (1990), demonstrate comparable (or inferior) levels of model fit than will be found for a 2-factor or a 1-factor solution.

#### Studies Using Reidenbach and Robin's (1988, 1990) Initial 30 Items

A number of studies have used Reidenbach and Robin's (1988, 1990) initial 30 items to measure participants' ethical judgment of actions taken in a variety of scenarios. The results of these studies are informative in so far as they shed light on whether or not the 8-item 3-factor instrument emerges on a consistent basis across situations.

Tsalikis and Ortiz-Buonafina (1990) used Reidenbach and Robin's (1988, 1990) original items to measure 175 business students' ethical judgment of actions taken in four scenarios. The purpose of this study was to compare the ethical judgment of males and females. Data from the

four scenarios were subjected to factor analysis. In the female sample five factors emerged for three scenarios and six factors emerged for one scenario. In the male sample five factors emerged for two scenarios and six factors emerged for the other two scenarios. A second factor analysis that forced a 5-factor solution was conducted in order to enable comparison. Only factors with an eigenvalue greater than one were retained. A varimax rotation was performed to simplify findings. Items that were intended to measure a specific philosophical perspective (deontology, utilitarian, relativist, egoism, justice) were mixed within each factor, such that no factor was a pure measure of the philosophy that it was intended to measure.

In 1992 Hansen used Reidenbach and Robin's (1988, 1990) original items to measure 128 students' ethical judgment of actions taken in three scenarios (for unknown reasons Hansen did not include the "duty bound to act this way/not duty bound to act this way" item). Data were subjected to confirmatory maximum likelihood factor analysis, constraining for five factors (based on the five philosophical perspectives that the items were intended to measure). Since the chi-square analysis did not support a 5-factor structure, the number of factors was increased until an acceptable 7-factor solution emerged for one scenario, and an 8-factor solution emerged for two scenarios. 12 items were eliminated due to low factor loadings and low reliability ratings. Data for the remaining items were tested using maximum likelihood confirmatory factor analysis with varimax rotation, again constraining for five factors. Two of the MES items ("fair/unfair" and "traditionally acceptable/traditionally unacceptable") did not load onto any of the four interpretable factors. Hansen labeled the four interpretable factors, which consist of 16 total items, *Broad-Based Ethical Judgment*, *Deontological Judgment*, *Social Contract Judgment*, and *Teleological Judgment*. The Broad-Based Ethical Judgment dimension is somewhat similar to the Moral Equity dimension of the MES, although it is missing the "fair/unfair" item. The

“culturally acceptable/unacceptable” item, which is said to be part of the Relativism dimension of the MES, loaded on this Broad-Based Ethical Judgment dimension instead. In addition, it contains four of the original items that are not part of the 8-item MES. The Social Contract Judgment dimension contains the same two items as the Contractualism dimension of the MES. Deontological Judgment and Teleological Judgment are two new dimensions that are not included in the MES. Hansen concludes, “the results clearly show that individuals use four evaluation dimensions when making decisions with ethical implications” (p. 533).

Reidenbach and Robin (1993) responded to Hansen’s (1992) study by claiming that Hansen’s refined version of the measure of ethical judgment, which contains 16 items, suffers from a lack of parsimony. In addition, they argued that Hansen “... offers no evidence as to whether this version of the scales does a better job either capturing the meaning of what his respondents mean by ethical or unethical nor does he offer any evidence concerning the ability of the scales to predict his respondent’s intentions” (p. 663).

In 1993 Cohen, Pant, and Sharp measured 92 graduate and undergraduate subjects’ ethical judgment of the actions taken in the three scenarios used by Reidenbach and Robin (1988). Because the authors were concerned that the 8-item MES did not retain any utilitarian items, they used the original 30 items used by Reidenbach and Robin in developing the MES. Using exploratory factor analysis requesting a 5-factor solution, and the criteria used by Reidenbach and Robin to purge items, the number of items was reduced to 20. These 20 items were subjected to a subsequent factor analysis, and items that significantly loaded on more than one factor in at least two scenarios were eliminated, leaving 15 items. Three of the 15 remaining items reflected a utilitarian philosophy (“produces the greatest utility/produces the least utility”, “maximizes benefits while minimizes harm/minimizes benefits while maximizes harm”, “leads

to the greatest good for the greatest number/leads to the least good for the greatest number”). The authors then used these 15 items to measure 113 accounting faculty’s ethical judgment of the actions taken in two of the three original scenarios, plus four additional accounting scenarios. Data from the six scenarios were tested using principal component factor analysis with a varimax rotation. Items with a factor loading greater than .60 and factors with an eigenvalue greater than 1.0 were retained. Different factors and a different number of factors emerged across the scenarios. These results suggested that it is important to include utilitarian items when measuring ethical judgment, and that individuals use a variety of philosophical orientations when evaluating an action. The authors concluded that Reidenbach and Robin’s original items “may well provide the basis of multidimensional scales, but a scale must be constructed and validated for each application studied” (p. 25). While criticism may be directed at the developmental procedures employed while developing the 8-item MES (e.g. using just three scenarios), constructing and validating a new scale for each application is simply impractical.

In 2001 Davis, Andersen, and Curtis used Cohen, Pant, and Sharp’s (1993) revised 15-item scale to measure 196 graduate business students’ ethical judgment of actions taken in three scenarios. Data were subjected, by scenario, to principal components factor analysis with varimax rotation. Following Cohen et al., items with a factor loading greater than .60 and factors with an eigenvalue greater than 1.0 were retained. As with Cohen et al., different factors and a different number of factors emerged across the scenarios.

Kujala (2001) measured the ethical judgment of top managers at large manufacturing companies in Finland in regards to actions taken in four scenarios. Seventeen ethical judgment items were used, 15 of which came from Reidenbach and Robin’s (1988, 1990) original 30 items. Responses were tested, by scenario, with principal components factor analysis using varimax

rotation. Once again, different factors and a different number of factors emerged across the four scenarios.

One of the primary objectives of Study 2 was to use confirmatory factor analysis procedures to test a 5-factor structure of the original 30 items used to develop the MES (Reidenbach & Robin, 1988, 1990). Reidenbach and Robin (1988) generated the original 30 items that were used to develop the MES based on five ethical philosophies: deontology, utilitarian, relativist, egoism, and justice. Yet during test development, data reduction techniques eliminated all nine utilitarian items and all seven egoism items. In addition, the Moral Equity factor of the resultant MES includes two items that were designed to tap a justice-based ethical philosophy (“fair/unfair”, “just/unjust”), one item that was designed to tap a relativistic ethical philosophy (“acceptable/unacceptable to my family”), and one item that was designed to tap a deontological ethical philosophy (“morally/not morally right”).

It must be noted, again, that the 8-item 3-factor scale that emerged in earlier research was based on analyses of only three scenarios. Study 2 attempted to improve upon Reidenbach and Robin’s test development by using their original 30 items to test participants’ ethical judgment of a wide variety of scenarios, seeking the posited 5-factor (deontology, utilitarian, relativist, egoism, and justice) solution. Using 36 scenarios (the high intensity and low intensity versions of the 18 scenarios used in Study 1), and the original 30 items generated by Reidenbach and Robin, confirmatory factor analyses were conducted in order to test the following hypothesis:

H2-1: Using 36 different scenarios to elicit participants’ ethical judgment, confirmatory factor analyses of the original 30 Reidenbach and Robin (1988, 1990) MES items will support the 5-factor solution consistent with the theoretical structure that guided its development.

## MEASURING MORAL INTENSITY

Although the cited studies that examined the effect of moral intensity on ethical judgment manipulated the moral intensity of the scenarios used, a number of them failed to measure participants' perceptions of the moral intensity of the scenarios (Davis, Johnson, & Ohmer, 1998; Decker, 1994; Jones & Huber, 1992; Tsalikis, Seaton, & Shepherd, 2001), and used *manipulated* moral intensity as the predictor variable. However, Morris and McDonald's (1995) finding that manipulated moral intensity often differs from perceived moral intensity highlights the importance of measuring perceived moral intensity, and using that measure as the predictor of ethical judgment.

In 1996 Singhapakdi, Vitell, and Kraft developed the Moral Intensity Scale (MIS) (see Appendix B), a measure consisting of 6 items, one designed to tap each of the six moral intensity characteristics posited by Jones (1991). Exploratory principal component factor analyses, using varimax rotations, were conducted on the six items for each of the four scenarios used in their study of 442 U.S. members of the American Marketing Association. In three of the four scenarios MC, PE, TI and CE loaded on Factor 1, which accounted for 43%, 44.6%, and 52% of the variance, while SC and PX loaded on Factor 2, which accounted for 18.2%, 17.1%, and 17.1% of the variance. In one scenario all six items loaded on a single factor that accounted for 59.5% of the variance. Based on their findings, Singhapakdi et al. suggested that Jones' moral intensity construct might be synthesized into two components. They suggested that Factor 1 seemed to measure actual harm done to the victim, while Factor 2 seemed to measure the degree of social pressure in the situation, and labeled the two factors *Perceived Potential Harm/No Harm* and *Perceived Social Pressure*.

In 2001, Valentine and Silver used the MIS (Singhapakdi et al., 1996) to measure 105 students' perceived moral intensity of actions taken in 10 scenarios. The authors summed the scores for the 10 scenarios and divided by 10 to create a global measure for each item. The global scores were subjected to principal component factor analysis that yielded a 1-factor solution, explaining 68% of the variance.

Based on the Singhapakdi, Vitell, and Kraft (1996) findings, Frey (2000a) developed a 12-item scale (see Appendix C) to measure perceived moral intensity, with 2 questions designed to assess the perceived level of one of each of the six moral intensity characteristics. Only one scenario was used in this study. However, by manipulating the six moral intensity characteristics within the scenario 63 versions were derived. Data from the 12-item perceived moral intensity measure were subjected to factor analysis, using varimax rotation. Results differed from Singhapakdi et al. In this case MC, SC, PE, TI, and PX loaded on Factor 1, while CE loaded on Factor 2. Frey then randomly divided the data set into two halves and ran a factor analysis on each half. The results showed that loadings for TI, PX, and CE were not stable, and that MC, SC, and PE yielded substantial loadings on the secondary factor. This led Frey to conclude that a one-factor solution was more parsimonious, and that the six moral intensity characteristics posited by Jones (1991) are not reliably orthogonal dimensions.

In Barnett (2001), perceptions of four moral intensity characteristics (MC, SC, TI, PX) were assessed for two work-related action statements using a 9-point semantic-differential scale that included three items for each characteristic. To measure perceived MC, subjects were asked, "Do you believe any harm resulting from the depicted action will be *minor-severe*, *insignificant-significant*, and *slight-great*?" (p. 1044). To measure perceived SC, subjects were asked to "Please indicate the degree to which you believe society as a whole considers the

depicted action *unethical-ethical, wrong-right, and inappropriate-appropriate.*” To measure perceived TI, subjects were asked, “Do you anticipate that any consequences of the depicted action are likely to occur *after a long time- immediately, slowly-quickly, and gradually-rapidly?*” To measure perceived PX subjects were asked, “Compared to yourself, do you believe those potentially affected by the depicted action are *dissimilar-similar, not alike-alike, and different-same?*” Coefficient alphas ranged from .93 to .97. MC was significantly negatively correlated with SC, significantly positively correlated with TI, and not significantly correlated with PX. SC was significantly negatively correlated with TI for one action statement, and was not significantly correlated with PX. TI was not significantly correlated with PX. Barnett did not conduct factor analyses on the data.

A 12-item perceived moral intensity scale (PMIS) (see Appendix D) was developed for use in this series of studies, adapted from Singhapakdi, Vitell, and Kraft (1996) and Frey (2000a, 2000b). Two items were designed to measure participants’ perceptions of each of the six moral intensity characteristics posited by Jones (1991).

Preliminary factor analyses by McMahon (2001) indicated that the PMIS loads on four, rather than six, factors. Because the PMIS is clearly in the early stages of development, one of the main objectives of Study 1 was to use stringent exploratory factor analysis procedures on the data from McMahon in an effort to explore the 6- factor structure posited by Jones (1991).

One of the main objectives of Study 2 was to perform confirmatory tests of the factor structure of the PMIS using models developed in Study 1:

H2-2: Confirmatory factor analyses will support the factor structure that emerged during exploratory factor analysis in Study 1.



## WITHIN-SUBJECT VERSUS BETWEEN-SUBJECTS DESIGN

To date, the large majority of studies that have examined the effect of moral intensity on ethical judgment have used a between-subjects design (e.g., Barnett, 2001; Davis, Johnson, & Ohmer, 1998; Decker, 1994; Jones & Huber, 1992; McMahon, 2001; Morris & McDonald, 1995; Singer, 1996, 1998; Singer et al., 1998; Singer & Singer, 1997; Tsalikis, Seaton, & Shepherd, 2001), whereas only two studies (Frey, 2000a, 2000b) have used a within-subject design. The question is, which of these designs is most appropriate?

A recent focus in the marketing literature has been on the effects of elicitation procedures on judgment, and the preference shifts that have been found to occur between *joint evaluation* and *separate evaluation* (Bazerman, Loewenstein, & White, 1992; Bazerman, Moore, Tenbrunsel, Wade-Benzoni, & Blount, 1999; Hsee, C.K., Blount, S., Loewenstein, G.F., & Bazerman, M.H., 1999; Nowlis & Simonson, 1997; Ritov, 2000). Joint evaluation is a within-subject phenomenon that occurs when two options are evaluated simultaneously, whereas separate evaluation occurs when options are presented and evaluated at different times, as in a between-subjects design. Bazerman, Moore, et al. suggest that preference shifts are due to differences in cognitive processing that occur in separate versus joint evaluation (p. 56). Two psychological concepts that have been shown to effect cognitive processing are *contextual effects* and *salience*.

Birnbaum (1982) emphasized the importance of contextual effects in judgment research by observing that “there are two kinds of contexts: the context the subject brings to the laboratory and the context provided in the laboratory.... when a subject is given a single stimulus to judge, the subject brings extralaboratory contexts to the task” (p. 441). To illustrate this point, Birnbaum cited a study by Jones and Aronson (1973) in which participants were asked to judge

the fault of rape victims (a virgin, a housewife, a divorcee). Using a between-subjects design, participants were presented with only one case history. Counter-intuitively, findings showed that the divorcee was judged *least* at fault, whereas the virgin and housewife were judged *more* at fault. However, when Birnbaum (1980) replicated this study using a within-subject design in which participants were presented with the case history of all three rape victims (virgin, housewife, divorcee), judged fault decreased as victim respectability increased.

Birnbaum (1982) suggests that in between-subjects designs, the researcher is unable to control for the referent a participant uses in making a judgment:

One can understand the finding that results change for between- vs. within- subject designs... by realizing that *in the between-subjects design, the stimulus and the context are completely confounded*. It is like the old stand-up joke: Person 1. "How's your wife?" Person 2. "Compared to what?" (p. 444)

In the Jones and Aronson (1973) between-subjects study, it is likely that virgins were compared to virgins, housewives to housewives, and divorcees to divorcees. Therefore, Birnbaum claims, a raped virgin was "rated *less* innocent (more at fault) because *relative to the distribution of virgins*, a raped virgin is less innocent than a divorcee is *relative to the distribution of divorcees*" (p. 444).

Birnbaum's observations are supported by *norm theory* (Kahneman & Miller, 1986). Norm theory suggests that when individuals are faced with the task of evaluating a single item, they evoke internal referents and evaluate the item based on those referents. However, when individuals are faced with the task of evaluating more than one item, the alternative becomes the referent for comparison (Bazerman, Moore, Tenbrunsel, Wade-Benzoni, & Blount, 1999, p. 48). "The presence of a second alternative frames and anchors the entire decision process; the

decision maker simply enacts it. ‘Which do I like better – A or B?’” (p. 54). Hsee (1998) concurs, by observing that:

Preferences are neither consistent nor stable; they are constructed ad hoc and depend heavily on whatever comparison information is available at the time of the evaluation. Specifically, people use different information as their reference points in the joint evaluation mode than in the separate evaluation mode. (p. 118)

In McMahon’s (2001) study of the effect of moral intensity on ethical judgment, using a between-subjects design, participants in the low moral intensity condition were asked to indicate their judgment of the action taken in the following scenario, labeled “Sleepwear”:

T. Smith is the Chief Operating Officer of a manufacturer of children’s sleepwear. The company responded to an appeal by the National Safety Commission and treated its entire fall line with the flame retardant agent TRIS. Research has since found TRIS to be a carcinogenic agent. T. has approved the sale of the entire lot of unsold inventory to a third-world country.

The moral intensity characteristic that this scenario was attempting to examine was *proximity*, so that in the low intensity version of the scenario the pajamas were to be sold to “a third-world country”, whereas in the high intensity version the pajamas were to be sold to “a retail store in town”. The action taken in this scenario, in both the low intensity and high intensity version, is “has approved the sale”. Norm theory would suggest that participants evoked a referent for this action, and evaluated this action based on that referent. It is reasonable to believe that participants may have used “has *not* approved the sale” as the referent action, and therefore, their ethical judgment reflected their judgment of “approving the sale” as opposed to “not approving the sale”. Unfortunately, the goal

of this study was to compare participants' judgment of "approving the sale... *to a third-world country*" (in the low intensity condition) to participants' judgment of "approving the sale...*to a retail store in town*" (in the high intensity condition). In light of what we know about norm theory and contextual effects, it is apparent that a between-subjects design was not the most powerful way in which to examine this research question.

Here is where the concept of *saliency* becomes important. "*Saliency* refers to the phenomenon that when one's attention is differentially directed to one portion of the environment rather than to others, the information contained in that portion will receive disproportionate weighting in subsequent judgments" (Taylor & Thompson, 1982, p. 175). It is easy to see how saliency (or lack of saliency in relation to a moral intensity characteristic) may play an important role in influencing participants' ethical judgment. In the between-subjects design, it can be argued that the salient feature of the sleepwear scenario is the fact that the COO has approved the sale of pajamas coated with a cancer-causing agent. However, when participants are asked to read both the low intensity and high intensity version of the scenario in a within-subject design, and are then asked to indicate their judgment of the action taken in each scenario, the salient element changes. Since the action taken (i.e. has approved the sale) remains the same in both versions of the scenario, the salient element becomes the customer (i.e. third-world country or retail store in town). It is only in this within-subject design that the researcher is able to truly test the effect of moral intensity on ethical judgment.

The answer, then, to the "which of these designs (between-subjects or within-subject) is most appropriate?" question appears to be: the within-subject design. Therefore, the purpose of the third of the current studies was to test the effect of moral intensity on ethical judgment using a within-subject design. However, given that Frey (2000a, 2000b) has already used a within-

subject design to test the effect, one might well ask what contribution to the literature might be expected by performing yet another within-subject study on this topic?

The answer to this question goes directly to the issue of the methodological soundness of prior attempts to use a within-subject design to examine the effect of moral intensity on ethical judgment. That is, a number of methodological problems arguably existed in the Frey (2000a, 2000b) studies, the most important being the lack of diversity of stimuli presented to raters. For example, Frey used only a single scenario, to manipulate the six moral intensity characteristics; likewise, on the criterion side, Frey used only a single item measure of ethical judgment. In contrast, Study 3 used 36 different scenarios (using both a low intensity and high intensity version of each of 18 scenarios), and assessed the criterion of ethical judgment using a 30-item scale. In short, although Frey was indeed correct in attempting to use a within-subject design to overcome the serious limitations seen in the much larger number of earlier between-subjects studies, the design of his studies was so limited as to call into question the generalizability of his findings.

The primary purpose of Study 3 was to examine the effect of moral intensity on ethical judgment using a within-subject design. Jones (1991) posited that moral intensity represents the degree of issue-related moral imperative associated with an ethical scenario. As moral intensity increases, the imperative, or urgency, of the scenario motivates individuals to systematically process their judgment of the action taken in the scenario. Therefore, was expected that judgment of the action taken in high moral intensity scenarios would be more critical than judgment of action taken in low moral intensity scenarios, which led to the following hypothesis:

H3-1: Actions taken in scenarios in which moral intensity has been manipulated to be high will be judged as more unethical than actions taken in scenarios in which moral intensity has been manipulated to be low.

As was noted above, it is argued that one reason that similar hypotheses that were tested using between-subjects designs were found to produce inconsistent results concerns the fact that the between-subjects design fails to make the moral intensity characteristics a salient element in the decision making process. The two within-subject studies (Frey 2000a, 2000b) that were conducted did not suffer from this limitation, but they did suffer from the use of only one scenario, and only one item to measure ethical judgment, which arguably failed to provide an adequate test of this hypothesis.

Although researchers may attempt to manipulate a single moral intensity characteristic within a scenario, it is practically impossible to control for participants' perceptions in relation to other characteristics that are not explicit within the scenario. In contrast, measuring perceived moral intensity for each of the six characteristics, regardless of which characteristic is being manipulated, allows for a direct evaluation of the moral intensity construct (in the eyes of the rater), and the ability to determine the degree to which these perceptions are predictive of subsequent ethical judgments. The following hypotheses were based on Jones' (1991) theory, which postulates that moral intensity consists of six characteristics, and that these characteristics have a direct effect on ethical judgment:

H3-2: Perceived moral intensity of magnitude of consequences will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.

- H3-3: Perceived moral intensity of social consensus will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.
- H3-4: Perceived moral intensity of probability of effect will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.
- H3-5: Perceived moral intensity of temporal immediacy will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.
- H3-6: Perceived moral intensity of proximity will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.
- H3-7: Perceived moral intensity of concentration of effect will have an effect on ethical judgment such that when perceived moral intensity increases, actions will be judged as being more unethical.

An additional purpose of Study 3 was to compare the impact of moral intensity on ethical judgment in a within-subject versus between-subjects design. The final hypothesis is based on the premise that a within-subject design allows for greater control of contextual effects and salience than a between-subjects design, both of which have been found to effect cognitive processing:

H3-8: Perceived moral intensity will have a greater impact on ethical judgment, as measured by the variance accounted for ( $R^2$ ), in a within-subject design than in a between-subjects design.

## STUDY 1

### Method

#### *Participants*

Data for Study 1 were collected in the Spring '01 academic semester for McMahon's Prelim. A total of 345 undergraduate students at Virginia Polytechnic Institute and State University participated in at least part of the study. Participants were eliminated from the study if they were missing more than 4 data points. Fifteen participants were thus eliminated. Two additional participants were eliminated because they were less than 18 years of age. This left 328 active participants. Extra credit toward psychology classes was given for participation.

Participants were recruited in three ways. In the first method an email that listed current psychology studies was sent to all Introductory Psychology students from the Introductory Psychology coordinator. In that email the email address of the researcher was given, and students were told that they could email the researcher to sign up for the study. The second recruitment method was the placement of a folder, in which the study was described and in which sign up sheets were located, in a specific location on the fifth floor of Derring Hall in which other sign-up folders for psychology studies were also located. The final recruitment method was a visit, by the researcher, to a number of psychology classes. During this visit the researcher explained the study and passed around a folder in which the study was described and in which sign up sheets were located.

#### *Procedure*

Participants were randomly assigned to one of three conditions (control, low moral intensity, and high moral intensity). In order to prevent the possibility of order effects, the study used three different orders for the presentation of scenarios, and participants were randomly



assigned to one of the three orders within their assigned condition. Participants answered three demographic questions (age, gender, and major), and then read 18 different scenarios (see Appendix A) describing business situations of an arguably ethical nature. After reading each of the 18 scenarios, participants answered the eight questions from Reidenbach and Robin's (1990) Multidimensional Ethics Scale (see Appendix F), used to assess participants' judgment of the decision made by the agent in each scenario. Participants then answered 12 questions adapted from Singhapakdi, Vitell, and Kraft (1996) and Frey (2000a, 2000b) (see Appendix D), designed to assess participants' perception of the moral intensity of the vignette in terms of Jones' (1991) six moral intensity characteristics (MC, SC, PE, TI, PX, and CE).

### *Experimental Task*

Scenarios of an arguably ethical nature were used to stimulate participants' perception of the moral intensity of the vignette, and to examine participants' judgment of the decision made in each vignette. Alexander and Becker (1978) support the use of scenarios in survey research since the technique allows for systematic variation of realistic characteristics and provides a standardized social stimulus across respondents.

### *Scenario Construction*

Three different business scenarios were used to manipulate each of Jones' (1991) six moral intensity characteristics (MC, SC, PE, TI, PX, and CE) (only one of the six characteristics was manipulated in each scenario), resulting in 18 different scenarios. Three versions of each of the 18 scenarios were used, one version for each of the three conditions (control, low moral intensity, and high moral intensity), bringing the total number of scenarios to 54. The 18 scenarios written for the control condition were written in a manner that attempted to keep all six moral intensity characteristics neutral by omitting any explicit information regarding the specific

characteristic the individual scenarios were designed to manipulate. In the low moral intensity condition the 18 scenarios included a description of low moral intensity for the specific characteristic the individual scenarios were designed to manipulate. In the high moral intensity condition the 18 scenarios included a description of high moral intensity for the specific characteristic the individual scenarios were designed to manipulate.

A search of the business ethics literature was conducted in order to review scenarios that have been used in, or suggested for, empirical research. Scenarios were evaluated for their ability to be adapted to accommodate a manipulation of one moral intensity characteristic. If a suitable scenario was not found, one was written for this study (see Table 1).

In an effort to reduce the potential of response bias based on the length of the scenario, all scenarios were kept to between 50 and 100 words. As suggested by Butterfield et al. (2000), in order to reduce the potential for social desirability response bias, actors were used in the scenario, rather than having the participant take the part of the decision maker. To reduce the potential for responses based on the gender of the actor, for each moral intensity characteristic one of the three scenarios used a male actor, the second used a female actor, and in the third no gender was indicated (an initial was used instead of a first name).

#### *Pilot Study/Manipulation Check*

In order to verify that the moral intensity characteristics were manipulated as intended, 27 college graduates were asked to categorize each scenario according to the moral intensity characteristic they thought was manipulated, and to categorize each version of the scenario by condition (control, low moral intensity, high moral intensity).

First, the six moral intensity characteristics were verbally explained, and a written description was provided to each participant. In addition, participants were provided with a

verbal and written description of the types of differences that would be expected in each condition for each characteristic. Next, a written copy of the three versions of each scenario was given to each participant to read. The participant was given an answer sheet upon which to indicate which of the six characteristics the three versions of a scenario was designed to manipulate, and which condition was intended for each version.

Inter-rater reliability was assessed by means of an intraclass correlation coefficient. The keyed intended response and responses from the 27 participants were analyzed, generating an intraclass correlation of .9961 ( $F = 258.13$ ,  $df = 70, 1890$ ,  $p = .00$ ). Therefore, the manipulation was judged to be successful as intended.

#### *Manipulated Moral Intensity*

Moral intensity (MI) was manipulated in each scenario by varying the information provided. Although the materials given to each participant appeared to be the same (except for the color of the folder in which they were contained), three versions of each scenario were employed to provide three different conditions: control, low MI, and high MI. Eighteen scenarios were employed, three for each of the six moral intensity characteristics posited by Jones (1991).

*Magnitude of consequences scenarios.* Magnitude of consequences refers to the sum of the harm (benefits) that occurs as a result of an act.

In the *gifts* scenario, Nancy Brown, a Media Buyer at an advertising agency with a policy against employees accepting gifts from suppliers, has decided to keep a gift that was sent to her by a salesperson. In the control condition the gift is not described. In the low MI condition the gift is a paperback copy of a Michael Crichton novel. In the high MI condition the gift is a pair of one-carat diamond stud earrings.

In the *trade show* scenario, while a competitor was absent from his/her exhibit at a trade show, K. Nagle took all of the remaining free product samples from the competitor's booth. In the control condition the number of samples taken is not stated. In the low MI condition the four remaining samples were taken. In the high MI condition boxes with the 500 remaining samples were taken.

In the *office supplies* scenario, the assistant in charge of ordering office supplies for a large accounting firm, Steve Atkins, has decided to take home, and not tell the office supply company about, an item that was delivered, but not ordered, and which did not appear on the invoice. In the control condition the item is not described. In the low MI condition the item is a box of staples. In the high MI condition the item is a laptop computer.

*Social consensus scenarios.* Social consensus refers to the degree of social agreement regarding whether or not an act is right or wrong.

In the *new market* scenario, F. Connelly has approved the payment of a contribution to the ruling political party of an underdeveloped country in order to obtain their approval for F.'s company to build a facility there. In the control condition the position of other firms on this sort of payment is not stated. In the low MI condition some firms have made contributions while others have cancelled their plans to enter the market because of their refusal to pay a contribution. In the high MI condition every other firm that has attempted to enter the market has decided against it because making a contribution was a business practice in which they did not wish to engage.

In the *lite foods* scenario, Greg Vogel, the Marketing Director for a packaged foods company, has decided to get around government regulations regarding the marketing of low calorie products by introducing a line of "lite" products that contain only slightly fewer calories

than the company's regular products, but will be lighter in color. In the control condition the opinion of other companies in the industry regarding this practice is unstated. In the low MI condition industry practices regarding the use of the word "lite" vary greatly. In the high MI condition the industry highly disapproves of the practice.

In the *computer software* scenario, Meg Dempsey has decided to install software that is licensed exclusively to her workplace onto her home computer for personal use. In the control condition the opinion of her co-workers regarding this practice is unstated. In the low MI condition Meg's co-workers have mixed opinions about using unlicensed software. In the high MI condition Meg's co-workers strongly support the purchase of a separate license for every computer on which a piece of software is to be loaded.

*Probability of effect scenarios.* Probability of effect refers to both the likelihood that the act will take place, and the likelihood that the act will actually cause harm (benefit).

In the *delivery date* scenario, in order to close a sale that would put him over his monthly sales goal, Wayne Hall has promised a client a delivery date that his factory may not be able to meet. In the control condition the probability of missing the promised delivery date is not stated. In the low MI condition the factory has a 10% chance of not being able to meet the date. In the high MI condition the factory has a 90% chance of not being able to meet the date.

In the *Christmas toy* scenario, C. Kemp, the manager of a toy store, has decided to personally purchase one of the 12 high-demand toys that were just delivered and are promised to customers who placed a deposit to reserve one. In the control condition the likelihood that the store will receive another shipment before Christmas is not stated. In the low MI condition the manufacturer has assured C. that the store will get another shipment before Christmas. In the

high MI condition the manufacturer has indicated that the store will most likely not get another shipment before Christmas.

In the *engine control settings* scenario, Laura Elkins, a used car salesperson, has decided not to tell her buyers that some of the cars were manufactured with incorrect engine control settings that can create unlawful emissions levels which may be detected during state emissions inspections. In the control condition nothing is stated about the location of the dealership. In the low MI condition the error impacts emissions under extremely high temperature conditions and the dealership is located in Alaska. In the high MI condition the error impacts emissions under extremely high temperature conditions and the dealership is located in the Arizona desert.

*Temporal immediacy scenarios.* Temporal immediacy refers to the length of time between the act taking place and the occurrence of resultant harm (benefit).

In the *waste disposal* scenario, Amy Mullins, the President of a medium-sized medical waste disposal company, has decided to allow current disposal procedures to continue even though they pose an environmental hazard to some sensitive wetlands. In the control condition the time period before the wetlands will be damaged is not stated. In the low MI condition damage to the wetlands will not occur for another 20 years. In the high MI condition negative effects on the wetlands are already occurring.

In the *retirement benefits* scenario, in an effort to cut overhead expenses, K. Turner has decided to cut employee retirement benefits. The control condition does not state when the cuts will take place. In the low MI condition cuts will be phased in over the next 20 years. In the high MI condition cuts will be made effective immediately.

In the *undercoating* scenario, Bob Gibson, the owner of an automobile dealership, has decided not to tell his customers that the finish on a current model car, not covered by warranty,

is likely to blister from exposure to road salt used by the Department of Public Works. In the control condition nothing is stated about how soon the blistering might occur. In the low MI condition the paint may start to blister after 15 years of exposure to the salt. In the high MI condition the paint may start to blister after one season of exposure.

*Proximity scenarios.* Proximity is the feeling of nearness that the decision-maker has for the victims (beneficiaries) of the act.

In the *housing development* scenario, Ed Worley has decided to proceed with a housing development on tract of land that he just discovered has flooded in the past. In the control condition the location of the land is not stated. In the low MI condition the land is located in an undeveloped country. In the high MI condition the land is in his hometown.

In the *sleepwear* scenario, after T. Smith's company treated the entire fall line of children's sleepwear with a flame-retardant agent, T. was told that the agent is carcinogenic. T. has approved the sale of the entire lot of unsold inventory. The control condition does not state to whom the inventory will be sold. In the low MI condition the inventory will be sold to a third-world country. In the high MI condition the inventory will be sold to a retail store in town.

In the *used car* scenario, Hannah Rollins has decided not to tell a potential buyer about a serious engine problem with the car that she is privately selling. In the control condition nothing is stated about the identity of the potential buyer. In the low MI condition the potential buyer is from out-of-state. In the high MI condition the potential buyer is a friend of Hannah's.

*Concentration of effect scenarios.* Concentration of effect refers to the dispersion of a given magnitude of harm (benefit) across a number of people.

In the *warranty* scenario, David Fleming, a Claims Adjuster, has decided to use a loophole provided by vague wording on the warranty for defective roofing tiles to deny warranty

coverage to customers who have filed \$100,000 in warranty claims. In the control condition the number of customers who have filed claims is not stated. In the low MI condition coverage was denied to 10,000 individual homeowners with a claim of \$10 each. In the high MI condition coverage was denied to 10 individual homeowners with a claim of \$10,000 each.

In the *cutting expenses* scenario, due to weak sales, Regan Preston has been directed to cut \$40,000 in her department's expenses over the next four months, and has decided to cut the \$40,000 from employee salaries. In the control condition the number of people who will be affected is not stated. In the low MI condition Regan is cutting 100 employee salaries by \$400 each (\$100 per month for four months). In the high MI condition Regan is cutting five employee salaries by \$8000 each (\$2000 per month for four months).

In the *product shortage* scenario, when a strike that has left orders unfilled for six months ended, and a shipment sufficient to fill the back orders arrived, J. Lambert decided to short-ship the backorders in order to keep product on the shelf for future orders at a higher price. In the control condition nothing is stated about the number of items that would be short-shipped or the number of clients that would be affected. In the low MI condition J. decided to short-ship the orders of 100 customers by 200 units each. In the high MI condition J. decided to short-ship the orders of two customers by 100,000 units each.

### *Ethical Judgment*

Participants' ethical judgment of decisions made in the scenarios was measured using Reidenbach and Robin's (1988, 1990) 8-item Multidimensional Scale (MES) (see Appendix F). The MES is a variation of a Likert-type scale. Each of the 8 items consists of a pair of bi-polar words or phrases, separated by 7 lines. Participants were directed to put a check mark on the line that best represented their opinion of the decision made in a scenario. For example, if a



participant thought the decision was totally just, he/she would put a check mark on the line closest to the word “just”. Assigning numbers to each of the lines quantified answers. Values ranged from “1”, given to the line closest to the ethical word or phrase, to “7”, given to the line closest to the unethical word or phrase.

Thirteen participants had missing data for three or fewer MES items. A missing item was given that participants’ mean rating of the other seven MES items for the scenario that was being judged. (None of the participants missed more than one MES item for a single scenario.)

#### *Perceived Moral Intensity*

The extent to which participants perceived the existence of moral intensity characteristics in each scenario was measured using a 7-point Likert-type scale (1 = Strongly Agree, 7 = Strongly Disagree) for 12 questions adapted from Singhapakdi, Vitell and Kraft (1996) and Frey (2000a, 2000b) (see Appendix D). Perceptions of each of the six moral intensity characteristics were measured using two items for each characteristic. Six items were reverse scored, with higher numbers reflecting higher degrees of perceived moral intensity.

Twelve participants had missing data for two or fewer PMIS items. A missing item was given that participants’ rating for the second item that measured the particular moral intensity characteristic that the missed item was intended to measure for the scenario that was being judged.

#### *Data Analysis*

##### *Confirmatory Factor Analyses of the MES*

Confirmatory factor analysis (CFA) is a statistical procedure used to assess whether indicator variables (e.g. the eight MES items) really measure the underlying constructs they are purported to measure (e.g. the three factors posited by Reidenbach and Robin, 1988, 1990: Moral

Equity, Relativism, and Contractualism). In addition, it is used to assess whether or not the *measurement model* demonstrates an acceptable fit to the data (Hatcher, p. 251). A measurement model “describes the relationships between the latent factors and their indicator variables” (Hatcher, 1994, p. 256). In the case of the MES, Reidenbach and Robin claim that four items (just, fair, morally right, acceptable to my family) measure the Moral Equity construct, two items (culturally acceptable, traditionally acceptable) measure the Relativism construct, and two items (violates an unspoken promise, violates an unwritten contract) measure the Contractualism construct.

CFA of the MES was conducted on four measurement models. The first was the model posited by Reidenbach and Robin (1988, 1990) (discussed above). Because several studies (Henthorne & LaTour, 1995; LaTour & Henthorne, 1994; Razzaque & Hwee, 2002; Reidenbach, Robin, & Dawson, 1991; Snipes, LaTour, & Bliss, 1999; Tansey, Hyman, & Brown, 1992) found a 2-factor structure, with the Moral Equity and Relativism items loading on the first factor and the Contractualism items loading on the second, this model was tested. Because preliminary factor analyses conducted by McMahon (2001) suggested the possibility of a 2-factor model in which the Moral Equity and Contractualism items load on the first factor and the Relativism items load on a second factor, this model was tested. McMahon’s analyses additionally suggested the possibility of a 1-factor model, so a 1-factor model was tested as well.

Factor analyses of the MES were conducted on aggregated data for the 54 scenarios (i.e. by not distinguishing between the MES ratings on the same items collected in the three versions of the 18 scenarios). CFA was conducted using SAS software, and followed guidelines suggested by Hatcher (1994). The analysis was performed on the covariance matrix; equations for each of the eight items were written to indicate that each item is affected by a single factor and a single

residual (error) term; factor variances were fixed at 1 in order to solve the *scale indeterminacy problem*. (Because factors are latent variables, they have no established metric, or scale. By fixing the variance of a factor at 1, a scale is established.) All of the factors were allowed to covary.

#### *Exploratory Factor Analyses of the PMIS*

Exploratory factor analysis (EFA) is a statistical procedure used to “identify the number and nature of the latent factors that are responsible for covariation in the data set” (Hatcher, 1994, p. 69). Observed variables are assumed to be linear combinations of the underlying factors (p. 69). The total variance of an observed variable consists of *common variance* (communality), which is “the proportion of the total variance in the variable that is account for by the common factors” (p. 70), and *unique variance*, which is systematic or random variance that is unique to the variable. In EFA “factors are extracted to account for only the common variance, and the remaining unique variance remains unanalyzed” (p. 71).

Factor analyses of the 12-item PMIS were conducted on aggregated data for the 54 scenarios (i.e., by not distinguishing between the PMIS ratings on the same items collected in the three versions of the 18 scenarios). EFA was conducted using SAS software, and followed guidelines suggested by Hatcher (1994). Factors were extracted using the maximum likelihood method. Although the principal axis method is probably the most popular extraction method (p. 77), it was not used because it does not provide the significance tests that the maximum likelihood method provides.

Because extracted factors only account for the common variance (communality) in a variable, and a variable’s actual communality is not known prior to conducting the factor analysis, communalities are initially estimated. Squared multiple correlations, which are

obtained by regressing a variable on the remaining variables, were used as prior communality estimates. The Heywood option, which sets any communality greater than 1 to 1, was employed to allow iterations to proceed.

A rotated factor pattern (in which a linear transformation has been performed on the factor solution) is more likely to display simple structure, which aids in interpreting the meaning of each factor. The Harris-Kaiser rotation method was employed in order to produce a solution that is generally oblique (factors are correlated), and the power of the square roots of the *eigenvalues* (the amount of variance accounted for by a given factor) used to rescale the eigenvectors for rotation was set at .5.

Because the 12-item PMIS was intended to measure the six moral intensity characteristics posited by Jones (1991), with two items intended to measure each characteristic, theory would suggest that the PMIS is a 6-factor instrument. However, because *exploratory* factor analyses were being conducted, 1-, 2-, 3-, 4-, 5-, and 6-factor solutions were requested.

## Results

### *Confirmatory Factor Analyses of the MES*

Means, standard deviations, and coefficient alphas of the eight MES items, aggregated across scenarios and conditions, are found in Table 2. Coefficient alpha ( $\alpha$ ), an internal-consistency measure of reliability, was .92, indicating a high degree of homogeneity between the items and suggesting that the items measure the same phenomenon.

The goodness of fit index (GFI), GFI adjusted for degrees of freedom index (AGFI), Bentler's comparative fit index, and Bentler & Bonett's non-normed index were used to evaluate the goodness of fit (see Table 3). Researchers differ in opinion regarding what level indicates an acceptable fit, so these indices are flexible guidelines. Hatcher (1994, p. 291) suggests that

values over .9 indicate an acceptable fit. With the exception of the AGFI, all of the indexes for the 3-factor model exceeded .9. Although the AGFI did not, at .85 the index certainly indicated that the model approached an acceptable level. A review of these indexes across models indicates that the 3-factor model demonstrated a better fit than both 2-factor models and the 1-factor model. In addition, the chi-square test (of the null hypothesis that the model fits the data) was reviewed. A good fit is indicated by a relatively small, rather than a nonsignificant, chi-square (p. 289). The 3-factor model has a lower chi-square than both 2-factor models and the 1-factor model, indicating a better model fit. Based on all of these goodness-of-fit tests, Hypothesis 1-1, which stated that “confirmatory factor analyses will demonstrate that the eight items of the MES, when loaded on the three factors posited by Reidenbach and Robin (1990), demonstrate comparable (or inferior) levels of model fit than will be found for a 1-factor solution” was not supported.

Factor loadings (“standardized linear weights that represent the size of the effect that an underlying factor has in causing variability in the observed variable”, Hatcher, 1994, p. 65), communalities (“the percent of variance in an observed variable that is accounted for by the retained... factors”, p.65), and factor correlations for the 8-item MES are found in Table 4. All of the factor loadings are meaningful as they exceed .80 (Hatcher suggests that loadings above .40 are meaningful, p.90), and six of the eight exceed .90. The factor correlations are strong, all being over .50, with the strongest relationship existing between Factor 1, Moral Equity, and Factor 3, Contractualism, with  $r = .69$ . These strong factor correlations are a further indication that the items and factors are essentially measuring the same phenomenon.

### *Exploratory Factor Analyses of the PMIS*

Means, standard deviations, and coefficient alphas of 10 of the 12 PMIS items, aggregated across scenarios and conditions, are found in Table 5. Coefficient alpha was .79, exceeding the .70 cut-off suggested by Nunnally (1978) as an acceptable level, indicating a high degree of homogeneity between the items and suggesting that the items measure the same phenomenon.

Two of the 12 PMIS items were dropped from the analysis. Those items were intended to measure concentration of effect (CE), which, according to Jones (1991), refers to the impact of a given magnitude of harm (benefit) in relation to the number of people affected. The wording of the items was “the harmful consequences (if any) of the decision will be concentrated on a small number of people”, which was reversed scored, and “any negative effects of the decision will be spread across a large number of individuals”. Both of these items had negative factor loadings, and had very low correlations with the total of the other items in the measure. When these items were removed from analyses, factor structures became cleaner, and the coefficient alpha of the instrument increased. Therefore these two items were removed from all analyses in all three studies.

Factor loadings of the 10 remaining items for the 1-factor through 5-factor solutions are found in Tables 6-11. (Note that since the two CE items were dropped, a 6-factor solution was no longer expected.) Only meaningful loadings (greater than .40 per Hatcher, p. 90) are shown in these tables.

In determining which of the solutions is the most acceptable, a number of guidelines should be met. The maximum likelihood method generates three goodness-of-fit indices: Akaike’s information criterion (AIC), Schwarz’s bayesian criterion (SBC), and Tucker and

Lewis's reliability coefficient. The number of factors that yields the smallest AIC and SBC value is considered best (<http://www.zi.unizh.ch/software/unix/statmath/sas/sasdoc/stat/chap26/sect23.htm>). The number of factors that yields the highest Tucker and Lewis coefficient is considered best.

Interpretability is also an important guideline. Variables that load on a factor should share some conceptual meaning, and variables that load on different factors should seem to be measuring different constructs (Hatcher, 1994, p. 92). The factor pattern should exhibit a simple structure: variables should have high loadings on one factor and near-zero loadings on other factors, and each factor should have high loadings for some variables and near-zero loadings for others (p. 92).

The 1-factor (Table 6) and 2-factor (Table 7) solutions had higher AIC and SBC values than any of the other solutions. Furthermore, all of the items did not load on a factor (the SC and PX items did not load in the 1-factor model, and the SC items did not load in the 2-factor model). Consequently, both the 1-factor and 2-factor solutions were eliminated from consideration.

Although the 5-factor (Table 10) solution yielded lower AIC and SBC values than the 3-factor (Table 8) and 4-factor (Table 9) solutions, two items loaded on more than one factor, which violates the "simple structure" guideline (the first MC item and the second PE item loaded on both Factor 1 and Factor 3). In addition, the two items that were intended to measure TI loaded on different factors (the first item loaded on Factor 5, the second on Factor 3), making interpretability difficult. Therefore, the 5-factor solution was eliminated from consideration.

In comparing the 4-factor solution to the 3-factor solution, the goodness-of-fit indices would support the 4-factor solution as being the better of the two. However, the 4-factor solution failed to meet some of the guidelines. The first PX item loaded on both Factor 1 and Factor 3.

Additionally, the two items that were intended to measure MC, the two items that were intended to measure PE, and the two items that were intended to measure TI, each loaded on different factors (Factor 1 and Factor 2), making interpretability difficult. As a result, the 4-factor solution was eliminated from consideration.

In the 3-factor solution (Table 8) all items loaded on a factor and none of the items loaded on more than one factor. Moreover, the 3-factor solution was the only solution, of the 1-, 2-, 3-, 4-, and 5-factor solutions, in which paired items for a particular MI characteristic loaded on the same factor. The six MC, PE, and TI items loaded on the first factor; the two PX items loaded on the second factor; and the two SC items loaded on the third factor. Therefore, the 3-factor solution was deemed to be the most theoretically appealing model for the data.

## Discussion

### *Confirmatory Factor Analysis of the MES*

Four critical issues were raised earlier regarding the techniques employed by Reidenbach and Robin (1988, 1990) in their development of the MES, and the subsequent confirmatory factor analysis procedures used to test the structure of the instrument: the use of only three scenarios in test development of an instrument that was said to be sufficient to assess ethical judgment across a wide variety of scenarios; the use of Principal Component Analysis, which does not allow for error variance in an item but instead provides a factor structure in which 100% of the variance is due solely to the action of latent principal components underlying the test; analysis of the factor structure of the instrument by scenario, rather than across a wide range of scenarios; and, the use of an orthogonal rotation, which forces factors that would logically be correlated to be statistically uncorrelated.



This study tested the factor structure of the MES under conditions in which these four criticisms were overcome: 54 scenarios were used (three versions of 18 different scenarios); in the factor analysis procedure, equations for each of the eight items were written to indicate that each item is affected by a single factor and a single residual (error) term; data for the 54 scenarios were aggregated so that the factor structure was tested across a wide range of various scenarios rather than on a scenario-by-scenario basis; and an oblique rotation method that allowed for correlated factors was used. That the 3-factor structure was supported under these improved testing conditions supports Reidenbach and Robin's (1988, 1990) view that the MES is a 3-factor instrument. This is good news for researchers who are in need of a tested, reliable, multi-item measure of ethical judgment. Yet, it does not answer additional criticisms that have been lodged against the instrument itself.

Skipper and Hyman (1993) argued that four problems exist with the MES. First, they claimed that it is unclear what the scale is measuring. Is it measuring individuals' opinions, or the intensity of opinions, or norms, or salient issues, or reasons for an opinion, or the level of comprehension regarding the ethics of the action? Second, the authors said that the semantic differential items themselves are problematic. For example, if the action taken by an actor in a scenario breaks an unspoken promise to one but keeps an unspoken promise to another, to which unspoken promise does the "violates/does not violate an unspoken promise" item refer? The authors also pointed out that semantic differential scales must use endpoints that are *polar opposites* (sometimes referred to as *contraries*). However, the MES uses both *contraries* and *contradictories*. The authors used an example to illustrate this point: the contrary of white is *black*, while the contradictory of white is *not-white*. Included in objects that are not-white are colors such as green and red, as well as objects that are not even colors, but might be, for

example, numbers. The MES item *morally right/not morally right* is a contradictory rather than a contrary. Third, the authors questioned whether the five philosophical perspectives that were used to generate the initial items are truly representative of how normal people make ethical judgments. Finally, the authors expressed concern that no usage guidelines accompany the MES, and therefore the scale may be improperly used.

Duska (1996) also questioned what the MES is measuring. Is there a difference between *fairness* and *justice*? While Reidenbach and Robin claimed that information derived from the MES would be more informative regarding the reasons one judged an action to be unethical than a single ethical/unethical item, how is the *morally right/not morally right* item more informative? Even though statistical analyses place *acceptable/not acceptable to my family* in the Moral Equity dimension, doesn't it logically belong in the Relativism dimension? What is the difference between unwritten contracts and unspoken promises? Where are items that tap into consequentialist evaluations?

Jones and Ponemon (1993) criticized the MES for its failure "to incorporate or expressly consider a psychological framework for the ethical reasoning process" (p. 411). Although the MES taps into an individual's judgment of the degree to which an act is *just*, for example, it does not tell the researcher *why* or *how* the individual formed that judgment. By comparison, Jones and Ponemon mentioned Kohlberg's (1981) theory of cognitive moral development as a framework in which a researcher can understand the psychological reasoning behind an individual's judgment.

In Flory, Phillips, Reidenbach, and Robin's (1993) reply to Jones and Ponemon, they claimed that the MES' multivariate approach to ethical judgment is theoretically different from the theory of cognitive moral development. "The multivariate approach is situation-specific,

temporal, and process-oriented, while the moral development approach is general (not situation-specific), enduring, and trait-oriented” (p. 418).

An additional criticism is not directed at the MES itself, but at researchers who justify their use of the MES because it “... offers the advantages that... specific modes (e.g., justice, deontology, utilitarian, relativist and egoism) of moral reasoning can be identified” (Cohen, Pant, Sharp, 2001, p. 320). While the original 30 items that were used in developing the MES were intended to tap into each of these five philosophical perspectives, the 8-item MES does not include any of the original utilitarian or egoism items, and the Moral Equity dimension consists of two justice items, one deontology item, and one relativist item. Therefore, the MES does not allow a researcher to identify the philosophical mode of reasoning participants have used in developing their ethical judgment of action taken in a scenario, and researchers who believe it does are mistaken.

Because of these additional criticisms of the 8-item MES, Study 2 examined the 30 original items that were used to develop the MES. The goal was to use confirmatory factor analysis to determine if the 30 items loaded on five factors reflecting the five ethical philosophies (deontology, utilitarian, justice, relativist, and egoism) that guided Reidenbach and Robin (1988, 1990) in their test development.

#### *Exploratory Factor Analyses of the PMIS*

Although general guidelines are suggested for exploratory factor analysis, answering the “number of factors” question is not an exacting science. Guidelines are just that. They are not ironclad rules, and it is important for theory and interpretability to play a major role in determining the number of factors to retain. For this exploratory factor analysis of the PMIS, guidelines, theory, and interpretability led to the retention of the 3-factor solution as the best fit.

The elimination of the concentration of effect (CE) items was based on apparent confusion as to what the items were measuring. According to Jones (1991), CE refers to the impact of a given magnitude of harm (benefit) in relation to the number of people affected. There are two important elements to be considered in unison: impact of a *given magnitude*, and the impact of that given magnitude of harm *in relation to the number of people affected*. The example Jones used to demonstrate CE was “A change in a warranty policy denying coverage to 10 people with claims of \$10,000 has a more concentrated effect than a change denying coverage to 10,000 people with claims of \$10.00” (p. 377). The given magnitude of harm in this example is \$100,000. According to Jones’ theory, high intensity occurs when the \$100,000 of harm is borne by 10 people. Low intensity occurs when the \$100,000 of harm is borne by 10,000 people.

The two CE items used in the three studies, “the harmful consequences (if any) of the decision will be concentrated on a small number of people” and “any negative effects of the decision will be spread across a large number of individuals” did not effectively tap into both of the elements necessary in evaluating CE. Instead, they merely tapped into the number of people affected (small number versus large number) issue so that rather than assessing CE, the item in actuality became a measure of MC. This became apparent when the items were negatively correlated with the MC items (since “concentrated on a small number” was scored as being a high intensity CE item, but a “small number” would be considered low intensity from a MC perspective). Because of these issues it seemed best to drop the items from all analyses for all three studies.

Once the two CE items were dropped, the methodical evaluation of the emergent factor structures, and the interpretability of the 3-factor structure that was accepted, became much easier. The 3-factor pattern exhibited a simple structure: variables had high loadings on one

factor and near-zero loadings on other factors, and each factor had high loadings for some variables and near-zero loadings for others. Although the six-factor structure of the moral intensity construct posited by Jones (1991) was not supported, variables that loaded on each factor shared some conceptual meaning, and variables that loaded on different factors seemed to be measuring different constructs. For example, Factor 2 consists of both PX items and Factor 3 consists of both SC items. It is easy to see how proximity and social consensus seem to be different constructs.

What might be harder to understand is how MC, PE, and TI, all of which loaded on Factor 1, share some conceptual meaning. Yet, a closer look at these three moral intensity characteristics, as explained by Jones (1991), aids in interpreting this factor. Magnitude of consequences (MC) refers to the sum of the harm (benefits) that occurs as a result of an act. Probability of effect (PE) refers to both the likelihood that the act will take place, and the likelihood that the act will actually cause harm (benefit). Temporal immediacy (TI) refers to the length of time between the act taking place and the occurrence of resultant harm (benefit). Logically, for harm to be great (MC), harm must occur (PE). An evaluation that there is low probability of harm would most likely lead to an evaluation that harm will be of low magnitude. Likewise, depending on the type of harm, an evaluation that there is a high probability of harm would most likely lead to an evaluation that harm will be of high magnitude. As for TI, Jones explained that as the time between an act and its consequences increases, moral intensity decreases. This is because the probability that the act will actually cause consequences declines as additional time creates opportunity for interventions that might prevent the consequences from occurring. Temporal immediacy, then, appears to be a measure of probability of effect. The three

characteristics appear to be supportive of each other, and Factor 1 might then be interpreted as *Probable Magnitude of Consequences*.

Based on the exploratory factor analyses (EFA) conducted in this study, the moral intensity construct appears not to consist of the six characteristics posited by Jones (1991), but to consist of three characteristics: *Probable Magnitude of Consequences*, *Proximity*, and *Social Consensus*. It is this 3-factor structure that was tested using confirmatory factor analysis in Study 2.

It is important to note that the 3-factor structure that was retained, and the conclusion that moral intensity consists of three rather than six factors, is based on EFA of items that did not include measures of the CE characteristic. In the future, researchers might consider assessing the CE characteristic with two items used by May and Pauli (2002): “the manager’s decision will harm a few people a great deal” and “the consequences of the manager’s decision will impact a small number of people in a major way” as these appear to tap both of the elements necessary in evaluating CE. Based on the findings from this study, it might be hypothesized that CE would load on the Probable Magnitude of Consequences factor, since a given amount of harm concentrated on a small number of individuals is actually of higher magnitude to a single individual than that given amount of harm spread across a large number of individuals. Only empirical research can shed light on this hypothesis.

Since analyses conducted in Study 1 supported a 3-factor MES and a 3-factor PMIS, Study 2 was developed in order to use CFA to test the factor structure of the original 30 items used by Reidenbach and Robin (1988, 1990) in their development of the 8-item MES, and to use CFA to test the factor structure of the PMIS that emerged in Study 1.

## STUDY 2

### Method

#### *Participants*

Participants were undergraduates at Virginia Polytechnic Institute and State University. Data were collected from February 14 – April 15, 2002. Extra credit in psychology classes was given for participation. Three hundred and twenty six Virginia Tech students signed up for the study. Seventeen students who signed up never went to the site to take the survey (the study was administered online). Forty-nine students who signed up went to the site but did not complete the survey. The computer program was written so that data was only retained for those participants who completed the survey. Four students completed the survey twice. Only the data for the first administration of the survey to those participants was retained. In total, then, data were retained for 260 participants.

Recruitment was done totally online through a website located at <http://experimetrix.com/vtpsyc> and maintained by Experimetrix, a professional service. Participants clicked on the "sign.up" link and found a description listed for Study # 20 as follows:

OPEN TO ALL -- ONLINE SURVEY. Rate your judgments of various business decisions. Press the View Schedule button at right, then go to the web site listed to register and take the survey. You do NOT need to sign-up for a 'session' -- just go to the web site and register there.

Clicking the “View Schedule” button took participants to a page that had a link to the sign-up page, located at <http://harvey.psyc.vt.edu/OnlineTesting/EDMConsent.html>. Once participants arrived at this location they were directed to press the “View Consent Form” button, which brought them to a page in which the informed consent information was posted. After

reading the informed consent, participants completed an online sign-up form that asked for their salutation (i.e. Ms. or Mr., used as an indication of gender), first and last name, social security number, email address, and class for which they were participating. Then they chose to hit the “I Agree To Consent Form” or the “I Do NOT Agree” button. If they agreed to the form, they received a message that said:

Test has been successfully scheduled for (their name), and instructions have been emailed to (their email address). If that is not your correct name or email address, you will need to repeat the process and enter the correct values. The logon page will be loaded automatically in 15 seconds, or you can [click here to go to the logon page now](#).

Within moments an email was sent to the participant’s email address with the following content:

#### INSTRUCTIONS FOR TAKING THE TEST

(Name) has been successfully scheduled to take the online test! Use your web-browser program (Netscape, Internet Explorer, etc.) to take the online test. To BEGIN THE TESTING PROCESS, go to a computer that is connected to the Internet, start the web-browser program, and enter the following URL:

[http://harvey.psyc.vt.edu/OnlineTesting/logon\(their name\).html](http://harvey.psyc.vt.edu/OnlineTesting/logon(their name).html)

Be sure to type the URL listed above EXACTLY as shown. You will then be asked to enter your SessionID and Password -- these are listed below:

Session ID = TGVFCBDJK

Password = FQKGXQMIJ

BE SURE TO ENTER THEM EXACTLY AS THEY ARE SHOWN. Both fields are 9 characters long, and composed only of UPPER-CASE LETTERS, with no numbers.

When participants reached the website listed above, they received the following message:



## Online-Testing Logon

After you have scheduled your online testing session using the request form, you can logon and take the test. Simply press the 'Enter Information' button below and you will be asked to enter your Session ID and Password to begin the administration process. If you haven't yet scheduled your online testing session, you can schedule one now. If you have questions or comments regarding the online-testing process or your feedback report, please email us.

NOTE: You will probably be asked to verify the authenticity of the SSL "site certificate" that we use to conduct the secure encrypted link between your browser and our server. Please answer any questions by indicating that you will accept our certificate. If you do not do so, you will not be able to take the online test.

Once participants logged in they received the following message:

### Ready to Begin

MAXIMIZE YOUR BROWSER WINDOW NOW by pressing the 'square' button in the upper-right corner of the window.

Thank you for agreeing to participate in this study.

NOTE: Do NOT use the 'BACK' button to try to return to previous screens! Once you finish with a screen, you cannot go back and change your earlier answers.

In this study you will read SIX pairs of scenarios, so you will answer a total of 12 screens of questions. The study should take you less than one hour to complete.

There are no right or wrong answers in this study. We are very interested in YOUR thoughtful input. The results of the study may be helpful to managers when they are faced

with business decisions in the future, so please take care in answering as honestly as possible. Thank you!

Press the button below when you are ready to begin.

At this point the survey was administered.

### *Procedure*

This study was administered online. Participants read paired versions (low intensity and high intensity) of six different scenarios describing business situations of an arguably ethical nature. Three scenarios were written to manipulate each of the six moral intensity characteristics posited by Jones (1991) (magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, concentration of effect), resulting in 18 different scenarios.

In order to ensure that heterogeneity existed across raters in terms of the situations that were being judged, each of the six scenarios that each participant received was randomly selected from one of three possible scenarios designed to embody each of the six moral intensity characteristics (i.e., each rater viewed 6 of the total of 18 scenarios, selected so that all 6 moral intensity dimensions were represented). To attempt to reduce the potential of presentation-order effects to influence the results, the order in which the scenarios from the 6 moral intensity characteristics were presented to each rater was randomly determined, as was the order of the paired presentation of scenarios within each, based on intensity (low-high, or high-low).

After reading the paired versions of each scenario, participants were asked to indicate their judgment of the action taken in each version of the scenario, using the 30 original Reidenbach and Robin (1988, 1990) items, plus one item (“ethical/not ethical”) intended to measure overall ethical judgment. Using a 7-point scale with “totally agree” and “totally disagree” endpoints, participants answered 12 questions adapted from Singhapakdi, Vitell, and

Kraft (1996) and Frey (2000a, 2000b) (see Appendix D), designed to assess their perception of the moral intensity of the scenario in terms of the six moral intensity characteristics posited by Jones (1991), and a single item designed to measure behavioral intention (“I would have made the same decision”).

Although the ethical judgment items were grouped together, and the perceived moral intensity and behavioral intention items were grouped together, the presentation of each of these groups of items was randomly determined within each of the 6 scenario-pairs so that in approximately half of the cases participants answered the perceived moral intensity items before answering the ethical judgment items, and in approximately half of the cases participants answered the ethical judgment items before answering the perceived moral intensity items. This procedure was followed for the paired versions of each of the six scenarios, with the PMIS-MES order being randomized for each scenario-pair.

Finally, participants were asked to indicate their age, (they indicated their gender during sign-up for the study), whether or not they are a business major, and, in an open-ended question, to briefly state what they believed to be the purpose of the study.

#### *Data Analysis*

Factor analyses were conducted on aggregated data for the 36 scenarios. To avoid any potential concerns based on conducting factor analyses using non-independent observations, the  $n= 260$  rater samples used for the confirmatory factor analyses were formed by selecting the profiles of item ratings produced by each rater in the first of the paired scenarios presented to the participant to meet the above criteria (i.e., for the 18-scenario aggregate, the first scenario presented). Although factor analyses have for decades been performed using datasets in which the independence of observations does not hold (e.g. Harvey, 1982; Levin, 1965; Tucker, 1966),

the use of the  $n = 260$  (rather than the full  $N = 3120$ ) profile database was conducted here, given that this strategy entirely avoids the question of how the fit indices of confirmatory factor models might be affected by rater non-independence, as well as the fact that an  $n = 260$  sample still provided acceptable ratios of subjects-to-items in both the PMIS and MES (i.e. being at least 8:1 in both cases).

#### *Confirmatory Factor Analyses of the 30 Original MES Items*

CFA was conducted on the 30 items, hereafter referred to as MES30, used by Reidenbach and Robin (1988, 1990) to develop the 8-item MES. The model that was tested represented the five ethical philosophies that guided its development (deontology, utilitarian, justice, relativist, and egoism). Factor analysis was conducted according to the CFA guidelines outlined in Study 1.

#### *Exploratory Factor Analyses of the MES30*

Although Hatcher (1994) cautions against using one data set for both CFA and EFA because it may capitalize on chance and therefore not generalize, EFA was conducted on the same data in a blatant attempt to “fish” the data in an effort explore alternative factor structures for the MES30 other than the 5-factor structure that was tested using CFA methods. Hypothesis testing was not conducted on these analyses. EFA was conducted according to the guidelines outlined in Study 1.

#### *Confirmatory Factor Analyses of the PMIS*

Because of Hatcher’s (1994) caution, this new data set was used for CFA of the PMIS purposes. CFA of the 3-factor structure that emerged using EFA in Study 1 was conducted according to the CFA guidelines outlined in Study 1.

## Results

### *Confirmatory Factor Analyses of the MES30*

Means, standard deviations, and coefficient alphas of the MES30 items, aggregated across all 36 scenarios, are found in Table 11. Coefficient alpha was .94, indicating a high degree of homogeneity between the items and suggesting that the items measure the same phenomenon. However, three of the items had very low correlations with the total: *selfish* was -.04, *self promoting* was .19, and *self sacrificing* was .23, indicating heterogeneity between these individual items and the others, and suggesting that these three items may measure a different phenomenon than the others.

Factor loadings, communalities, and factor correlations are found in Table 12. All but five of the 30 items had meaningful (greater than .40) loadings on their designated factors. The items with loadings lower than .40 were *maximizes pleasure* (an item that was intended to load on the Utilitarian factor but had a loading of .38); *personally satisfying* (intended to load on Egoism but had a loading of .35); *self sacrificing* (intended to load on Egoism but had a loading of .27); *self promoting* (intended to load on Egoism but had a loading of .12), and *prudent* (intended to load on Egoism but had a loading of -.05). Communalities for each of these items were also resultantly low. This would indicate that these items might not be true measures of ethical judgment, at least in terms of ethical judgment guided by these five ethical philosophies.

None of the four goodness of fit indices (GFI, AGFI, Bentler's, and Bentler & Bonett's) exceeded the recommended .90, although Bentler's was .83 and Bentler & Bonett's was .82, indicating that the model approached a good fit. The chi-square value was high, suggesting a poor model fit. Therefore, hypothesis H2-1, which stated that "using 36 different scenarios to elicit participants' ethical judgment, confirmatory factor analyses of the original 30 Reidenbach

and Robin (1988, 1990) MES items will support the 5-factor solution consistent with the theoretical structure that guided its development” was not supported.

Factor correlations were all greater than .86, exceedingly high if the factors are intended to have some divergent meaning, and suggesting that a fewer than 5-factor model might provide a better fit. In fact, the correlation between Factor 1 (Deontology) and Factor 3 (Justice), was fixed at 1.00 because the initial analysis produced a 1.00072 correlation (correlations range from 0, an indication of no correlation, to 1, an indication of a perfect correlation). Likewise, the correlation between Factor 1 and Factor 5, Egoism, was fixed at 1.00 because the initial analysis produced a 1.05 correlation. If two factors are perfectly correlated, they must be measures of the same latent construct.

#### *Exploratory Factor Analyses of the MES30*

Factor loadings of the 30 items for 1-, 2-, 3-, 4-, 5-, and 6-factor solutions are found in Tables 13-18. Only meaningful loadings (greater than .40) are shown in these tables. These exploratory factor analyses were conducted strictly as a means to provide guidance for future research. Based on these findings, it would appear that a 1-factor structure, with an eigenvalue of 32.38, might be sufficient. The *proportion of variance* accounted for by this single factor was .78. (Proportion of variance refers to the percent of variance in a data set, and is the calculated by dividing a factor’s eigenvalue by the total eigenvalues of the correlation matrix.)

#### *Confirmatory Factor Analyses of the PMIS*

Means, standard deviations, and coefficient alphas of the 10 PMIS items, aggregated across scenarios, are found in Table 19. Coefficient alpha was .74, indicating a high degree of homogeneity between the items and suggesting that the items measure the same phenomenon. However, four of the items had lower than .30 correlations with the total. It is not surprising that

these items were the two SC items and the two PX items since these items loaded on different factors than the other six items, which all loaded on Factor 1.

Factor loadings, goodness of fit indices, and factor correlations are found in Table 20. All of the items had meaningful loadings (greater than .40) on the factor they were intended to measure. The GFI was .92, indicating a good model fit. The AGFI (.86), Bentler (.88), and Bentler & Bonett (.83) indices were all lower than the suggested .90, but were close enough to suggest that the model is a good fit to the data. Therefore H2-2, which stated that “confirmatory factor analyses will support the factor structure that emerged during exploratory factor analysis in Study 1” was supported. The factor correlations were all at or lower than .40, suggesting that the three factors measure distinctly different latent constructs.

### Discussion

CFA of the MES30 demonstrated that the 30 items that Reidenbach and Robin (1988, 1990) used to develop their 8-item MES were not effective measures of the ethical philosophies they were intended to measure. This calls into question the entire theoretical foundation upon which the MES was developed, and echoes the criticisms voiced in the discussion of Study 1.

EFA of the MES30 should be viewed with caution because the same data set was used as that on which the CFA was conducted, and therefore the results may capitalize on chance. Still, with that in mind, it might be expected that the 3-factor structure that emerged would mirror the 3-factor structure of the 8-item MES. However, two of the eight MES items, *traditionally acceptable* and *culturally acceptable* did not have meaningful loadings (greater than .40) on any of the three factors. And yet test development procedures followed by Reidenbach and Robin (1988, 1990) not only retained these two items, but supported a factor that consisted of just these two items. In addition, the other six MES items loaded on the first factor in this EFA of the

MES30. Yet test development procedures followed by Reidenbach and Robin resulted in these six items loading on two different factors. This calls into question the test development procedures followed by Reidenbach and Robin outlined earlier in this report.

Questioning both the theoretical foundation upon which it was based, and the statistical procedures used in its development, raises serious doubts about the utility of the MES as a measure of ethical judgment. However, both the MES30 and the MES were used as dependent variables in Study 3 since these were the measures employed at the time the data were collected.

CFA of the 10 retained items of the PMIS supported the 3-factor structure suggested by EFA conducted in Study 1 (Probable Magnitude of Consequences, Proximity, Social Consensus). Therefore the factor-based scores (the mean of the items for each factor) were used in analyses conducted in Study 3.

Study 1 supported the 3-factor structure for the 8-item MES, and suggested a 3-factor structure for the PMIS. Study 2 allowed for a greater understanding of the factor structure of the MES30, suggesting a 1-factor structure, and supported the 3-factor structure of the PMIS that was suggested in Study 1. Armed with this information, Study 3 was developed in order to use these instruments to test the effect of moral intensity on ethical judgment.

## STUDY 3

### Method

#### *Participants*

Two independent groups of participants were used for Study 3. All participants in each group were undergraduates at Virginia Polytechnic Institute and State University. Extra credit in psychology classes was given for participation.



The first group of participants was a sub-group of the participants in Study 1. This sub-group consisted of only those participants in the Low Intensity ( $n = 110$ ) and High Intensity ( $n = 105$ ) conditions. Tables using data for this sub-group are labeled with “Prelim Data”.

The second group of participants was a sub-group of the participants in Study 2. Although there were 260 participants for Study 2, data from 33 of those participants was not used for Study 3. These 33 participants were dropped because the total time they took to complete the study was under 30 minutes, a potential indicator that these participants were making random responses, given that the survey had 528 items. (They were retained for Study 2 since only data for the first scenario were used.) Therefore there were 227 participants in the second group. (The 33 participants that were dropped from Study 3 were retained for Study 2 since only the data from the first scenario they read was used.) Tables using data for this sub-group are labeled with “Dissertation Data”.

### *Procedure*

Complete details of the procedures used in data collection are found in Study 1 and Study 2. It should be noted that Study 1 used a between-subjects design and Study 2 used a within-subject design.

### *Dependent Variables*

Ethical judgment of the actions taken in the scenarios was measured in five ways:

1. MES30 (the mean of the original 30 items used by Reidenbach and Robin, 1988, 1990, to develop the 8-item MES). LMES30 indicates the mean for the low scenarios, HMES30 indicates the mean for the high scenarios.

2. MESF1 (the mean of the four Moral Equity items of the MES: *just, fair, morally right, acceptable to my family*). LMESF1 indicates the mean for the low scenarios, HMESF1 indicates the mean for the high scenarios.
3. MESF2 (the mean of the two Relativism items of the MES: *culturally acceptable and traditionally acceptable*). LMESF2 indicates the mean for the low scenarios, HMESF2 indicates the mean for the high scenarios.
4. MESF3 (the mean of the two Contractualism items of the MES: *violates an unspoken promise and violates an unwritten contract*). LMESF3 indicates the mean for the low scenarios, HMESF3 indicates the mean for the high scenarios.
5. ETHICAL, a one-item measure. LETHICAL indicates the measure for the low scenarios, HETHICAL indicates the measure for the high scenarios.

Each of the measures was based on a 7-point Likert-type scale with “1” indicating that the action was judged as ethical and “7” indicating that the action was judged as unethical.

#### *Independent Variables*

Age, gender, major, and purpose were predictor variables. Gender was coded female = 0, male = 1. Major was coded non-business = 0, business = 1. Purpose was coded not identified = 0, identified = 1.

Perceived moral intensity of the scenarios was measured in three ways:

1. PMISF1 (the mean of the six Probable Magnitude of Consequences items: two items each for MC, PE, and TI). LPMISF1 indicates the mean for the low scenarios, HPMISF1 indicates the mean for the high scenarios.
2. PMISF2 (the mean of the two Proximity items). LPMISF2 indicates the mean for the low scenarios; HPMISF2 indicates the mean for the high scenarios.

3. PMISF3 (the mean of the two Social Consensus items). LPMISF3 indicates the mean for the low scenarios; HPMISF3 indicates the mean for the high scenarios.

Each of these measures was based on a 7-point Likert-type scale, with “1” indicating the perception of low intensity and “7” indicating the perception of high intensity.

#### *Data analysis*

A paired sample *t*-test, using SPSS software, was used to test the significance of the difference in MES30 for the low scenarios versus high scenarios, using dissertation data. SAS software was used to test the general linear model of the dependent variables on the predictor and independent variables, using both prelim and dissertation data.

#### Results

Descriptive statistics and correlations for the study variables, using dissertation data, are found in Table 21. A highlight of significant correlations follows.

Age was correlated with PMISF3 for the high scenarios such that as age increased, the perception of Social Consensus intensity increased. Gender was correlated with major, indicating that business majors were more likely to be male than female. Gender was negatively correlated with both LMESF1 and HMESF1, such that males were less likely than females to consider actions taken as unethical based on the Moral Equity factor. Gender was positively correlated with LMESF3 and HMESF3, such that males were more likely than females to consider actions taken as unethical based on the Contractualism factor. Gender was negatively correlated with LPMISF1, such that males were likely to perceive Probable Magnitude of Consequences as being less intense for the low scenarios than females. Gender was negatively correlated with LPMISF3 and HPMISF3, such that males were likely to perceive Social Consensus as being less intense than females.

With a few exceptions most of the measures of ethical judgment (the MES30 and MES factor measures) significantly correlated with each other. It should be noted that LMESF3 and HMESF3 were negatively correlated with the other measures (but positively correlated with each other). This indicated that actions judged to be unethical based on the MES30 and the Moral Equity and Relativism factors were judged to be more ethical based on the Contractualism factor.

For the high scenarios, MESF2 was correlated with PMISF1, indicating that as the perception of Probable Magnitude of Consequences increased, actions were judged as less ethical on the Relativism factor. For the high scenarios, MESF3 was negatively correlated with PMISF1, indicating that as the perception of Probable Magnitude of Consequences increased, actions were judged to be more ethical on the Contractualism factor. With a few exceptions, most of the PMIS factors correlated with each other.

Descriptive statistics and correlations for the study variables using prelim data for the low intensity condition are found in Table 22. A highlight of significant correlations follows.

Gender was negatively correlated with LMESF1 and LMESF2, such that males considered actions taken as less unethical based on the Moral Equity and Relativism factors than females. Gender was negatively correlated with LPMISF3, such that males considered the scenarios to be less intense than females on the Social Consensus factor. Major was correlated with LPMISF2, such that business majors considered the scenarios to be more intense than non-business majors on the Proximity factor.

The three MES factors were all correlated. LPMISF1 was correlated with all three MES factors, such that as the perception of intensity for the Probable Magnitude of Consequences factor increased, the action taken in the scenarios was considered more unethical based the Moral Equity, Relativism, and Contractualism factors. LPMISF1 was correlated with LPMISF2, such

that as the perception of intensity for the Probable Magnitude of Consequences factor increased, the perception of intensity for the Proximity factor also increased.

Descriptive statistics and correlations for the study variables using prelim data for the high intensity condition are found in Table 23. A highlight of significant correlations follows.

Gender was negatively correlated with HMESF1, HMESF2, and HMESF3, such that males considered actions taken as less unethical than females based on the Moral Equity, Relativism, and Contractualism factors. Gender was negatively correlated with HPMISF1 and HPMISF2, such that males perceived the scenarios as being less intense based on the Probable Magnitude of Consequences and Proximity factors than females.

All of the MES factors were correlated. HPMISF1 was correlated with all three MES factors, such that as perceived intensity of Probable Magnitude of Consequences increased, actions were considered more unethical based on the Moral Equity, Relativism, and Contractualism factors. HPMISF3 was correlated with HMES2 and HMES3, such that as perceived intensity of Social Consensus increased, actions were considered more unethical based on the Relativism and Contractualism factors. HPMISF1 was correlated with HPMISF2, such that as perceived intensity of Probable Magnitude of Consequences increased, so did perceived intensity of Proximity. HPMISF2 was correlated with HPMISF3, such that as perceived intensity of Proximity increased, so did perceived intensity of Social Consensus.

The paired sample *t*-test of the LMES30 and HMES30 (Table 24), for dissertation data, indicated a significant difference between the means. Therefore H3-1, which stated “actions taken in scenarios in which moral intensity has been manipulated to be high will be judged as more unethical than actions taken in scenarios in which moral intensity has been manipulated to be low”, was supported.

Regression of LMES30 on the predictor and independent variables for dissertation data (Table 25) produced an  $R^2 = .11$ , which was not significant. The one variable in the model that had a significant effect on ethical judgment was the interaction of purpose with PMISF2, implying that those who could identify the purpose of the study (only 19% of the participants identified the purpose correctly), perceived greater intensity in the low scenarios in terms of proximity, and judged the actions taken in the low scenarios to be more unethical than those who did not identify the purpose correctly. Regression of HMES30 on the predictor and independent variables for dissertation data (Table 26) produced an  $R^2 = .07$ , which was not significant. None of the variables had a significant effect on ethical judgment. Therefore none of the hypotheses regarding the effect of individual moral intensity characteristics on ethical judgment (H3-2 for MC, H3-3 for SC, H3-4 for PE, H3-5 for TI, H3-6 for PX) were supported. H3-7, regarding CE, was untestable because the two CE items were dropped from all analyses due to the fact that the items did not appear to be truly assessing the concentration of effect characteristic posited by Jones (1991).

In order to test the effect of PMIS on ethical judgment using a within-subject versus between-subjects design, the three MES factors were regressed on age, gender, major, the three PMIS factors, and the interactions of age, gender, and major with the three PMIS factors. These analyses were conducted on dissertation data for the low scenarios, dissertation data for the high scenarios, prelim data for the low condition, and prelim data for the high condition (Tables 27-38). Table 39 compares the  $R^2$  (percent of variance in the MES factor accounted for by the model) for each model by design.  $R^2$  for each model was higher in the between-subjects (prelim data) versus within-subject (dissertation data) design, and while all of the between-subjects  $R^2$  were significant, for the within-subject design only the model that regressed MESF1 using low

scenarios was significant. Therefore H3-8, which stated that “perceived moral intensity will have a greater impact on ethical judgment, as measured by the variance accounted for ( $R^2$ ), in a within-subject design than in a between-subjects design” was not supported.

Because there was a significant difference in the means of MES30 for the low scenarios versus high scenarios using a within-subject design (dissertation data), indicating that manipulated moral intensity had an effect on ethical judgment, but regression analyses did not find a significant effect of perceived moral intensity on ethical judgment using that design, an analysis of variance in the MES factor means was conducted on the within-subject and between-subject data (Table 40). In the within-subject design the difference in the means of PMISF1 and PMISF2 was not significant. Counter-intuitively, perceived moral intensity for these two factors was lower for the high scenarios than for the low scenarios. There was a significant difference in the means of PMISF3 (Social Consensus), with the mean for the high scenarios higher than that for the low scenarios. In the between-subject design, all of the high scenario means were higher than the low scenario means, however there was a significant difference only for PMISF1 and PMISF2.

In an effort to assess the utility of the MES as a measure of ethical judgment, participants in Study 2 were asked to evaluate the actions taken in the scenarios on a one-item 7-point Likert-type measure, *ethical/not ethical*. “Ethical” was regressed on the MES30, the MES factors, and the PMIS factors (Table 40). Both the MES30 and the MES factors as a group were significant predictors of “ethical”. The PMIS factors were not. The MES factors were a better predictor of “ethical” than the MES30, accounting for 77% of the variance versus 38%. Of the three MES factors, only Moral Equity was a significant predictor.

Rest's (1986) ethical decision making model suggests that there are four steps in the decision making process. The first step is awareness that the issue being considered is an ethical issue. Awareness has a direct effect on the ethical judgment of potential actions that could be taken. Ethical judgment has a direct effect on behavioral intention, and behavioral intention has a direct effect on behavior. So far these studies have concentrated on the second step of the model, ethical judgment. In an effort to advance this research to the third step of the ethical decision making model, participants in Study 2/3 (Dissertation Data) were asked to indicate, on a 7-point Likert-type scale, the likelihood that "I would have made the same decision", a measure of intention. "Intention" was regressed on "Ethical", the MES30, the MES factors, and the PMIS factors (Table 41), all of which were significant predictors. "Ethical" and the MES30 accounted for a similar percentage of the variance in "intention", with 41% and 42% respectively. The MES factors did better job, by accounting for 58% of the variance. Of the three MES factors, only Moral Equity was a significant predictor. Although the PMIS factors were a significant predictor of "intention", they did a far worse job than "ethical", the MES30, and the MES factors, accounting for only 5% of the variance. Of the three PMIS factors, only Probable Magnitude of Consequences was a significant predictor.

### Discussion

From the point of view of a researcher who is attempting to find support for the effect of moral intensity on ethical judgment, this study provided some good news and some bad news. The good news is that, using a within-subject design, the manipulation of the moral intensity of the scenarios appeared to work, as evidenced by the significant difference in the mean of the MES30 for the low intensity versus high intensity scenarios. MES30 was significantly higher for the high intensity scenarios than for the low intensity scenarios, indicating that manipulated



moral intensity had a significant effect on ethical judgment (as moral intensity increased, actions were judged as being more unethical). The bad news is only partially bad... using a within-subject design, only 6-12% of the variance in ethical judgment was accounted for by the models that included PMIS factors, and five of the six models were not significant. However, using a between-subjects design, the models that included PMIS factors accounted for 25-39% of the variance in ethical judgment, and each of the models was significant.

The question that needs to be asked is “why didn’t perceived moral intensity have a significant effect on ethical judgment using a within-subject design”? The answer may have to do with the lack of a significant difference in PMISF1 (Probable Magnitude of Consequences) and PMISF2 (Proximity) between the low scenarios and high scenarios. Only PMISF3 (Social Consensus) had a significant difference in means. This leads to the question of “why wasn’t there a significant difference in the means between the high and low scenarios”?

There are many potential answers to this question. The first may be that the intensity of the five moral intensity characteristics that were measured did not cross the *threshold* from low to high using the within-subject design. Jones (1991) claimed that “it is expected that threshold levels of all components must be reached before moral intensity begins to vary significantly” and that “measurement of moral intensity and its components is probably possible only in terms of relatively large distinctions” (p. 378). Using a between-subjects design, participants’ referents when judging the intensity of a scenario was not controlled by the researcher. This potentially allowed the individual participants to imagine comparisons in which the threshold was crossed. Using a within-subject design, the referent was explicit (participants read two versions of the same scenario and then indicated their perceptions of the moral intensity in each version), so it is

possible that the moral intensity components were not manipulated in a manner that allowed the threshold to be crossed.

Another potential explanation may have to do with the level of cognitive demand that was placed on the participants by the PMIS. For example, it can be argued that answering the PMIS item “there is a very small likelihood that the decision will actually cause any harm” requires greater cognitive effort than answering the MES item “fair/unfair”. This might explain why there was a difference in the means of the MES30, but not in two of the PMIS factors, using a within-subject design. However, it does not explain why there was a difference in the means for two of the PMIS factors using a between-subjects design. Perhaps the reason for this is that in the between-subjects design the participants answered the PMIS items once for each scenario. In the within-subject design the participants answered the PMIS items twice for each scenario, once for each version (high and low). This created an even greater cognitive demand, requiring that participants not only answer an already cognitively challenging question, but that they first detect differences between the two scenarios, and then base their answers on the evaluation of these differences. Future research is suggested.

A third possible explanation may lie in the method by which the within-subject study was administered, that is, online. Frey (2000b) found negligible variations between answers obtained from an electronic administration of his survey assessing the effect of moral intensity on ethical judgment and those obtained from a mail administration of the same survey. However, neither of his sample groups was offered compensation for participation. It might be assumed, then, that subjects had an intrinsic interest in participation, which may have generated more thoughtful, truthful, responses. In these studies, however, extra credit was offered for participation. While some participants may have had an intrinsic interest in the study, it might be assumed that since

the reason for participating was to get extra credit, getting extra credit in the least effortful manner possible was the most desirable route. Participation in an online study that can be completed without leaving one's dorm room or apartment is arguably less effortful than coming on campus at night to participate in a study. In addition, no researchers or research assistants are monitoring one's behavior during the actual taking of an online survey, which might further allow for less effortful engagement. And finally, a point-and-click method is a potentially easier way of introducing error variance than a paper-and-pencil method. Further research in this regard is suggested.

Additional good news provided by Study 3 is that even after all of the criticism lodged against the MES, this 8-item, 3-factor instrument was found to be a better predictor of overall ethicality, as measured by "ethical", than the MES30. Until a "better" instrument for assessing ethical judgment is developed (itself a suggestion for future research), future research into the ethical decision making process should use the MES to measure ethical judgment rather than the one-item measures that are endemic in the literature, but are questionable in terms of reliability.

Perhaps the most interesting good news provided by Study 3 is the finding that both ethical judgment and perceived moral intensity significantly affected behavioral intention, thus providing partial support for Jones' (1991) issue-contingent model of ethical decision making. The MES factors had a more robust effect on intention than the PMIS factors. In addition, only one of the MES factors (Moral Equity) and one of the PMIS factors (Probable Magnitude of Consequences) were significant individual predictors. Future research should look at the necessity of using all three MES and all three PMIS factors in ethical decision making studies.

## GENERAL DISCUSSION

A recap at this point might be helpful. In Study 1, confirmatory factor analysis (CFA) of the Multidimensional Ethics Scale (MES), an instrument designed to measure ethical judgment, supported the 3-factor (Moral Equity, Relativism, and Contractualism) structure posited by Reidenbach and Robin (1988, 1990). Exploratory factor analysis (EFA) of the Perceived Moral Intensity Scale (PMIS), an instrument designed to measure perceived moral intensity (Jones, 1991), suggested a 3-factor structure, with magnitude of consequences (MC), probability of effect (PE), and temporal immediacy (TI) loading on the first factor; proximity (PX) loading on the second factor; and social consensus (SC) loading on the third factor. Concentration of effect (CE) was dropped from all three studies because the items that were used did not appear to be assessing the specific characteristic that was posited by Jones.

In Study 2, CFA of the original 30 items used by Reidenbach and Robin (1988, 1990) (MES30) in their development of the MES did not support the 5-factor (deontology, utilitarian, justice, relativist, egoistic) model that was the theoretical foundation upon which they developed the MES. While the EFA of the MES30 conducted in this study should be used with caution because it used the same data set that was used for the CFA, thus capitalizing on chance, the 1-, 2-, 3-, 4-, and 5-factor structures that emerged called into question the retention of the current eight items that make up the MES, and might be used to guide hypotheses for future research. CFA supported the 3-factor structure of the PMIS that was suggested in Study 1. Factor 1 was named Probable Magnitude of Consequences, Factor 2 was named Proximity, and Factor 3 was named Social Consensus.

In Study 3, a paired sample *t*-test found a significant difference in the means of the MES30 for the low versus high scenarios, supporting the effect of manipulated moral intensity

on ethical judgment since actions taken in scenarios manipulated to be of high moral intensity were judged as being more unethical than actions taken in scenarios manipulated to be of low moral intensity. Models in which the MES factors were regressed on age, gender, major, and the PMIS factors, and interactions of age, gender, and major with the PMIS factors, were significant using a between-subjects design, but only the model that regressed MESF1 using low scenarios was significant using a within-subjects design. This appears to be due to the fact that there was not a significant difference in the means for PMISF1 and PMISF2 in the low versus high scenarios using a within-subjects design. Potential explanations for this include: the possibility that moral intensity did not cross the threshold suggested by Jones (1991) using a within-subject design; the possibility that the cognitive demands of the PMIS are greater using a within-subject versus between-subject design; and the possibility that the online administration of the within-subject study introduced greater error variance than the paper-and-pencil administration of the between-subjects study.

Study 3 found that the MES factors are a more robust predictor of overall ethicality than the MES30. It also found a significant effect of “ethical”, the MES30, the MES factors, and the PMIS factors on behavioral intention, providing support for Jones’ (1991) theory that both ethical judgment and moral intensity have a direct effect on behavioral intention, the third step in his four-step issue-contingent ethical decision making model. However, ethical judgment had a far more robust effect on intention than the PMIS factors. Additional model testing should be done in the future.

Although criticisms of the MES as a measure of ethical judgment are still valid, it is suggested that this 8-item measure should be used in future ethical decision making research rather than one-item measures that provide limited assurance of reliability. The factor structure

of the MES is solidly supported, and the utility of the instrument in predicting overall ethicality and behavioral intention has been shown (although the current research supported the utility of the Moral Equity factor only).

Further work should be done to examine both the factor structure of the PMIS, and the effect of perceived moral intensity on the ethical decision making process. Although a 3-factor structure (Probable Magnitude of Consequences, Proximity, and Social Consensus) has theoretical and empirical support, the current research did not effectively measure the concentration of effect (CE) characteristic. The items used by May and Pauli (2002) appear to tap into the two necessary elements of CE (a given magnitude of harm... in relation to the number of people harmed) and should be considered for use in future research.

As with any study using an undergraduate subject pool, findings from these studies may not generalize to other populations. Therefore, replications of this research using other populations is suggested and welcomed.

What, besides eigenvalues and  $R^2$ 's and levels of significance, did we learn from these studies? Where do we go from here? In order to answer those questions, it is important to recall why this research was conducted in the first place. In order to develop interventions that may prevent unethical behavior in the future, we must first understand the decision making process that leads to unethical behavior. Many models have been posited to explain this process. These studies examined just one small aspect (the effect of moral intensity on ethical judgment) of one model (Jones' issue-contingent model, 1991). Basically what we learned is that we need to learn more.

For example, this research raises a question regarding moral intensity itself, namely, what is the actual nature of the construct? Jones (1991) says that moral intensity is the "extent of

issue-related moral imperative in a situation”. What does that mean? What is *moral imperative*? Is it something that aids us in our assessment of what is truly ethical or unethical, or is it something that psychologically interferes with our ability to conduct an accurate assessment? This concern was expressed by W. J. Fitzpatrick (personal communication, July 12, 2001) when he cautioned that researchers must be cognizant of the fact that at least one of the six moral intensity characteristics, magnitude of consequences, may act as either an *informant* to ethical behavior, or as a *deterrent* from ethical behavior. For example, if stealing money is unethical, the amount of money to be stolen *ought not to* be considered when one is in the process of deciding whether or not to steal. If stealing is unethical, then stealing \$100 is unethical *and* stealing \$1000 is unethical. Stealing the lesser amount does not diminish the wrongness of the act of stealing. If the magnitude of consequences (in this case the amount of money to be stolen) does influence the individual in the decision making process, such that the individual decides to steal \$100 but would not steal \$1000, then the magnitude of consequences has deterred the individual from making an ethical behavioral choice.

However, Fitzpatrick pointed out that there are situations in which magnitude of consequences *informs* the individual of the ethicality of a behavior. An example he used was that of an individual running through a crowded train station to catch the last train home. It is not unethical for the individual to slightly bump into another person while running to the train. However, it *is* unethical for the individual to knock another person over while running to the train. It is the magnitude of the consequences in this case (bumping versus knocking over) that determines the ethicality of the behavior.

So, if moral intensity may be either an informant to or a deterrent from ethical behavior, has past research of the construct, including these studies, adequately planned for and accounted

for potentially different effects? I don't believe they have. Without knowing how the moral intensity characteristics are actually operating in the decision making process, we are unable to treat them as positive or negative factors when the goal is ethical behavior. In our interventions, in our ethics training programs, should we caution people against being influenced by moral intensity characteristics, or should we encourage them to be aware of moral intensity characteristics? At this point the research does not inform us in this regard.

In addition to the nature of moral intensity, there remains the *threshold* issue. At what point does an issue go from low intensity to high intensity? Does this vary by person? Does it vary by type of harm? This is an area ripe with interesting research questions that have not been addressed to date. Collins (1989) research on the typology of harm might prove a helpful resource in research of this kind.

The fact that findings varied depending upon whether a within-subject or between-subjects design was used introduces a number of questions regarding the appropriate method to study the effects of moral intensity. Should Jones' (1991) issue-contingent model of ethical decision making be studied using undergraduates and survey instruments? More importantly, should *any* of the ethical decision making models be studied using undergraduates and survey instruments? In the *real world* does one ever engage in the ethical decision making process without being a stakeholder in the outcome? Isn't our behavior often dictated by how it will affect our own interests? If so, then how can we benefit from research done with participants who have no vested interest in the outcomes that are generated by their awareness, or judgment, or intentions, or behavior (Rest's four stages of the ethical decision making process, 1986) regarding a contrived ethical scenario? For that matter, can true intention or behavior ever be measured using scenario research? For example, although Study 3 asked participants to indicate



whether or not they would have made the same decision that was made in the scenario, and the answer to this question was used as an indicator of intention, one could legitimately argue that the measure was an indicator of predictive judgment rather than intention. Therefore, one must question the validity of this type of research.

Although a major goal of research efforts regarding the ethical decision making process is to determine the causes of behavior, and causation can only be determined using the experimental method, in which subjects are randomly assigned to conditions and variables are manipulated, I believe that a more meaningful study of the ethical decision making process (than survey research conducted using unengaged undergraduate participants) would be to conduct in-depth interviews with individuals who have engaged in the ethical decision making process, some of whom have behaved ethically, some of whom have behaved unethically. By asking individuals to recount the thought processes in which they engaged, and both the internal and external factors that influenced them at various stages of the process, we might better be able to ascertain which of the many posited models comes closest to representing the true picture of the process one employs when making a decision regarding an ethical issue. In addition, by studying both individuals who behaved ethically and individuals who behaved unethically, by comparison, we might better be able to determine at what point in the process an individual veers from ethical decision making to unethical decision making, and what factors pushed the individual in a particular direction. Many problems are inherent in this kind of research, however. For example, some individuals are more verbally fluent than others. How would we go about trying to get information from less fluent individuals without contaminating their answers with our questions? It is beyond the scope of this paper to identify all of the potential problems

and remedies. However, I do believe a study of this kind would provide a richness of information that is impossible to obtain in survey research, and would serve us well.

During the time in which this research was being undertaken, a new ethical decision making model was introduced into the literature. The *cognitive elaboration model* (Street, Douglas, Geiger, & Martinko, 2001) (Figure 11) integrates Jones' framework with attitude change and persuasion research. Specific to the current studies, moral intensity is subsumed within one's motivation to expend cognitive effort when engaging in the ethical decision making process, and is no longer posited to have a direct effect on awareness, judgment, intention, and behavior.

The introduction of yet another ethical decision making model at this point in this paper is a reminder (as if we needed another) that we still have a long way to go in understanding the intricacies of the ethical decision making process. Each of the models cited has a number of strong points, which is evidenced by the number of models that are actually integrations or adaptations of other models (Dubinsky & Loken, 1989; Ferrell, Gresham, & Fraedrich, 1989; Jones, 1991; Street, Douglas, Geiger, & Martinko, 2001). A fault that exists with a number of the models, however, is that behavior is posited to be affected by only one variable: intention (Ajzen, 1991; Dubinsky & Loken, 1989; Ferrell, Gresham, & Fraedrich, 1989; Fishbein & Ajzen, 1975; Rest, 1986; Street, Douglas, Geiger, & Martinko, 2001). How do these models explain the "I didn't mean to" comment that so many give following unethical behavior? Somewhere, it seems, there is the potential for a *disconnect* between intention and behavior that is not accounted for in these models. In this regard, I believe that Hunt and Vitell's (1986) model, which posits an effect of situational constraints on behavior, is superior to the other models discussed.

Another way in which Hunt and Vitell's (1986) model is superior to a number of the others is that it includes a feedback mechanism in which behavior leads to consequences, which in turn influence decision making processes in the future. However, neither Hunt and Vitell's model nor any of the other models cited here includes the recognition that behavior can actually alter one's judgment of that specific behavior (not just of future behavior), thus justifying that behavior. For example, an individual may judge that stealing is unethical. Therefore, the individual intends to not steal. But a disconnect occurs and the individual does steal. The theory of cognitive dissonance (Festinger, 1957) would suggest that the individual will now change his/her attitude towards stealing, at least in this particular instance. The models cited fail to include this potential for attitude change. In fact, the effect of cognitive dissonance on attitudes is important to keep in mind if one uses the interview method of research suggested earlier. If behavior changes one's initial judgment of behavior, would an interviewer ever be able to *get at* the initial judgment one had prior to behaving? Again, it is beyond the scope of this paper to answer that question, but it is one that should be carefully considered before engaging in interview research of this kind.

Another question that research into the ethical decision making process generates is "what should we do with the knowledge that we gain?" Once we have an understanding of how the process occurs, this understanding will hopefully enable us to develop interventions that can prevent unethical behavior. But what would these interventions *look like*? I would suggest that *ethics* is not a topic that should be exclusive to family and church discussions, but should be integrated into the curriculum in our schools, should be a consideration in our leisure activities, and should be supported in the workplace. For example, developing, implementing, and supporting a code of ethics is one way to for a corporation to focus employee attention on what is

considered to be appropriate and ethical behavior. Most of the ethical decision making models cited here include both individual and environmental factors in the process. Therefore, interventions should be implemented at both the individual and corporate level. Whether an ethics intervention should be a formal training program required for all employees, or an online resource, or a casual topic discussed in departmental meetings is a question for those engaged in training and development research. Other questions include that of the appropriate content of an intervention. For example, should the focus be on awareness... or on ethical philosophies... should case studies be used... or group discussions? How will program effectiveness be evaluated? Again, these are all questions that need to be researched.

Empirical research is imperative in guiding the social sciences. Yet, it can be easy to get caught up in the statistics and lose sight of the fact that we are researching questions that may have profound effects on people's lives. I believe that questions related to the ethical decision making process are profound. Talk to a mother who has lost a child in a Ford Explorer with under-inflated Firestone tires. Talk to an Enron employee who has lost his life's savings in that company's recent bankruptcy. These people, as well as millions of others who suffer the consequences of unethical decision making practices, want to know why others made the decisions they made. I sincerely hope that our science will one day be able to answer their questions with confidence, and, armed with that knowledge, thus be able to develop effective interventions that will help to discourage unethical decision making in the future.

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## APPENDIX A

### Scenarios

#### *Magnitude of Consequences (MC)*

##### *MC Scenario #1: Gifts (developed for this study)*

*Control Condition.* As a Media Buyer at an advertising agency, Nancy Brown negotiates the price of television airtime and then places buys on behalf of the agency's clients. The agency has a policy against employees accepting gifts from suppliers. Today a courier delivered a gift to Nancy from a salesperson at one of the TV stations. Nancy has decided not to tell her boss about the gift, and plans on keeping it.

*Low Moral Intensity (Low) Condition.* As a Media Buyer at an advertising agency, Nancy Brown negotiates the price of television airtime and then places buys on behalf of the agency's clients. The agency has a policy against employees accepting gifts from suppliers. Today a courier delivered a gift to Nancy from a salesperson at one of the TV stations. The gift is a paperback copy of a Michael Crichton novel. Nancy has decided not to tell her boss about the gift, and plans on keeping it.

*High Moral Intensity (High) Condition.* As a Media Buyer at an advertising agency, Nancy Brown negotiates the price of television airtime and then places buys on behalf of the agency's clients. The agency has a policy against employees accepting gifts from suppliers. Today a courier delivered a gift to Nancy from a salesperson at one of the TV stations. The gift is a pair of one-carat diamond stud earrings. Nancy has decided not to tell her boss about the gift, and plans on keeping it.

##### *MC Scenario #2: Trade Show (adapted from Dabholkar & Kellaris, 1992, p. 325)*

*Control.* While attending a trade show, K. Nagle passed by a competitor's exhibit, which was temporarily unattended. K. took all of the remaining free product samples from the competitor's booth, brought them out behind the convention center, and threw them out. The competitor returned to the booth and discovered that all of the product samples were gone and no more were available for prospective buyers attending the show.

*Low.* While attending a trade show, K. Nagle passed by a competitor's exhibit, which was temporarily unattended. K. took the four remaining free product samples from the competitor's booth, brought them out behind the convention center, and threw them out. The competitor returned to the booth and discovered that all of the product samples were gone and no more were available for prospective buyers attending the show.

*High.* While attending a trade show, K. Nagle passed by a competitor's exhibit, which was temporarily unattended. K. took boxes with the remaining 500 free product samples from the competitor's booth, brought them out behind the convention center, and threw them out. The



competitor returned to the booth and discovered that all of the product samples were gone and no more were available for prospective buyers attending the show.

*MC Scenario #3: Office Supplies (developed for this study)*

*Control.* Steve Atkins is the assistant in charge of ordering office supplies for a large accounting firm. In this week's shipment of supplies Steve discovered an item that was not ordered, and that did not appear on the invoice. Steve decided not to tell the office supply company about the mistake and took the item home.

*Low.* Steve Atkins is the assistant in charge of ordering office supplies for a large accounting firm. In this week's shipment of supplies Steve discovered a box of staples that was not ordered, and that did not appear on the invoice. Steve decided not to tell the office supply company about the mistake and took the staples home.

*High.* Steve Atkins is the assistant in charge of ordering office supplies for a large accounting firm. In this week's shipment of supplies Steve discovered a laptop computer that was not ordered, and that did not appear on the invoice. Steve decided not to tell the office supply company about the mistake and took the computer home.

*Social Consensus (SC)*

*SC Scenario #1: New Market (adapted from Fritzsche & Becker, 1984, p. 169)*

*Control.* F. Connelly's firm is considering opening a facility in an underdeveloped country that appears to be poised for rapid growth in sales of consumer goods to the populace. Initial contacts with officials in the country left no doubt that approval of the firm's entry into the market would require a contribution to the ruling political party. As CEO of the firm, F. has approved payment of the contribution.

*Low.* F. Connelly's firm is considering opening a facility in an underdeveloped country that appears to be poised for rapid growth in sales of consumer goods to the populace. Initial contacts with officials in the country left no doubt that approval of the firm's entry into the market would require a contribution to the ruling political party. Other firms have also attempted to enter the market, some of which have made a contribution, and some of which have cancelled their plans because of their refusal to pay a contribution. As CEO of the firm, F. has approved payment of the contribution.

*High.* F. Connelly's firm is considering opening a facility in an underdeveloped country that appears to be poised for rapid growth in sales of consumer goods to the populace. Initial contacts with officials in the country left no doubt that approval of the firm's entry into the market would require a contribution to the ruling political party. Every other firm that has attempted to enter the market has decided against it, because making a contribution was a

business practice they did not wish to engage in. As CEO of the firm, F. has approved payment of the contribution.

*SC Scenario #2: Lite Foods (adapted from Hoffman, 1998, p. 71)*

*Control.* Greg Vogel is the Marketing Director for a company that makes packaged foods that are relatively high in calories, which is hurting sales. Efforts to significantly reduce calories have adversely affected the taste. The government has regulations concerning the use of the word “light” in marketing food products. To get around these regulations, Greg has decided to introduce a line of “lite” products that will contain only slightly fewer calories, but will be lighter in color, than the company’s regular products.

*Low.* Greg Vogel is the Marketing Director for a company that makes packaged foods that are relatively high in calories, which is hurting sales. Efforts to significantly reduce calories have adversely affected the taste. The government has regulations concerning the use of the word “light” in marketing food products. Industry practices vary greatly in the use of the word “lite” as a way to get around these regulations. Greg has decided to introduce a line of “lite” products that will contain only slightly fewer calories, but will be lighter in color, than the company’s regular products.

*High.* Greg Vogel is the Marketing Director for a company that makes packaged foods that are relatively high in calories, which is hurting sales. Efforts to significantly reduce calories have adversely affected the taste. The government has regulations concerning the use of the word “light” in marketing food products. The industry highly disapproves of the use of the word “lite” as a way to get around these regulations. Greg has decided to introduce a line of “lite” products that will contain only slightly fewer calories, but will be lighter in color, than the company’s regular products.

*SC Scenario #3: Computer Software (developed for this study)*

*Control.* Meg Dempsey decided to buy a new computer. She was able to purchase a state-of-the-art computer at a very affordable price, but the trade-off for getting a low price was that it came with a very limited amount of pre-loaded software. Meg has decided to install software, licensed exclusively to her workplace, onto her home computer for personal use.

*Low.* Meg Dempsey decided to buy a new computer. She was able to purchase a state-of-the-art computer at a very affordable price, but the trade-off for getting a low price was that it came with a very limited amount of pre-loaded software. While her co-workers have mixed opinions about using unlicensed software, Meg has decided to install software, licensed exclusively to her workplace, onto her home computer for personal use.

*High.* Meg Dempsey decided to buy a new computer. She was able to purchase a state-of-the-art computer at a very affordable price, but the trade-off for getting a low price was that it came with a very limited amount of pre-loaded software. Even though her co-workers strongly support the purchase of a separate license for every computer on which a piece of software will

be loaded, Meg has decided to install software, licensed exclusively to her workplace, onto her home computer for personal use.

*Probability Of Effect (PE)*

*PE Scenario #1: Delivery Date* (adapted from Reidenbach, Robin, & Dawson, 1991, p. 85)

*Control.* Nearing the end of the month, Wayne Hall, a salesperson for a wholesale garden supply company, saw that he was just short of making his monthly sales budget. Wayne's commission rate on all of his monthly sales is higher if he exceeds his budget. In order to close a sale that would put him over his goal, Wayne promised a client a delivery date that he is unsure his factory will be able to meet.

*Low.* Nearing the end of the month, Wayne Hall, a salesperson for a wholesale garden supply company, saw that he was just short of making his monthly sales budget. Wayne's commission rate on all of his monthly sales is higher if he exceeds his budget. In order to close a sale that would put him over his goal, Wayne promised a client a delivery date that his factory has a 10% chance of not being able to meet.

*High.* Nearing the end of the month, Wayne Hall, a salesperson for a wholesale garden supply company, saw that he was just short of making his monthly sales budget. Wayne's commission rate on all of his monthly sales is higher if he exceeds his budget. In order to close a sale that would put him over his goal, Wayne promised a client a delivery date that his factory has a 90% chance of not being able to meet.

*PE Scenario #2: Christmas Toy* (adapted from Dawson, 1995, p. 62)

*Control.* C. Kemp is the manager of a local toy store. The hottest Christmas toy of the year is the new "Peter Panda" stuffed animal, which is in great demand, and almost impossible to find. The store recently received a shipment of 12 "Peter Pandas", all of which are promised to people who previously stopped in the store to place a deposit to reserve one. C. decided to personally purchase one of the twelve as a Christmas present for a friend's child.

*Low.* C. Kemp is the manager of a local toy store. The hottest Christmas toy of the year is the new "Peter Panda" stuffed animal, which is in great demand, and almost impossible to find. The store recently received a shipment of 12 "Peter Pandas", all of which are promised to people who previously stopped in the store to place a deposit to reserve one. The manufacturer has assured C. that the store will get another shipment before Christmas. C. decided to personally purchase one of the twelve as a Christmas present for a friend's child.

*High.* C. Kemp is the manager of a local toy store. The hottest Christmas toy of the year is the new "Peter Panda" stuffed animal, which is in great demand, and almost impossible to find. The store recently received a shipment of 12 "Peter Pandas", all of which are promised to people who previously stopped in the store to place a deposit to reserve one. The manufacturer has told C. that the store will most likely not get another shipment before Christmas. C. decided to personally purchase one of the twelve as a Christmas present for a friend's child.

*PE Scenario #3: Engine Control Settings (adapted from Zych, 1999, p. 258)*

*Control.* Laura Elkins has been notified that some of the used cars she is selling were manufactured with incorrect engine control settings. The error will not be noticed by most of her customers since it does not affect the performance of the cars. However, the error can create emissions levels that are higher than those allowed by environmental regulations, which may be detected during state emissions inspection programs. Laura has decided not to tell her buyers of the problem.

*Low.* Laura Elkins has been notified that some of the used cars she is selling were manufactured with incorrect engine control settings. The error will not be noticed by most of her customers since it does not affect the performance of the cars. However, the error can create emissions levels that are higher than those allowed by environmental regulations, which may be detected during state emissions inspection programs. The error only impacts emissions under extremely high temperature conditions, and the dealership is located in Alaska. Laura has decided not to tell her buyers of the problem.

*High.* Laura Elkins has been notified that some of the used cars she is selling were manufactured with incorrect engine control settings. The error will not be noticed by most of her customers since it does not affect the performance of the cars. However, the error can create emissions levels that are higher than those allowed by environmental regulations, which may be detected during state emissions inspection programs. The error impacts emissions under extremely high temperature conditions, and the dealership is located in the Arizona desert. Laura has decided not to tell her buyers of the problem.

*Temporal Immediacy (TI)*

*TI Scenario #1: Waste Disposal (adapted from McCabe, Dukerich & Dutton, 1991, p. 954)*

*Control.* Amy Mullins is the President of a medium-sized medical waste disposal company. A recent internal study conducted by the company has uncovered evidence that certain materials disposed of by the firm may pose an environmental hazard to some sensitive wetlands. Amy has decided to allow the current disposal procedure to continue.

*Low.* Amy Mullins is the President of a medium-sized medical waste disposal company. A recent internal study conducted by the company has uncovered evidence that certain materials disposed of by the firm may pose an environmental hazard to some sensitive wetlands. The report states that negative effects on the wetlands will not occur for another 20 years. Amy has decided to allow the current disposal procedure to continue.

*High.* Amy Mullins is the President of a medium-sized medical waste disposal company. A recent internal study conducted by the company has uncovered evidence that certain materials disposed of by the firm may pose an environmental hazard to some sensitive wetlands. The report states that negative effects on the wetlands are already occurring. Amy has decided to allow the current disposal procedure to continue.

*TI Scenario #2: Retirement Benefits (adapted from Jones, 1991, p. 376)*

*Control.* P. Turner is the Chief Executive Officer for an airline that has been going through rough financial times in recent years. P. had the finance department run the numbers on a variety of ways to cut overhead expenses, after which they made three recommendations. P. has chosen the recommendation to cut employee retirement benefits.

*Low.* P. Turner is the Chief Executive Officer for an airline that has been going through rough financial times in recent years. P. had the finance department run the numbers on a variety of ways to cut overhead expenses, after which they made three recommendations. P. has chosen the recommendation to cut employee retirement benefits, a plan which will be phased in over the next 20 years.

*High.* P. Turner is the Chief Executive Officer for an airline that has been going through rough financial times in recent years. P. had the finance department run the numbers on a variety of ways to cut overhead expenses, after which they made three recommendations. P. has chosen the recommendation to cut employee retirement benefits of current and future retirees effective immediately.

*TI Scenario #3: Undercoating (adapted from Zych, 1999, p. 258)*

*Control.* Bob Gibson, the owner of an automobile dealership, has just become aware of a problem with the finish on one of the current model cars, which is not covered under the car's warranty. The Department of Public Works is using a type of road salt that may cause the paint under the car to blister. Because of the location on the car, the chipping will not be readily visible. Bob decides not to tell his customers.

*Low.* Bob Gibson, the owner of an automobile dealership, has just become aware of a problem with the finish on one of the current model cars, which is not covered under the car's warranty. The Department of Public Works is using a type of road salt that may cause the paint under the car to start to blister after 15 years of exposure to the salt. Because of the location on the car, the chipping will not be readily visible. Bob decides not to tell his customers.

*High.* Bob Gibson, the owner of an automobile dealership, has just become aware of a problem with the finish on one of the current model cars, which is not covered under the car's warranty. The Department of Public Works is using a type of road salt that may cause the paint under the car to start to blister after one season of exposure to the salt. Because of the location on the car, the chipping will not be readily visible. Bob decides not to tell his customers.

#### *Proximity (PX)*

*PX Scenario #1: Housing Development (adapted from Fritzsche, 1995, p. 913)*

*Control.* Ed Worley recently purchased a large tract of land for a new housing development his firm is about to start building. After making the purchase he discovered that the

land is in an area that has flooded in the past. Ed has decided to proceed with the housing development anyway.

*Low.* Ed Worley recently purchased a large tract of land in an undeveloped country for a new housing development his firm is about to start building. After making the purchase he discovered that the land is in an area that has flooded in the past. Ed has decided to proceed with the housing development anyway.

*High.* Ed Worley recently purchased a large tract of land in his home town for a new housing development his firm is about to start building. After making the purchase he discovered that the land is in an area that has flooded in the past. Ed has decided to proceed with the housing development anyway.

*PX Scenario #2: Sleepwear (adapted from Harris, 1990, p. 748)*

*Control.* T. Smith is the Chief Operating Officer of a manufacturer of children's sleepwear. The company responded to an appeal by the National Safety Commission and treated its entire fall line with the flame retardant agent TRIS. Research has since found TRIS to be a carcinogenic agent. T. has approved the sale of the entire lot of unsold inventory.

*Low.* T. Smith is the Chief Operating Officer of a manufacturer of children's sleepwear. The company responded to an appeal by the National Safety Commission and treated its entire fall line with the flame retardant agent TRIS. Research has since found TRIS to be a carcinogenic agent. T. has approved the sale of the entire lot of unsold inventory to a third-world country.

*High.* T. Smith is the Chief Operating Officer of a manufacturer of children's sleepwear. The company responded to an appeal by the National Safety Commission and treated its entire fall line with the flame retardant agent TRIS. Research has since found TRIS to be a carcinogenic agent. T. has approved the sale of the entire lot of unsold inventory to a retail store in town.

*PX Scenario #3: Used Car (adapted from Reidenbach, Robin, & Dawson, 1991, p. 85)*

*Control.* Hannah Rollins recently purchased a new car. While she originally desired to trade in her old car at the dealership where she bought her new car, a serious engine problem was detected when the car was being appraised, so the price the dealership offered was quite low. Hannah decided that she could get a higher price if she sold it on her own, so she placed an ad in the paper. When a buyer came to look at the car, Hannah decided not to mention the engine problem.

*Low.* Hannah Rollins recently purchased a new car. While she originally desired to trade in her old car at the dealership where she bought her new car, a serious engine problem was detected when the car was being appraised, so the price the dealership offered was quite low. Hannah decided that she could get a higher price if she sold it on her own, so she placed an ad in

the paper. When a buyer from out-of-state came to look at her car, Hannah decided not to mention the engine problem.

*High.* Hannah Rollins recently purchased a new car. While she originally desired to trade in her old car at the dealership where she bought her new car, a serious engine problem was detected when the car was being appraised, so the price the dealership offered was quite low. Hannah decided that she could get a higher price if she sold it on her own, so she placed an ad in the paper. When a friend who was in the market for a used car came to look at her car, Hannah decided not to mention the engine problem.

### *Concentration Of Effect (CE)*

*CE Scenario #1: Warranty* (adapted from Jones, 1991, p. 377)

*Control.* David Fleming is a Claims Adjuster for a company that manufactures roofing materials. The company is aware of a defect in roofing tiles that they manufactured over the past year. The wording of the warranty on the tiles is vague enough to provide a loophole by which David may deny warranty coverage to customers. Currently there are \$100,000 in outstanding warranty claims regarding the defective roofing tiles, filed by individual homeowners. David has decided to use the loophole to deny coverage on all of the outstanding claims.

*Low.* David Fleming is a Claims Adjuster for a company that manufactures roofing materials. The company is aware of a defect in roofing tiles that they manufactured over the past year. The wording of the warranty on the tiles is vague enough to provide a loophole by which David may deny warranty coverage to customers. Currently there are \$100,000 in outstanding warranty claims regarding the defective roofing tiles, filed by 10,000 individual homeowners with a claim of \$10.00 each. David has decided to use the loophole to deny coverage on all of the outstanding claims.

*High.* David Fleming is a Claims Adjuster for a company that manufactures roofing materials. The company is aware of a defect in roofing tiles that they manufactured over the past year. The wording of the warranty on the tiles is vague enough to provide a loophole by which David may deny warranty coverage to customers. Currently there are \$100,000 in outstanding warranty claims regarding the defective roofing tiles, filed by 10 individual homeowners with a claim of \$10,000 each. David has decided to use the loophole to deny coverage on all of the outstanding claims.

*CE Scenario #2: Cutting Expenses* (developed for this study)

*Control.* Regan Preston is the Production Manager for a company that manufactures gift bags. Sales have been weaker than expected, and Regan has been told to review her department's budget and find some way to cut \$40,000 in expenses over the next four months. Regan has decided to temporarily cut \$40,000 from employee salaries.

*Low.* Regan Preston is the Production Manager for a company that manufactures gift bags. Sales have been weaker than expected, and Regan has been told to review her department's

budget and find some way to cut \$40,000 in expenses over the next four months. Regan has decided to temporarily cut 100 employees' salaries by \$400 each (\$100 per month for four months).

*High.* Regan Preston is the Production Manager for a company that manufactures gift bags. Sales have been weaker than expected, and Regan has been told to review her department's budget and find some way to cut \$40,000 in expenses over the next four months. Regan has decided to temporarily cut five of her employees' salaries by \$8,000 each (\$2,000 per month for four months).

*CE Scenario #3: Product Shortage (developed for this study)*

*Control.* J. Lambert is the Shipping Supervisor for a company with the exclusive U.S. distribution contract for a product manufactured overseas. Due to a strike at the factory, orders have been unfulfilled for the past 6 months. Recently the strike ended, and today a shipment arrived with exactly enough units to fulfill the backorders. Due to supply and demand, prices have gone up since the backorders were placed. J. has decided to short-ship backorders in order to keep some units on the shelf for future orders at the higher price.

*Low.* J. Lambert is the Shipping Supervisor for a company with the exclusive U.S. distribution contract for a product manufacture overseas. Due to a strike at the factory, orders have been unfulfilled for the past 6 months. Recently the strike ended, and today a shipment arrived with exactly enough units to fulfill the backorders. Due to supply and demand, prices have gone up since the backorders were placed. J. has decided to short-ship the backorders of one hundred customers by 200 units each in order to keep 200,000 units on the shelf for future orders at the higher price.

*High.* J. Lambert is the Shipping Supervisor for a company with the exclusive U.S. distribution contract for a product manufactured overseas. Due to a strike at the factory, orders have been unfulfilled for the past 6 months. Recently the strike ended, and today a shipment arrived with exactly enough units to fulfill the backorders. Due to supply and demand, prices have gone up since the backorders were placed. J. has decided to short-ship the backorders of two customers by 100,000 units each in order to keep 200,000 units on the shelf for future orders at the higher price.



## APPENDIX B

Singhapakdi, Vitell, and Kraft (1996) Measure of Moral Intensity (MIS)

### *Magnitude of Consequences (MC)*

The overall harm (if any) done as a result of the (marketer)'s action would be very small.

### *Social Consensus (SC)*

Most people would agree that the (marketer)'s action is wrong.

### *Probability of Effect (PE)*

There is a very small likelihood that the (marketer)'s action will actually cause any harm.

### *Temporal Immediacy (TI)*

The (marketer)'s action will not cause any harm in an immediate future.

### *Proximity (PX)*

If the (marketer) is a personal friend of the (victim), the action is wrong.

### *Concentration of Effect (CE)*

The (marketer)'s action will harm very few people (if any).

## APPENDIX C

### Frey (2000a, 2000b) Moral Intensity Scale

#### *Magnitude of Consequences (MC)*

The harm done (if any) as a result of continuing the project would be very small.

The negative consequences (if any) of continuing with the project would be very serious.

#### *Social Consensus (SC)*

Most people seem to agree that the continuation of the project would be wrong.

Most people in this position would continue with the project.

#### *Probability of Effect (PE)*

The chance that continuing the project would *actually* cause any harm is very small.

Continuing the project is likely to cause at least some harm.

#### *Temporal Immediacy (TI)*

The continuation of the project would not cause any harm *in the immediate future*.

The negative effects (if any) of continuing the project would be felt very quickly.

#### *Proximity of Effect (PX)*

The harmful effects (if any) of continuing the project might affect people that are close to you.

You are unlikely to be close to anyone who might be negatively affected by a continuation of the project.

#### *Concentration of Effect (CE)*

The harmful consequences (if any) of continuing the project would be concentrated on a small number of people.

Any negative effects would be spread across a large number of individuals.

## APPENDIX D

### Perceived Moral Intensity Scale (PMIS)

#### *Magnitude of Consequences (MC)*

The negative consequences (if any) of the decision will be very serious. (R)

The overall harm (if any) as a result of the decision will be very small.

#### *Social Consensus (SC)*

People are not likely to agree about whether the decision was right or wrong.

Most people would agree on what the appropriate decision is in this scenario. (R)

#### *Probability of Effect (PE)*

There is a very small likelihood that the decision will actually cause any harm.

The decision is likely to cause harm. (R)

#### *Temporal Immediacy (TI)*

The decision will not cause any harm in the immediate future.

The negative effects (if any) of the decision will be felt very quickly. (R)

#### *Proximity of Effect (PX)*

The harmful effects (if any) of the decision will affect people that are close to the decision maker. (R)

The decision maker is unlikely to be close to anyone who might be negatively affected by the decision.

#### *Concentration of Effect (CE)*

The harmful consequences (if any) of the decision will be concentrated on a small number of people. (R)

Any negative effects of the decision will be spread across a large number of individuals.

(R) = Reverse score

(Items adapted from Singhapakdi et al., 1996 and Frey, 2000a, 2000b)

## APPENDIX E

### Reidenbach and Robin's (1988, 1990) Original 30 Items

#### *Justice Scales*

Just/Unjust  
Fair/Unfair  
Results/Does not result in an equal distribution of good and bad

#### *Relativist Scales*

Culturally acceptable/Unacceptable  
Individually acceptable/Unacceptable  
Acceptable/Unacceptable to people I most admire  
Traditionally acceptable/Unacceptable  
Acceptable/Unacceptable to my family

#### *Egoism Scales*

Self promoting/Not self promoting  
Selfish/Not selfish  
Self sacrificing/Not self sacrificing  
Prudent/not prudent  
Under no moral obligation/Morally obligate to act otherwise  
Personally satisfying/Not personally satisfying  
In the best interests of the company/Not in the best interests of the company

#### *Utilitarian Scales*

Efficient/Inefficient  
OK/Not OK if actions can be justified by their consequences  
Compromises/Does not compromise an important rule by which I live  
On balance, tends to be good/Bad  
Produces the greatest/Least utility  
Maximizes/Minimizes benefits while minimizes/maximizes harm  
Leads to the greatest/Least good for the greatest number  
Results in a positive/Negative cost-benefit ratio  
Maximizes/Minimizes pleasure

#### *Deontology Scales*

Violates/Does not violate an unwritten contract  
Violates/Does not violate my ideas of fairness  
Morally right/Not morally right  
Obligated/Not obligated to act this way  
Violates/Does not violate an unspoken promise  
Duty bound to act this way/Not duty bound to act this way

APPENDIX F

Multidimensional Ethics Scale  
(Reidenbach & Robin, 1990)

*Moral Equity*

Just \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Unjust

Fair \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Unfair

Morally Right \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Not Morally Right

Acceptable to my Family \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Not Acceptable to my Family

*Relativism*

Culturally Acceptable \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Culturally Unacceptable

Traditionally Acceptable \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Traditionally Unacceptable

*Contractualism*

Does Not Violate an \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Violates an Unspoken Promise  
Unspoken Promise

Does Not Violate an \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ \_\_\_ Violates an Unwritten Contract  
Unwritten Contract

Table 1

*Moral Intensity Scenarios*

Moral Intensity Characteristic	Gender	Scenario Name	Source (Adapted from)
Magnitude of Consequences	F	Gifts	Developed for this study
	NG	Trade Show	Dabholkar & Kellaris, 1992, p. 325
	M	Office Supplies	Developed for this study
Social Consensus	NG	New Market	Fritzsche & Becker, 1984, p. 169
	M	"Lite" Foods	Hoffman, 1998, p. 71
	F	Computer Software	Developed for this study
Probability of Effect	M	Delivery Date	Reidenbach, Robin, & Dawson, 1991, p. 85
	NG	Christmas Toy	Dawson, 1995, p. 62
	F	Engine Control Settings	Zych, 1999, p. 258
Temporal Immediacy	F	Waste Disposal	McCabe, Dukerich, & Dutton, 1991, p. 954
	NG	Retirement Benefits	Jones, 1991, p. 376
	M	Undercoating	Zych, 1999, p. 258
Proximity	M	Housing Development	Fritzsche, 1995, p. 913
	NG	Sleepwear	Harris, 1990, p. 748
	F	Used Car	Reidenbach, Robin, & Dawson, 1991, p. 85
Concentration of Effect	M	Warranty	Jones, 1991, p. 377
	F	Cutting Expenses	Developed for this study
	NG	Product Shortage	Developed for this study

*Note* . F = Female; M = Male; NG = No gender.

Table 2

*Means, Standard Deviations, and Coefficient Alpha for 8-Item MES, Study 1*

#	Item	<i>M</i>	<i>SD</i>	Correlation with Total
1	Just/Unjust	5.30	.72	.81
2	Fair/Unfair	5.40	.69	.83
3	Morally Right/Not Morally Right	5.71	.64	.78
4	Acceptable/Not Acceptable To My Family	5.48	.75	.78
5	Culturally Acceptable/Unacceptable	4.73	.96	.63
6	Traditionally Acceptable/Unacceptable	4.95	.93	.71
7	Does Not Violate/Violates Unspoken Promise	5.38	.79	.78
8	Does Not Violate/Violates Unwritten Contract	5.30	.83	.73
Alpha for Instrument:				.92

*Note.* MES = Multidimensional Ethics Scale.

*N* = 328.

Table 3

*Goodness-of-Fit Indices for 8-Item MES, Study 1*

Method Used to Evaluate Fit	3-Factor	2-Factor A	2-Factor B	1-Factor
Goodness of Fit Index (GFI)	.93	.80	.77	.68
GFI Adjusted for Degrees of Freedom (AGFI)	.85	.62	.56	.43
Chi-Square	103.03	389.07	537.07	788.21
Chi-Square DF	17	19	19	20
Bentler's Comparative Fit Index	.97	.87	.82	.73
Bentler & Bonett's (1980) Non-normed Index	.95	.81	.73	.62

*Note.* MES = Multidimensional Ethics Scale. 3-Factor = Just, Fair, Morally Right, Acceptable to my Family on Factor 1; Culturally Acceptable, Traditionally Acceptable on Factor 2; Does Not Violate an Unspoken Promise, Does Not Violate an Unwritten Contract on Factor 3. 2-Factor A = Just, Fair, Morally Right, Acceptable to my Family, Culturally Acceptable, Traditionally Acceptable on Factor 1; Does Not Violate an Unspoken Promise, Does Not Violate an Unwritten Contract on Factor 2. 2-Factor B = Just, Fair, Morally Right, Acceptable to my Family, Does Not Violate an Unspoken Promise, Does Not Violate an Unwritten Contract on Factor 1; Culturally Acceptable, Traditionally Acceptable on Factor 2.  $N = 328$ .



Table 4

*Factor Loadings, Communalities, and Factor Correlations for CFA of 8-Item MES, Study 1*

#	Item	$R^2$	Factor Loadings		
			Factor 1	Factor 2	Factor 3
1	Just	.90	95		
2	Fair	.94	97		
3	Morally Right	.80	90		
4	Acceptable to My Family	.67	82		
5	Traditionally Acceptable	.70		84	
6	Culturally Acceptable	.93		96	
7	Does Not Violate Unspoken Promise	.98			99
8	Does Not Violate Unwritten Contract	.85			92

Factor Correlations		
F1	F2	.57
F1	F3	.69
F2	F3	.59

*Note.* CFA = Confirmatory Factor Analysis. MES = Multidimensional Ethics Scale.

$R^2$  = Communality. Factor 1 = Moral Equity, Factor 2 = Relativism, Factor 3 = Contractualism.

F1 = Factor 1, F2 = Factor 2, F3 = Factor 3.

$N = 328$ .

Table 5

*Means, Standard Deviations, and Coefficient Alpha for PMIS, Study 1*

#	Item	MI	<i>M</i>	<i>SD</i>	Correlation with Total
1	Negative consequences will be serious. (R)	MC	4.28	.60	.61
2	People not likely to agree.	SC	4.42	.76	.29
3	Small likelihood of harm.	PE	4.20	.57	.60
4	Decision will not cause harm in immediate future.	TI	3.97	.65	.63
5	Harmful effects will affect people close. (R)	PX	3.55	.76	.41
7	Harm will be very small.	MC	4.18	.55	.58
8	Most people would agree. (R)	SC	4.50	.77	.24
9	Decision likely to cause harm. (R)	PE	4.42	.62	.54
10	Negative effects will be felt very quickly. (R)	TI	3.96	.59	.54
11	Decision maker unlikely to be close.	PX	3.53	.77	.37
Alpha for Instrument:					.79

*Note.* PMIS = Perceived Moral Intensity Scale. MI = Moral Intensity Characteristic.  
 MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect,  
 TI = Temporal Immediacy, PX = Proximity, CE = Concentration of Effect.  
*N* = 328.

Table 6

*Exploratory Factor Analysis of PMIS, Study 1, One Factor*

Item	MI Char.	F1
1	MC	74
2	SC	
3	PE	76
4	TI	76
5	PX	
7	MC	76
8	SC	
9	PE	70
10	TI	64
11	PX	
Eigenvalue		8.33
Proportion of Variance		.66

Akaike's Information Criterion	571.77
Schwarz's Bayesian Criterion	439.02
Tucker and Lewis's Reliability Coefficient	.48

*Note.* PMIS = Perceived Moral Intensity Scale. 1 = Negative consequences serious (R), 2 = People not likely to agree, 3 = Small likelihood of harm, 4 = No harm in immediate future, 5 = Harm will affect people close (R), 7 = Harm will be small, 8 = Most people would agree (R), 9 = Decision likely to cause harm (R), 10 = Negative effects will be felt quickly (R), 11 = Decision maker unlikely to be close. MI Char = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity. *N* = 328.

Table 7

*Exploratory Factor Analysis of PMIS, Study 1, Two Factors*

Item	MI Char.	F1	F2
1	MC	70	
2	SC		
3	PE	80	
4	TI	71	
5	PX		100
7	MC	78	
8	SC		
9	PE	70	
10	TI	58	
11	PX		69
Eigenvalues		8.33	2.66
Proportion of Variance		.66	.21

Akaike's Information Criterion	351.53
Schwarz's Bayesian Criterion	252.91
Tucker and Lewis's Reliability Coefficient	.57

*Note.* PMIS = Perceived Moral Intensity Scale. 1 = Negative consequences serious (R), 2 = People not likely to agree, 3 = Small likelihood of harm, 4 = No harm in immediate future, 5 = Harm will affect people close (R), 7 = Harm will be small, 8 = Most people would agree (R), 9 = Decision likely to cause harm (R), 10 = Negative effects will be felt quickly (R), 11 = Decision maker unlikely to be close. MI Char = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity. *N* = 328.

Table 8

*Exploratory Factor Analysis of PMIS, Study 1, Three Factors*

Item	MI Char.	F1	F2	F3
1	MC	70		
2	SC			100
3	PE	78		
4	TI	71		
5	PX		99	
7	MC	77		
8	SC			62
9	PE	70		
10	TI	59		
11	PX		69	
Eigenvalues		8.33	2.66	1.92
Proportion of Variance		.66	.21	.15

Akaike's Information Criterion 186.43  
 Schwarz's Bayesian Criterion 118.16  
 Tucker and Lewis's Reliability Coefficient .66

*Note.* PMIS = Perceived Moral Intensity Scale. 1 = Negative consequences serious (R), 2 = People not likely to agree, 3 = Small likelihood of harm, 4 = No harm in immediate future, 5 = Harm will affect people close (R), 7 = Harm will be small, 8 = Most people would agree (R), 9 = Decision likely to cause harm (R), 10 = Negative effects will be felt quickly (R), 11 = Decision maker unlikely to be close. MI Char = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity. *N* = 328.

Table 9

*Exploratory Factor Analysis of PMIS, Study 1, Four Factors*

Item	MI Char.	F1	F2	F3	F4
1	MC	58			
2	SC				64
3	PE		83		
4	TI		48		
5	PX	41		74	
7	MC		69		
8	SC				99
9	PE	54			
10	TI	74			
11	PX			99	
Eigenvalues		8.33	2.66	1.92	1.03
Proportion of Variance		.66	.21	.15	.08

Akaike's Information Criterion 59.30  
 Schwarz's Bayesian Criterion 17.57  
 Tucker and Lewis's Reliability Coefficient .81

*Note.* PMIS = Perceived Moral Intensity Scale. 1 = Negative consequences serious (R), 2 = People not likely to agree, 3 = Small likelihood of harm, 4 = No harm in immediate future, 5 = Harm will affect people close (R), 7 = Harm will be small, 8 = Most people would agree (R), 9 = Decision likely to cause harm (R), 10 = Negative effects will be felt quickly (R), 11 = Decision maker unlikely to be close. MI Char = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity. N = 328.

Table 10

*Exploratory Factor Analysis of PMIS, Study 1, Five Factors*

Item	MI Char.	F1	F2	F3	F4	F5
1	MC	42		49		
2	SC				91	
3	PE	68				
4	TI					82
5	PX		97			
7	MC	77				
8	SC				70	
9	PE	43		60		
10	TI			71		
11	PX		72			
Eigenvalues		8.33	2.66	1.92	1.03	.41
Proportion of Variance		.66	.21	.15	.08	.03

Akaike's Information Criterion	.32
Schwarz's Bayesian Criterion	-18.65
Tucker and Lewis's Reliability Coefficient	.97

*Note.* PMIS = Perceived Moral Intensity Scale. 1 = Negative consequences serious (R), 2 = People not likely to agree, 3 = Small likelihood of harm, 4 = No harm in immediate future, 5 = Harm will affect people close (R), 7 = Harm will be small, 8 = Most people would agree (R), 9 = Decision likely to cause harm (R), 10 = Negative effects will be felt quickly (R), 11 = Decision maker unlikely to be close. MI Char = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity.  $N = 328$ .

Table 11

*Means, Standard Deviations, and Coefficient Alpha for MES30, Study 2*

#	Item	<i>M</i>	<i>SD</i>	Correlation with Total
0	Just	5.15	1.80	.73
1	Violates unspoken promise (R)	5.11	1.85	.54
2	Violates my idea of fairness (R)	5.47	1.73	.63
3	Traditionally acceptable	4.77	1.85	.62
4	Personally satisfying	4.70	1.97	.40
5	In best interests of company	4.26	2.14	.49
6	Efficient	4.25	1.97	.61
7	Produces greatest utility	4.01	1.64	.51
8	Results in equal distribution of good and bad	4.94	1.72	.63
9	Selfish (R)	5.69	1.66	.63
10	Prudent	3.85	1.66	-.04
11	Acceptable to people I admire	5.47	1.53	.74
12	Compromises important rule (R)	4.59	1.95	.40
13	Culturally acceptable	4.33	1.87	.55
14	Leads to greatest good for greatest number	4.80	1.73	.72
16	OK if actions can be justified by consequences	4.42	1.86	.65
17	Maximizes benefits, minimizes harm	4.69	1.70	.68
18	On balance tends to be good	4.94	1.68	.82
19	Under no moral obligation to act otherwise	5.02	1.70	.63
20	Morally right	5.58	1.42	.79
21	Self promoting	3.53	2.06	.19
22	Obligated to act this way	5.24	1.60	.62
23	Fair	5.45	1.65	.78
24	Violates unwritten contract (R)	5.05	1.79	.55
25	Individually acceptable	4.97	1.77	.79
26	Results in positive cost-benefit ratio	4.11	1.89	.46
27	Acceptable to my family	5.45	1.65	.79
28	Maximizes pleasure	4.15	1.79	.37
29	Self sacrificing	5.04	1.82	.23
30	Duty bound to act this way	5.15	1.60	.65
Alpha for Instrument:				.94

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale.

(R) = Reverse scored.

*N* = 260.



Factor Loadings, Communalities, G-O-F Indices, and Factor Correlations for CFA of MES30, Study 2

#	Item	Philosophy	$R^2$	F1	F2	F3	F4	F5
20	Morally right	Deontology	.74	86				
2	Violates my idea of fairness (R)	Deontology	.50	71				
30	Duty bound to act this way	Deontology	.43	65				
22	Obligated to act this way	Deontology	.40	63				
1	Violates unspoken promise (R)	Deontology	.38	61				
24	Violates unwritten contract (R)	Deontology	.34	59				
18	On balance tends to be good	Utilitarian	.77		88			
17	Maximizes benefits, minimizes harm	Utilitarian	.58		76			
14	Leads to greatest good for greatest number	Utilitarian	.56		75			
16	OK if actions can be justified by consequences	Utilitarian	.46		68			
6	Efficient	Utilitarian	.41		64			
7	Produces greatest utility	Utilitarian	.28		53			
26	Results in positive cost-benefit ratio	Utilitarian	.23		48			
12	Compromises important rule (R)	Utilitarian	.17		41			
28	Maximizes pleasure	Utilitarian	.15		38			
23	Fair	Justice	.71			84		
0	Just	Justice	.55			74		
8	Results in equal distribution of good and bad	Justice	.41			64		
27	Acceptable to my family	Relativist	.76				87	
11	Acceptable to people I admire	Relativist	.65				81	
25	Individually acceptable	Relativist	.66				81	
3	Traditionally acceptable	Relativist	.39				62	
13	Culturally acceptable	Relativist	.32				56	
9	Selfish (R)	Egoism	.56					75
19	Under no moral obligation to act otherwise	Egoism	.52					71
5	In best interests of company	Egoism	.22					46
4	Personally satisfying	Egoism	.12					35
29	Self sacrificing	Egoism	.07					27
21	Self promoting	Egoism	.01					12
10	Prudent	Egoism	.00					-05

Goodness of Fit Index (GFI)	.76
GFI Adjusted for Degrees of Freedom (AGFI)	.71
Chi-Square	1095.76
Chi-Square DF	397
Bentler's Comparative Fit Index	.83
Bentler & Bonett's (1980) Non-normed Index	.82

Factor Correlations		
F1	F2	.89
F1	F3	1 .00
F1	F4	.92
F1	F5	1 .00
F2	F3	.92
F2	F4	.91
F2	F5	.86
F3	F4	.98
F3	F5	.95
F4	F5	.89

Note. G-O-F = Goodness of Fit. CFA = Confirmatory Factor Analysis. MES30 = Original 30 items used to develop the Multidimensional Ethics Scale.  $R^2$  = Communality. F = Factor. (R) = Reverse scored.  $N = 260$ .

Table 13

*Exploratory Factor Analysis of MES30, Study 2, One Factor*

#	Item	Philosophy	F1
18	On balance tends to be good	Utilitarian	85
27	Acceptable to my family	Relativist	84
20	Morally right	Deontology	84
23	Fair	Justice	84
25	Individually acceptable	Relativist	79
11	Acceptable to people I admire	Relativist	78
0	Just	Justice	75
14	Leads to greatest good for greatest number	Utilitarian	74
17	Maximizes benefits, minimizes harm	Utilitarian	70
9	Selfish (R)	Egoism	69
2	Violates my idea of fairness (R)	Deontology	68
19	Under no moral obligation to act otherwise	Egoism	66
16	OK if actions can be justified by consequences	Utilitarian	65
8	Results in equal distribution of good and bad	Justice	65
30	Duty bound to act this way	Deontology	65
22	Obligated to act this way	Deontology	63
3	Traditionally acceptable	Relativist	61
6	Efficient	Utilitarian	59
24	Violates unwritten contract (R)	Deontology	58
1	Violates unspoken promise (R)	Deontology	57
13	Culturally acceptable	Relativist	55
7	Produces greatest utility	Utilitarian	48
5	In best interests of company	Egoism	48
26	Results in positive cost-benefit ratio	Utilitarian	43
12	Compromises important rule (R)	Utilitarian	43
4	Personally satisfying	Egoism	40
28	Maximizes pleasure	Utilitarian	
29	Self sacrificing	Egoism	
21	Self promoting	Egoism	
10	Prudent	Egoism	
		Eigenvalue	32.38
		Proportion of Variance	.78

Akaike's Information Criterion	392.60
Schwarz's Bayesian Criterion	-1049.48
Tucker and Lewis's Reliability Coefficient	.80

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored. *N* = 260.

Table 14

*Exploratory Factor Analysis of MES30, Study 2, Two Factors*

#	Item	Philosophy	F1	F2
20	Morally right	Deontology	79	
9	Selfish (R)	Egoism	79	
23	Fair	Justice	77	
2	Violates my idea of fairness (R)	Deontology	77	
27	Acceptable to my family	Relativist	73	
19	Under no moral obligation to act otherwise	Egoism	69	
11	Acceptable to people I admire	Relativist	69	
1	Violates unspoken promise (R)	Deontology	68	
18	On balance tends to be good	Utilitarian	61	
0	Just	Justice	58	
24	Violates unwritten contract (R)	Deontology	56	
14	Leads to greatest good for greatest number	Utilitarian	55	
25	Individually acceptable	Relativist	54	
8	Results in equal distribution of good and bad	Justice	52	
30	Duty bound to act this way	Deontology	49	
12	Compromises important rule (R)	Utilitarian	48	
22	Obligated to act this way	Deontology	46	
16	OK if actions can be justified by consequences	Utilitarian	42	
29	Self sacrificing	Egoism		
10	Prudent	Egoism		
6	Efficient	Utilitarian		68
26	Results in positive cost-benefit ratio	Utilitarian		65
7	Produces greatest utility	Utilitarian		61
5	In best interests of company	Egoism		48
21	Self promoting	Egoism		48
28	Maximizes pleasure	Utilitarian		45
17	Maximizes benefits, minimizes harm	Utilitarian	42	44
3	Traditionally acceptable	Relativist		
13	Culturally acceptable	Relativist		
4	Personally satisfying	Egoism		
		Eigenvalues	32.38	3.42
		Proportion of Variance	.78	.08

Akaike's Information Criterion	148.63
Schwarz's Bayesian Criterion	-1190.18
Tucker and Lewis's Reliability Coefficient	.86

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored.  $N = 260$ .

Table 15

*Exploratory Factor Analysis of MES30, Study 2, Three Factors*

#	Item	Philosophy	F1	F2	F3
20	Morally right	Deontology	78		
9	Selfish (R)	Egoism	78		
23	Fair	Justice	77		
2	Violates my idea of fairness (R)	Deontology	77		
27	Acceptable to my family	Relativist	73		
11	Acceptable to people I admire	Relativist	70		
19	Under no moral obligation to act otherwise	Egoism	68		
1	Violates unspoken promise (R)	Deontology	67		
18	On balance tends to be good	Utilitarian	61		
0	Just	Justice	58		
25	Individually acceptable	Relativist	55		
24	Violates unwritten contract (R)	Deontology	55		
14	Leads to greatest good for greatest number	Utilitarian	54		
8	Results in equal distribution of good and bad	Justice	51		
30	Duty bound to act this way	Deontology	48		
12	Compromises important rule (R)	Utilitarian	48		
22	Obligated to act this way	Deontology	44		
17	Maximizes benefits, minimizes harm	Utilitarian	42		
16	OK if actions can be justified by consequences	Utilitarian	41		
3	Traditionally acceptable	Relativist			
29	Self sacrificing	Egoism			
6	Efficient	Utilitarian		66	
7	Produces greatest utility	Utilitarian		63	
5	In best interests of company	Egoism		63	
26	Results in positive cost-benefit ratio	Utilitarian		62	
4	Personally satisfying	Egoism			58
28	Maximizes pleasure	Utilitarian			57
21	Self promoting	Egoism			53
13	Culturally acceptable	Relativist			
10	Prudent	Egoism			
Eigenvalues			32.38	3.42	2.09
Proportion of Variance			.78	.08	.05

Akaike's Information Criterion	32.45
Schwarz's Bayesian Criterion	-1206.67
Tucker and Lewis's Reliability Coefficient	.89

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored. *N* = 260.

Table 16

*Exploratory Factor Analysis of MES30, Study 2, Four Factors*

#	Item	Philosophy	F1	F2	F3	F4
27	Acceptable to my family	Relativist	77			
20	Morally right	Deontology	77			
23	Fair	Justice	74			
11	Acceptable to people I admire	Relativist	68			
9	Selfish (R)	Egoism	67			
18	On balance tends to be good	Utilitarian	64			
0	Just	Justice	56			
14	Leads to greatest good for greatest number	Utilitarian	53			
17	Maximizes benefits, minimizes harm	Utilitarian	53			
25	Individually acceptable	Relativist	52			
19	Under no moral obligation to act otherwise	Egoism	52			
2	Violates my idea of fairness (R)	Deontology	52			43
8	Results in equal distribution of good and bad	Justice	51			
16	OK if actions can be justified by consequences	Utilitarian	46			
22	Obligated to act this way	Deontology	46			
30	Duty bound to act this way	Deontology	44			
12	Compromises important rule (R)	Utilitarian				
6	Efficient	Utilitarian		63		
26	Results in positive cost-benefit ratio	Utilitarian		62		
7	Produces greatest utility	Utilitarian		62		
5	In best interests of company	Egoism		60		
3	Traditionally acceptable	Relativist				
21	Self promoting	Egoism			56	
4	Personally satisfying	Egoism			54	
28	Maximizes pleasure	Utilitarian			53	
13	Culturally acceptable	Relativist				
10	Prudent	Egoism				
29	Self sacrificing	Egoism				
1	Violates unspoken promise (R)	Deontology				90
24	Violates unwritten contract (R)	Deontology				44
Eigenvalues			32.38	3.42	2.09	1.45
Proportion of Variance			.78	.08	.05	.04

Akaike's Information Criterion	-23.20
Schwarz's Bayesian Criterion	-1166.17
Tucker and Lewis's Reliability Coefficient	.91

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored. *N* = 260.

Table 17

*Exploratory Factor Analysis of MES30, Study 2, Five Factors*

#	Item	Philosophy	F1	F2	F3	F4	F5
23	Fair	Justice	76				
27	Acceptable to my family	Relativist	71				
20	Morally right	Deontology	68				
2	Violates my idea of fairness (R)	Deontology	59				42
11	Acceptable to people I admire	Relativist	57				
9	Selfish (R)	Egoism	54				
18	On balance tends to be good	Utilitarian	50				
0	Just	Justice	42				
17	Maximizes benefits, minimizes harm	Utilitarian	41				
8	Results in equal distribution of good and bad	Justice					
25	Individually acceptable	Relativist					
30	Duty bound to act this way	Deontology		56			
22	Obligated to act this way	Deontology		50			
16	OK if actions can be justified by consequences	Utilitarian		44			
3	Traditionally acceptable	Relativist		41			
29	Self sacrificing	Egoism		40			
14	Leads to greatest good for greatest number	Utilitarian					
19	Under no moral obligation to act otherwise	Egoism					
4	Personally satisfying	Egoism			56		
21	Self promoting	Egoism			53		
28	Maximizes pleasure	Utilitarian			52		
13	Culturally acceptable	Relativist			51		
10	Prudent	Egoism					
7	Produces greatest utility	Utilitarian				75	
6	Efficient	Utilitarian				72	
26	Results in positive cost-benefit ratio	Utilitarian				45	
5	In best interests of company	Egoism				44	
1	Violates unspoken promise (R)	Deontology					82
24	Violates unwritten contract (R)	Deontology					48
12	Compromises important rule (R)	Utilitarian					
Eigenvalues			32.38	3.42	2.09	1.45	1.34
Proportion of Variance			.78	.08	.05	.04	.03

Akaike's Information Criterion	-82.84
Schwarz's Bayesian Criterion	-1133.24
Tucker and Lewis's Reliability Coefficient	.93

*Note.* MES-30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored. *N* = 260.

Table 18

*Exploratory Factor Analysis of MES-30, Study 2, Six Factors*

#	Item	Philosophy	F1	F2	F3	F4	F5	F6
20	Morally right	Deontology	80					
23	Fair	Justice	70					
27	Acceptable to my family	Relativist	61					
9	Selfish (R)	Egoism	56					
18	On balance tends to be good	Utilitarian	54					
11	Acceptable to people I admire	Relativist	53					
17	Maximizes benefits, minimizes harm	Utilitarian	41					
19	Under no moral obligation to act otherwise	Egoism						
8	Results in equal distribution of good and bad	Justice						
0	Just	Justice						
14	Leads to greatest good for greatest number	Utilitarian						
30	Duty bound to act this way	Deontology		56				
29	Self sacrificing	Egoism		56				
22	Obligated to act this way	Deontology		42				
16	OK if actions can be justified by consequences	Utilitarian						
7	Produces greatest utility	Utilitarian			77			
6	Efficient	Utilitarian			72			
26	Results in positive cost-benefit ratio	Utilitarian			48			
5	In best interests of company	Egoism			44			
13	Culturally acceptable	Relativist				69		
3	Traditionally acceptable	Relativist				42		
21	Self promoting	Egoism						
10	Prudent	Egoism						
1	Violates unspoken promise (R)	Deontology					82	
24	Violates unwritten contract (R)	Deontology					46	
2	Violates my idea of fairness (R)	Deontology	51				46	
12	Compromises important rule (R)	Utilitarian						
28	Maximizes pleasure	Utilitarian						46
4	Personally satisfying	Egoism						45
25	Individually acceptable	Relativist						
Eigenvalues			32.38	3.42	2.09	1.45	1.34	.97
Proportion of Variance			.78	.08	.05	.04	.03	.02

Akaike's Information Criterion -120.87  
 Schwarz's Bayesian Criterion -1082.25  
 Tucker and Lewis's Reliability Coefficient .95

*Note.* MES30 = Original 30 items used to develop the Multidimensional Ethics Scale. F = Factor. (R) = Reverse scored. *N* = 260.

Table 19

*Means, Standard Deviations, and Coefficient Alpha for PMIS, Study 2*

#	Item	MI	<i>M</i>	<i>SD</i>	Correlation with Total
1	Negative consequences will be serious (R)	MC	5.15	1.48	.50
2	People not likely to agree decision right or wrong	SC	3.79	1.72	.25
3	Small likelihood of harm	PE	4.42	1.66	.54
4	No harm in immediate future	TI	4.41	1.59	.61
5	Harm will affect people close (R)	PX	4.02	1.64	.29
7	Overall harm will be very small	MC	4.37	1.56	.52
8	Most people would agree on appropriate action (R)	SC	4.25	1.57	.21
9	Decision likely to cause harm (R)	PE	4.77	1.52	.58
10	Negative effects will be felt very quickly (R)	TI	4.14	1.48	.41
11	Decision maker unlikely to be close to anyone harmed	PX	3.67	1.71	.20
Alpha for Instrument:					.74

*Note.* PMIS = Perceived Moral Intensity Scale. MI = Moral Intensity Characteristic.

MC = Magnitude of Consequences, SC = Social Consensus, PE = Probability of Effect,

TI = Temporal Immediacy, PX = Proximity.

*N* = 260 .



Table 20

*Factor Loadings, Goodness of Fit Indices, and Factor Correlations for CFA of PMIS, Study 2*

#	Item	MI	R <sup>2</sup>	F1	F2	F3
4	No harm in immediate future	TI	.52	72		
9	Decision likely to cause harm (R)	PE	.52	72		
3	Small likelihood of harm	PE	.52	72		
7	Overall harm will be very small	MC	.49	70		
1	Negative consequences will be serious (R)	MC	.45	67		
10	Negative effects will be felt very quickly (R)	TI	.18	43		
5	Harm will affect people close (R)	PX	.61		78	
11	Decision maker unlikely to be close to anyone harmed	PX	.20		44	
2	People not likely to agree decision right or wrong	SC	.27			52
8	Most people would agree on appropriate action (R)	SC	.23			48

Goodness of Fit Index (GFI)	.92
GFI Adjusted for Degrees of Freedom (AGFI)	.86
Chi-Square	105.20
Chi-Square DF	32
Bentler's Comparative Fit Index	.88
Bentler & Bonett's (1980) Non-normed Index	.83

Factor Correlations		
F1	F2	.24
F1	F3	.34
F2	F3	.40

*Note.* CFA = Confirmatory Factor Analysis. PMIS = Perceived Moral Intensity Scale.  
 MI = Moral Intensity Characteristic. MC = Magnitude of Consequences, SC = Social Consensus,  
 PE = Probability of Effect, TI = Temporal Immediacy, PX = Proximity. R<sup>2</sup> = Communality.  
 F = Factor.  
 N = 260 .

Table 21

*Descriptive Statistics and Correlations Among All Study 3 Variables, Dissertation Data*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Age	19.44	1.33																	
2 Gender	.29	.45	.05																
3 Major	.18	.38	-.12	.14 *															
4 Purpose	.19	.39	.09	.07	.04														
5 LMES30	4.31	.50	.06	-.08	-.05	.04													
6 HMES30	4.74	.47	.12	-.12	-.07	.02	.73 **												
7 LMESF1	5.12	.80	.04	-.20 **	-.06	.06	.74 **	.55 **											
8 LMESF2	4.35	1	-.06	.04	.01	-.01	.73 **	.45 **	.56 **										
9 LMESF3	3.08	.86	-.01	.16 *	.08	-.04	-.29 **	-.20 **	-.63 **	-.31 **									
10 HMESF1	5.93	.70	.05	-.22 **	-.03	.06	.41 **	.71 **	.69 **	.29 **	-.50 **								
11 HMESF2	5.28	.90	-.05	-.07	-.04	-.03	.52 **	.70 **	.46 **	.68 **	-.29 **	.66 **							
12 HMESF3	2.42	.91	-.04	.17 *	.01	-.04	-.09	-.27 **	-.42 **	-.11	.68 **	-.67 **	-.43 **						
13 LPMISF1	3.91	.25	-.04	-.15 *	-.04	-.02	.06	.11	.09	.03	-.06	.17 *	.09	-.13					
14 LPMISF2	3.97	.37	.09	-.03	-.07	-.05	-.07	-.08	-.08	-.01	.03	-.03	-.07	-.01	.26 **				
15 LPMISF3	3.78	.40	.08	-.14 *	.02	.09	.05	-.01	.11	.04	-.01	.02	.02	-.02	.26 **	.04			
16 HPMISF1	3.88	.26	.03	-.05	-.10	.01	.04	.12	.02	.06	-.07	.12	.19 **	-.17 *	.48 **	.21 **	.04		
17 HPMISF2	3.92	.37	.03	-.06	-.09	-.04	-.06	-.01	.00	-.06	-.05	.05	-.01	-.11	.05	.35 **	.08	.17 *	
18 HPMISF3	3.96	.52	.21 **	-.15 *	-.03	.03	.01	.03	.06	-.07	.04	.06	-.03	-.01	.17 *	.07	.55 **	.17 **	.15 *

*Note.* Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. Purpose coded did not identify = 0, identified = 1. MES = Multidimensional Ethics Scale. LMES30 = Mean of original 30 MES items summed across low scenarios. HMES30 = Mean of original 30 items summed across high scenarios. LMESF1 = Mean of four Moral Equity items across low scenarios. LMESF2 = Mean of two Relativism items across low scenarios. LMESF3 = Mean of two Contractualism items across low scenarios. HMESF1 = Mean of four Moral Equity items across high scenarios. HMESF2 = Mean of two Relativism items across high scenarios. HMESF3 = Mean of two Contractualism items across high scenarios. PMIS = Perceived Moral Intensity Scale. LPMISF1 = Mean of six Factor 1 items across low scenarios. LPMISF2 = Mean of two Factor 2 items across low scenarios. LPMISF3 = Mean of two Factor 3 items across low scenarios. HPMISF1 = Mean of six Factor 1 items across high scenarios. HPMISF2 = Mean of two Factor 2 items across high scenarios. HPMISF3 = Mean of two Factor 3 items across high scenarios.

*N* = 227.

\**p* < .05. \*\**p* < .01.

Table 22

*Descriptive Statistics and Correlations Among All Study 3 Variables, Prelim Data, Low Condition*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 Age	19.48	1.41								
2 Gender	.37	.49	.11							
3 Major	.11	.32	-.08	.07						
4 MESF1	5.20	.71	.05	-.28 **	.09					
5 MESF2	4.63	.89	.06	-.30 **	-.01	.53 **				
6 MESF3	5.17	.77	.14	-.17	-.09	.62 **	.58 **			
7 PMISF1	3.98	.49	.09	-.13	.04	.39 **	.35 **	.27 **		
8 PMISF2	3.44	.75	.01	-.07	.26 **	.10	.08	-.07	.47 **	
9 PMISF3	4.39	.64	-.14	-.20 *	.06	.11	.13	.08	.07	.02

*Note.* Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. MES = Multidimensional Ethics Scale. MESF1 = Mean of four Moral Equity items. MESF2 = Mean of two Relativism items. MESF3 = Mean of two Contractualism items. PMIS = Perceived Moral Intensity Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.

*n* = 110.

\**p* < .05. \*\**p* < .01.

Table 23

*Descriptive Statistics and Correlations Among All Study 3 Variables, Prelim Data, High Condition*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1 Age	19.69	1.68								
2 Gender	.48	.50	.04							
3 Major	.16	.37	.13	.00						
4 MESF1	5.66	.59	.09	-.27 **	.04					
5 MESF2	5.12	.87	-.11	-.26 **	.02	.66 **				
6 MESF3	5.46	.82	-.05	-.20 *	.03	.66 **	.57 **			
7 PMISF1	4.33	.39	.06	-.21 *	.09	.25 **	.24 *	.22 *		
8 PMISF2	3.64	.68	.02	-.22 *	-.02	-.02	.05	.04	.29 **	
9 PMISF3	4.46	.83	-.11	-.10	-.06	.06	.25 *	.20 *	.19	.22 *

*Note.* Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. MES = Multidimensional Ethics Scale. MESF1 = Mean of four Moral Equity items. MESF2 = Mean of two Relativism items. MESF3 = Mean of two Contractualism items. PMIS = Perceived Moral Intensity Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.

*n* = 105.

\**p* < .05. \*\**p* < .01.

Table 24

*Paired Sample T-Test of Means for Low Scenario MES30 versus High Scenario MES30*

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	Sig (2-tailed)
LMES30	227	4.31	.50		
HMES30	227	4.74	.47		
Difference	0	-.43	.36	-18.24	.00

*Note.* MES = Multidimensional Ethics Scale. LMES30 = Mean of 30 original MES items across low scenarios. HMES30 = Mean of 30 original MES items across high scenarios.

Table 25

*Regression of MES30 on Study 3 Variables for Low Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F -Value	Significance
Model	19	6.51	.34	1.40	.13
Error	207	50.81	.25		
Corrected	226	57.32			

Variable	B	t -Value	Significance
Intercept	11.92		
Age	-.34	-.60	.55
Gender	-2.10	-1.51	.13
Major	-.25	-.15	.88
Purpose	-2.77	-1.35	.18
PMISF1	-3.64	-1.57	.12
PMISF2	2.46	1.47	.14
PMISF3	-.98	-.71	.48
Age*PMISF1	.20	1.63	.11
Age*PMISF2	-.14	-1.67	.10
Age*PMISF3	.05	.66	.51
Gender*PMISF1	.28	.84	.40
Gender*PMISF2	.01	.03	.97
Gender*PMISF3	.25	1.18	.24
Major*PMISF1	-.17	-.41	.68
Major*PMISF2	.24	.88	.38
Major*PMISF3	-.03	-.12	.91
Purpose*PMISF1	-.07	-.17	.86
Purpose*PMISF2	.53	2.22	.03
Purpose*PMISF3	.24	.75	.45

*Note.* MES = Multidimensional Ethics Scale. MES30 = Sum of original 30 MES i  
 Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1.  
 Purpose coded did not identify = 0, identified = 1. PMIS = Perceived Moral Intensi  
 Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 iten  
 PMISF3 = Mean of two Factor 3 items.  
 N = 227.

Table 26

*Regression of MES30 on Study 3 Variables for High Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F -Value	Significance	R <sup>2</sup>
Model	19	3.50	.18	.82	.69	.07
Error	207	46.75	.23			
Corrected	226	50.25				

Variable	B	t -Value	Significance
Intercept	-5.90		
Age	.56	1.12	.26
Gender	-1.06	-.89	.37
Major	.08	.06	.96
Purpose	-1.96	-1.11	.27
PMISF1	2.23	1.07	.28
PMISF2	.10	.08	.94
PMISF3	.16	.19	.85
Age*PMISF1	-.11	-1.00	.32
Age*PMISF2	-.01	-.21	.84
Age*PMISF3	-.01	-.22	.83
Gender*PMISF1	.30	1.04	.30
Gender*PMISF2	.07	.35	.73
Gender*PMISF3	-.13	-.88	.38
Major*PMISF1	-.29	-.82	.41
Major*PMISF2	.23	1.11	.27
Major*PMISF3	.02	.09	.92
Purpose*PMISF1	.17	.49	.63
Purpose*PMISF2	.13	.56	.58
Purpose*PMISF3	.20	.89	.37

*Note.* MES = Multidimensional Ethics Scale. MES30 = Sum of original 30 MES items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. Purpose coded did not identify = 0, identified = 1. PMIS = Perceived Moral Intensity Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items. N = 227.

Table 27

*Regression of MESF1 on Study 3 Variables for Low Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	16.74	1.12	1.84	.03	.12
Error	211	128.29	.61			
Corrected	226	145.03				

Variable	B	t-Value	Significance
Intercept	6.11		
Age	.00	.00	1.00
Gender	-4.06	-1.90	.06
Major	.40	.16	.88
PMISF1	-2.93	-.82	.41
PMISF2	3.86	1.56	.12
PMISF3	-1.42	-.67	.50
Age*PMISF1	.15	.83	.41
Age*PMISF2	-.21	-1.62	.11
Age*PMISF3	.07	.62	.54
Gender*PMISF1	.82	1.58	.12
Gender*PMISF2	-.37	-.98	.33
Gender*PMISF3	.55	1.70	.09
Major*PMISF1	-.41	-.65	.52
Major*PMISF2	.04	.10	.92
Major*PMISF3	.22	.54	.59

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the four Moral Equity items across low scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across low scenarios. PMISF2 = Mean of two Factor 2 items across low scenarios. PMISF3 = Mean of two Factor 3 items across low scenarios.  
N = 227.



Table 28

*Regression of MESF1 on Study 3 Variables for Low Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	18.68	1.25	3.26	.00	.34
Error	94	35.90	.38			
Corrected	109	54.58				

Variable	B	t-Value	Significance
Intercept	9.50		
Age	-.30	-.71	.48
Gender	-2.54	-1.78	.08
Major	3.33	1.08	.28
PMISF1	-2.76	-1.33	.19
PMISF2	2.43	2.08	.04
PMISF3	-.39	-.33	.74
Age*PMISF1	.16	1.54	.13
Age*PMISF2	-.13	-2.23	.03
Age*PMISF3	.02	.41	.68
Gender*PMISF1	.26	.88	.38
Gender*PMISF2	.05	.28	.78
Gender*PMISF3	.25	1.15	.25
Major*PMISF1	.35	.46	.65
Major*PMISF2	-.04	-.10	.92
Major*PMISF3	-.99	-2.41	.02

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the four Moral Equity items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.  $n = 110$ .

Table 29

*Regression of MESF2 on Study 3 Variables for Low Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	13.11	.87	.87	.60	.06
Error	211	213.08	1.01			
Corrected	226	226.19				

Variable	B	t-Value	Significance
Intercept	-12.45		
Age	.93	.82	.41
Gender	-4.84	-1.76	.08
Major	1.11	.34	.74
PMISF1	-.90	-.19	.85
PMISF2	3.94	1.23	.22
PMISF3	1.40	.51	.61
Age*PMISF1	.05	.20	.84
Age*PMISF2	-.21	-1.29	.20
Age*PMISF3	-.08	-.56	.58
Gender*PMISF1	.68	1.01	.31
Gender*PMISF2	-.19	-.39	.70
Gender*PMISF3	.84	2.03	.04
Major*PMISF1	-.95	-1.18	.24
Major*PMISF2	.69	1.31	.19
Major*PMISF3	-.06	-.10	.92

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Relativism items across low scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across low scenarios. PMISF2 = Mean of two Factor 2 items across low scenarios. PMISF3 = Mean of two Factor 3 items across low scenarios.  
N = 227.

Table 30

*Regression of MESF2 on Study 3 Variables for Low Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	23.46	1.56	2.32	.01	.27
Error	94	63.43	.67			
Corrected	109	86.89				

Variable	B	t-Value	Significance
Intercept	17.19		
Age	-.77	-1.36	.18
Gender	-1.54	-.81	.42
Major	7.02	1.72	.09
PMISF1	-2.93	-1.06	.29
PMISF2	.71	.45	.65
PMISF3	-.91	-.58	.56
Age*PMISF1	.18	1.26	.21
Age*PMISF2	-.04	-.52	.61
Age*PMISF3	.06	.71	.48
Gender*PMISF1	.23	.59	.56
Gender*PMISF2	.01	.05	.96
Gender*PMISF3	.05	.19	.85
Major*PMISF1	-.38	-.38	.71
Major*PMISF2	-.14	-.25	.80
Major*PMISF3	-1.11	-2.04	.04

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Relativism items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.  $n = 110$ .

Table 31

*Regression of MESF3 on Study 3 Variables for Low Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	12.12	.81	1.10	.36	.07
Error	211	154.59	.73			
Corrected	226	166.71				

Variable	B	t-Value	Significance
Intercept	26.59		
Age	-1.28	-1.32	.19
Gender	3.07	1.31	.19
Major	.75	.27	.79
PMISF1	-7.16	-1.82	.07
PMISF2	.34	.13	.90
PMISF3	.89	.38	.70
Age*PMISF1	.36	1.77	.08
Age*PMISF2	-.01	-.05	.96
Age*PMISF3	-.03	-.28	.78
Gender*PMISF1	.11	.19	.85
Gender*PMISF2	-.20	-.47	.64
Gender*PMISF3	-.65	-1.84	.07
Major*PMISF1	.16	.23	.82
Major*PMISF2	-.21	-.46	.64
Major*PMISF3	-.12	-.25	.80

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Contractualism items across low scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across low scenarios. PMISF2 = Mean of two Factor 2 items across low scenarios. PMISF3 = Mean of two Factor 3 items across low scenarios.

*N* = 227.

Table 32

*Regression of MESF3 on Study 3 Variables for Low Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	17.72	1.18	2.40	.01	.28
Error	94	46.22	.49			
Corrected	109	63.94				

Variable	B	t-Value	Significance
Intercept	13.90		
Age	-.53	-1.08	.28
Gender	-2.00	-1.24	.22
Major	3.63	1.04	.30
PMISF1	-3.49	-1.48	.14
PMISF2	1.63	1.23	.22
PMISF3	-.38	-.29	.78
Age*PMISF1	.20	1.64	.10
Age*PMISF2	-.09	-1.32	.19
Age*PMISF3	.03	.37	.71
Gender*PMISF1	.32	.96	.34
Gender*PMISF2	-.22	-.99	.32
Gender*PMISF3	.32	1.28	.20
Major*PMISF1	.61	.71	.48
Major*PMISF2	-.34	-.70	.48
Major*PMISF3	-1.09	-2.35	.02

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the two Contractualism items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.  $n = 110$ .

Table 33

*Regression of MESF1 on Study 3 Variables for High Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	9.47	.63	1.30	.20	.08
Error	211	102.47	.49			
Corrected	226	111.94				

Variable	B	t-Value	Significance
Intercept	-13.96		
Age	1.00	1.40	.16
Gender	-1.78	-1.03	.31
Major	.63	.28	.78
PMISF1	5.58	1.87	.06
PMISF2	-.79	-.43	.67
PMISF3	.17	.13	.89
Age*PMISF1	-.28	-1.81	.07
Age*PMISF2	.04	.41	.68
Age*PMISF3	-.01	-.14	.89
Gender*PMISF1	.49	1.15	.25
Gender*PMISF2	-.01	-.03	.97
Gender*PMISF3	-.11	-.52	.60
Major*PMISF1	-.30	-.58	.56
Major*PMISF2	.13	.41	.68
Major*PMISF3	.01	.05	.96

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the four Moral Equity items across high scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across high scenarios. PMISF2 = Mean of two Factor 2 items across high scenarios. PMISF3 = Mean of two Factor 3 items across high scenarios.  
N = 227.

Table 34

*Regression of MESF1 on Study 3 Variables for High Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	8.90	.59	1.94	.03	.25
Error	89	27.21	.31			
Corrected	104	36.11				

Variable	B	t-Value	Significance
Intercept	9.02		
Age	-.22	-.41	.68
Gender	-1.21	-.81	.42
Major	-.07	-.02	.98
PMISF1	.49	.19	.85
PMISF2	-3.02	-2.14	.03
PMISF3	1.20	.97	.34
Age*PMISF1	-.01	-.11	.91
Age*PMISF2	.16	2.21	.03
Age*PMISF3	-.06	-1.00	.32
Gender*PMISF1	.34	1.03	.30
Gender*PMISF2	-.29	-1.59	.11
Gender*PMISF3	.12	.73	.46
Major*PMISF1	.48	.64	.52
Major*PMISF2	-.48	-1.90	.06
Major*PMISF3	-.08	-.41	.68

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the four Moral Equity items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items. n = 105.

Table 35

*Regression of MESF2 on Study 3 Variables for High Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	11.09	.74	.92	.55	.06
Error	211	170.28	.81			
Corrected	226	181.37				

Variable	B	t-Value	Significance
Intercept	-16.22		
Age	1.01	1.09	.28
Gender	.64	.28	.78
Major	1.43	.50	.62
PMISF1	3.08	.80	.42
PMISF2	.70	.29	.77
PMISF3	1.80	1.13	.26
Age*PMISF1	-.12	-.59	.56
Age*PMISF2	-.05	-.38	.70
Age*PMISF3	-.10	-1.18	.24
Gender*PMISF1	-.17	-.31	.75
Gender*PMISF2	.06	.17	.87
Gender*PMISF3	-.09	-.33	.74
Major*PMISF1	-.54	-.82	.41
Major*PMISF2	.20	.51	.61
Major*PMISF3	-.05	-.16	.87

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Relativism items across low scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across low scenarios. PMISF2 = Mean of two Factor 2 items across low scenarios. PMISF3 = Mean of two Factor 3 items across low scenarios.  
N = 227.



Table 36

*Regression of MESF2 on Study 3 Variables for High Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	30.47	2.03	3.78	.00	.39
Error	89	47.81	.54			
Corrected	104	78.28				

Variable	B	t-Value	Significance
Intercept	16.98		
Age	-.70	-.98	.33
Gender	-1.79	-.91	.37
Major	-1.06	-.29	.78
PMISF1	.96	.29	.78
PMISF2	-5.01	-2.68	.01
PMISF3	.86	.52	.60
Age*PMISF1	-.04	-.21	.83
Age*PMISF2	.27	2.86	.01
Age*PMISF3	-.05	-.55	.58
Gender*PMISF1	.31	.71	.48
Gender*PMISF2	-.64	-2.65	.01
Gender*PMISF3	.55	2.57	.01
Major*PMISF1	.98	1.00	.32
Major*PMISF2	-.68	-2.02	.05
Major*PMISF3	-.21	-.81	.42

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Relativism items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items. *n* = 105.

Table 37

*Regression of MESF3 on Study 3 Variables for High Scenarios, Dissertation Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	17.02	1.13	1.40	.15	.09
Error	211	170.61	.81			
Corrected	226	187.63				

Variable	B	t-Value	Significance
Intercept	32.81		
Age	-1.40	-1.52	.13
Gender	-.75	-.34	.74
Major	-3.41	-1.20	.23
PMISF1	-6.66	-1.73	.08
PMISF2	-.19	-.08	.94
PMISF3	-.80	-.50	.62
Age*PMISF1	.31	1.56	.12
Age*PMISF2	.00	-.01	.99
Age*PMISF3	.04	.51	.61
Gender*PMISF1	.02	.04	.97
Gender*PMISF2	.01	.03	.98
Gender*PMISF3	.26	.90	.37
Major*PMISF1	.50	.75	.45
Major*PMISF2	.09	.24	.81
Major*PMISF3	.27	.83	.41

*Note.* MES = Multidimensional Ethics Scale. MESF2 = Mean of the two Contractualism items across low scenarios. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items across low scenarios. PMISF2 = Mean of two Factor 2 items across low scenarios. PMISF3 = Mean of two Factor 3 items across low scenarios.

*N* = 227.

Table 38

*Regression of MESF3 on Study 3 Variables for High Condition, Prelim Data*

Source	DF	Sum of Squares	Mean Square	F-Value	Significance	R <sup>2</sup>
Model	15	18.07	1.20	2.07	.02	.26
Error	89	51.79	.58			
Corrected	104	69.87				

Variable	B	t-Value	Significance
Intercept	18.95		
Age	-.85	-1.13	.26
Gender	.93	.45	.65
Major	3.74	.97	.33
PMISF1	1.43	.41	.68
PMISF2	-4.44	-2.28	.02
PMISF3	-.54	-.32	.75
Age*PMISF1	-.05	-.26	.80
Age*PMISF2	.23	2.33	.02
Age*PMISF3	.03	.39	.70
Gender*PMISF1	-.19	-.41	.68
Gender*PMISF2	-.17	-.69	.49
Gender*PMISF3	.07	.32	.75
Major*PMISF1	-.24	-.23	.82
Major*PMISF2	-.57	-1.62	.11
Major*PMISF3	-.15	-.56	.58

*Note.* MES = Multidimensional Ethics Scale. MESF1 = Mean of the two Contractualism items. Gender coded female = 0, male = 1. Major coded non-business = 0, business = 1. PMIS = Perceived Moral Intensity Scale. PMISF21= Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.  $n = 105$ .

Table 39

*R<sup>2</sup> for Models Regressing MES Factors on Study Variables, Dissertation and Prelim Data*

Factor	Dissertation	Prelim
	<i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup>
LMESF1	.12*	.34**
LMESF2	.06	.27*
LMESF3	.07	.28*
HMESF1	.08	.25*
HMESF2	.06	.39**
HMESF3	.09	.26*

*Note* . MES = Multidimensional Ethics Scale. LMESF1 = Mean of six Moral Equity items across low scenarios. LMESF2 = Mean of two Relativism items across low scenarios. LMESF3 = Mean of two Contractualism items across low scenarios. HMESF1 = Mean of six Moral Equity items across high scenarios. HMESF2 = Mean of two Relativism items across high scenarios. HMESF3 = Mean of two Contractualism items across high scenarios. PMIS = Perceived Moral Intensity Scale.

*N* for all dissertation data = 227. *n* for low prelim data = 110. *n* for high prelim data = 105.

\**p* < .05. \*\**p* < .01.

Table 40

*Comparison of PMIS Factor Means, Low vs. High, Within-Subject and Between-Subjects*

**Within-subject design (Dissertation Data)**

	Low	High	Significance
PMISF1	3.91	3.88	.12
PMISF2	3.97	3.92	.09
PMISF3	3.78	3.96	.00

**Between-subject design (Prelim Data)**

	Low	High	Significance
PMISF1	3.98	4.33	.00
PMISF2	3.44	3.64	.04
PMISF3	4.39	4.46	.45

*Note.* PMIS = Perceived Moral Intensity Scale. PMISF1 = Probable Magnitude of Consequences. PMISF2 = Proximity. PMISF3 = Social Consensus. Dissertation  $N = 227$ . Prelim Low  $n = 110$ . Prelim High  $n = 105$ .

Table 41

*Regression of "Ethical" on MES30 and MES & PMIS Factors, Dissertation Data*

<b>MES30</b>						
Source	<i>DF</i>	Sum of Squares	Mean Square	<i>F</i> -Value	Significance	<i>R</i> <sup>2</sup>
Model	1	46.62	46.62	138.80	.00	.38
Error	225	75.57	.33			
Corrected	226	122.93				
<hr/>						
	Variable	<i>B</i>	<i>F</i> -Value	Significance		
	(Intercept)	1.04	138.8	.00		
	MES30	1.00				
<hr/>						
<b>MES Factors</b>						
Source	<i>DF</i>	Sum of Squares	Mean Square	<i>F</i> -Value	Significance	<i>R</i> <sup>2</sup>
Model	3	94.63	31.54	255.22	.00	.77
Error	223	27.56	.12			
Corrected	226	122.19				
<hr/>						
	Variable	<i>B</i>	<i>F</i> -Value	Significance		
	(Intercept)	.53				
	MESF1	.91	310.77	.00		
	MESF2	.01	.13	.72		
	MESF3	-.02	.31	.58		
<hr/>						
<b>PMIS Factors</b>						
Source	<i>DF</i>	Sum of Squares	Mean Square	<i>F</i> -Value	Significance	<i>R</i> <sup>2</sup>
Model	3	1.75	.58	1.08	.36	.01
Error	223	120.44	.54			
Corrected	226	122.19				
<hr/>						
	Variable	<i>B</i>	<i>F</i> -Value	Significance		
	(Intercept)	4.30				
	PMISF1	.33	2.03	.16		
	PMISF2	-.11	.40	.53		
	PMISF3	.10	.63	.43		

*Note.* MES = Multidimensional Ethics Scale. MES30 = Mean of 30 original MES items. MESF1 = Mean of four Moral Equity items. MESF2 = Mean of two Relativism items. MESF3 = Mean of two Contractualism items. PMIS = Perceived Moral Intensity Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.  
*N* = 227.

Table 42

*Regression of "Intention" on "Ethical", MES30, MES & PMIS Factors, Dissertation Data*

<b>"Ethical"</b>						
Source	DF	SS	MS	F-Value	Significance	R <sup>2</sup>
Model	1	56.20	56.20	155.61	.00	.41
Error	225	81.25	.36			
Corrected	226	137.45				
		Variable	B	F-Value	Significance	
		(Intercept)	1.45			
		Ethical	.68	155.61	.00	
<b>MES30</b>						
Source	DF	SS	MS	F-Value	Significance	R <sup>2</sup>
Model	1	57.33	57.34	161.02	.00	.42
Error	225	80.11	.36			
Corrected	226	137.45				
		Variable	B	F-Value	Significance	
		(Intercept)	.20			
		MES30	1.11	161.02	.00	
<b>MES Factors</b>						
Source	DF	SS	MS	F-Value	Significance	R <sup>2</sup>
Model	3	79.10	26.37	100.75	.00	.58
Error	223	58.35	.26			
Corrected	226	137.45				
		Variable	B	F-Value	Significance	
		(Intercept)	.59			
		MESF1	.85	129.44	.00	
		MESF2	-.01	.05	.83	
		MESF3	-.01	.04	.83	
<b>PMIS Factors</b>						
Source	DF	SS	MS	F-Value	Significance	R <sup>2</sup>
Model	3	6.52	2.17	3.70	.01	.05
Error	223	130.93	.59			
Corrected	226	137.45				
		Variable	B	F-Value	Significance	
		(Intercept)	2.21			
		PMISF1	.59	5.93	.02	
		PMISF2	-.04	.04	.84	
		PMISF3	.22	2.84	.09	

*Note.* MES = Multidimensional Ethics Scale. MES30 = Mean of 30 original MES items. M Mean of four Moral Equity items. MESF2 = Mean of two Relativism items. MESF3 = Mean of two Contractualism items. PMIS = Perceived Moral Intensity Scale. PMISF1 = Mean of six Factor 1 items. PMISF2 = Mean of two Factor 2 items. PMISF3 = Mean of two Factor 3 items.

N = 227.

Figure 1. Rest's (adapted) ethical decision making model (1986).

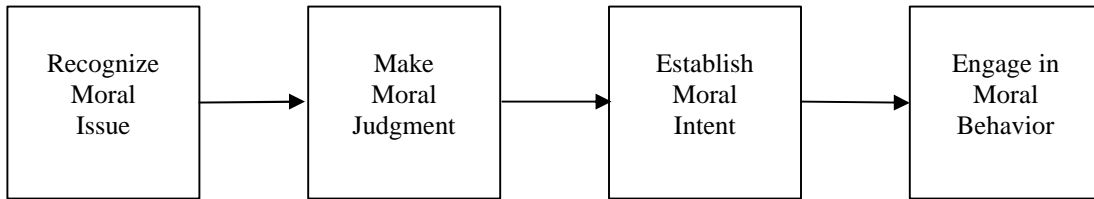




Figure 2. Ferrell & Gresham's contingency model of ethical decision making in a marketing organization (1985).

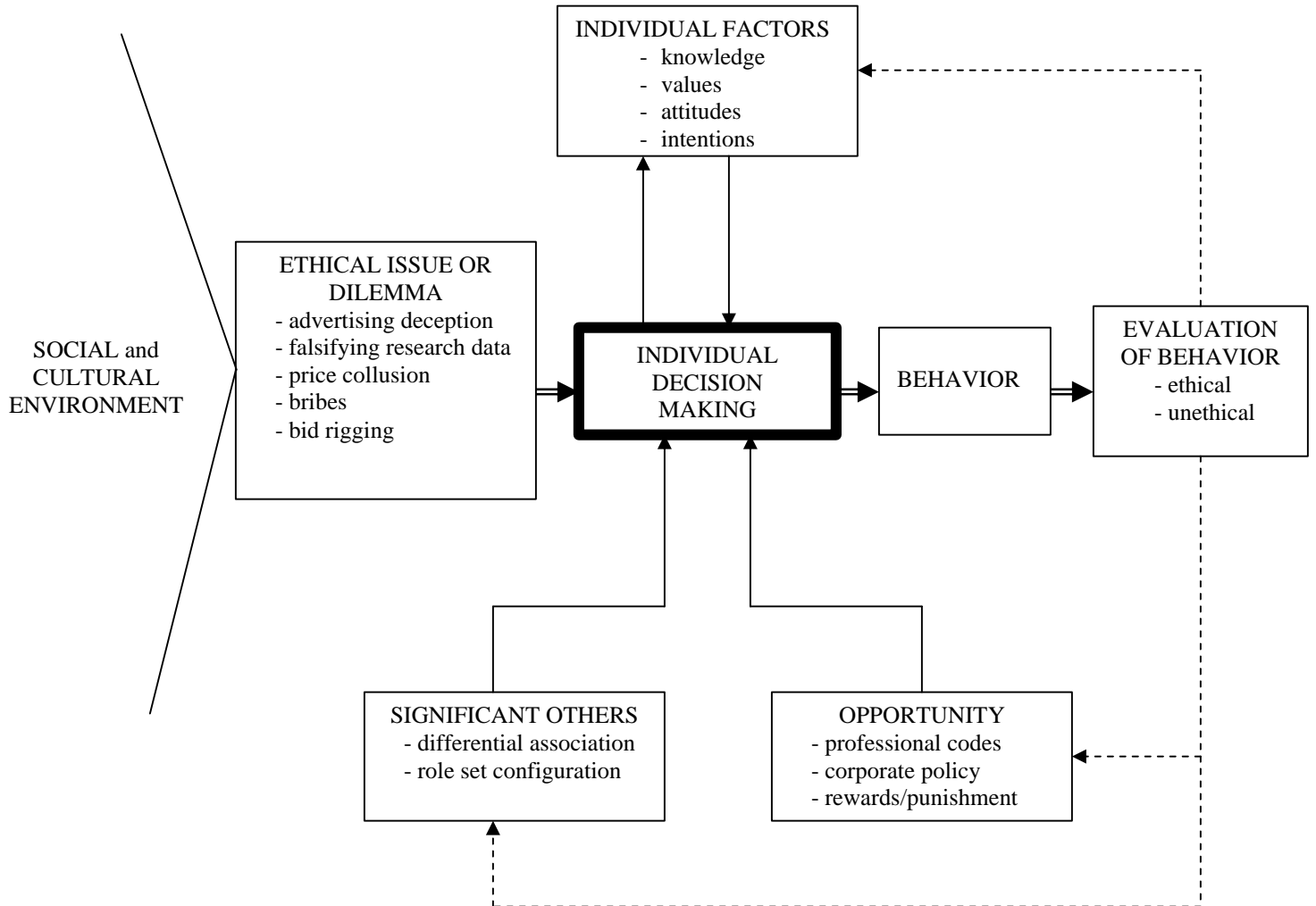


Figure 3. Hunt & Vitell's general theory of marketing ethics (1986).

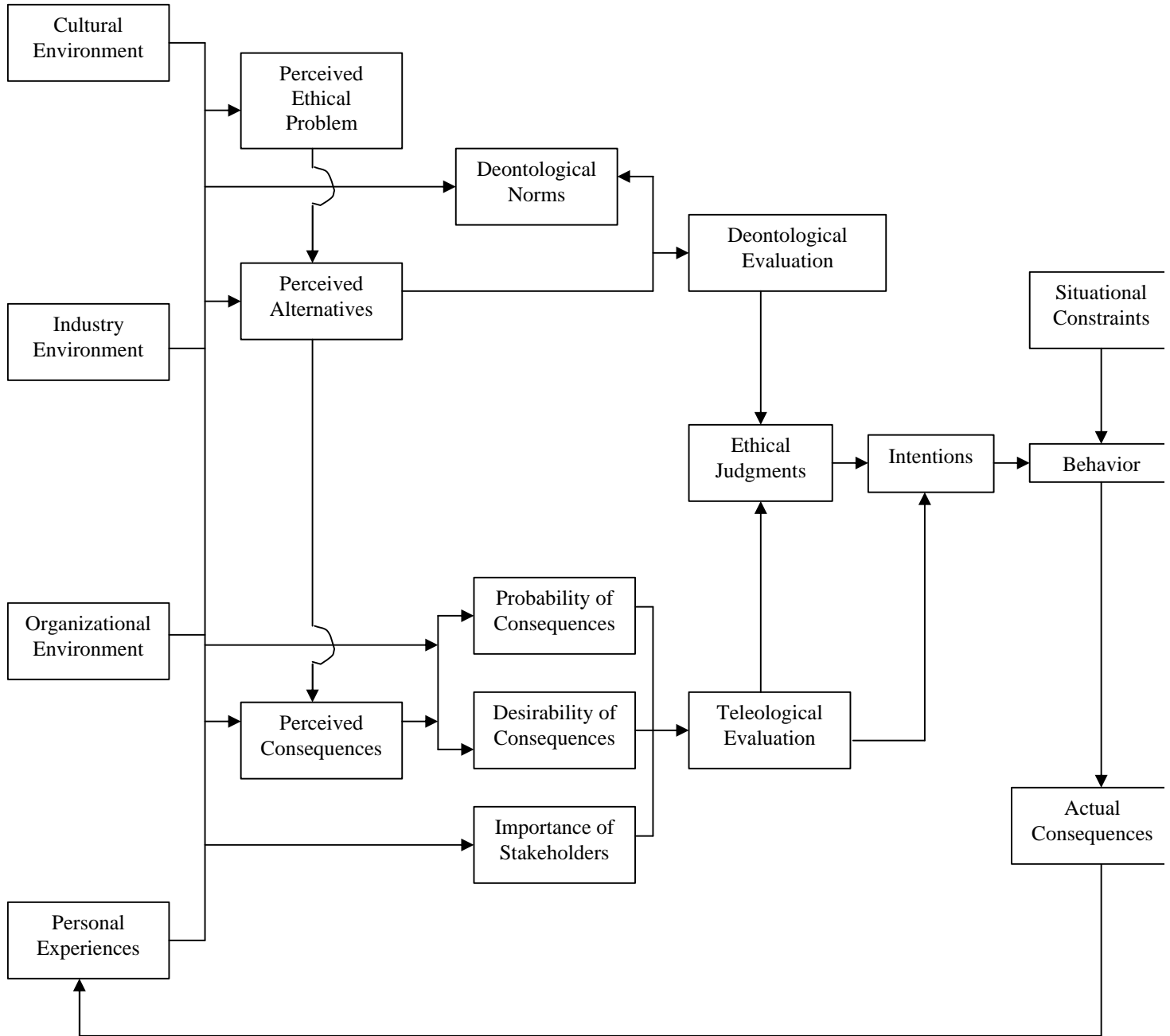


Figure 4. Trevino's person-situation interactionist model (1986).

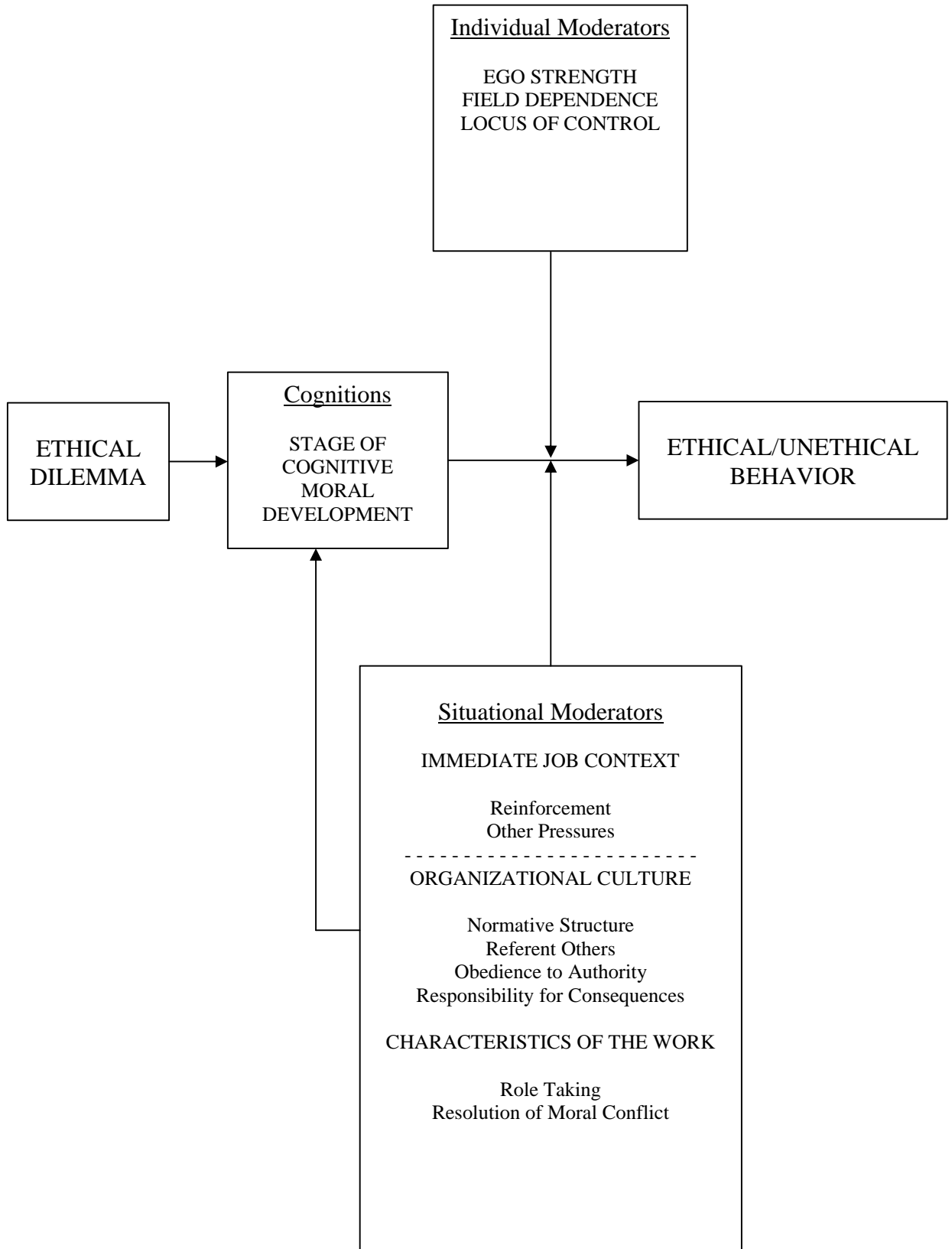


Figure 5. Theory of reasoned action (Fishbein and Ajzen, 1975).

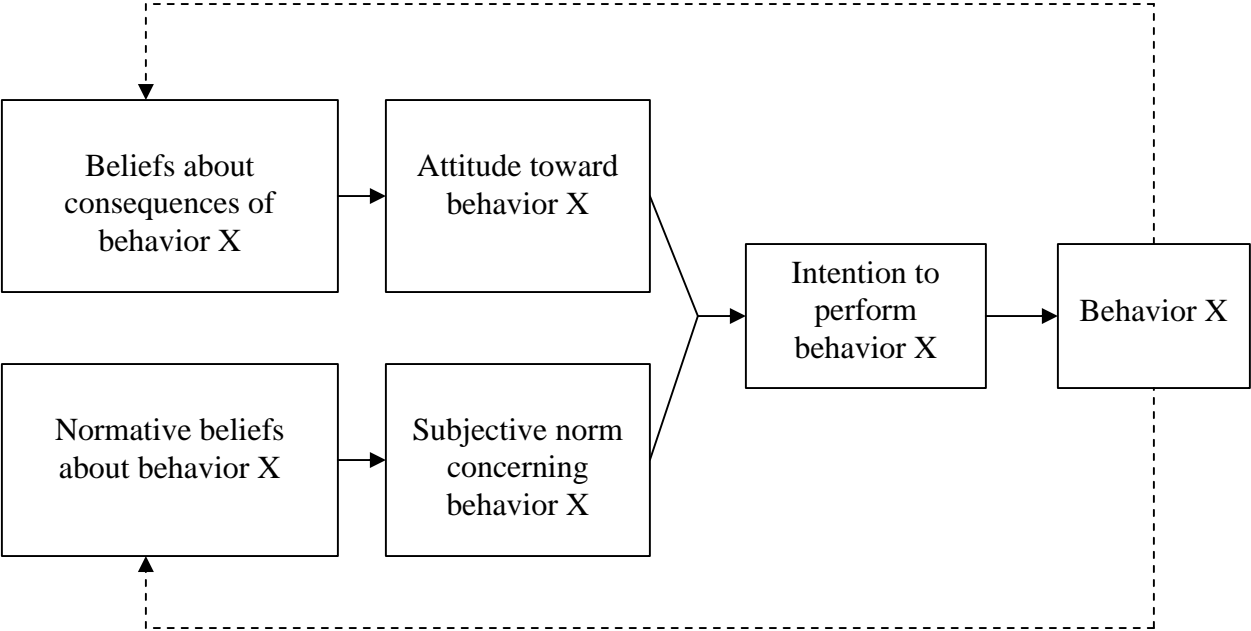


Figure 6. Dubinsky & Loken's model for analyzing ethical decision making in marketing (1989).

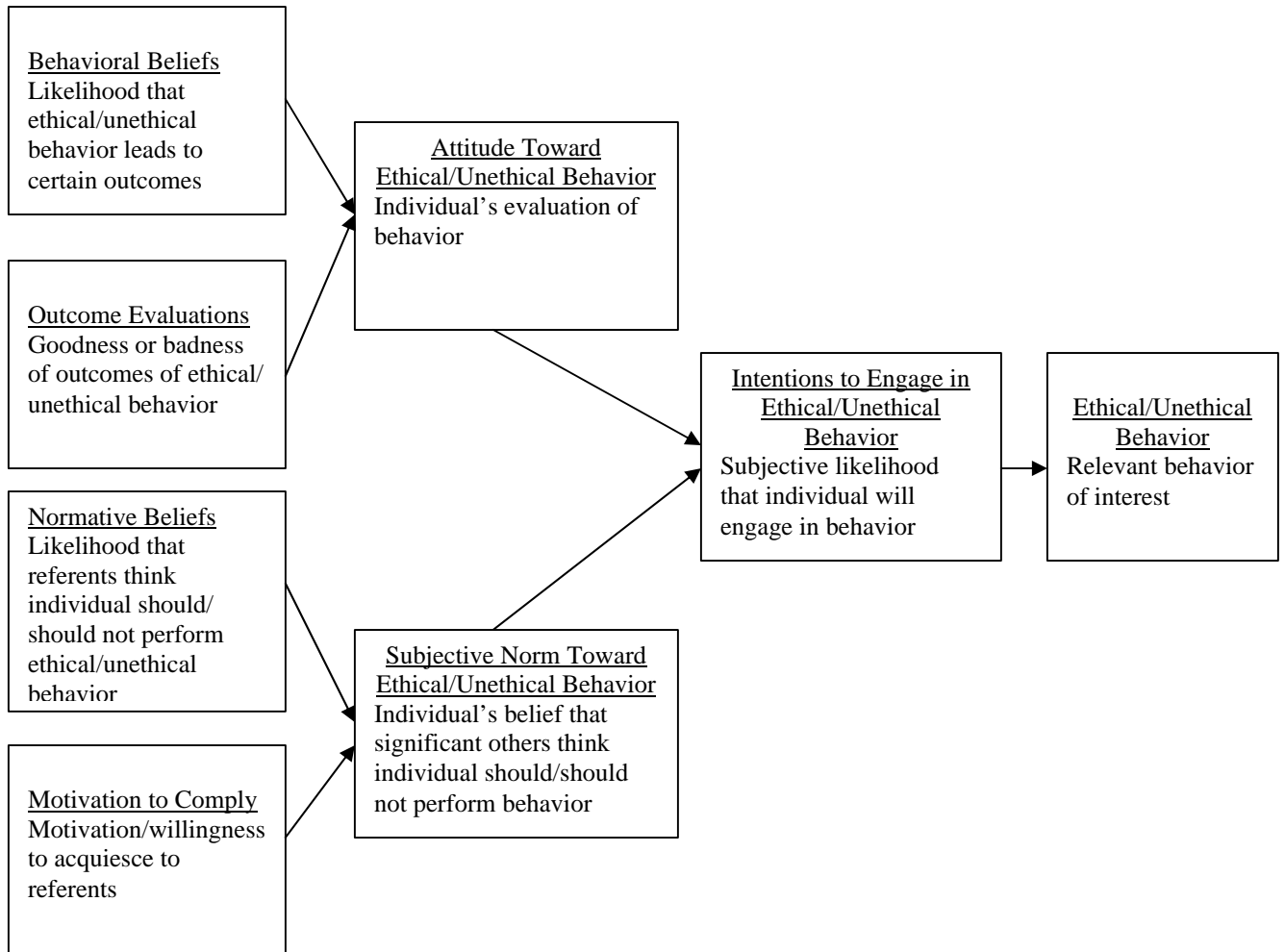


Figure 7. Theory of planned behavior (Ajzen, 1991).

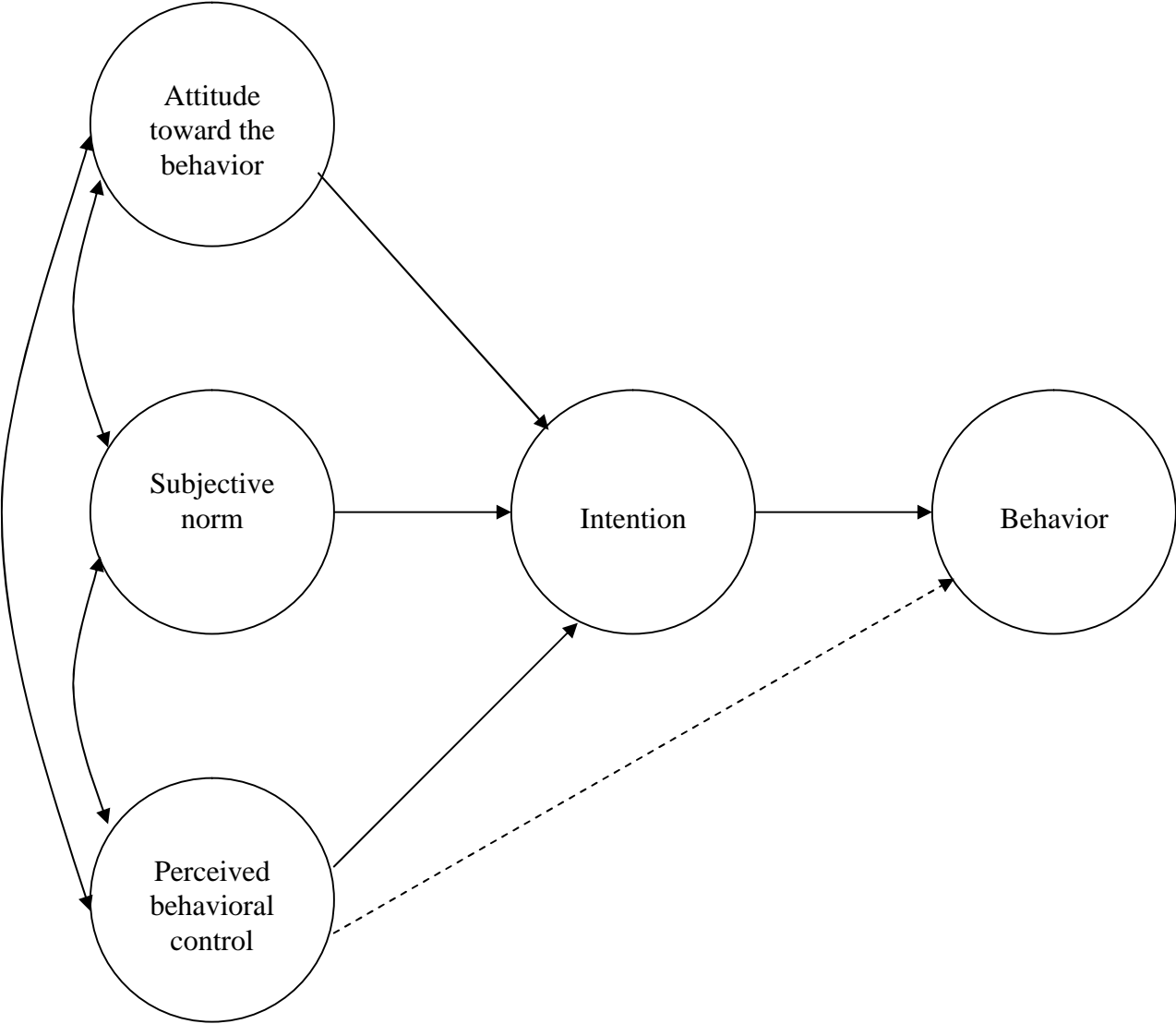


Figure 8. A synthesis integrated model of ethical decision making in business (Ferrell, Gresham, & Fraedrich, 1989).

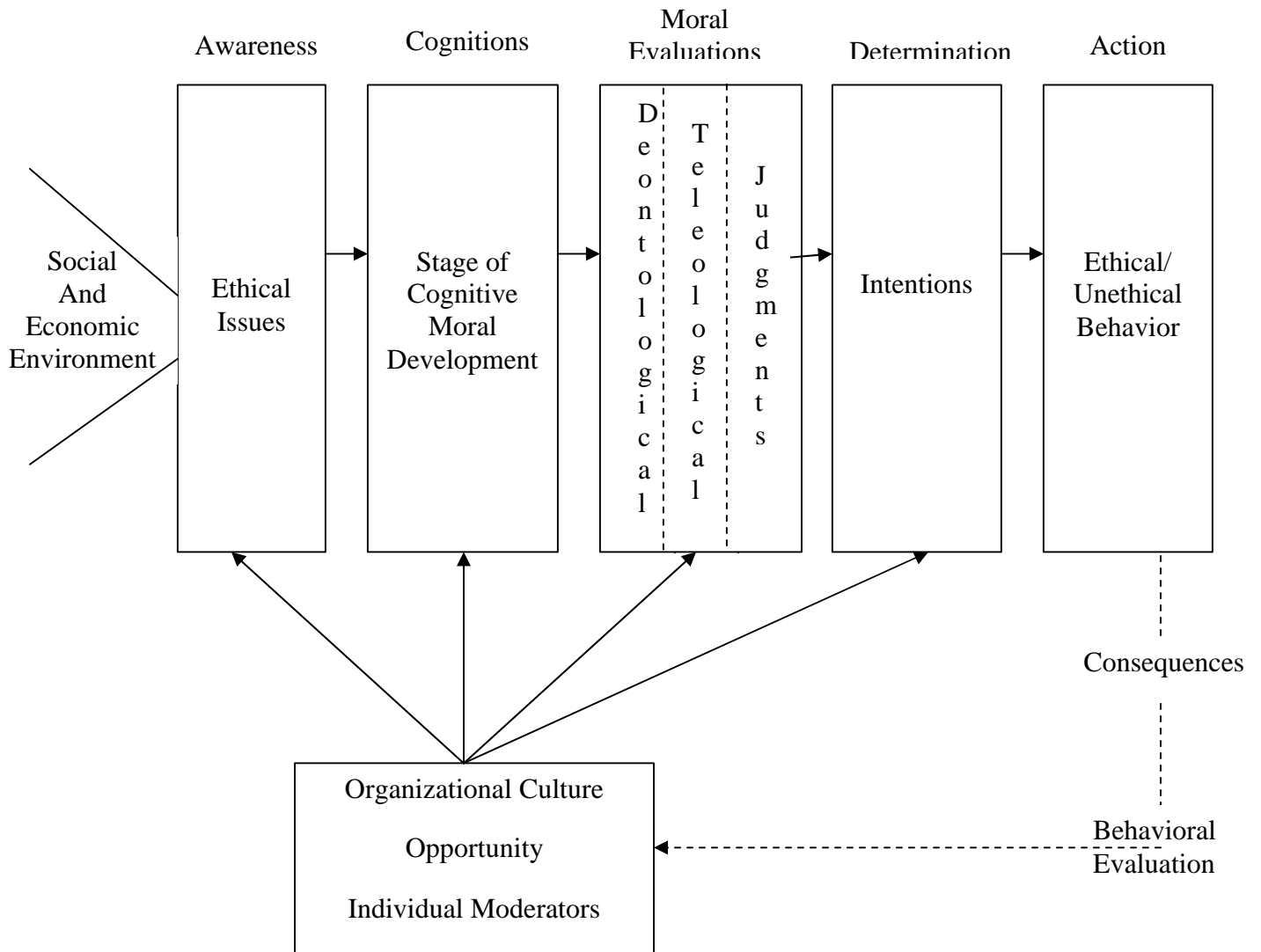


Figure 9. Jones' issue-contingent model (1991).

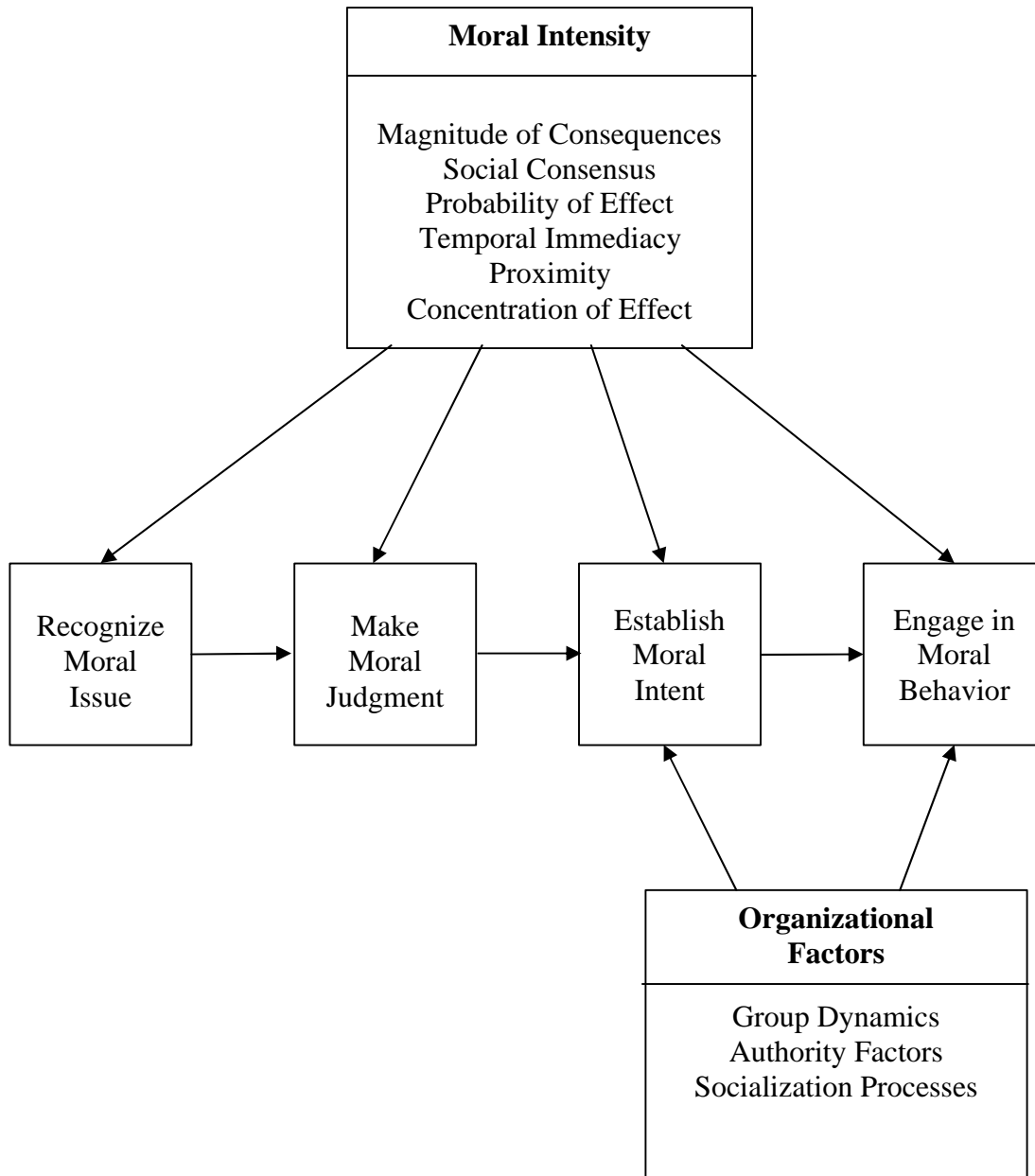




Figure 10. Jones' synthesis of ethical decision-making models (1991).

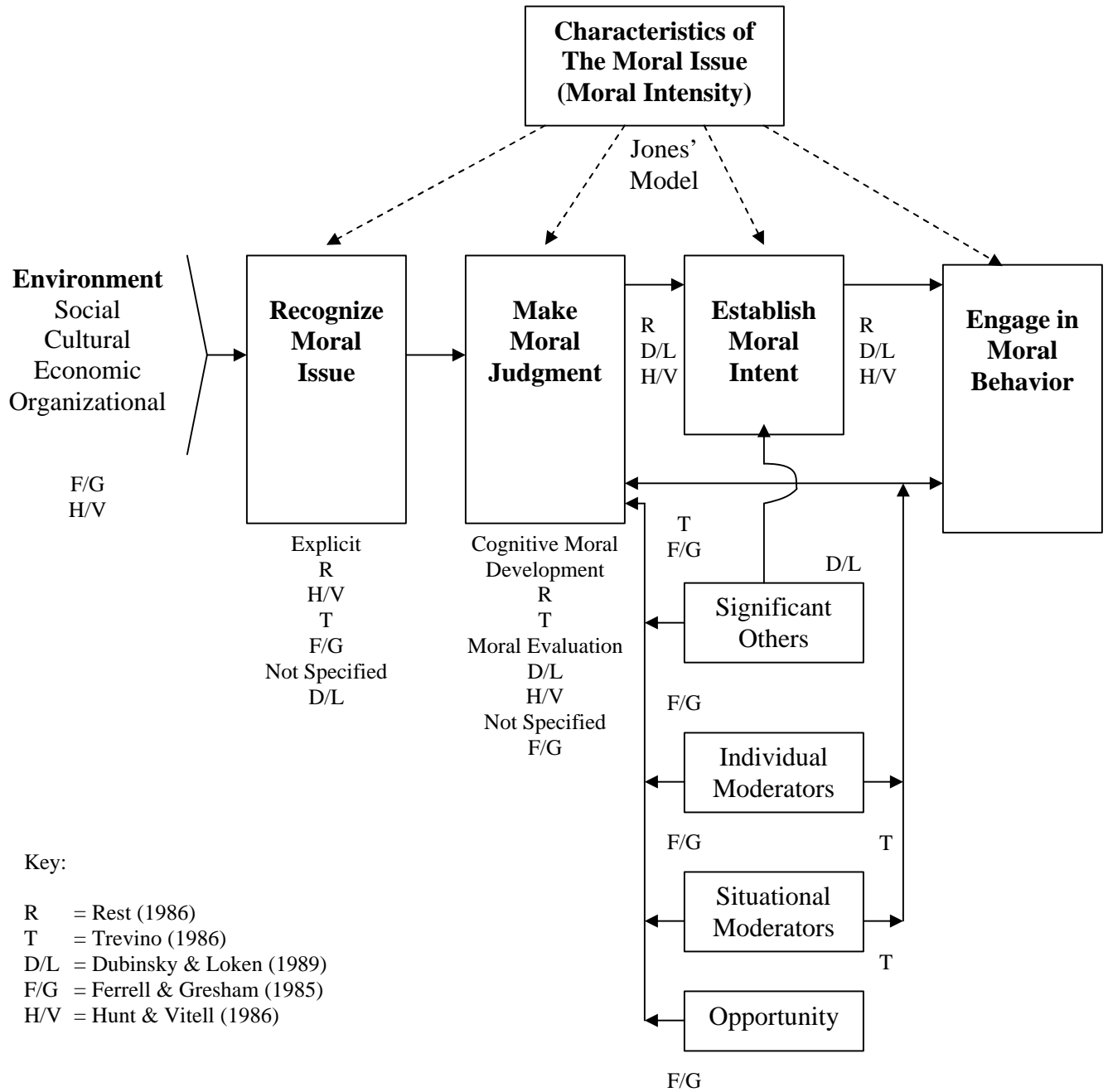
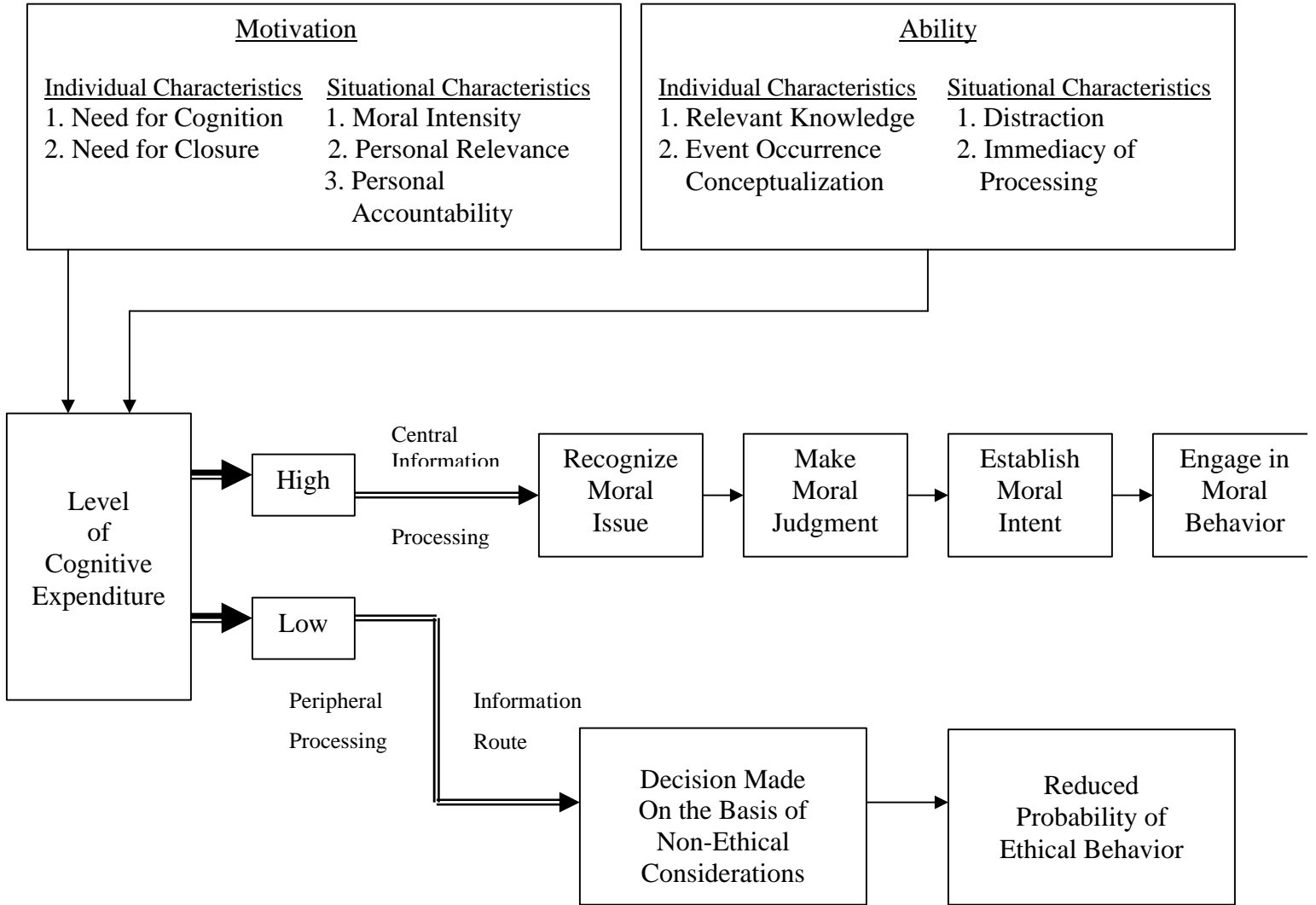


Figure 11. Cognitive elaboration model of ethical decision-making (Street, Douglas, Geiger, & Martinko, 2001).



# **Joan McMahan**

13000C Foxridge Lane, Blacksburg, Virginia 24060 • 540-951-5379 • [jmcmahon@vt.edu](mailto:jmcmahon@vt.edu)

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## **Education:**

### **Ph.D./Industrial Organizational Psychology, 2002**

Virginia Polytechnic Institute and State University, Blacksburg, VA

Dissertation: “An Analysis of the Factor Structure of the Multidimensional Ethics Scale and a Perceived Moral Intensity Scale, and the Effect of Moral Intensity on Ethical Judgment”

Advisor: Dr. R.J. Harvey

### **M.S./Industrial Organizational Psychology, 2000**

Virginia Polytechnic Institute and State University, Blacksburg, VA

Thesis: “The Effects of Cognitive Moral Development and Reinforcement Contingencies on Ethical Decision Making”

Advisor: Dr. Roseanne Foti

### **M.Ed./Early Childhood, 1992**

James Madison University, Harrisonburg, VA

### **B.A./Speech, 1976**

State University of New York/ College at Oneonta, Oneonta, NY

## **Virginia Tech Employment:**

### **Program Support Specialist, Institute for Distance and Distributed Learning, 8/00 – 5/02**

- Enrolled non-degree seeking distance learning students in graduate and undergraduate classes
- Communicated between students and Bursar, Registrar, Graduate School, Undergraduate Admissions, and Faculty in problem-solving unique enrollment issues

### **Teaching Assistant, Faculty Development Institute, 5/00 – 8/00**

- Assisted workshop leaders by working one-on-one with Faculty students in New Faculty Orientation, Basic Computing Skills, and Basic Web Course Creation for Instruction classes

### **Research Assistant, Center for Research in Health Behavior, 9/98 – 6/00**

- Assisted in the HIV prevention program for at-risk teens, funded by an NIMH grant
- Recruited teen participants and their parents
- Conducted computer assessments
- Co-facilitated workshops
- Supervised teen health council activities

### **Teaching Assistant, Department of Psychology, 8/97 – 5/00**

- Assisted Dr. Roseanne Foti in undergraduate Industrial Organizational Psychology class
- Assisted Dr. Danny Axsom in undergraduate Social and Advanced Social Psychology classes
- Taught ten Introductory Psychology recitation sections

## **Previous Employment:**

### **Sales Management, November 1987 – August 1997**

WTVR-TV, Richmond, VA/ National Sales Manager and Local Sales Manager, 1/96 – 8/97

WXIN-TV, Indianapolis, IN/ National Sales Manager, 3/95-9/95

WDEF-TV, Chattanooga, TN/ General Sales Manager, 5/93-3/95

WCAU-TV, Philadelphia, PA/ Local Sales Manager, 3/89-8/90

WCBD-TV, Charleston, SC/ General Sales Manager, 11/87-3/89

- Developed marketing strategies, packages and materials
- Acted as liaison between national rep firm and station in negotiating and selling television time to national advertisers and their agencies
- Facilitated the sales/marketing efforts of local Account Executives
- Analyzed and developed procedural systems for the sales department
- Hired and trained personnel
- Created and implemented MBO bonus system
- Formulated budgets
- Priced and controlled inventory

### **Account Management/Sales, August 1976 – November 1987**

CBS National Sales, Chicago, IL/ Account Executive, 12/84-11/87

Petry Television, Chicago, IL/ Account Executive, 4/82-12/84

WISH-TV, Indianapolis, IN/ Account Executive, 8/81-4/82

Peters, Griffin, Woodward, Chicago, IL and Dallas, TX/ Account Executive, 3/79-8/81

J. Walter Thompson, Dallas, TX/ Media Buyer, 5/78-3/79

Petry Television, New York, NY/ Group Manager's Assistant and Sales Assistant, 8/76-5/78

- Sold television time to advertisers and their advertising agencies
- Top ten biller in entire CBS Television Sales system for '86-'87 NFL sales
- Named an "Outstanding Media Saleswoman of the Year" by advertising agency executives, as reported by *Madison Avenue*, October 1986
- Won WJLA-TV/Washington, D.C. trip to the '84 Summer Olympics for "exceptional contribution" to Olympics' sales effort
- Negotiated and purchased television and radio time on behalf of agency clients

## **Professional Affiliations:**

American Psychological Association (Student Affiliate)

Society for Business Ethics (Student Affiliate)

Society for Industrial and Organizational Psychology (Student Affiliate)