

MORAL OPENNESS: ON THE CLIMATE FOR REASONED MORAL AGREEMENT

By

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Dedicated to God

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CHAPTER I

INTRODUCTION

“The surest way to be deceived is to consider oneself cleverer than others.”

- Francois, Duc de la Rochefoucauld. Maxim #127.

Businesspeople encounter myriad situations that break their routines . . . that violate their expectations . . . that surprise them (Weick, 1979& 1993). Such moments of equivocality occasion sensemaking, which at its best entails testing alternative interpretations of the situation through enactment of those interpretations with other people, whose reactions in turn will confirm or disconfirm the sensemaker’s assessment (Weick, 1979). Situations of moral¹ equivocality (Sonenshein, 2007), in which the problem at hand is one of uncertainty about the ethical implications of an action, also require sensemaking; the following quotations illustrate the importance that many businesspeople, in this case bank tellers, place upon consulting with others under such circumstances.

- *“There's consequences in every job, but in this job particularly. People always say it's better to ask, but in this job more than anything, I would say it's way better to ask than anything.”*
- *“You learn how to read people, you learn how to make a decision whether I go over and tell [Name] on the corner ‘hey, you need to be careful with that customer, just watch what you’re doing’ because you learn to read their reactions. When they’re like ‘I don’t know if I’m supposed to be doing this or not.’”*
- *“How do you learn if you don't ask somebody? I don't understand how you go from day to day without asking somebody and teaching them something new every day. Do you?”*
- *“I feel like if I don't have an answer to a question I have a duty to ask somebody and find out the answer to that question. I'm doing myself a disservice if I don't find out the answer to that question. So I'm going to ask and ask and ask until I find out the answer.”*

¹ In this document I use the terms instrumental, ethical, and moral following Habermas (1993), pertaining respectively to discussions of technique and action pursuant to given ends, to the choice of ends that are appropriate to a shared form of life, and to the justification of norms across people whose visions of the good life diverge.

- *“Here, I think that things are really done right. We try to work as a team, and we try to make sure everybody gets to say what they want to say, and I think that if you were to interview any other teller, that they would say ‘we might not know the answer to something, but [name] might know, and we make sure that it gets done right.’”*

Despite the importance to many businesspeople of these consultations, which I call moral discourses (and which Habermas (1984: 19) called “practical discourse[s]”), the management literature is itself equivocal about their prevalence and meaning. Forester (2003) insisted that they are a regular occurrence; Sonenshein (2006) found that the ethical content of issue-selling messages was replaced by arguments for self-interested rationality in upward appeals; Bird and Waters (1989) called their finding that businesspeople self-censored their ethical concerns “moral muteness.” Jackall (1988), in an ethnography of large bureaucracies, incorporated a telling quotation that illustrated both the reality and the deviance of moral discourse:

[If an employee were to object to working on nuclear power or weaponry], we’d go along with his request but we’d always wonder about the guy. And in the back of our minds, we’d be thinking that he’ll soon object to working in the soda ash division because he doesn’t like glass. . .If you meet a guy who hates red-haired persons, well, you’re going to wonder about whether that person has other weird perceptions as well. You’ve got to have a degree of interchangeability in business. To me, a person can have any beliefs they want as long as they leave them at home. (54)

It seems that moral discourses do occur in organizations, but that they are often restricted in their scope and duration. I have attempted to characterize the climate for moral discourse in organizations, and describe its variation along a continuum that I call “moral openness.” I have also attempted to explore its relationships to other constructs. I believe that just as the form of non-moral discourse matters for sensemaking, leading to accounts of the problem at hand that vary in their richness and sharedness (Maitlis, 2005), the openness of moral discourse also matters for moral decision-making, both in terms of the acceptability of the decisions made to the parties to them, and the intent of those parties to follow through on those decisions. My findings

have implications for the literatures on organizational silence (Morrison & Milliken, 2000), sensemaking (Maitlis, 2005; Weick, 1979), moral psychology (Arnaud, 2006; Rest, 1986), and discourse ethics (Palazzo & Scherer, 2006; Smith, 2005; Scherer & Palazzo, 2007).

Overview of Theory

The a-priori basis for my theory of moral openness in organizations is drawn from discourse theory, most especially the work of Robert Alexy (1989 & 1990), but also the work of Apel (1990), Benhabib (1992), Gunther (1993), and Habermas (1970, 1979, 1984, 1987, 1990, 1993, & 1996). Habermas (1984: 19) defined ethically rational people as those who can justify their actions with reference to normative grounds external to themselves, rather than with reference to the assertion of their own subjective wills, or to some non-moral objective fact. When some question arises as to the justifiability of an action, rational people will engage in a practical discourse to reach a reasoned agreement with the other affected parties on whether or not a given action is ethical (Habermas, 1984); anything else amounts to manipulation rather than argumentation. But, even the attempt to reach such an agreement presumes a certain set of rules for the discourse, without which it cannot reliably lead to valid conclusions (Alexy, 1989). Robert Alexy defined these rules reconstructively, that is, he identified the presuppositions about the terms of discourse itself that must be true for the conclusions of a given moral discourse to be valid. These rules are not completely true in any conversation; one rule states that every word and term used in the discourse must have the same meaning for all participants, which as Wittgenstein (1953) pointed out is problematic. However, these rules are typically assumed to be true by participants in practical discourse: joining the discourse while knowingly flouting one of the rules, for instance by assigning an idiosyncratic meaning to a term to which others ascribe

a standard usage, means that one is not attempting to reach a shared and reasoned understanding with other participants. Whatever else one may be doing, be it joking or dissembling or simply wasting time, by definition it does not qualify as participating in moral discourse. Therefore, it seems valuable to investigate the extent to which actual moral discourses adhere to these ideals.

Moral openness

Five concepts that are helpful for understanding the moral openness of a discourse are participation, closure, power, logic, and procedural equity (Alexy, 1989). Participation pertains to the openness of the discourse to all affected parties; if some people are left out, then the discourse is less open, and its conclusions are less valid because they have neither been accepted nor rejected by a relevant party. Closure refers to the point in the discourse at which conclusions are drawn and action is taken; sometimes, a decision is made before agreement has been reached among participants, or even before all participants have expressed their interests. Premature closure diminishes the openness of discourse, and its conclusions too are less valid because some of them have neither been accepted nor rejected by the participants. Power entails manipulation of the discourse, whether through deception or through attacking another participant's status; the use of power reduces a discourse's openness and the validity of that discourse's conclusions, because it realizes apparent agreement on the basis of deception or status rather than actual agreement on the basis of reasoned assent. Logic incorporates the prevalence of consistent argument, reason-giving, orderly progression of topics, and criticism of the weaknesses of arguments; a lack of logic in the discourse implies inconsistency in the conclusions reached. Procedural equity describes measures taken to prevent the forfeiture of discourse to participants who have more time, energy, or debating skill than their opponents (Alexy, 1989).

Of course, the foregoing characterization of decision-makers and their moral discourses is idealized. Discourse theorists (Alexy, 1989 & 1990; Habermas, 1993) concede that actual discourse cannot fulfill all the stipulations of their ideal models. This concession would be unremarkable to practicing managers, who would likely note the many problems associated with the inclusion of employees being scheduled for termination in a candid conversation about the morality of the pending action, let alone the difficulty of including homeless people being considered for exclusion from a restaurant. These potential participants may not be available to join the discussion, may not be able to support their arguments with reasons, may not be able to adhere to a logical order of argument, and may not refrain from using the information they receive for their own strategic gain. The same criticisms may conversely also be leveled against managers and staff in the organization making the decision, and it is worth noting that even the decision to problematize an ethical issue, let alone open a discourse about it, is an exercise of power. Many participants may join a discourse not to reach a reasoned agreement, but rather to take advantage of other participants (Habermas, 1990), or buy time while waiting for a change in their bargaining power (Badaracco, 2002); others may decline to seek reasoned agreement at all (Welcomer, Gioia, & Kilduff, 2000). Therefore, I expect that the degree of moral openness of various discourses will vary considerably, according to the variation in the will and ability of participants to seek reasoned agreement.

Although it would be conceptually and empirically interesting to study moral openness across and even within individual conversations, I believe that it is more important to study moral openness as a climate construct. Within an established work group, participants already have a set of expectations about how conversations are to be held, ranging from whether it is okay to interrupt peers to whether it is safe to contradict the assertions of higher-status

individuals. These expectations are activated at the start of a given conversation, not necessarily as inviolable rules, but rather as cognitive scripts (Gioia & Poole, 1984) that guide enactment of the ensuing conversation. Participants select scripts to enact based on cues noticed at the start of the conversation, and retain those scripts that serve them well enough and regularly enough that they are neither discarded nor forgotten (Weick, 1979). Therefore, I expect that the consistency between moral conversations within a work group is likely to be more important than the differences between them, because of the shared expectations formed by experience (Ashforth, 1985; Schneider & Reichers, 1983) and by sensegiving mechanisms (Gioia & Chittipeddi, 1991; Maitlis, 2005) like codes of conduct or employee discipline (Trevino, 1992). Past research has found that ethical climates exist within organizations (Victor & Cullen, 1988), and that procedural justice climate varies across branches of the same bank (Mossholder, Bennett, & Martin, 1998; Naumann & Bennett, 2000), so it seems reasonable to suppose that shared expectations form within work groups around moral discourse specifically.

A key reason why moral openness is compelling as a climate construct is because it addresses an aspect of ethical decision-making at the group level, in a way that existing theories do not. While ethical climate (Victor & Cullen, 1988) describes the shared norms that prevail in decision-making, it does not describe the patterns of discourse that create and sustain those norms. While moral muteness (Bird & Waters, 1989) highlights the reluctance of managers to cite moral reasons for their decisions, it details the prospective reasons for not giving moral accounts for decisions, rather than the actual difficulties faced in attempting to formulate or promote a moral decision. Organizational silence (Morrison & Milliken, 2000) similarly describes the reasons that voice is withheld, but not the limitations of tenuous voice. Empowerment (Conger & Kanungo, 1989; Spreitzer, 1996) focuses on the experience of self-

efficacy as a motivator for employees to take control of their tasks, which though valuable for moral decision-making is hardly sufficient. Moral openness climate therefore captures aspects of ethical decision-making at the group level that other existing constructs do not. A robust conception and measurement of moral openness climate can describe the strengths and limitations of actual moral discourse in organizations, and relate it to other constructs.

Related Constructs

In order to establish construct validity, it is important to test the relationship between moral openness climate and other constructs that should theoretically be related to it. Constructs that should be theoretically related to moral openness climate are respectful interaction (Vogus, 2004), participative decision-making (Arnold, Arad, Rhoades, & Drasgow, 2000), and machiavellianism (Christie & Geis, 1970). Respectful interaction is the degree to which individuals are willing to avoid self-censoring their own contributions to discourse and to refrain from critiquing others; I expected moral openness climate and respectful interaction to be highly correlated but distinct, particularly because moral openness climate incorporates an assessment of the logic of the discourse, while respectful interaction does not. Similarly, participative decision-making is employees' perception that their manager accepts their participation (Arnold, Arad, Rhoades, & Drasgow, 2000); because moral openness climate measures employees' perception that their entire work group accepts their participation, eschews premature closure, refrains from the manipulative use of power, and discusses the matter at hand in a logical manner, I expected moral openness climate and participative decision-making to be correlated but distinct. Because managers have a disproportionate influence upon the ethical context in a work group (Brown, Trevino, & Harrison, 2005) and because a high incidence of strategic action

depresses moral openness, I expected that work groups managed by individuals who score highly on machiavellianism (Christie & Geis, 1970) will have low moral openness climate.

Moreover, Habermas argues that valid moral discourse creates concrete social agreements that have motivating power superior to that of mere normative ideals (Habermas, 1993). This philosophical argument aligns with the finding in the organizational behavior literature that empowerment increases the intentions of the empowered to persist in accomplishing task objectives (Conger & Kanungo, 1988; Spreitzer, 1995), so it seems reasonable to expect moral openness climate to positively predict both collective moral motivation (i.e. the propensity of group members to follow through on ethical decisions) and collective moral character (i.e. the propensity of group members to persist in ethical actions despite resistance) (Arnaud, 2006).

In addition to measuring some existing constructs using validated scales, and relating them to moral openness climate, I have developed a unidimensional construct that I call moral satisfaction, a judgment by an individual group member of the acceptability of moral decisions made by the group. Moral satisfaction is conceptually related to Habermas' principle of universalization, which states that ideally all participants in a moral discourse should be able to agree to the decision (Habermas, 1990). Low moral satisfaction would indicate that issues at hand have not been consensually resolved. I would ideally expect a stronger moral openness climate to lead to higher moral satisfaction, because more thorough and reasonable discourses should lead all participants to conclude that the decisions reached are acceptable. However, a high degree of moral satisfaction does not necessarily imply that a decision is morally excellent; rather, a given consensus must always be provisional, contingent upon the depth of insight of the parties to it. It is always possible that a group that realizes high moral satisfaction as a matter of

perception does not recognize some important moral shortcoming (Rorty, 2006), perhaps all the more so if that satisfaction stymies further discourse. Moreover, discourse ethics has been criticized for facilitating the domination of parties that lack the resources to rationally argue their positions (Lyotard, 1984), a problem that will be all the more severe if it is impossible to fully elaborate a unified conception of the human goods that ethics is intended to protect (Scott, 1996). Therefore, because moral discourse may often suppress rather than elicit moral expression, it is possible that moral openness climate will be negatively related to moral satisfaction.

Accordingly, I also theorized another related construct that I called contention. Contention is a climate perception of the moral intensity (Jones, 1991) that a group encounters in its decisions, despite the premise controls (Perrow, 1986) that limit perceptions of moral intensity for some decisions. For example, employees of a collections agency may experience high contention because of the obvious financial hardships experienced by both the debtors they target and the creditors whom they serve, while employees of a hair salon may experience little contention because of the generally good-natured demeanor of their customers and the dearth of moral issues presented to them, and employees of a liquor store may also experience little contention because they have disengaged (Bandura, 1999) from the harms that their products inflict upon some of their most loyal customers. Some groups engage in activities that have a powerful, concentrated, certain, and meaningful impact on many people that they know, while others have no such influence; some fail to recognize the impact they have, either because they have not considered their influence, or because they intentionally ignore their impacts.

Higher contention problematizes the experience of moral equivocality and highlights the need for some rational resolution. I therefore expected that contention would moderate the impact of moral openness climate on moral satisfaction. That is, low moral openness climate

with low contention would result in high moral satisfaction, because participants recognize little to be dissatisfied with. High moral openness climate with high contention would also result in high moral satisfaction, because participants recognize that difficult moral problems are being resolved openly. But high moral openness climate with low contention would result in low satisfaction, because the effort and abstraction of moral discourse would be disproportionate to the problems at hand; similarly, high contention with low moral openness climate would also result in low satisfaction, because the problems at hand would be treated without reasoned agreement.

Overview of Methods

I have conducted a scale development and validation project that has defined a survey measure for moral openness climate, using four studies to examine the qualitative experience of moral openness among front-line personnel and first-line managers, to pre-test the survey items that have been derived from Alexy's rules (1989 & 1990), establish a reliable scale, and test the construct validity of moral openness climate, respectively.

The project began with ten semistructured interviews (Legard, Keegan, & Ward, 2003), in order to determine whether various aspects of moral openness described businesspeople's experiences of moral discourse, or represented a degree of theoretical abstraction alien to actual reasoned agreement. The interviews were conducted among tellers, desk staff, and branch managers in retail banks in the Southeastern United States. These interviews probed experiences with decision-making in the face of ethical uncertainty, and explored aspects of moral openness including participation, closure, and power, as well as domination of the discourse by

participants skilled in argument, failures of logical reasoning, contention or the lack thereof over current or typical ethical issues in the workplace, and moral satisfaction.

The second study tested the substantive validity of the proposed survey items on successive small samples of participants (between twenty and thirty respondents each) from the Vanderbilt eLab's survey panel. These respondents were asked to match survey items to the written definition of whichever of five prospective dimensions of moral openness climate seemed most appropriate (Anderson & Gerbing, 1991). Through this iterative process, items that did not match consistently with a single dimension were eliminated and replaced with simpler and more promising items.

The third study employed an exploratory factor analysis (EFA) to confirm the dimensionality of the moral openness climate construct, and eliminate survey items that did not load significantly on any factor (Hinkin, 1998). A sample of 604 participants was surveyed using the Vanderbilt eLab. This data set was subsequently used to select a combination of survey items that together have more than adequate reliability, as measured by a Cronbach's Alpha of no less than 0.70 (DeVellis, 2003; Nunnally & Bernstein, 1994; Spector, 1992) for each scale dimension.

The fourth and final study collected a new data set to support several tests for construct validity. Construct validity requires that the constructs measured by the scales be empirically shown to be related to other known constructs in a manner consistent with their theoretical definition (DeVellis, 2003; Hinkin, 1998), as discussed above. Survey data were gathered from work groups in twenty-four for-profit organizations in seven states, from New Jersey to California and Georgia to Michigan. Responding firms came from industries as varied as dental care, retail banking, tax accounting, software development, automotive aftermarket parts

manufacturing, and roofing. Usable individual responses totalled 97, for a response rate of 21%. I expected to find discriminant validity between moral openness climate and respectful interaction (Vogus, 2004), and between moral openness climate and the participative decision-making subscale of the empowering leadership questionnaire (Arnold, Arad, Rhoades, & Drasgow, 2000); an EFA would confirm discriminant validity if moral openness climate loaded on a separate factor from these other constructs. Regression analyses would also confirm discriminant validity if these other scales differentially predicted the outcomes that I expected to be associated with moral openness climate. I also expected to find that higher moral openness climate predicted higher collective moral motivation and higher collective moral character (Arnaud, 2006); regression analysis would confirm that prediction by revealing significant coefficients for the predictor in the regression equations. I expected to find that higher manager measures of machiavellianism (Christie & Geis, 1970) predicted lower moral openness climate, again through regression analysis. Finally, I expected to find a relationship between moral openness climate and moral satisfaction, moderated by contention, also through regression analysis and factorial ANOVA.

Overview of Results

In the first study, the interviews indicated that moments of ethical uncertainty arose with some frequency in the interviewees' workplaces, and that discussion of those issues was generally open along all of the theorized dimensions, as a result of a climate of empowerment assiduously cultivated by the bank. However, branch managers generally closed the discourse at

that point at which they were satisfied with the reasonableness of its conclusions, with little opposition from their employees.

In the second study, the set of survey items for moral openness climate was culled from 54 to 24 over three iterations. Importantly, the prospective dimension of “procedural equity” (i.e. the lack of domination of a discourse by participants skilled in argument or endowed with time) was eliminated when none of its items were consistently matched with its construct definition.

In the third study, a seven-item moral openness climate scale comprised of items measuring participation, closure, and power was found to be unidimensional and have a high Alpha reliability. Three survey items for logic loaded on a separate factor which had an inadequate Alpha reliability. Therefore, two moral openness climate scales were used in the subsequent study: a ten-item scale that incorporated logic items due to their theoretical value, and a seven-item scale that incorporated only participation, closure, and power items.

Contention, the climate property that was intended to assess the degree of moral intensity and disagreement generally experienced within the work group, also did not load on a factor of its own and experienced high cross-loadings on other factors, resulting in its exclusion from further analyses.

In the fourth study, response rates to my requests for access and subsequently my survey were disappointing, due in part to the onset of the worst recession in the United States since the 1930s and widespread vilification of the ethics of businesses and capitalism in general. Results revealed that moral openness climate did not have discriminant validity from respectful interaction; results for discriminant validity from participatory decision-making were mixed. Moral openness climate did not remain unifactorial in a test-retest EFA. The machiavellianism

of managers did not predict mean moral openness climate in their work groups, nor did moral openness climate or its standard deviation (a proxy for contention in lieu of a reliable survey scale) predict moral satisfaction. However, moral openness climate did predict collective moral motivation and collective moral character, which in turn predicted moral satisfaction. All tests were run for both the moral openness climate scale incorporating items for logic and the one excluding them, and results were the same for both.

Discussion

The empirical studies reported above imply three substantive findings.

First, the interview study revealed that moral discourse exists among front-line and line-management personnel in the American workplace. Even in the heavily regulated and rule-bound industry of retail banking, situations of moral equivocality were common, and personnel routinely inquired of each other and their managers to determine the proper course of action. However, participants reported being satisfied with allowing their managers to decide difficult issues; managers' opinions were routinely given additional and even decisive weight.

Second, the eLab studies revealed that moral openness climate did not exist as a nuanced and multidimensional construct as expected, nor did contention exist at all. Rather, a single unidimensional seven-item scale for moral openness climate emerged, and it was comprised of items representing participation, closure, and power; procedural equity and logic could not be reliably measured, and did not load consistently upon the same factor as other moral openness climate items. It appears that these latter two aspects of moral openness do not matter to businesspeople as much as they matter to discourse ethicists. Moreover and surprisingly,

contention did not emerge as a psychometrically stable construct, making it impossible to condition the influence of moral openness climate upon moral satisfaction upon it.

Third, the field study revealed that moral openness climate does not clearly have discriminant validity from participatory decision-making (Arnold et al., 2000) or respectful interaction (Vogus, 2004); that individual perceptions of moral openness climate positively correlate with individual perceptions of the group's intentions to follow through on its decisions; and that moral openness climate does not predict moral satisfaction. All of these findings can be understood in terms of empowerment, or more specifically, participatory management. If moral openness climate does not incorporate aspects of procedural equity or logic, as found in the eLab studies, then it unsurprising that it would not have discriminant validity from participatory decision-making or respectful interaction: both alternative constructs are concerned with employees having adequate voice, which the remaining aspects of moral openness (i.e. participation, closure, and power) address. Moreover, if moral openness climate is simply a form of empowerment extended to ethical decision-making, then it is similarly not surprising that employees to whom that participatory empowerment is extended would be more likely to intend to follow through on the decisions made, since empowerment has already been found to increase follow-through intentions for other decisions (Conger & Kanungo, 1988; Spreitzer, 1995). Finally, if moral openness climate implies a sharing of responsibility as well as authority, it is not surprising that it would not have an effect on moral satisfaction; Barker (1993) found that a particular form of empowerment (i.e. self-managing teams) did not lead to higher satisfaction with management decisions in one workplace, but simply familiarized employees with the difficulties of decision-making.

Implications of Moral Openness Climate

These findings suggest contributions to the literatures on voice and silence, moral psychology, sensemaking, and discourse ethics in business.

This dissertation contributes to the literatures on voice and silence (Bird & Waters, 1989; Milliken, Morrison, & Hewlin, 2003; Morrison & Milliken, 2000). Moral muteness has been shown to be related to a desire to appear decisive and a desire to keep others' focus on the non-moral aspects of the problem at hand (Bird & Waters, 1989), while silence has been shown to be predicted by beliefs that management knows best, and predictive of reduced communication (Morrison & Milliken, 2000). Moral openness describes and measures a range of restrictions of voice, like excluding certain participants or ending the conversation before a conclusion has been reached, rather than a binary dichotomy between voice and silence. Importantly, it appears from my empirical findings that this range does not incorporate considerations of logic or procedural equity, making it similar to participatory decision-making (Arnold et al., 2000) and respectful interaction (Vogus, 2004); therefore, moral openness climate may well be similar or even effectively interchangeable with aspects of empowerment that encourage employee voice.

This dissertation has implications for the literature on moral psychology. Rest (1986) distinguished moral judgment from moral motivation or moral character, and Arnaud (2006) theorized an extension of Rest's four-part model to the level of work-group climate. I have found that moral openness positively predicts collective moral motivation and collective moral character, which are the latter two stages of Arnaud's model. It appears that a group's moral openness in deliberative discourse does enhance the willingness of parties to it to follow through on the decisions made, and to persist in the face of setbacks.

This dissertation has implications for sensemaking. My findings that many of the rational nuances of reasoned agreement are unimportant to most businesspeople (i.e. that they do not readily discriminate between moral openness climate and respectful interaction or participatory decision-making; that they neither reliably recognize separate dimensions for theoretically important aspects of moral openness climate like logic, nor incorporate those into a single factor for moral openness climate; and that participants in the qualitative study readily accede to managerial authority) supports the assertion in sensemaking theory that decision-making is more narrative (Weick, 1979; Weick et al., 2005) and intuitive (Sonenshein, 2007) than rational. However, these findings also suggest a more nuanced view of social anchoring, that is, “having interlocutors who help an actor test his or her interpretation of social stimuli” (Sonenshein, 2007: 1030). My findings descriptively suggest that perceptions of moral openness in engaging social anchors enhance perceptions of motivation to follow through, perhaps through more robust constructions of the issue at hand that are easier to subsequently justify. Greater moral openness may contribute to more influential social anchoring. Moreover, it is plausible that moral openness best describes not deliberation over what ought to be done, but rather bounded deliberation over the construction of moral issues (Sonenshein, 2007). Once those issues have been constructed, the adequacy of those constructions for encompassing salient features of the situation and guiding subsequent action may influence collective moral motivation and collective moral character, and only distally influence satisfaction with the eventual outcomes of the decision. Understood in this way, the rationality of moral openness can be placed within a broader descriptive decision-making framework that encompasses non-rational processes.

This research has provided evidence that moral discourse does occur within organizations, and it has described moral openness as a construct that characterizes the degree to

which a group of interdependent workers' shared perceptions of moral discourse approximate the terms of ideal speech. Importantly, my empirical investigation has examined whether or not those perceptions meaningfully encompass the principles of reasoned agreement, and I have found that some of those principles are not reliably related to the others. Logic appears to be a separate and distinct construct, though one that is difficult to reliably measure. These results seem to indicate that most people do not have a particularly nuanced conception of moral openness, and therefore that they may not object when important principles of discourse ethics are violated in the course of reaching a (somewhat) reasoned agreement.

The literature on discourse ethics in business (Palazzo & Scherer, 2006; Scherer & Palazzo, 2007; Smith, 2004) comprehends the impossibility of adhering to the principles of ideal speech that ought to structure reasoned agreement at its best (Habermas, 1979 & 1984); however, it does so by shifting the locus of analysis from reasoned agreement between individuals (Forester, 2003) to deliberative democracy, which mediates among representative institutions (Habermas, 1996). As important as reasoned agreement is between organizations and their institutional stakeholders, I believe that it is also important to study the possibility and actuality of reasoned agreement among individuals who work in organizations. Describing the form and variation of moral discourse at the level of work groups rather than at the level of industries enables subsequent normative inquiry into the implications of that discourse. In particular, my findings have normative implications for the validity of reasoned agreement as it actually occurs within organizations. Logic and procedural equity are not important to businesspeople who attempt to reach reasoned agreements over ethical issues. Therefore, there is potential for reasoned agreements to be systematically distorted by inconsistent or fallacious argumentation, skilled rhetoric, or voluminous but flawed or irrelevant evidence.

Limitations

The small sample size of the fourth study is the primary limitation of this research. The timing of the survey was unfortunate, coming at a time when businesspeople at every level were likely more distracted and fearful than usual; an outsider wanting to ask questions about business ethics is not well-received in a crisis. Were the data collected at a time of economic normalcy, they might also have incorporated greater between-group variation on several of the variables, had a broader sample of organizations agreed to participate; as it stands, participating organizations were likely those that already had strong climates for ethics and openness.

The lack of discriminant validity for moral openness is another limitation. These results suggest that businesspeople may not distinguish morally valid discourse from being treated with respect or being given the opportunity to add their input to decisions.

Future Research

One possibility for future research addresses the embeddedness of moral discourse within broader non-rational processes of moral reasoning. A qualitative study, perhaps even a conversation analysis (Rapley, 2007) that quantifies and analyzes relationships among coded speech acts identified in transcripts of actual conversations between research participants, could help to better understand the elements of reasoned agreement that are important to businesspeople. By better understanding the aspects of openness that are salient to businesspeople in particular moral discourses, conversation analysis studies could enable a more accurate theory of the climate for moral openness in work groups. Such a study could also assess whether moral openness perceptions are formed with respect to issue construction, with respect

to the subsequent justification of the constructed issues, or both, and thereby contribute to the sensemaking-intuition model (Sonenshein, 2007) of moral decision-making.

It may be valuable to further examine the discriminant validity, antecedents, and consequences of moral openness climate, using a field survey with larger sample sizes. The entire empowering leadership questionnaire (Arnold et al., 2000) may be useful for studying the discriminant validity of moral openness climate from empowerment; other potential antecedents of moral openness climate might include the elements of an effective ethics and compliance program (Harned, Seligson, & Baviskar, 2005); other outcomes may include an attenuation of moral disengagement (Bandura, 1999) or perceptions of distributive, procedural, or interpersonal justice (Niehoff & Moorman, 1993).

Moral openness may have implications for ethical leadership. Reasoned agreement may require leaders to bear the burdens of judgment (Rawls, 1993), and by authoritative actions create the circumstances under which discourse is possible (Habermas, 1996). These actions may include raising an issue and framing the problem in a way that allows relevant parties to recognize it and discuss it, rather than in a way that alienates or privileges some participants; recognizing impasses that cannot be resolved because of a lack of information or will, and making a decision (with a concomitant acceptance of responsibility) that breaks the impasse and allows the discourse to resume; and sometimes even hurrying a discourse along in order to leave a point intentionally vague, whether to prevent unproductive conflict in the present or leave leeway for interpretation in the future. All of these may facilitate greater moral openness in actual organizations, and therefore better adaptation to emergent moral problems in a changing and pluralistic world.

Finally, it will be important to examine the normative weaknesses of actual reasoned agreement. Moral openness may be an expression of the ethea of ethical rationality (Habermas, 1984), employee empowerment (Potterfield, 1999), or both. These ethea have limitations of their own, whether in their reduction of the set of admissible considerations (Lyotard, 1984; Scott, 1996), in their constraint of the scope of issues which employees are empowered to decide (Potterfield, 1999), or in the displacement of responsibility from some decision-makers to others (Jackall, 1988; Potterfield, 1999). Even if those limitations cannot yet be overcome so long as decision-makers must reach some reasoned agreement, it will be important for those decision-makers to recognize and accept responsibility for those limitations.

Altogether, it appears that moral openness climate is valuable for facilitating greater reasoned agreement in the face of moral equivocality in organizations, and thereby for garnering increased intentions to follow through on those agreements. However, it has a number of important limitations that merit further exploration.

CHAPTER II

LITERATURE REVIEW

The literature in organization studies includes a number of important constructs that are relevant to moral openness. Several authors have already developed models of voice and silence in organizations, some of which explicitly pertain to ethics; I will explain why these models point toward moral openness but do not define or duplicate it. Similarly, models of empowerment also resemble moral openness but are not theoretically congruent with it. Other theorists have examined the ways in which members of organizations make sense of the uncertain social meanings that can attach to their actions, and pointed out that sensemaking has important narrative and affective content that cannot be assimilated as a matter of course into rational models of argumentation and decision-making. That insight will be important for developing a model of moral openness that is appropriate for organizational contexts in which the time, attention, patience, and rationality of human decision makers is constrained. Finally, climate is a class of constructs that have been developed to account for consistency in organizational behavior without relying on instrumental and individual theories of motivation.

The philosophical literature on discourse ethics, including criticism thereof, is also relevant to this project. Most importantly, it offers a rich characterization of the a priori foundations of reasoned agreement, without which such agreement is more apparent than real. Critically, it also identifies a set of limitations to the normative validity of reasoned agreement, both in its ideal form, and in its actual forms. These are important to review, because they

highlight both the promise and the peril of moral openness for more ethical decision-making in organizations.

Organizational Thought Informing Moral Openness Climate

Theories of silence and voice including whistle-blowing and empowerment

Several authors have discussed employees' reluctance to deliver troubling observations to their coworkers or superiors, while others have studied empowerment and participative management. However, none of the existing theories of voice have been formulated in terms of discourse theory. I will argue later that such a formulation permits a more nuanced view of less-than-ideal discourse.

Bird & Waters (1989) used interviews with managers to study what they called moral muteness: the reluctance of managers to provide ethical justification for their actions, especially when those same actions could be explained in economic or strategic terms despite their moral acceptability. They characterized the causes of moral muteness as a lack of perceived safety, or what Edmondson would later call psychological safety (1999), an avoidance of conflict, an avoidance of precedent-setting, a desire to appear decisive, and a practical desire to keep their audience's focus on the non-moral aspects of the problem at hand. They also observed that moral muteness had consequences including reinforcement of a stereotype of management as an amoral activity, avoidance or neglect of moral issues, experience of role conflict and role ambiguity for the mute managers, and weakening of the authority of moral standards. Badaracco (2002), in a book for practicing managers, recommended moral muteness to his readers under the label "leading quietly," for exactly the causes of moral muteness outlined above, but with the

benefit of enabling quiet leaders to achieve moral outcomes without the cost of martyrdom.

Moral muteness and quiet leadership seem to be concerned with the avoidance of moral discourse in favor of non-moral discourse or direct action, but do not address the formation of moral norms.

Morrison & Milliken (2000) studied organizational silence, pertaining not only to ethical issues but also to any negative information not delivered to supervisors, as an organization-level phenomenon. They described what they called a “climate of silence” (2000: 708) characterized by a fear and avoidance of negative feedback among top managers, and implicit beliefs that employees are untrustworthy, that management knows best, and that dissent is at least symptomatic and possibly constituent of organizational dysfunction. Such a climate was thought to be exacerbated by homogeneity among top managers, especially if they all share a background in economics or finance that imbues them with the view that employees are self-interested and untrustworthy. It produces perceptions among employees that speaking up about problems is not worth it, and may in fact be dangerous to oneself; these perceptions in turn suppress communication, bias decision-making, damage trust, induce stress, and may eventually elicit withdrawal or deviant behaviors (Morrison & Milliken, 2000). A subsequent interview study among executive MBAs found that many employees were reluctant to raise issues to their supervisors, and that the most frequent reason for remaining silent was a fear of being viewed negatively and thereby damaging a valuable relationship (Milliken, Morrison, & Hewlin, 2003). Twenty percent of their interviewees felt that they could not raise ethical issues with their supervisors, which made ethics less controversial than concerns about colleagues’ or supervisors’ performance (which 37.5% would not raise) and problems with organizational processes or performance (35%) but more likely to be kept silent than conflict with a coworker (15%).

Expectations of futility, fear of retaliation, and reluctance to negatively impact others were frequently-mentioned reasons for remaining silent, as were a lack of seniority, poor relations with the supervisor, and an unreceptive culture (Milliken et al., 2003). Morrison and Milliken's work on silence suggests that organizations do in fact create climates for discourse that discourage communication of some information, though silence is not the dominant response for ethics or any other issue. Similarly, Sonenshein (2006) studied individuals' propensities to engage in "issue crafting" by recasting ethical issues in economic terms when raising those issues to powerful parties in organizations, and found that participants' public representations of issues were more economic and less normative than their private representations when those individuals worked in organizations whose values conflicted with participants' private normative reasons. Van Dyne, Ang, and Botero (2003) suggest conceptually dividing both voice and silence into acquiescent, defensive, and prosocial categories. The nuances of voice are an area of continuing research interest.

Whistle-blowing and error reporting

Whistle-blowing and error reporting are both forms of voice within organizations, and the former is used to challenge unethical behavior in particular. They are therefore topically relevant to any theory of moral openness.

Whistle-blowing is typically defined as "the disclosure by organization members (former or current) of illegal, immoral, or illegitimate practices under the control of their employers, to persons or organizations that may be able to effect action." (Near & Miceli, 1985: 4). Near and Miceli classified the antecedents of whistle-blowing that effects action against the wrongdoer into individual characteristics (i.e. the credibility, power, and anonymity of the whistle-blower,

complaint recipient, and perpetrator), organizational characteristics (climate for whistle-blowing, including support for the whistle-blower) and characteristics of the wrongdoing (evidence of its occurrence, its legality, and the organization's dependence on its continuation) (Near & Miceli, 1995). Their analysis is thus based in part on discursive factors like the evidence and legality of the transgression and the climate for whistle-blowing, but is fundamentally a matter of the balance of power between the whistle-blower and the transgressor.

It is possible for people who work together to agree on the ethical rightness of an action, but still harbor substantial misgivings about whether they find it acceptable. Treviño and Victor (1992) found, in two separate survey studies of undergraduate students' inclination to report peers who cheat on a test and who steal inventory from an employer, that they are more likely to report when doing so is explicitly defined as a role responsibility, and when the misconduct has a direct effect on them. However, they also found that students who report misconduct are seen as both more ethical and less likeable by their peers. This finding is interesting because it contrasts a social evaluation of the morality of whistle-blowing with a consensus on the subjective emotional responses to it, illustrating that in the absence of discourse their participants did not reach a complete conclusion about the acceptability of the action.

Edmondson (1999) introduced the concept of team psychological safety, a "climate characterized by interpersonal trust and mutual respect in which people are comfortable being themselves" (Edmondson, 1999: 354) that reduces self-censoring of observations or errors and enhances the group's understanding of its processes and shortcomings. A recurring embodiment of trust and respect is a lack of blame or condemnation for mistakes. Interviews, observations, and surveys of teams at an office-equipment manufacturer revealed that teams with greater psychological safety engaged in more feedback, more helping behaviors, and more

experimentation and change, leading to more group learning and improved performance (Edmondson, 1999). A closely-related construct drawn from the literature on high-reliability organizations is respectful interaction, which is a willingness to incorporate others' reports into one's own decision-making, to honestly report one's own perceptions for others to incorporate into their decision-making, and to integrate one's own perceptions with those of others without deprecation of either, in order to form a socially shared perception (Campbell, 1990). Vogus created and validated a climate measure of respectful interaction in a study of hospital nursing units (Vogus, 2004).

Zhao & Olivera (2006) describe a framework for understanding error reporting in organizations. They state that error reporting entails three stages: error detection, situation assessment, and behavioral response, each of which can take several forms. Importantly, different kinds of errors that are detected in different ways may elicit different assessments of the situation: for instance, an application of an inappropriate procedure detected through an outcome may elicit shame, while one detected as it occurs may rather result in embarrassment. The emotions and cost-benefit assessments for the self, the group, and others that result from error detection in turn influence reporting or non-reporting behaviors ranging from factual recording to blaming to covering up to fixing the problem oneself (Zhao & Olivera, 2006). Although the model is basically rational in form, it does incorporate affect into the situation assessment, and explicitly refers to psychological safety (Edmondson, 1999) as a factor. It models the range of reporting or non-reporting behaviors as a joint function of the situation assessment and of individual attributes, and the situation assessment incorporates estimates of the learning that may result from reporting (Zhao & Olivera, 2006). Although the authors explicitly exclude willful violations of policy from their study of errors, and do not frame the situation assessment in

discourse terms, their article does conceive of a range of one-way communicative acts that are affected by an assessment of how those acts will be received.

Empowerment

Management that leverages communication with and among employees and places decision power with employees provides a context for moral openness, while the experience of disempowerment seems likely to depress moral openness.

Conger & Kanungo (1989:474) defined empowerment as “a process of enhancing feelings of self-efficacy among organizational members through the identification of conditions that foster powerlessness and through their removal by both formal organizational practices and informal techniques of providing efficacy information.” Empowerment is not simply delegation of the authority to make decisions, but also entails creating the conditions under which the delegated decisions can be successfully made and executed.

Spreitzer (1995: 1444) defined psychological empowerment as “a motivational construct manifested in four cognitions: meaning, competence, self-determination, and impact . . . an orientation in which an individual wishes and feels able to shape his or her work role and context”; these four dimensions were empirically confirmed through confirmatory factor analysis (Spreitzer, 1995). In a subsequent study, Spreitzer (1996) also related six aspects of the work environment to psychological empowerment: low role ambiguity, working for a boss with a wide span of control, sociopolitical support, access to information, access to resources, and a participative unit climate. Survey data revealed all six dimensions in an exploratory factor analysis, and multiple regression found all but access to resources to be significantly related to psychological empowerment (Spreitzer, 1996). Seibert, Silver, and Randolph (2004) found

using survey data that empowerment climate, characterized by information sharing, autonomy preserved by boundaries, and locus of accountability at the team level, was distinct from psychological empowerment, and that psychological empowerment mediated the relationship between empowerment climate and individual performance and job satisfaction. They also found a direct effect of empowerment climate on work-unit performance (Seibert et al., 2004). Arnold, Arad, Rhoades, and Drasgow (2000) developed and validated a survey scale measuring empowering leader behavior, and found five dimensions: leading by example, participative decision-making, coaching, informing, and showing concern / interacting with the team.

The foregoing review of literature from silence to voice, including whistle-blowing and empowerment, illustrates the variety of perspectives that have been taken on employees' ability or inability to communicate concerns upward. Although some of those perspectives have been premised on a rational theory of motivation, others are based on perceptions of the social environment that might be called climate. All suggest the beginning of discourse with an initial courageous communication.

Sensemaking

Attempts to come to a reasoned understanding of an equivocal environment, and of the actions that are required to operate within it, are familiar to scholars of sensemaking; some have studied ethics in that light (e.g. Sonenshein, 2006 & 2007). I hope to both situate my project alongside the sensemaking literature as a description of the discursive reduction of the equivocality of specifically ethical problems, and distinguish my project from that literature on the basis of my use of discourse theory to characterize specifically ethical discourse.

Sensemaking is a descriptive theory of the adaptation or maladaptation of organizations to their

environment and of individuals to each other, while discourse ethics is a normative theory of the conditions of discussion that must hold in order for a reasoned agreement about some ethical issue to be normatively valid. Sensemaking incorporates informal social psychological processes such as narrative and even affect while discourse ethics focuses on formal linguistic expression and critique. Moreover, the formal precision of discourse ethics lends itself to the establishment of normative validity while the results of sensemaking are not so much morally right as socially functional . . . and sometimes not even that (Weick, 1979). Therefore, the literature on moral discourse may provide a useful framework for better structuring a theory of specifically ethical sensemaking, and for normatively and descriptively analyzing the implications of actual moral discourse that falls short of the theoretical ideal.

The second edition of Karl Weick's The Social Psychology of Organizing (1979) is a seminal work in sensemaking. Weick's perspective on organizing parallels sociological work on the social construction of reality (Berger & Luckmann, 1966) and structuration (Giddens, 1984), both of which describe social structures as mutable and contingent products of the behavior of individuals but nonetheless may seem quite permanent. Weick argued that the study of organizations as stable structures, for which typologies and generalized theories could be developed, was futile because the innumerable, multiply contingent, and mutable forms that emerged were too diverse, and even homologous structures may exist for very different reasons. Instead of a theory of organization, which would have to be quite intricate in order to encompass the complexity of actual organizations, Weick constructed a social psychological theory of the ongoing social process of organizing, from which organizations and their structures were continuously emergent. Organizing occurs through multiple loops of enactment, selection, and retention of cognitive schemas, which are mental models of the environment and the individual's

place within it. Scripts are schemas that prescribe actions, especially a sequence of actions, and individuals enact scripts that fit their perception of the environment. Feedback from the environment may cause different scripts or schemas to be selected, especially if the one enacted produces results that are senseless to it; over time, those schemas are retained that provide the most adequate interpretive frame for the individual's interactions with the environment. Schemas that are once or repeatedly selected against, or simply seldom used, may be forgotten (i.e. not retained), creating an opportunity for the learning or creation of a new schema (Weick, 1979).

The entire enactment-selection-retention process exists to structure interaction with the physical and social environment, and works by reducing equivocality (Weick, 1979). The predictive power of cues from the physical environment and the meaning of cues from the social environment generally have multiple possible interpretations, so schemas connect and order these interpretations to make understanding and action possible; however, these schemas cannot simultaneously attain a high degree of accuracy, parsimony, and generality, but must trade these qualities off against each other. Moreover, actual equivocality reduction requires multiple cycles of enactment of more-general schemas, in which the information collected helps to select the less-general schema for enactment in the following cycle. Because multiple cycles consume time and attention, relatively specific schemas are often enacted despite the existence, acknowledged or not, of substantial equivocality as to whether it is an appropriate choice for the environment. Overall, in light of the observations that organization is an enacted social construction, and that the individuals within organizations may not be reading from the same script, Weick recommends that in order to effectively manage organizing and its adaptation to a changing physical and social environment, managers complicate themselves by broadening their

library of schemas and using shorter, faster cycles of enactment, selection, and retention to make sense of their work (Weick, 1979).

Importantly, sensemaking is costly in time and effort. Attempts to reduce the equivocality of problems presented by the environment, whether those problems entail ethical implications or not, are sometimes more perfunctory than persistent, and more expedient than effective.

Sensegiving

Sensegiving is the term given to the communication of a schema or script to other parties involved in sensemaking. It highlights the role of social engagement with other parties to a decision about the content of the schemas or scripts that structure that decision; sensemaking without sensegiving is a unitary exercise that leads to inconsistent schemas or scripts among members of an organization (Maitlis, 2005). The necessity of sensegiving for effective sensemaking parallels the insistence of Benhabib (1992) in the discourse ethics literature that there is no substitute for engagement with the actual others who are affected by a decision, lest the reasoned agreement reached about that decision be more imaginary than real. Moreover, sensegiving highlights the importance of leaders in structuring the discourse (Gioia & Chittipeddi, 1991; Gioia & Thomas, 1996), just as Habermas (1996) notes the practical importance of some structuring of the terms of moral discourse for making any agreement possible.

Sensegiving is reminiscent of Barnard's early treatise on organization theory, where he described the functions of the executive as securing the cooperation of parties that we would now call stakeholders in order to produce the organization's outputs (Barnard, 1938). To Barnard, the

organization was also an entity that emerged from the social cooperation of its members, whose operations could change as its membership and their activities changed. In addition to managing the exchange of inducements to cooperation like pay and prestige, the executive was to focus a belief in a common purpose (Barnard, 1938). Thus, Barnard's organization theory incorporated not only an emergent conception of organizing, but also an insistence on the importance of sensegiving.

Important insights into the impact of sensegiving on the enactment-selection-retention cycle have emerged from ethnographic studies. In a case study of strategic change at a major university, researchers found that the university president who led attempts to become a "Top 10 Public University" (Gioia & Chittipeddi, 1991: 436) engaged in alternate phases of sensemaking and sensegiving, first collecting information and applying various frames to equivocal information, then both explaining his vision for the university and taking actions that demonstrated his commitment to that vision. Other constituents also engaged in this process, expressing their desires and concerns and then interpreting and reacting to the schema that the president promoted; the strategic change process was therefore a set of iterative cycles of sensemaking and sensegiving that achieved equivocality reduction, as the university moved from uncertainty about its development to a common vision that fit its strengths and ambitions (Gioia & Chittipeddi, 1991). Similarly, Maitlis (2005) found in an ethnographic study of British symphony orchestras that both leaders and stakeholders could engage in sensegiving to the other party, as well as sensemaking of their own. A foursquare matrix describes the interactive results of high or low sensegiving engagement on the part of leaders and stakeholders, such that active sensegiving on the part of both parties resulted in a single rich account of the symphony's purpose and progress, while weak sensegiving on the part of the leader led to fragmented and

inconsistent accounts, weak sensegiving on the part of stakeholders led to a single account weak in content, and no sensegiving led to an account in name only (Maitlis, 2005). Thus, sensegiving is a very important part of the enactment-selection-retention cycle for making sense of social environments; without intentional feedback, schema selection is able to accomplish little equivocality reduction. Weick called these sending and receiving cycles “double interacts” (Weick, 1979: 115).

Identity, Image, Narrative, and Control

The subjects of sensemaking are not necessarily objective facts, but may also be more nebulous identities and images that nonetheless are important for activating and motivating the enactment of schemas and scripts. Moreover, sensemaking and sensegiving may themselves incorporate substantial and even intentional vagueness and equivocality, particularly as they engage not propositional truths but rather narratives that are laden with multiple equivocal meanings. The fact that sensemaking and sensegiving encompass subjects and methods that are not necessarily rational but may also be intuitive is important, because while discourse theory in its ideal form requires utter propositional precision in the definition and treatment of the issues at hand, actual moral discourse is likely to be laden with narrative identities and images that are both vague and powerful.

Identity and image are very important foci of sensemaking. Gioia and Thomas (1996) published a second study on the same strategic change at the same university, where they described how the sensemaking process was anchored by perceptions of the university’s identity that should be retained and the image of a top-ten public university that was its official goal. Importantly, both identity and image retained sufficient equivocality to avoid alienating key

constituents and to preserve flexibility to adapt specific goals to future demands; for instance, the “top ten” universities for comparison actually numbered between fifteen and twenty, because of the equivocality of ordering the criteria upon which public universities should be ranked (Gioia & Thomas, 1996). Similarly, Dutton and Dukerich (1991) studied the response of the Port Authority of New York and New Jersey to a proliferation of homeless people occupying their facilities, especially the 42nd Street bus terminal; they found that the Port Authority’s responses to the homeless problem changed in phases, each of which corresponded to a change in the Port Authority’s public image and its interpretation of its mission to support the image and wellbeing of New York. Changes in the organization’s public image, especially after media reports criticized it for cruelty to the homeless and for being unsafe for patrons, caused it to reconsider its identity as a public service entity, including questioning the morality of evicting homeless people from its facilities on a fifteen-degree night, and interpreting its role in maintaining the image of New York as dictating the construction and maintenance of drop-in centers for the homeless near but not in its stations, and building the capacity of other social-service organizations to absorb homeless men (Dutton & Dukerich, 1991). Again, cycles of enactment, selection, and retention of schemas for dealing with the homeless modified the organization’s social roles and eventually physical infrastructure, especially as interaction with the environment through the homeless themselves, customers, the police union, and the media influenced the selection and retention of the schemas enacted. Weick (1993), in his case study of the Mann Gulch firefighting disaster, concluded that in the face of an equivocal and rapidly changing physical environment, the firefighting team lost its ability to make sense of the social situation when they were ordered to drop their tools and run: that act had the unfortunate sensegiving

consequence of denying their identity as firefighters or as members of a team, and without such an identity they did not heed orders from their crew chief which might have saved them.

Weick and Browning (1986) contrasted the communicative forms of argumentation and narration, noting that argumentation complements formal organizational rationality, while narration supports the social construction of meaning. Organization members often understand their social roles and environments in narrative terms, that is, as a series of actions that define the identity and intentions of the actors. Members evaluate the narratives that are presented to them by others in terms of those narratives' self-coherence and coherence with other relevant narratives, and in terms of their fidelity, that is, whether a given narrative "contains not just reasons, but good reasons which are grounded in history, biography, and culture" (Weick & Browning, 1986: 249). Importantly, the implications of a narrative are equivocal, which facilitates brevity compared with formal argumentation, and enables not only the adaptation and application of narrative to a variety of problems, but also the preservation of diverse values and intentions among individuals who share the same narrative (Weick & Browning, 1986). Thus, sensemaking encompasses but is not encompassed by formal argumentation, incorporates narrative rationality that focuses on the social creation of meaning, and hinges on equivocal and mutable interpretations of identity and image that can be reinterpreted as needed.

Ethics and Sensemaking

Sensemaking has been applied to organizational ethics by several authors, although the intent has generally been descriptive and instrumentally prescriptive rather than normative, and none of the applications have incorporated discourse theory.

Gioia (1992) used a case study of his own work as a safety recall engineer at Ford Motor Company in the context of the Pinto scandal to illustrate the role of cognitive schemas in moral awareness. The Ford Pinto was a compact car that, due to a minor flaw in the design of the gasoline tank, had an elevated risk of catching fire when hit in a rear-end collision. Gioia noted with irony that both before and after working at Ford, his immediate reaction to a safety problem like that of the Pinto would be to condemn the failure to order a recall, but while at Ford despite several reviews of the Pinto fires neither he nor the other engineers perceived even a significant safety risk, let alone a moral crisis. He and the other engineers learned schemas that framed quality problems and accidents as a normal part of the manufacturing and use of complex engineered products; Ford's system of financial controls emphasized data-driven and cost-justified decisions, and the data did not justify a recall. The schemas in use discouraged empathetic engagement or idealistic moral thought regarding Ford's responsibilities to its customers, but rather focused on the efficient remediation of a subset of safety problems that were quantifiably important (Gioia, 1992).

Jones (1991) introduced the construct of moral intensity to account for the influence of situational variables in moral decision-making, arguing that decisions whose implications have high moral intensity are more likely to be recognized as moral issues than those with low moral intensity. Moral intensity is comprised of both physical and social dimensions: it increases with the magnitude of the impact on individuals, the number of individuals impacted, the probability of the impact, the diffusion of the impact among members of a community, the physical and social distance of the impact from the decision-maker, and the degree of social consensus on the immorality of the impact (Jones, 1991). Moral intensity can be understood in sensemaking terms

as an environmental signal of varying strength influencing the selection of schemas for enactment.

Other scholars have written of the social and political processes through which organizations comprehend and address moral issues that their operations raise. Nielsen (1996) built upon the work of Argyris and Schoen (1978) in action learning to propose models of ethical change within organizations. He discussed single-loop actions intended to correct deviations from unquestioned values, double-loop actions intended to examine the values that govern action, and triple-loop learning that entailed collective critical reflection on the traditions within which organizations' values are embedded. Both double-loop and triple-loop forms depend on discourse for criticism and change, but Nielsen's approach is not necessarily formal and rational: he often recommends establishing some grounds of common identity, or at least positive affect, with the party whose values or traditions are being criticized. Neither are his philosophical bases formal and rational: the inspiration for triple-loop dialog comes from Kierkegaard, Gadamer, Derrida, and Rorty (Nielsen, 1996) all of whom are concerned not with moral universals but rather with the triangulation of pragmatic social agreement within the horizons of ethical traditions. Nielsen's approach to moral change in organizations is therefore highly compatible with the literature on sensemaking, and compatible but not congruent with discourse ethics.

Sonenshein (2005) proposed a model of discursive ethical change that he called internal social criticism. Based on the political philosophy of Michael Walzer, he observed that criticism of an organization's ethics that originates from a value system that is external to the organization may introduce insights that are truly novel, but is more likely to be an abstract reproduction of values that already exist within the organization's culture . . . without the benefit of contextual interpretation. Even internal dissidents who criticize from the standpoint of value systems

external to the organization experience this abstraction; though their observations are internal to the organization, the framework with which to understand the reasons for their criticism is not. Conversely, criticism that is rooted within the organization's existing culture can call on jointly-held notions of identity and call out practices that are inconsistent with a shared interpretation of that identity. Calling the relationship between practices and principles into question may lead to the revision of either one. Such criticism can be leveled by members of the organization or by outsiders who are nonetheless familiar with its culture and moral standards, thereby constituting internal and external social criticism, respectively (Sonenshein, 2005). This view is consistent with that of Nielsen (1996) and other portions of the sensemaking literature in its focus on discourse, shared identity, and iterative change based on existing schemas.

Sonenshein (2007) has also proposed a model of ethical decision-making that he calls the "sensemaking intuition model." This model begins with a process of issue construction on the basis of recognized schemas that have ethical content; if cues from the environment are constructed into a schema that has a negative ethical valence, the decision-maker's response to it is intuitive and instantaneous. Only after that response does rational ethical deliberation begin, and that deliberation is performed to justify the initial response rather than to determine whether the decision at hand is ethical or not (Sonenshein, 2007). This model encompasses recent findings that actual ethical decision-making is partially intuitive as well as partially rational (Reynolds, 2006), and socialized as well as individual (Trevino, 1986).

Climate as a Useful Class of Construct for This Project

Climate describes a socially shared perception of the way things are done in a group, and represents an alternative to instrumental theories of motivation for explaining why people behave

the way they do in organizations (Schneider & Reichers, 1983). Moral openness climate is conceptualized as the climate for moral discourse in a work group, consistently describing the form of all moral discourses that occur within that group while differing across groups.

Climate is distinct from an attitude, in that it focuses on group members' assessment of what the prevailing norms and patterns are (Glick, 1985), that is, on what they believe that others believe. In this sense it is very similar to organizational culture, and Denison (1996) has suggested that climate and culture are two methodologically and epistemically distinct ways of describing the same phenomenon: whereas culture studies tend to be qualitative and focus on the changes in perception of group identity and norms over time, climate studies tend to be quantitative and focus on the existence and impact of shared perceptions on behavior. Trevino, Butterfield, and McCabe (1998) suggest that ethical climate is a broad characterization of the prevailing ethical values within an organization, and is therefore indirectly associated with attitudes, while culture more concretely characterizes the organizations control systems that influence behavior. The two approaches have blurred over time: Schneider & Reichers (1983) proposed a model of climate change rooted in symbolic interactionism, and Weick & Browning (1986) have suggested that climate represents a product of structuration that is in part a product of discourse.

Importantly, climate studies typically incorporate aspects of the structure of the work environment that shape shared perceptions (Denison, 1996). Structure is itself insufficient to account for the shared perceptions that comprise climate (Schneider & Reichers, 1983); rather, climate emerges from the interaction of social and structural factors (Ashforth, 1985). These factors are together interpreted to make sense of psychologically related events (Schneider & Reichers, 1983). However, neither social nor structural factors comprise climate per se; rather,

climate is the aggregation of the individual psychological perceptions of the interaction of those factors (Ashforth, 1985).

There has been disagreement as to whether climate is most appropriately measured at the workgroup level (Ashforth, 1985), or at whatever level of theory is appropriate, ranging from the subunit to the whole organization (Glick, 1985). The construct of psychological climate was long used to describe individual-level perceptions, with organizational climate defined as the aggregation of measures of psychological climate (Ashforth, 1985; Glick, 1985). Glick (1985) argued that aggregation of psychological perceptions was inappropriate because for organizations in which aggregation of some climate perceptions were weak, climate would not exist at all. Schneider, Salvaggio, and Subirats (2002) argued instead that climate strength can be measured as the degree of agreement between individuals on a measure of perception (i.e. the variance across the sample), meaning that in organizations where aggregation is poor, a given climate construct is weak to nonexistent, and that to argue that a climate for some phenomenon does not exist in a given group is not unreasonable (assuming that the instrument with which a climate is being measured has already in prior studies been shown to be reliable). This conception of climate weakness creates a distinction between weak climate and negative climate: a negative climate is one in which the group members' shared perceptions are antithetical to the focal behavior, while a weak climate is one in which there is little sharedness of perceptions (Schneider, Salvaggio, & Subirats, 2002). The relationship between the positive and negative and the strong and weak dimensions of climate was empirically demonstrated with a survey of customer service climate and customer service outcomes in a retail bank (Schneider, Salvaggio, & Subirats, 2002).

Climate has been conceptualized as pertaining to a particular referent like safety or ethics (Schneider & Reichers, 1983; Ashforth, 1985; Carr, Schmidt, Ford, & DeShon, 2003) and as being a molar construct that refers to perceptions of the whole organization's goals and means to their attainment (Carr et al., 2003). The former formulation has been empirically explored in numerous subliteratures; ethical climate and procedural justice climate will be discussed below. The latter formulation was the subject of a meta-analysis that found affective, cognitive, and instrumental dimensions of molar climate to be significantly related to the cognitive and affective states of job satisfaction and organizational commitment; job satisfaction was in turn significantly related to job performance, psychological wellbeing, and withdrawal, while organizational commitment was related to withdrawal (Carr et al., 2003). Instrumental molar climate was directly and negatively related to withdrawal (Carr et al., 2003). Thus, at the most general level climate seems to be an empirically useful construct for explaining the cognitive and affective states of organization members, as well as individual-level outcomes.

Climate has also been used more specifically to examine patterns and expectations of ethical behavior. Victor & Cullen (1987 & 1988) conceptualized a theory of ethical climate as being an interaction between dimensions of the type of criteria used for evaluating an ethical decision, and the level of analysis for that evaluation. These dimensions were derived from Kohlberg's staged model of moral development (Kohlberg, 1981): the first ranges from egoistic through utilitarian to principled, and the second from individual to local to cosmopolitan (Victor & Cullen, 1987). These two dimensions together produce nine possible forms of ethical climate, ranging from self-interest at the intersection of egoistic criteria and individual level of analysis, to compliance with legal and professional codes at the intersection of principled criteria and cosmopolitan level of analysis. In one study, surveys of ethical climate were drawn from

samples in a part-time MBA program, a military-sponsored MBA program, university faculty, and a trucking firm; these were analyzed using principal components analysis to reveal six subclimates that roughly corresponded to cells in the two-dimensional matrix. Instrumental climate subsumed the cells that combined egoistic criteria with individual or local analysis, professional climate subsumed the cells that combined cosmopolitan analysis with utilitarian or principled criteria, and caring climate subsumed the cells that combined utilitarian analysis with individual or local criteria. ANOVA revealed that five of the six empirically-derived ethical subclimates did vary across organizations, but that although organizations had dominant climate types, none had a single climate type (Victor & Cullen, 1987). In a subsequent study using a larger sample drawn from four firms in different industries, principal components analysis revealed slightly different climates (Victor & Cullen, 1988). ANOVA revealed strong climates that differed between firms and sometimes between locations in the same firm, but did not differ across departments (Victor & Cullen, 1988). These pioneering studies on ethical climate demonstrated that climate was a class of theoretical construct that could be grounded in normative categories and applied to actual organizations to describe ethics. Subsequent research has demonstrated that ethical climate has a significant impact on ethical misbehavior (Vardi, 2001), and Arnaud has recently extended ethical climate beyond moral judgment into the three other schemas of Rest's four-component model (Narvaez, Bebeau, Thoma, & Rest, 1999): moral awareness, moral motivation, and moral character (Arnaud, 2006).

Climate has also been used to characterize the context for procedural justice in organizations. Mossholder, Bennett, and Martin (1998) argued that aggregate perceptions of procedural justice emerge in organizations as employees observe procedures impacting others as well as themselves. In an empirical study they found that procedural justice climate varied across

branches of a savings and loan, and correlated significantly with job satisfaction (Mossholder et al., 1998). Naumann and Bennett (2000) found in a survey of employees at a retail bank that procedural justice climate was strengthened by cohesion within work groups and by supervisors whose actions managing the branch were visible, and that higher procedural justice climate predicted helping behaviors. Colquitt, Noe, and Jackson (2002) found in a survey of manufacturing teams that procedural justice climate not only impacted team performance and absenteeism, but also had a larger effect as climate strength increased.

The empirically-successful application of climate to ethical decision-making and procedural justice demonstrates that the climate construct can be used to understand group-level organizational phenomena with normative weight. The fact that these studies have identified differences in climate across locations within the same firm also suggests that such normatively-weighted phenomena vary significantly at the work-group level.

The foregoing review of portions of the climate literature is intended to illustrate the usefulness of climate as a relatively stable and quantitatively operationalizable class of constructs for understanding behavior in groups without recourse to instrumental motivation. Because it is based on socially shared perceptions, it is appropriate for studies of decision-making, and because it can be both focused on particular phenomena and informed by theories from moral psychology like Kohlberg's (1981) cognitive moral development and Rest's four-component model (Narvaez et al., 1999), it is particularly useful for studying moral openness climate. It should be noted that although moral discourse pertains to the formation of norms, climate is generally treated as a stable construct for measurement purposes; my intention in creating moral openness climate as a climate construct is to examine the regularities in the way groups discuss and form moral norms.

Philosophical Foundations in Discourse Ethics

I have attempted to ground my theory of moral openness in the philosophical foundations of discourse ethics, for two reasons. First, discourse ethics provides a detailed description of the ideal terms of any valid discourse about a topic with ethical implications. That description provides the basis for my own theory of moral openness, because any conversation that is held with the intention of reaching a shared determination of what the participants ought to do must hold to those terms, at least to the extent that the intention is genuine. Second, discourse ethics is addressed to the problem of justifying actions in a pluralistic milieu, which is a problem that businesspeople often face. My hope is that a descriptive theory of moral openness can be a counterpart to a normative theory of discourse ethics within organizations, so that the former may describe how businesspeople talk with each other to reach a shared understanding of what they believe they ought to do, and the latter may prescribe how such conversations ought to be held in order to reach morally valid conclusions.

Why Pluralism?

Moral pluralism is an important premise of much contemporary moral philosophy. Premodern Western ethics were grounded in metaphysical theories about the underlying nature of reality, with which humans were thought well-advised to align themselves. For example, Aristotle's influential ethics were formulated for Athenian male citizens, based on Aristotle's understanding of the order of nature from higher to lower (Aristotle, 1985); women and non-Greeks were not of ethical interest to Aristotle. Kant responded to earlier ethics that were grounded in explicitly- or quasi-religious metaphysics by grounding his ethics in the

transcendence of reason (Kant, 1959), but Hegel noted that even reason could not prescribe maxims for action without operating upon assumptions about human ends that are historically situated (Hegel, 1975). That is, moral reasoning pertains to human problems in local circumstances that are determined by the history and traditions of the people involved, and a moral norm that addresses itself to such problems must incorporate not only knowledge about those circumstances, but also preferences regarding them. Such preferences are themselves historically-contingent, and should not be smuggled into moral reasoning under the guise of pure reason (Benhabib, 1992).

Hegel's historicist critique of Kant presaged a number of subsequent critiques of the possibility of a non-historically-contingent ethics. Nietzsche argued that not only the content but even the idea of morality was historically contingent, and in fact that it was an ideology contrived to confer social advantage upon its proponents (1996). Dewey (1922: 31) argued that "reason pure of all influence from prior habit is a fiction", and that morality is properly a matter of adapting one's habits to the requirements of harmonious social life rather than adapting them to realize some transcendent good. Rawls (1971) formulated his theory of justice in terms of the social impact of an action on the wellbeing of others, insisting that just actions must be acceptable to all affected behind a hypothetical "veil of ignorance" where they must consider the possibility that they would be the worst-off under the proposed distribution of goods. Rawls then attempted to recover a set of universalistic moral criteria that all rational participants would necessarily agree to, stipulating that no action which would have a negative impact on the worst-off of all participants could rationally be accepted by participants behind the veil of ignorance; neither would participants accept a situation which left anyone without a complement of the primary goods needed to live a life of moral autonomy. However, the universalism of Rawls'

criteria remained vulnerable to critique: Benhabib (1992) argued that the rationality behind these principles was itself a product of Western masculine thought, as was the premise that a single individual could in any meaningful way imagine himself or herself in the position of the worst-off, who are not likely to share the rationality of the dominant class. Taylor (1989) argued that humans seek a diverse set of moral goods, including personal integrity, charity, liberation, and rationality, all of which have venerable histories and cannot be reduced to a single index of utility, because they conflict in some cases.

The above brief and stylized history of philosophical ethics illustrates a few important insights. First, ethics now pertains to problems of human social relationships, rather than to the alignment of human action or human nature with the order of the universe; even religious sects that seek such an alignment face the social ethical problem of managing their relationships with nonbelievers. Second, problems in ethics are unavoidably posed within a historically-situated context. The content of social roles and relationships, and of substantive visions of the good, is formed in time, not for all time. Without a universally-agreed-upon vision for the right order of the world, contemporary ethics must comprehend social situations in which multiple irreducible visions of the good are brought to a given problem by different participants. Ethical pluralism seems likely to be with us for the foreseeable future.

Communicative Action as a Source of Normative Criteria

In light of the fact of pluralism in contemporary ethics, a key problem for ethics becomes “how can we choose a course of action when faced not only with many choices but also with many inconsistent criteria for evaluation?” It is this problem that discourse ethics attempts to solve. Rawls (1971) grounded his ethics in the principles of formal rationality, which he could

argue were normative for decision-making; this attempt to ground universal ethical principles in a form of social justification that seemed taken-for-granted illustrates the form of discourse ethics' grounding in communicative action. Rawls' rationality is vulnerable to Taylor's (1989) critique above, which notes that rationality is only one of many possible normative schemes, as well as to Benhabib (1992). But, discourse ethics uses more generalized deontological criteria that lack the specific vulnerabilities of rationality per se. These criteria derived from the principles of communicative action provide a framework for the normative evaluation of pluralistic claims raised around an ethical problem.

Communicative action is a form of purposive-rational action: it attempts to rationally coordinate purposive action with others by coming to a reasoned agreement about the truth of a statement or of the rightness of a norm (Habermas, 1984: 285). The contrasting form of purposive-rational action, strategic action, describes attempts by individuals to compel acquiescence to their will through coercion, manipulation, or self-interest; Machiavellianism (Christie & Geis, 1970) epitomizes an individual propensity for strategic action. Both forms of action are social, in that they attempt to elicit the actions of others, rather than to simply manipulate the physical environment.

Engagement in communicative action enables the discernment of the empirical or analytical truth of propositions, or the social normative rightness of a norm or a practice. In communicative action, when participants assert the truth or rightness of a statement, they implicitly promise upon request to discursively redeem that statement, that is, provide reasons for believing it which are subject to critique. For statements of propositional truth, these reasons are empirically verifiable facts: a claim that a house is yellow or a rod is bent can be redeemed with photographs or readings from measurement devices. For statements of normative rightness,

these reasons are assertions of the social legitimacy of a practice. Such assertions are not true in the same sense as an objective fact that may be observed, but rather in the analogous sense that they represent a relationship between the meaning of a practice and an agreed-upon normative value; a house will be yellow or a rod bent regardless of whether anyone asserts that they possess those properties, but a practice can only be right when it is so asserted, because rightness is a social evaluation of the legitimacy of a practice. Note that the normative rightness of an assertion cannot be established solely with reference to the subjective experience of a speaker. Such a reference would be a disclosure of a subjective emotional state, the truthfulness of which could be redeemed only through observation of the speaker's actions being consistent with the disclosed state. Rather, assertions of normative rightness are redeemed with reference to other normative principles external to the speaker, that is, a norm or practice is right when it is consistent with other normative principles acknowledged by the participants (Habermas, 1990).

Habermas's (1970; 1979; 1984) conditions of the ideal speech state are based upon the speech act theories of Austin (1962) and Searle (1969). They are concerned primarily with establishing the linguistic possibility of actual agreement, on the basis of not only a common understanding of the forms or classes of speech acts themselves and of the terms and pronouns in use, but also a "complete symmetry in the distribution of assertion and dispute, revelation and concealment, prescription and conformity, among the partners of communication" (Habermas, 1970: 371). That is, participants in a conversation must not only understand what each other mean when they make statements of intention, description, or prescription, but those participants must also be free to contribute those statements to the conversation without constraint, lest agreement be apparent rather than real. Moreover, participants must comply with the norms of the classes of speech acts used so that their speech acts are accepted by their hearers; not only

must they speak truthfully or sincerely, but they must also assume the obligation to provide grounds for their assertions (Habermas, 1979: 65).

Importantly, the fact that a norm is socially recognized does not necessarily imply that it is legitimate. While induction joins particular observations with general principles in theoretical discourse, the non-empirical character of claims to normative rightness requires an analogous principle to establish the validity of a claimed relationship between the legitimacy of a norm or practice and the other principles given to support it. Such a principle can be formulated by combining Kant's insight that a proposed norm must be self-consistent, that is, not prone to self-defeat if generally observed, with a grounding not in the supposed transcendence of pure reason but rather with pragmatic acceptability to the set of people who would be affected by the proposed norm. This principle of universalization (U) for every valid norm is as follows:

All affected can accept the consequences and the side effects its general observance can be anticipated to have for the satisfaction of everyone's interests (and these consequences are preferred to those of known alternative possibilities for regulation) (Habermas, 1990: 65).

The above principle regulates the discursive justification of norms by requiring that they be acceptable, not to a single dominant intellect, but to the actual people affected. Such a principle discriminates among the reasons offered as discursive justification by selecting out those that are self-inconsistent or that fail to establish the legitimacy of the norm in question to other participants. It implies the related principle of discourse ethics (D):

Only those norms can claim to be valid that meet (or could meet) with the approval of all affected in their capacity as participants in a practical discourse (Habermas, 1990: 66).

Together, these two principles summarize the foundations of discourse ethics; (D) states that a norm is only valid when everyone affected by it can approve of it, and (U) states that a valid norm can be provisionally considered universal if and only if the abovementioned

agreement extends to the consequences and side effects of the norm in the event of its general observance. These claims are themselves validated with reference to (U) and (D), so that the rightness of the norm or practice is rigorously established relative to both its internal consistency and its social normative legitimacy to all participants. This form of justification, rooted in pragmatic agreement but formulated to transcend individuals, has been called transcendental-pragmatic with reference to the latter property (Habermas, 1990), and universal-pragmatic (Apel, 1990) with the hope of avoiding the unintended connotations of transcendentalism.

Although (U) and (D) are criteria for determining whether a given norm is valid, they are not the only conditions that need to be met. Alexy (1990) undertook to reconstruct a set of rules of practical discourse logically presupposed by normative communicative action, aided by linguistics and analytic moral philosophy. This reconstruction entailed formalizing the rules without which the conclusions of a given practical moral discourse would be invalid; for instance, participants are not allowed to contradict themselves, nor are they allowed to use terms in a way that varies from other parties' understanding of those same terms. The former violation would defeat the systematic justification of a norm with reference to other norms; the latter would present the appearance of agreement without realizing its substance (Alexy, 1990).

The rule set is divided into six sections, beginning with basic assumptions including the two examples above that are required for a discourse to address questions of correctness or truth. Alexy labels the second section rules of reason, when in fact they are not quite so broad but rather pertain to the justification of claims and the inclusion of all parties to the discourse. The third section governs the burden of argumentation, so that progress toward discursive agreement is not thwarted by disorderly, arbitrary, or bad-faith procedural moves. For instance, indefinite demands for more justifications, without discrediting those already offered, must eventually

terminate with the arbitrary “because!” familiar to the parents of young children, which is no substitute for reasoned agreement. The fourth section summarizes several pure and conditional forms of rational argumentation, to demonstrate that the forms of argument are finite, and that any form of argument used to justify a given norm must presuppose other norms. No form of argumentation can simultaneously justify all norms, just as no empirical test can dispense with all assumptions to simultaneously test an infinite set of hypotheses. The fifth section defines the rules of justification, which are closely related to the principle of universalizability (U). This section also incorporates a historical critical sensibility to require rejection of norms which were once considered justified but in light of new insights can no longer be so; for instance, norms about gender roles that once met with unanimous approval in many groups would be rejected because such approval depends on autonomy-denying socialization into those roles and cannot be justified. This section finally incorporates a Pragmatic sensibility, requiring that “the factually given limits of realizability are to be observed” (Alexy, 1990: 175). The sixth and final section explicitly permits transition to forms of discourse besides practical moral discourse, so that empirical questions of fact, linguistic problems of understanding, and conceptual or procedural problems with discourse itself may be addressed. Alexy’s rules are listed in Table 2.1.

TABLE 2.1
Rules for Practical Discourse

- 1.1 No speaker may contradict himself [sic].
- 1.2 Each speaker may only assert what he himself believes.
- 1.3 Each speaker who applies a predicate F to an object a, must also be prepared to apply F to any other object which is similar to a in all relevant respects.
- 1.4 Different speakers may not use the same expression with different meanings.

- 2 Every speaker must justify what he or she asserts upon request, unless he or she can provide grounds which justify avoiding giving a justification.
 - 2.1 Anyone who can speak may take part in discourse.
 - 2.2a Anyone may render any assertion problematic.
 - 2.2b Anyone may introduce any assertion into the discourse.
 - 2.2c Anyone may express his/her opinions, wishes and needs.
 - 2.3 No speaker may be prevented by constraint within or outside the discourse from making use of his/her rights established in 2.1 and 2.2.

- 3.1 Whoever wishes to treat a person A differently from a person B [in terms of the parameters of their participation in the discourse] is obliged to justify this.
- 3.2 Whoever attacks a statement or norm that is not the object of discussion must provide a reason for doing so.
- 3.3 Whoever has put forward an argument is only committed to further arguments in the case of a counterargument.
- 3.4 Whoever introduces an assertion or a statement concerning his opinions, wishes, or needs into the discourse, which as argument is not related to a previous statement, has to justify upon request why he/she has introduced this assertion or this statement.

- 4 Norms are justified in arguments with the general form:
 - G[round]
 - R[ule]
 -
 - N[norm]
 - 4.1- (These rules define several derivative pure and conditional forms of rational
 - 4.6 argumentation)

- 5.1.1 Everyone must be able to accept the consequences of the rule – presupposed in his normative statements – regarding the satisfaction of the interests of each individual person even for the hypothetical case in which he finds himself in the situation of this person.
- 5.1.2 The consequences of every rule for the satisfaction of the interests of each and every individual must be capable of being accepted by all.
- 5.1.3 Every rule must be openly and universally teachable.
- 5.2.1 The moral rules that form the basis of the moral conceptions of the speakers must be able to withstand scrutiny in a critical, historical genesis. A moral rule does not withstand such scrutiny:
 - (a) if it was indeed originally justifiable rationally but in the meantime has lost its justification, or
 - (b) if it was already originally not justifiable rationally and if no sufficient new reasons for it can be found.
- 5.2.2 The moral rules that form the basis of the moral conceptions of the speakers must be able to withstand the scrutiny of their individual history of emergence. A moral rule does not withstand such scrutiny if it is only accepted on the basis of conditions of socialization that are not acceptable [e.g. that do not permit some participants to join the discourse].
- 5.3 The factually given limits of realizability are to be observed.

- 6.1 It is possible at all times for any speaker to switch to a theoretical (empirical) discourse.
- 6.2 It is possible at all times for any speaker to move to a linguistic-analytical discourse.
- 6.3 It is possible at all times for any speaker to switch to a discourse on discourse theory.

Excerpted from Robert Alexy's A Theory of Legal Argumentation, pages 297-300. Used with the permission of Oxford University Press.

Alexy and Habermas both acknowledge that their rules and principles are largely ideal, and that actual discourse not only fails to adhere to these principles (Alexy, 1990) but may even require procedural rules that conflict with (U) or (D) (Habermas, 1993). Alexy noted that the rules of reason in the second section of his table “especially are only realizable incompletely” (1990: 176), and observed that time constraints and the disproportionate influence of skillful talkers also impinge on actual discourse, and may themselves call for restrictions on discourse in order to preserve the validity of its conclusions. He therefore characterized his rules as an instrument of critique for normative arguments, a hypothetical criterion for the evaluation of normative statements against prospective agreeability, an explication of the claims to correctness or truth that may guide participants preparing for practical discourse, and an ideal to guide the institutionalization of discourses (Alexy, 1990: 179-180).

Importantly, although many of the above rules of practical moral discourse are ideal, their wholesale and intentional violation is antisocial and pathological. Communicative action is essential to social existence, especially in its normative mode: Moral categories are one aspect of the human experience, through which membership in a social community is made possible (Habermas, 1990). If the self is defined in part by relationships with others (Markus & Kitayama, 1991; Mead, 1934), then some protection for the integrity of the self from the strategic actions of others is necessary (Apel, 1990; Habermas, 1990). Communicative action validates the acceptability of norms within a group, while identifying norms that cannot be justified and

that therefore pose a threat to the social integrity of the identities of others. Although strategic action is undeniably part of social life, a social life that is exclusively strategic to the exclusion of communicative action lacks relationships that are anything other than instrumental and temporary, and permits little relational self-definition for its incumbents (Apel, 1990; Habermas, 1990).

Is reasoned moral agreement utopian?

The above discussion of the premises for communicative action may seem so stringent as to raise the question whether discourse ethics in an organizational context may be utopian in a negative sense, in that it is unrealizable. Normative justification on the basis of universal-pragmatic agreement may suffer from a flaw that has been described by Rawls (1993) as that which imposes the burdens of judgment: Moral decision-making requires the ordering, weighing, and interpretation of normative goods, all three of which are highly equivocal activities that are done at least partially on the basis of tacit knowledge if not intuition. Such tacit knowledge and intuition are developed over the course of participants' lives, and are not amenable to formal expression. Even if it is theoretically possible to realize discursive reconciliation of normative evaluations, the limits of human cognition, communication, and patience make such a result practically impossible. Rawls accounts for some proportion of actual disagreement with the following statement: "Perhaps people are often irrational and not very bright, and this mixed with logical errors leads to conflicting opinions" (Rawls, 1993: 55), that is, normative evaluations that are in principle communicable are in practice tacit. Therefore, parties to a moral decision must bear the burdens of judgment, and accept responsibility for making a moral decision in circumstances where differences of normative evaluation cannot be discursively

reconciled (Rawls, 1993). Rawls's argument effectively denies the linguistic expressibility of at least some of the reasons behind people's moral judgments.

Although the problem of the possibility of understanding one another through language is unsettled, other scholars have argued that it is not so daunting as it seems. Habermas observed that the commonly-used example of the untranslatability of expressions between languages in fact illustrates the opposite point: while a given expression may have no direct equivalent in another language, especially given the history and culture within which the languages and expressions are embedded, it is possible to discuss that history and culture, provide analogous examples, and generally describe the ways in which the closest equivalent expression falls short (Habermas, 1993). Although such a remedy is time-consuming and requires not only knowledge of both languages and cultures but also facility in explaining them, it is by no means conceptually impossible. Werhane (1999) also notes the fact that languages are rule-based constructions that can be mastered by anyone who learns their grammar, vocabulary, and cultural connotations; she argues that languages are meta-conceptual schemes that can be not only used but also modified to express conceptual schemes like the ordering of values. The conceptual scheme of a language is not closed to its native speakers, but is rather open to learning and even modification on the part of those who would acquire it. Altogether, while perfect reasoned agreement is almost certainly impossible for all but the simplest moral problems, a modicum of reasoned agreement is also almost certainly possible for many moral problems.

A different class of objection is that of utopianism in the positive sense, in which a laudable ideal becomes the justification and perhaps even the organizing principle for oppression (Apel, 1990). This is the objection that any utopia is in fact a dystopia, because of the necessity of totalizing control and therefore the wholesale violation of autonomy for the maintenance of

the utopian condition. One variation on this theme is the point that, because some set of institutional and procedural restrictions are necessary to realize the actual benefits of open discourse (Alexy, 1989; Habermas, 1990), the set of restrictions imposed in the name of discursive openness may betray that openness (Apel, 1990). Examples of political correctness like the speech codes on many American campuses in the 1990s seem to exemplify this problem, although the vilification to which they have been exposed by the American Civil Liberties Union (1994) and others validates Apel's observation that the principles of open discourse can be used to criticize as well as excuse violations of openness.

There is another important variation on the theme of a discursive dystopia. Scott writes that "the question [of ethics] arises from a limited ethos combined with its universalization, which transgresses its own limits, and its claim to authority over other ethea" (Scott, 1996: 46). Ethics necessarily justifies and pursues some set of norms or values, at the expense of norms or values that are unjustified or unjustifiable within an ethical system. However, the universalization that justification entails risks a kind of tribalism, in which adherents of one ethical system pronounce anathema upon adherents of another system, so that opposition between the two groups becomes normatively grounded (Scott, 1996). Consider Taylor's (1989) aforementioned observation that there are at least four normative systems that are historically venerable and logically consistent, and cannot be reduced to one another: personal integrity, charity, liberation, and rationality. These systems do not coexist easily, and in fact adherents of each of them have argued and sometimes acted against the others. For instance, Marcuse (1964) argued strenuously for liberation and against rationality, noting that rational behavior traps people in collectively-destructive systems of production and consumption, while Friedman (1970) influentially attacked charity in favor of rationality as a wasteful violation of property

rights. Discourse ethics in particular can be construed as a reification of the ethos of rational consensus, which besides excluding justifications that are constitutive of the narrative identities of some participants, also tends to reinforce the influence of the powerful, who are able to marshal more information and better-formed arguments than their less-informed, less-articulate, and less-credible opposition (Lyotard, 1984).

The problem of a discursive dystopia, dominated by powerful parties ready to marshal reams of evidence in favor of their arguments, is relatively easy to answer from the ideal perspective of discourse ethics. According to the principle of discourse ethics (D), a given norm is valid only if it is acceptable to all parties to it (Habermas, 1990). This test of validity does not impose a requirement of adherence to a common ethical system, but rather admits to the discourse whatever systems are subscribed to by participants. Because practical discourse implies intent to reach a reasoned agreement, differing ethical systems need not be completely harmonized, but do need to be either reconciled or disallowed in the limited scope of their interpretive application to the problem at hand (Gunther, 1993). Such interpretive application occurs as participants give reasons for their moral positions, which in turn are critiqued by other participants, until no critiques can be leveled against a reason and that reason is thereby deemed acceptable (Alexy, 1989). Even the rationality of discourse ethics itself may be critiqued (Alexy, 1989). In this way, adherents of a given ethical system grant application to aspects of other systems to which they can raise no objection, but can reject application of aspects of other systems that conflict with their own when there is sufficient interpretive continuity between their system and the offending proposal to ground the objection. No ethos dominates another, except by mutual reasoned agreement.

However, when the limitations of actual discourse are considered, the objections of Scott and Lyotard become more telling. Scott (1996) notes that ordinary language must sometimes be used in extraordinary ways, to comprehend extraordinary problems for which accepted language has not yet been devised, but differences in the understood usage of a given term threaten the analytical and normative validity of the conclusions of the discourse in which the problem of meaning arises (Alexy, 1989). Though Habermas (1993) and Werhane (1999) have both argued that inexpressibility and untranslatability are overemphasized as conceptual problems, these problems become more urgent when participants in a discourse are not aware of a gap in understanding, or lack the patience, verbal skill, or time to make themselves understood (Alexy, 1989). For instance, when Robert Lund presented the objections of Morton-Thiokol's solid-rocket booster engineering staff to the upcoming launch of the Space Shuttle Challenger, his supervisor invited him to "put on your management hat" and rejustify his position (Presidential Commission on the Space Shuttle Challenger Accident, 1986: 93). It should have been possible to do so, but Lund was not able to translate his objections into cost-benefit terms, and he acquiesced.

Scott's (1996) objection that any ethos, including discourse ethics, which makes universal ethical claims may normalize and even demand opposition to other ethea (1996) can take a third form. Discourse ethics is necessarily dismissive of positions that are not amenable to discursive formulation, and especially of insights that are predominantly affective and subjective. These positions and insights are cleanly defined as non-ethical by discourse ethics, leaving their adherents vulnerable to domination by another ethos to the extent that they cannot express their positions in terms of an intersubjective "ought" rather than a subjective "is." If that inexpressibility is a weakness of the participant rather than of their position, it falls under the

limitation described above. However, if that inexpressibility is irresolvable, not for linguistic or temporal reasons but because the position is fundamentally subjective, then discourse ethics will not admit it as a justificatory reason for a normative position (Habermas, 1990). The argument that one's subjective state should compel another person to behave in a certain way can only analytically encompass another person with the tacit intersubjective argument that the other person should care about the subjective state of the first. This distinction between objective truth, intersubjective rightness, and subjective truthfulness is foundational for discourse ethics: a norm can only be justified with reference to a reason external to the individual (Habermas, 1990). Such a clean distinction makes reasoned, intersubjective agreement possible through discourse, but may exclude important subjective and especially affective aspects of the human experience of ethics. This is Scott's objection (1996) applied to discourse ethics in the broadest sense: the limitation that makes the system of discourse ethics possible not only limits its potential to encompass the entirety of the human ethical experience, but also prevents it from transcending its own limitation.

This third objection is no trivial limitation, because for most people actual ethical decision-making is intuitive rather than rational (Sonenshein, 2007). Rational agreement may be profoundly unsatisfying to parties who are unable to verbally account for a strongly-held position, especially if that position is tied to a cherished identity while the agreement challenges that identity. A grudging agreement to a distrusted conclusion is not the strong motivation that discourse ethicists hope for as an outcome of reasoned discourse, and highlights the fact that the whole of the human experience of ethics cannot be subsumed under rational deliberation.

An example illustrates not only the potential for rationality to favor the known over the unknown and the concrete over the intangible, but also the drawbacks of the loss of reasoned

agreement. When the citizens of Clarion County in rural Pennsylvania learned of a plan to build a hazardous-waste incinerator there, they steadfastly refused to engage Concord Resources Group (the developer) or the Pennsylvania Department of Environmental Resources on the Public Participation Committee or in any other form of direct and ordered debate (Welcomer, Gioia, & Kilduff, 2000). Realizing that the scientific evidence against the incinerator's dangers and the economic evidence in favor of its benefits would be rhetorically overwhelming, regardless of the uncertainties or intangibles excluded from the discourse, local activists instead engaged in a campaign of intimidation: they met company representatives with angry and vocal mobs, sent salvos of emotional letters to the editors at local newspapers, insistently labeled Concord's data as propaganda, publicly vilified Concord and anyone supporting a rational public discourse, and threatened violence against their opposition (Welcomer, Gioia, & Kilduff, 2000). Concord Resources Group eventually abandoned its plans, leaving economic development unrealized and a toxic-waste problem unsolved; whether the town and county of Clarion is better off is unknown.

Discourse ethics in the management literature

Discourse ethics has been used to critique the use of power to exclude interested parties from management discourse, and to highlight the need and possibility for open and rational discourse about the means and ends of business. The managerialism of management as an academic discipline (Steffy & Grimes, 1986) and of strategy as a management practice (Alvesson & Willmott, 1995; Scherer & Dowling, 1995; Shrivastava, 1986) have drawn discourse ethicists' attention on the basis of the power wielded to constrain discourse so as to preserve the legitimacy of both enterprises. Deetz (1995) and Smith (2004) have proposed the

alteration of stakeholder engagement to facilitate more participatory discourse in strategic decision-making, and thereby to better realize the communicative dimension of business as a community of interdependent people. Palazzo and Scherer (2006) and Scherer and Palazzo (2007) have outlined the possibility of organizational participation in deliberative democracy, such that strategic and competitive economic rationality is domesticated by the power of the law and of the state, and informed by the participation of all stakeholders; this does not assume the satisfaction of all the conditions of ideal speech. In light of Habermas' focus on deliberative democracy since publication of *Between Facts and Norms* (1996), the focus of discourse ethicists on problems of stakeholder management and of the organization's place in a democratic society is unsurprising: discourse ethics is useful for highlighting the exclusion of affected parties from decisions, and for structuring deliberation between parties that subscribe to different values.

However, the social coordination and validation of normative decisions at whatever level they occur, including that of the small group or the line manager, has not been a focus of prior research. These decisions should be amenable to both conceptual and empirical evaluation according to the criteria of reasoned moral agreement, because small groups are communicative communities as well (Forester, 2003).

Implications of the discourse ethics literature for moral openness

The foregoing brief review of the discourse ethics literature illustrates a few points. First, contemporary ethics pertains to the legitimacy of historically-situated social relationships, and must therefore come to terms with pluralism. Second, communicative action provides a pragmatic model for evaluating the normative merit of maxims, rules, practices, or other formulations of moral norms that have been problematized. Third, the moral discourse in which

communicative action occurs is subject to a set of ideal rules that are presupposed in order for the conclusions of the discourse (i.e. the norms that the participants agree upon) to be valid; although these rules are not completely realized in practice, greater realization of them lends greater validity to a discourse's conclusions, while wholesale and intentional violation of them not only damages validity claims but reveals the antisociality of the violator. Finally, although the possibility of reasoned moral agreement may seem utopian, especially in light of the stringency of the ideal rules of discourse, reasoned agreement is not conceptually impossible, nor is an ideal vision of it necessarily oppressive.

Importantly, the ideal terms of moral discourse point the way toward a theoretical description of moral openness in work groups. Quite aside from the normative validity of actual discourse, it is valuable to understand how actual people attempt to come to a reasoned agreement about a problem with some ethical content, and the conceptual resources of discourse ethics identify a number of aspects of discourse that may well be salient to participants' own perceptions about the openness and therefore the validity of their conversation. It is therefore interesting to systematically measure the openness of moral discourse, and relate it to other empirical consequences.

CHAPTER III

THEORETICAL FRAMEWORK AND HYPOTHESES

Business decision-makers face difficult ethical decisions, often in a pluralistic context where their choice must be threaded among competing values (Treviño & Brown, 2004). Moreover, attempts to control ethical behavior from above using technical or bureaucratic means may risk arousing resistance from employees, or damaging their adaptability to local problems (Stansbury & Barry, 2007). The problem of reaching agreement about the right thing to do is a real one in business organizations, for front-line employees as well as top managers.

Discourse ethics provides a set of principles for making such choices, together with the people who will be affected by the decision. However, as noted in the foregoing literature review, the ideal discursive conditions for normative validity are not realizable in actual discourse. I will first argue that all moral discourse can be ranged along a continuum of moral openness, from the slogans obediently mouthed in total institutions to the probing inquiries of ideal speech. Moreover, moral openness climate can be characterized as the prevailing perceptions of work group members about the openness of moral discourses in their groups in general. I will next argue that moral openness climate is likely to be negatively predicted by machiavellianism (Christie & Geis, 1970), and is likely to have discriminant validity from participative decision-making (Arnold, Arad, Rhoades, & Drasgow, 2000) and respectful interaction (Vogus, 2004). Moral openness climate is also likely to predict the mean moral satisfaction (a measure of the degree to which a group member's concerns about a problem have been addressed) among members of a work group. I will then argue that increasing moral

openness climate is difficult and costly for participants, and only results in greater mean satisfaction when contention over the decisions faced by the group is proportional to the moral openness climate. I will finally argue that a work group climate favorable to open moral discourse will increase members' perceptions of collective moral motivation and collective moral character, that is, perceptions of their shared propensity to follow through on the decisions made and persist in the face of resistance (Arnaud, 2006). These in turn will result in higher mean moral satisfaction among members of a given work group.

Moral Openness in Work Group Discourses

Moral discourse in work groups may vary in its openness, to the extent that artificial limits are imposed on the comparison and criticism of proposed norms and the reasons for them. Artificial limits raise the possibility that agreement on a norm may be contrived, resulting from some procedural advantage held by a party to the conversation rather than from the robustness of the reasons given for that norm. Discourse theorists have accordingly formulated a set of ideal principles of valid moral discourse, as described in the foregoing literature review. Moral openness is the degree to which an actual discourse adheres to the ideal principles of a valid moral discourse.

For this project, I am particularly interested in conceptualizing moral openness climate. A climate construct describes the shared perceptions of employees within a group about the behaviors that are typical to their group with regard to a certain domain. Climate does not incorporate attitudes or affective evaluations, and in fact survey instruments intended to measure climate must be carefully designed to exclude such evaluations. Rather, climate represents the

internalized expectations of the group that are accrued through socialization and vicarious learning; it describes the content of one section of the role system that the individual masters through acquisition of the generalized other (Ashforth, 1985; Schneider & Reichers, 1983). These roles are social facts that are in force whether or not participants evaluate them favorably.

Why study moral openness climate instead of moral openness as a property of specific discourses? Because within work groups, I expected to find continuity across moral discourses due to learned, shared assumptions about how such discourses are held. Although there can be variation between discourses, ambiguous and meaning-laden social activities such as these are typically occasions for structuration (Giddens, 1984) where past patterns are reenacted with slight modifications rather than reinvented anew. Whereas examining moral discourses individually for newly constituted groups may be a valid investigation, I would expect moral discourses in established groups to be instantiations of those groups' moral openness climates. Therefore it is important to study those climates directly.

I expected moral openness to be comprised of five conceptually distinct dimensions. These dimensions have been defined in order to reflect the validity of the group's typical discourses for reaching discursively valid conclusions; their relationship to the rules of valid practical discourse in Table 2.1 will become clear in their descriptions below. Operationalization of these dimensions is discussed in the following chapter on methods.

The first dimension of moral openness climate is participation. If a discourse does not include all affected parties, then the validity of its conclusions does not extend to those excluded parties (Alexy, 1990; Benhabib, 1992). Moreover, some participation may be suppressed by the organization's status hierarchy if employees fear the consequences of speaking up or believe that

their input is irrelevant to management's better-informed decisions (Morrison & Milliken, 2000). If a group typically suppresses some participation, its moral openness climate will be lower.

The second dimension of moral openness climate is agreed closure, which I later simplified to "closure" in the field studies. Under temporal and cognitive constraints, discourse must be governed by procedural rules (Alexy, 1990; Habermas, 1993) that enable its closure, in order for conclusions to be reached and action to be taken. However, the only closure that is internal to the logic of the discourse is that of collective agreement that the norms justified in the discourse can be agreed to by all participants (Benhabib, 1992; Habermas, 1990). Because objections can conceivably be raised indefinitely, some discourses may have no logical end (Benhabib, 1992), although craven demands for additional justifications or off-topic digressions may be ruled out (Alexy, 1990: see Table 2.1). Therefore, discourse must eventually be concluded according to the judgment of participants, which may be arbitrary and unacceptable to some. Both premature closure and digressive elaboration detract from the validity of the discourse's conclusions (see Table 2.1); if a group's discourse is typified by either problem, it will experience lower moral openness climate.

The third dimension of moral openness climate is commitment to understanding. Discourse theory assumes that participants are committed to pursuing collective agreement solely through the force of the best argument (Alexy, 1990; Habermas, 1990). Unfortunately, status games and power plays are not uncommon in moral discourse (Badaracco, 2002; Bird & Waters, 1989). When some participants engage in deception or status games, the validity of the discourse's conclusions is biased, because agreement is reached on the basis of rewards or coercion rather than on the basis of reasoned assent to the reasons given in discussion. If a

group's discourse is typified by such strategic action, it will experience lower moral openness climate.

The fourth dimension of moral openness climate is procedural equity. Moral discourse is vulnerable to domination by parties who are skilled at argumentation (Alexy, 1990; Habermas, 1993) at the expense of those who have difficulty expressing and arguing their points (Benhabib, 1992). It is also vulnerable to domination by parties who have the time and inclination to engage in the process (Alexy, 1990): some participants that neither forestall closure nor act strategically may simply be better able to bear the costs of the discourse than their opponents. If these parties forge the discourse's conclusions by default when their opponents forfeit their positions, those conclusions are analytically biased. If this procedural dominance is typical for a group, it will experience lower moral openness climate.

The final dimension of moral openness climate is logical reasoning, which I later simplified to "logic" in the field studies. As discussed above, much organizational decision-making is narrative in form, but discourse theory ideally assumes a form of discourse characterized by formal argumentation (Alexy, 1990). Therefore, this dimension assesses the degree of narrativity versus argumentation that characterizes a group's discourses. I expected that some groups will be more experienced with and / or more comfortable with argumentative discourse, and because of the greater precision and consistency of the conclusions that such discourse affords, their moral openness climate will be higher.

Discriminant and Construct Validity

Having described the dimensions of moral openness climate, I will now specify some hypotheses pertaining to its discriminant and construct validity. Discriminant validity is determined by demonstrating that a construct is empirically distinguishable from another construct that it is conceptually distinct from (Hinkin, 1998). Construct validity is supported when a construct relates in expected ways to other constructs (Hinkin, 1998).

I attempt in this project to establish discriminant validity with respect to respectful interaction (Vogus, 2004) and participatory decision-making (Arnold et al., 2000). Respectful interaction is the degree to which individuals are willing to avoid self-censoring their own contributions to discourse and to refrain from critiquing others (Vogus, 2004); I expected moral openness climate and respectful interaction to be highly correlated but distinct, particularly because moral openness climate incorporates an assessment of the logic of the discourse, while respectful interaction does not. Similarly, participative decision-making is employees' perception that their manager accepts their participation (Arnold, Arad, Rhoades, & Drasgow, 2000); because moral openness climate measures employees' perception that their entire work group accepts their participation, eschews premature closure, refrains from the manipulative use of power, and discusses the matter at hand in a logical manner, I expected moral openness climate and participative decision-making to be correlated but distinct. Therefore, I propose the following hypotheses:

H1a: Moral openness climate is distinct from respectful interaction.

H1b: Moral openness climate is distinct from participatory decision making.

Valid moral discourse requires that group members give reasons for their proposed norms, or critique the reasons given for norms that they would reject. High moral openness climate is characterized by open participation and logical reasoning. However, individuals who score highly on Christie & Geis' scale of Machiavellianism (Christie & Geis, 1970) are likely to subvert these behaviors, especially through strategic action, and therefore to hinder moral discourse. Moreover, because managers have a disproportionate influence upon the ethical context in a work group (Brown, Trevino, & Harrison, 2005), I expected that work groups managed by individuals who score highly on machiavellianism (Christie & Geis, 1970) would have low moral openness climate. Therefore, I propose the following hypothesis to provide an initial test of the construct validity of moral openness climate.

H1c: The machiavellianism of a group's manager is negatively related to moral openness climate.

Moral Satisfaction as a Consequence of Moral Openness and Contention

In order to further test the construct validity of moral openness climate, I theorized another outcome that I have called moral satisfaction. Moral satisfaction is an attitudinal measure of a given participant's assessment of the acceptability of moral decisions made by the group. It is closely related to Habermas' principle of universalization (U): "All affected [by a given norm] can accept the consequences and the side effects its general observance can be anticipated to have for the satisfaction of everyone's interests (and these consequences are preferred to those of known alternative possibilities for regulation)" (Habermas, 1990: 65).

Under ideal conditions, I would expect more rigorous adherence to the rules of practical discourse (i.e. higher moral openness climate) to lead to greater moral satisfaction with the outcomes, because unsatisfactory outcomes would be identified and discussed, and because more thorough and reasonable discourses should lead all participants to conclude that the decisions reached are acceptable. Low mean moral satisfaction among members of a group would indicate that issues at hand have not been consensually resolved.

However, a high degree of moral satisfaction does not necessarily imply that a decision is morally excellent; it is always possible that a group that realizes high moral satisfaction as a matter of perception does not recognize some important moral shortcoming (Rorty, 2006), perhaps all the more so if that satisfaction stymies further discourse. Moral satisfaction is a perception, not necessarily an indicator of actual normative validity.

Moreover, rigorous and open moral argumentation entails several of the costs noted in the literature review above: the time and effort required for open discourse, a loss of influence for participants who lack skill in formalizing their arguments, and the reduction of cherished values or senses of self to defensible propositions. Moreover, some employees may fear that a more open moral discourse will entail more stringent controls on their own actions. Therefore, it is plausible that in practice a higher moral openness climate will have a negative effect on the mean moral satisfaction of group members. Accordingly, I have formulated the following hypothesis:

H2a: Moral openness climate will be negatively related to the mean moral satisfaction of group members.

To better analyze this uncertain relationship between moral openness climate and moral satisfaction, I have also theorized a moderator, which I have called contention. Contention is a climate perception of the moral intensity (Jones, 1991) that a group encounters in its decisions,

despite the premise controls (Perrow, 1986) or techniques of neutralization (Sykes & Matza, 1957) that may limit the perceptions of moral intensity for some decisions. More directly, it is the collective realization that the group's activities are morally problematic. Not all actions are subjects of moral contention. For example, drinking coffee at one's desk is unproblematic as long as the building manager enforces no prohibition against it, as long as the Fair Trade, organic, or shade grown origin of the beans is unimportant, and as long as no condemnation attaches to the use of a Styrofoam cup instead of a ceramic mug. However, any of these aspects of routine coffee drinking can be made contentious: a rejected 2002 ballot initiative in Berkeley, California proposed prohibiting the sale of brewed coffee that had not been certified Fair Trade, organic, or shade grown (Burrell, 2002). As the Berkeley coffee initiative demonstrates, even relatively trivial matters can be made into subjects of moral contention, while the long history of Jim Crow laws prior to the Montgomery bus boycott demonstrates that morally nontrivial matters can also be the subjects of remarkably little contention. Some groups engage in activities that have a powerful, concentrated, certain, and meaningful impact on many people that they know, while others have no such influence; some fail to recognize the impact they have, either because they have not considered their influence, or because they intentionally ignore their impacts. In practice I would expect contention to have a negative effect on moral satisfaction.

Accordingly, I have formulated the following hypothesis:

H2b: Contention will be negatively related to the mean moral satisfaction of group members.

However, the interaction between moral openness climate and contention is very important. Greater contention will magnify participants' senses of the scope of the problems at hand, and enhance their appreciation of greater moral openness climate for solving those

problems. This appreciation should result in a higher degree of moral satisfaction for a given level of moral openness climate than would otherwise be the case. That is, low moral openness climate with low contention would result in high moral satisfaction, because participants recognize little to be dissatisfied with. High moral openness climate with high contention would also result in high moral satisfaction, because participants recognize that difficult moral problems are being resolved openly. But high moral openness climate with low contention would result in low satisfaction, because the effort and abstraction of moral discourse would be disproportionate to the problems at hand; similarly, high contention with low moral openness climate would also result in low satisfaction, because the problems at hand would be treated without reasoned agreement. Accordingly, I have formulated the following hypotheses:

H2c: Contention will positively moderate the relationship of moral openness climate to the mean moral satisfaction of group members.

Moral Motivation and Moral Character

Habermas's theory of communicative action does not merely ground discourse ethics in principles of reasoned agreement, but also entails a theory of moral motivation. The theory of communicative action is defined as a social form of purposive rational action, that is, it is a way of coordinating actions with others, and works through reasoned agreement about the truth of propositions or the rightness of norms (Habermas, 1984). Habermas subsequently argues that norms established through moral discourse have a social compulsive power that exceeds that of abstract ethical standards, because adherence to them has been shown to be consistent with one's

identity as a member of the group (Habermas, 1990 & 1993); flouting them introduces inconsistency into one's self-construction.

The literature on dyadic influence is not inconsistent with Habermas's theory. Yukl and various co-authors have consistently found that consultation, (i.e. seeking and incorporating the participation of affected individuals in a decision), and rational persuasion, (i.e. using logical arguments and factual evidence to persuade the target of the viability and instrumentality of a request), are among the most-used and most-successful tactics for influencing managers, co-workers, and subordinates (Falbe & Yukl, 1992; Yukl & Falbe, 1990; Yukl & Tracey, 1992).

Moreover, moral motivation is an existing construct in the moral psychology literature. Rest (1986; also Narvaez et al., 1999) characterized moral decision-making as entailing four separate schemas: Moral sensitivity, in which the existence of a problem is noted; moral judgment, in which the parameters of the problem are evaluated against ethical principles; moral motivation, in which the decision-maker decides whether to follow through on the conclusions of moral judgment; and moral character, in which the decision-maker perseveres with the conclusions of moral judgment despite opposition or setbacks. Recently, Arnaud has extended this model to describe moral decision-making at a group level, and both formulated and validated climate measures of collective moral sensitivity, collective moral judgment, collective moral motivation, and collective moral character that describe the group's ability to execute the four schemas (Arnaud, 2006).

I expect that increasing moral openness climate predicts both increasing collective moral motivation and increasing collective moral character, because of Habermas' characterization of communicative action as an activity intended to rationally and purposefully coordinate social

action, and due to the similarity of communicative action to rational and consultative persuasion.

Accordingly, I have formulated the following hypotheses:

H3a: Moral openness climate will positively predict collective moral motivation.

H3b: Moral openness climate will positively predict collective moral character.

I also expect that collective moral motivation and collective moral character will positively predict a group's mean moral satisfaction, because decisions for which motivation and follow-through are weak are likely to be unsatisfactory in retrospect. Note that because the outcome of interest is a group-level climate variable, it is necessary to aggregate individual measures of moral satisfaction to a group level as well. Accordingly, I have formulated the following hypotheses:

H3c: Collective moral motivation will positively predict a group's mean moral satisfaction.

H3d: Collective moral character will positively predict a group's mean moral satisfaction.

CHAPTER IV

METHODOLOGY

I intended to develop and validate a multidimensional survey scale of moral openness climate, along with unidimensional survey scales of contention and moral satisfaction. I began with a set of ten semi-structured interviews among bank tellers in Middle Tennessee, in order to qualitatively ascertain whether businesspeople in a line or line-management role perceived moral equivocality, moral discourse, or elements of moral openness. Preliminary survey items were formulated based on the conceptual framework described above; note that this approach is recommended by both Hinkin (1998) and Spector (1992), although the former labels it “deductive” and the latter “inductive.” The second study assessed the substantive validity (i.e. how well a given measure reflects its construct of interest, using a small-sample item-sort pretest (Anderson & Gerbing, 1991)) of three iterated versions of the survey instruments for moral openness climate, contention, and moral satisfaction. The third study employed exploratory factor analysis (EFA) to examine the dimensionality of the moral openness climate construct, and to eliminate survey items that did not load significantly on any factor (Hinkin, 1998). This data set was subsequently used to select survey items that together had more than adequate reliability, as measured by a Cronbach’s Alpha of no less than 0.70 (DeVellis, 2003; Nunnally & Bernstein, 1994; Spector, 1992) for each scale dimension. The fourth study entailed several tests for construct validity. I expected to find discriminant validity between individual-level perceptions of moral openness climate and respectful interaction (Vogus, 2004), and between individual-level perceptions of moral openness climate and the participative decision-making

subscale of the empowering leadership questionnaire (Arnold, Arad, Rhoades, & Drasgow, 2000). I expected to find that higher manager measures of Machiavellianism (Christie & Geis, 1970) predict lower moral openness climate at a group level. I expected to find that a work group's contention moderates the relationship between that group's moral openness climate and that group's average moral satisfaction. Finally, I expected to find that a group's higher moral openness climate predicts higher collective moral motivation and collective moral character (Arnaud, 2006) for the group, which in turn predicts higher average moral satisfaction for the same group.

Semi-Structured Interviews

In order to determine whether line and line-management businesspeople experience moral equivocality, moral discourse, or elements of moral openness at work, I conducted ten semi-structured interviews with bank tellers, "desk side" (i.e. non-teller) customer service specialists, and branch managers at a retail bank in Middle Tennessee. This exploratory study was intended to determine whether the intended topics and constructs were problematic enough for potential participants to be worthy of study, but not to provide an inductive foundation for theory building. Therefore, neither structured interviews nor unstructured interviews would have been appropriate; the former would have been too constrained by protocol to allow participants' perceptions to emerge if those perceptions did not fit the terms of the protocol, while the latter would have been unwieldy to conduct and interpret, especially in light of the sensitive nature of the subject matter (Legard, Keegan, & Ward, 2003; Rapley, 2004). Instead, I used semi-structured interviews, which utilize a set of predefined questions that facilitate content mapping

(Legard, Keegan, & Ward, 2003) but allow the researcher to ask probing follow-up questions as appropriate to elicit additional detail, i.e. content mining (Legard, Keegan, & Ward, 2003). The interview instrument is in Appendix A.

Item Development

The preliminary set of survey items were written to substantially cover the constructs of contention, moral openness climate, and moral satisfaction, as described above. Five separate dimensions of moral openness climate had preliminary subscale items written: participation, agreed closure, commitment to understanding, procedural equity, and logical reasoning. Items were intended to represent the breadth of the definition of each construct or dimension (Hinkin, 1998), and were intended to be redundant in order to facilitate standard measures of reliability (Spector, 1992). Some items were worded so that disagreement is an indication of high levels of the construct, while others have been worded so that agreement is such an indication; this reverse-coding of some items was intended to counteract the tendency of some respondents to agree with all items (DeVellis, 2003). However, introduction of negation (e.g. “not”) was intentionally avoided except where it was colloquially typical, in order to limit the potential for scale items to be misread (DeVellis, 2003). Finally, more items were included than were likely to be incorporated into the actual survey scales, so that between half and two-thirds of the items could be eliminated in the item selection activity of study two. This was expected to lead to scales and subscales that were between five and seven items long, although some relatively simple constructs or dimensions may be as short as three or four items (Hinkin, 1998).

Substantive Validity Pretest

Many authors recommend validating survey items with experts on their content before administering them to subjects (DeVellis, 2003; Hinkin, 1998; Spector, 1992). For clarity of wording, I obtained feedback on the preliminary survey questionnaire from another scholar at Vanderbilt who was knowledgeable about survey research, and from three managers at the Middle Tennessee bank that participated in my studies. I also pre-tested the scale using the method recommended by Anderson & Gerbing (1991) and endorsed by Hinkin (1998). Participants from the Vanderbilt eLab were given definitions of constructs (or dimensions thereof) written in everyday language, and asked to assign each survey item to only one of the constructs. This exercise assessed whether the items could be reasonably expected to load onto the intended dimensions when EFA was performed on a subsequent sample, and was intended to provide advance warning of constructs or items that lack clear definition, thereby reducing the risk that the larger second study would return inconclusive results. The Vanderbilt eLab is an online panel of individuals who have volunteered to complete surveys and experiments on a variety of topics; the panel is comprised of over 20,000 demographically diverse individuals around the world, who typically participate in a given survey in exchange for entry into a drawing for \$100 whose odds are 100-to-1. I offered the typical inducement to participants who worked for North American organizations with at least five employees. The demographic and geographic diversity of eLab panelists facilitates a broader test of item reliability than a sample of respondents drawn from any single organization.

Anderson & Gerbing (1991) recommend pre-testing a given scale on a sample of no fewer than 20 participants who are similar to the population to be studied. Anderson & Gerbing

first describe the Proportion of Substantive Agreement, or PSA, which is the proportion of respondents who assign a given item to the construct intended by the researcher, that is, $PSA = N_c / N$. They next describe the Coefficient of Substantive Validity, or CSV, which incorporates the highest number of assignments to a non-intended construct, or N_o . The formula for CSV is $(N_c - N_o) / N$. Note that these are not simple measures of inter-rater agreement, which do not discriminate between factors, but rather are measures of whether raters assign a given survey item to the factor that I intended it to measure. A critical value for CSV can be obtained through the technique described by Anderson & Gerbing (1991): first, the critical number of assignments M is found for which the probability of N_c exceeding M is less than .05 (using the binomial distribution), given a particular sample size. Then, the critical CSV is equal to $(2M/N)-1$. If CSV exceeds this critical value, then I can have 95% confidence that an EFA on a subsequent sample will load my survey items on the intended constructs or dimensions. Items for which CSV does not exceed the critical value are excellent candidates for preliminary deletion. Subscales for which few items exceed the critical value may require either redevelopment of a new item set, or conceptual reconsideration as part of moral openness climate. I intended to conduct this pre-test on a random sample of 100 employees from my sponsoring organization, so that an expected response rate of 20% would meet the 20-participant threshold. However, that organization withdrew from the study in August of 2007. Instead, I used participants from the Vanderbilt eLab who were employed in North American organizations.

One important advantage of running a small-sample pretest of substantive validity is that revisions to the preliminary scales can be readily re-tested, while scales for which EFA does not result in clean (or intended) loadings require revision and re-testing on much larger samples. I ran three pre-tests in October, November, and December of 2007 using separate eLab samples of

22, 30, and 26 participants each, and iteratively refined the survey items. This iterative scale re-development was more expedient and inexpensive than doing so with the sample sizes needed for EFA.

Scale Development Study

A third study conducted item selection and EFA on a sample of 604 eLab panelists, which exceeded the recommended minimum of 150 respondents needed for EFA (DeVellis, 2003). Because these studies are concerned with the reliability of the survey scales rather than with the interrelationship of climate constructs, they can be conducted on individual-level responses sampled from the population of interest (in this case, North Americans who work in organizations) without concern for aggregation. In addition to the set of questionnaire items selected in the second study, the surveys in this study incorporated questions on a set of typical control variables: the respondent's age, gender, occupation, and years of schooling completed.

Several authors recommend conducting an EFA on an initial sample of survey respondents (e.g. DeVellis, 2003; Hinkin, 1998; Spector, 1992). An EFA does not constrain the resulting factor model, but rather assumes that all items are related to all factors; therefore, if the EFA independently produces a factor structure that corresponds to the intended dimensionality of the survey scales confirmed in the substantive validity pretest, that result is a strong indication of the reliability of those dimensions. If the factor structure produced by EFA does not match the intended dimensionality of the survey scales, then either the item set or more likely the a priori factor structure will require redevelopment.

Item selection proceeded through multiple iterations of evaluation against Cronbach's Alpha. Cronbach's Alpha is a common measure of the internal reliability of a scale, that is, how much the items in a scale covary (Spector, 1992). Reliability analysis using the SPSS software package can show what Cronbach's Alpha would be after the removal of each item; items can then be removed if their removal results in a higher Alpha than the scale currently shows. Once a set of items is removed, the analysis is repeated, and the set of items again culled, until no further removals can increase the Alpha of the scale (Spector, 1992). However, this process is not deterministic: some items may be retained because they represent an important aspect of the construct's domain. Acceptable internal reliabilities are higher than 0.70; however, it is advisable to develop scales that have higher reliability, so that if the scales' reliability diminishes on other samples it is still acceptable (DeVellis, 2003).

Construct Validity Study

The final study was intended to assess the construct validity of contention, moral openness climate, and moral satisfaction. Because construct validity requires that the constructs measured by the scales be empirically shown to be related to other known constructs in a manner consistent with their theoretical definition (DeVellis, 2003; Hinkin, 1998), it was important to sample work groups as such; this facilitated the testing of relationships between climate constructs. Therefore, I surveyed work groups within actual organizations in seven states and a variety of industries.

Testing these relationships between climate constructs, at a work group unit of analysis, requires testing the aggregation of each construct, that is, establishing that members of each

group report similar scores for a given measure, and that within-group variance is less than between-group variance. Four tests are commonly used to assess aggregation: median $r_{wg(j)}$, which measures within-group agreement (James, Demaree, & Wolf, 1984); the F-statistic from a one-way ANOVA, which measures non-independence among observations at a group level (Kenny & Judd, 1986); and intraclass correlation coefficients ICC(1) and ICC(2), which measure between-group variability (Bliese, 2000). Acceptable thresholds for the above measures are .70 for $r_{wg(j)}$ (James et al., 1984), a significant F-statistic, .05 and above for ICC(1) (Bliese, 2000), and .70 for ICC(2).

For assessing discriminant validity, the fourth study incorporated two survey scales that have been developed by other researchers: respectful interaction (Vogus, 2004) and participatory decision-making (Arnold, Arad, Rhoades, & Drasgow, 2000). These scales measure constructs that are similar to moral openness climate, but are not congruent with it. Therefore, according to Hypotheses 1a and 1b, I expected EFA run with these scales not to incorporate their items into the moral openness climate scales with significant loadings. I also expected these scales to differentially predict the outcomes that I thought would be associated with moral openness.

Construct validity was assessed through tests of the above hypotheses describing the expected relationships among constructs. First, I tested the expected negative relationship between manager machiavellianism and moral openness climate described in Hypothesis 1c. I incorporated Christie & Geis' (1970) scale into the manager survey for Study Three, and then used ordinary least-squares regression to test for a negative and significant group-level relationship between machiavellianism and moral openness climate. Confirmation of this relationship would lend further credence to the moral openness climate scale as characterizing a state of open moral discourse.

Next I attempted to test the expected relationships between contention, moral openness climate, and moral satisfaction summarized in Hypotheses 2a, 2b, and 2c. Because moral satisfaction was measured in a temporally separate survey from moral openness climate to control for common method bias, and therefore individual-level correspondence was not available, it was necessary to test this relationship at the group level by averaging these variables within their groups and then conducting ordinary least-squares (OLS) regression on the relationships between them. Significant and directionally correct regression coefficients would disconfirm the null hypotheses in each case, and provide evidence of a theoretically expected relationship between constructs.

Last, I tested the relationship between moral openness climate and both collective moral motivation (CMM) and collective moral character (CMC), described in Hypotheses 3a and 3b, as well as the relationships between CMM and CMC and moral satisfaction described in Hypotheses 3c and 3d. In his theorization of discourse ethics, Habermas (1993) has argued that valid moral discourse lends social force to the motivation to comply with the conclusions reached. Confirmation of a positive relationship would lend credence to the claim that the scale measuring moral openness climate represents the discursive construct that Habermas theorized. Arnaud (2006) has developed climate survey scales that measure the four parts of Rest's (1986) model of moral decision-making at a group level; I used her subscales for CMM and CMC from her Ethical Climate Index in Study 3. An OLS regression should find a significant relationship between moral openness climate and both CMM and CMC, while a different regression should find a significant relationship between CMM and CMC and mean moral satisfaction, as previously hypothesized.

Altogether, if the scales for contention, moral openness climate, and moral satisfaction are found to be reliable through multiple quantitative tests on multiple data sets, and are also found to have discriminant validity relative to similar scales and construct validity with respect to the theoretically expected antecedent and consequence detailed above, as well as in their own interrelationships, then it is reasonable to argue that these constructs are useful for further research.

CHAPTER V

RESULTS

Study One: Semi-Structured Interviews

Beginning in February 2007, I contacted a Senior Vice President of Human Resources at a regional bank in the Southeastern United States, through three degrees of separation in my personal network, to ask permission to conduct research on moral openness. I noted that bank branches are excellent places to study organizational climates of any type, because of their task interdependency, their relatively small size, and their geographic separation (Schneider, Salvaggio, & Subirats, 2002). My topic coincided with an interest on the part of senior HR leadership there in the effectiveness of their own organizational development program, and that VP introduced me to a junior VP in metropolitan Nashville who arranged a set of interviews. I agreed to provide a synopsis of my interview findings, cleansed of all personally-identifying information, to my study sponsors in the bank's management, in return for access to ten employees at different branches throughout the metropolitan area.

The study described below occurred in June, 2007 among bank branches in metropolitan Nashville. Its purpose was to compare the actual experiences of front-line employees with a theoretical model of moral openness. Ten employees answered questions about situations in which they were unsure about "the right thing to do," and about the propensities of the staff of their respective branches to talk with each other to determine an appropriate course of action.

Findings

Participants reported frequent and even daily situations in which they were uncertain of the right course of action, pertaining mostly to exceptional customer transactions, but sometimes to erratic or threatening customer behavior, and occasionally to the behavior of other employees. Typical incidents involved customers who wanted to cash checks with insufficient, improper, or expired identification, or who were unable to conduct their transaction at the indoor teller window because of a physical disability.

- *“Banking rules are always changing and so you’re always trying to learn what’s right, what’s wrong, when can you do this, when can you do that, and a lot of things, believe it or not, depend on the relationship with the customer.”*
- *“Here, there’s a lot of gray areas. There’s no real policies on a lot of stuff. He bent the rules on this one, you bend the rules on that one.”*
- *“When you’re dealing with people, you just don’t know what’s going to happen from one moment to another. And more so if you’re dealing with people and money, that can be even trickier.”*
- *“It happens every day. And even the person who’s been here 30 years, she’s, even at times, she’s had to ask ‘what do we do? How should we handle this situation?’”*

Participants revealed varying degrees of moral awareness, from a rudimentary level informed primarily by rules and procedures, to advanced levels of empathy and perceptiveness that identified incipient issues and their resolutions. For example, many customers who ask for exceptional transactions like wire transfers to an overseas account fall prey to mail fraud; some staff feel obligated to advise those customers of the risk that they are taking in responding to such solicitations. Many staff were very attentive to the quality of the interpersonal connection that they made with customers, and took great pride in the unflinching tactfulness with which they treated even customers who pressured them to complete invalid transactions; these staff perceive both a personal virtue of their own and a competitive advantage for their employer in treating customers in a caring manner. However, the need to demonstrate care existed in tension with the need to adhere to policies and controls, and some of the staff had developed elaborate and

nuanced techniques for firmly and tactfully detecting potential fraud, for resisting manipulation, and for tactfully turning down invalid customer requests. Most staff described a refined perception of normality whose violation heightened their attention to “red flags” for potential fraud; staff were attuned to both their own feelings of discomfort and objective indicators of risk.

- *“If somebody truly is disabled, we have had some exceptions like that. As a matter of fact, I think you should make those exceptions, because that's what's going to set you apart from someone who doesn't make those exceptions as far as customer service is concerned.”*
- *“I would rather look at a customer and say ‘Sir, you know what, I’m not sure I can take care of this problem for you today, but let me see what we can do to get it taken care of. I want to help you.’”*
- *“A lot of elderly people happen to be victimized by a lot of scams that are going around, wanting to wire money to South Africa when you know they don’t have any relationships in South Africa . . . you try to make sure that they're not trying to send their money out, and then it's gone, bye-bye.It's kind of a little bit going beyond, I guess, we shouldn't get involved with. But, on a personal level, you want to be sure that they're not getting ripped off. And some of them when they hear about it say ‘Take it away. Shred it for me.’”*
- *“You learn how to read people, you learn how to make a decision whether I go over and tell [Name] on the corner ‘hey, you need to be careful with that customer, just watch what you’re doing’ because you learn to read their reactions. When they’re like ‘I don’t know if I’m supposed to be doing this or not.’”*

Although there were occasional complaints about the treatment of staff, particularly disciplinary action or lack thereof for performance failures, the degree of uncertainty expressed around those issues was relatively small. Rather, participants expressed confidence in their judgments of the adequacy of their own and others’ performance, and generally expressed an opinion that transgressions were dealt with swiftly and decisively. Many also cited the swiftness with which employees are terminated for misconduct as evidence of [Bank’s] commitment to ethics, and made comments like “you hear stories about people losing their jobs.” I would note that because discipline often entails termination, my sample would tend to exclude participants who felt that they had been treated with undue harshness for a performance failure or other transgression. Some employees expressed both a strong sense that they were under constant

surveillance, and anxiety about whether an innocent mistake would be construed by the organization as a moral failure; feelings as to whether the rules were there to guide and protect employees or to control and punish them were mixed.

- *“There's consequences in every job, but in this job particularly. People always say it's better to ask, but in this job more than anything, I would say it's way better to ask than anything.”*
- *“And you really do have to be in the mindset of what's right and what's wrong, because you don't want to make yourself look suspicious. And you don't want to do anything that's going to jeopardize your job, and have the customer come in there upset and everything. I've heard stories, you lose your job and you get prosecuted and all this good stuff.”*
- *“[Bank] is a great company. When it comes down to ethics, I feel very comfortable, especially in the middle Tennessee environment, that they do address that. And there have been people that failed, that didn't do the right thing, and it was addressed, and they were terminated. So I feel very confident in the direction of the company.”*
- *“I personally feel like every rule is there for a reason. They are there because previously something has happened, and there's a reason behind it.”*

All participants agreed, and most agreed strongly, that their workplaces prized open communication and encouraged employees to ask for advice if they were unsure what to do. All participants firmly rejected the idea that someone may be reluctant to ask for advice because they don't want to reveal their ignorance to others. Many if not most voiced the opinion that their workplace was exceptionally open and collegial, and warned me that I would probably not find such a high degree of openness in my other interviews. Some participants had worked in other banks, and drew strong distinctions between [Bank] and their former employers, both in terms of the openness of the workplace to advice-seeking and learning, and in terms of the ethical tone of the branch. [Bank] compared favorably in every instance.

- *“I think that everybody is here to help everybody, and we get along real good. I don't think there's anybody here that has any trouble asking anybody to help them with anything. I don't think . . . how do you learn if you don't ask somebody? I don't understand how you go from day to day without asking somebody and teaching them something new every day. Do you?”*
- *“We talk a lot down here, and we know what's going on.”*

- *“Here they do care about you as an individual. Upper management is very approachable.”*
- *“I feel like if I don't have an answer to a question I have a duty to ask somebody and find out the answer to that question. I'm doing myself a disservice if I don't find out the answer to that question. So I'm going to ask and ask and ask until I find out the answer.”*

A few employees referred to a named empowerment program as creating an expectation that employees would use their own discretion to make, and take responsibility for, their own decisions. Those who referred to it viewed it as a bestowal of legitimacy on their own judgment; a subset also viewed it as a way to keep employees from handing off all difficult decisions to their supervisors. References to this program did not seem to exist in tension with advice-seeking behavior, because advice-seeking consistently entailed learning, such that employees who asked questions did so in order that they could act correctly and autonomously upon the next occurrence of a similar circumstance. A strong emphasis on learning was apparent in every interview, whether or not the participant referred to empowerment.

- *“We have what's called [Empowerment], which is huge. [Name], if they've got a check, and they're not sure about if they should cash it, they can use their judgment, use [Empowerment], and say ‘you know what, this is good. I'm taking responsibility. I've got a feeling, I know this customer well enough. It's not like I have to go to [name], who's the operations manager, or let me ask [name] on this. Instead of always asking your boss, you can make your own judgment, and you make the call.”*
- *“They let us use our own judgment. It's called [Empowerment] here.”*

Participants expressed a variety of positions on the direction of communications, with some stating that questions flowed upward to the operations manager or branch manager, whose judgment was then definitive, and others stating that the ops or branch managers would accept or even (but more rarely) seek input from other staff. A few participants were reflective about the fact that managers' judgments were themselves potentially fallible and open to evaluation, while some participants seemed to consider their managers' judgments to be the final and absolute answer. None of the participants who characterized questions as flowing upward and answers as

flowing downward expressed any desire for more staff input in decisions, but rather seemed to take comfort in the fact that their managers would take responsibility for difficult decisions.

Generally, participants who reported that their branches held weekly staff meetings also reported a more bi-directional flow of questioning.

- *“Let’s just say I had a problem, and I went to my supervisor, and I just say ‘hey I’m just not sure what to do with this. What can I do?’ and Suzy Q down at the end comes over and says ‘I might be able to help you with that!’ We try really hard to make it a team effort of how to solve a problem, but we have momma hen over here saying ‘well, you could do it that way, but I would do it this way because this is the way it should be done.’ And we do what momma hen says [Laughing].”*
- *“We have to call the people that wrote the check, and we had to check with our managers, and if they don't okay it, typically I don't do it. If it's not okay by one of the managers I don't do it because I don't want to take the chance of losing my job. Who's going to pay my bills if I lose my job? So I try not to do it unless it's okay by the main man in charge.”*
- *“So within my group, definitely, we are always kind of talking with each other, peer-to-peer, 2, 3, 4 times a day, asking advice. Or bouncing ideas off. Whatever the case might be.”*

Participants uniformly rejected the idea that some employees use moral conversations to discredit others or garner status for themselves. They often noted that such behavior is common elsewhere, and as with their comments on openness, told me that their branch was probably exceptional in its lack of opportunistic people. They also agreed that such opportunism was a personal characteristic rather than a group habit, and some credited the lack of opportunism to [Bank’s] unattractiveness to such employees.

- *“I don't see it so much now. We used to have an employee who was kind of that way. He was a great producer. He did excellent at his job. Now he's gone. I don't think anyone thinks ‘let me put you down because you know nothing.’ From what I gather, I think we're all pretty equal as far as that goes.”*
- *“I know this is going to sound funny, but there's just not bull#### going on, at least not that I've experienced. It's not about that kind of thing, it's all about working together as a team, and making the right decision. The honest answer is that I just haven't experienced it here. I'm not saying it doesn't go on, I just haven't experienced it.”*

Participants characterized advice-seeking conversations, whether a short and informal “hallway conversation” or a larger discussion or formal meeting, as largely progressing along logical lines. They characterized arguments as being supported by reasoned evidence, though reciprocal critique of the evidence offered in favor of other arguments seemed absent. It did not seem that arguments were often supported with emotional appeals, with threats or references to social or hierarchical status, or with quid pro quo bargaining. It did seem that participants were attuned to their own emotional states as indicators of risk; emotional discomfort would trigger advice-seeking, could cause them to refuse to process a transaction if no advice were readily available, and would often cause them to continue a discussion until its conclusion restored their affective equilibrium. Several told me that they have the discretion to refuse to process any transaction if they feel uncomfortable about it.

- *“In certain situations, if you have just a gut feel about somebody or something, that something’s rotten in Denmark, then there is. And the correct decision is not always made. But for the most part you go with the things you check off. If this is true, this is true, this is true, cash the check. But I’ve been in situations where I’ve just had a bad feeling about the check, and I didn’t cash it.”*
- *“We’ll maintain a conversation. Nobody’s trying to talk over anyone else. It’s a pretty good group. We get along fairly well with the other people in the group.”*

The closure of a discussion could be precipitated by circumstances like the need for an immediate decision or interruption by a surge of customers. However, more free-ranging conversations often occur in the morning before a given branch opens to customers, either in an official staff meeting or in informal discussion while preparing to open. These conversations typically reached a resolution either when participants had no further reasons or questions to contribute, or when all participants reached a consensus with which they were personally comfortable.

- *“If we all agree on what's been said and we all feel the same way about it. That's really how we get to it.”*
- *“They usually take every problem and try to make sure that we take care of it then. And make sure that everyone understands what it is or is not about.”*
- *“We all kind of decide how we're going to agree, how were going to handle it, it always boils down to ‘is that the way you see it? Is that the way you see it? Is that the way you see it? Then that's the way we're going to do it.’”*

Participants reported a moderate degree of satisfaction with the ethical decisions made in their branches; in light of the strong reports of the importance of ethics, the emphasis on ethics, and the emphasis on open communication and learning, I was surprised to see that the overall degree of satisfaction was not similarly high. However, there were no reports of either genuine dissatisfaction or exuberant satisfaction; rather, the tone ranged from “fair” to “good but could be better.”

- *“I think the assumption is that you don't always get it right. I mean, that's true in any sense. Because there's always mistakes to be made, there's always different ways of looking at something, and different decisions, depending on the situation.”*
- *“I do get the feeling that everybody is here who wants to be here. I think we're all in it not just because it's a paycheck, or at least I hope that's true, that we all really want to do as well as we can.”*
- *“I think there is definitely room for improvement. It's one of those where it's not like excellent, but it's not like completely terrible. I think it's kind of like in the middle.”*
- *“I think that everyone here at this branch is satisfied with the decisions we make. That way everybody knows what they're doing with the situation, everybody is comfortable in that situation. And it helps them to do their job better, because they know that everybody else is going to back them up.”*
- *“Here, I think that things are really done right. We try to work as a team, and we try to make sure everybody gets to say what they want to say, and I think that if you were to interview any other teller, that they would say ‘we might not know the answer to something, but [name] might know, and we make sure that it gets done right.’”*

Conclusions

I was genuinely surprised by the prevailing degree of communication present in [Bank] branches.

I was also surprised to hear that both line and line-management employees considered moral equivocality to be a regular occurrence, though it generally seemed to be a matter of determining

whether some known rule or procedure applied in a specific instance. It seemed that most participants were satisfied that communication in their work groups was open to all perspectives and logical, that closure occurred when consensus was reached, and that domination by a peer was rare. Participants often seemed relieved that their supervisors often took responsibility for decisions, and did not perceive that as domination. However, moral decision-making often proceeded on an intuitive basis, and consensus often seemed to be a matter of intuitive agreement rather than analytical coherence. Finally, satisfaction with the decisions reached was only moderate. These results indicated to me that the climate for discursive moral openness in work groups was a topic that participants would be able to answer questions about, and encouraged me to proceed to the next stage of the study: Pre-testing the survey instruments for moral openness climate, contention, and moral satisfaction.

Study Two: Pre-Test

Small-sample pre-tests of each dimension of moral openness climate, contention, and moral satisfaction were conducted in September, November, and December of 2007, using 22, 30, and 26 members of the eLab panel, respectively. Each pre-test was conducted with a new set of panelists. These pre-tests followed the method recommended by Anderson and Gerbing (1991), which entailed asking respondents to match draft survey items to written descriptions of the constructs that those items were supposed to measure. If the coefficient of substantive variation for a given item exceeded the critical value for the same variable, then it was reasonable to expect that that item would load on the intended factor in a subsequent exploratory factor analysis.

For the first pre-test, 22 responses out of 32 were usable, for a 69% response rate. The mean age of respondents was 38.68 (9.97 SD), while the mean age of non-respondents was 43.4 (10.3 SD); 36% of respondents were female, while 60% of non-respondents were female. The CSV for only four items out of seventy-nine exceeded the critical CSV of 0.273; sixteen were between 0.1 and 0.272. Twenty-nine items were indeterminate, while thirty had a negative CSV, indicating that they were more frequently matched with a different construct than the one intended. This disappointing set of results indicated that both the items and the construct descriptions were phrased too abstractly, and that massive revisions were needed. The initial sets of survey items are shown in Appendices B-H, and the results of the first pre-test are shown in Table 5.1.

Table 5.1: Results of First Pre-Test*Number of Item Matches Per Construct*

| Item | Intended Construct | <i>Number of Item Matches Per Construct</i> | | | | | | | | PSA | CSV |
|------------|--------------------|---|---------------|----------------|-----------------------------|-------------------|-------------------|--------------------|------------|-------|--------|
| | | Contention | Participation | Agreed Closure | Commitment to Understanding | Procedural Equity | Logical Reasoning | Moral Satisfaction | Don't Know | | |
| <u>Q1</u> | Contention | 5 | 2 | 2 | 6 | 1 | 1 | 4 | 1 | 0.227 | -0.045 |
| <u>Q2</u> | Contention | 6 | 3 | 3 | 3 | 0 | 5 | 1 | 0 | 0.273 | 0.045 |
| <u>Q3</u> | Contention | 2 | 1 | 4 | 3 | 0 | 5 | 7 | 0 | 0.091 | -0.227 |
| <u>Q4</u> | Contention | 10 | 3 | 1 | 2 | 2 | 0 | 4 | 0 | 0.455 | 0.273 |
| <u>Q5</u> | Contention | 7 | 3 | 1 | 5 | 2 | 2 | 2 | 0 | 0.318 | 0.091 |
| <u>Q6</u> | Contention | 6 | 3 | 6 | 4 | 0 | 2 | 1 | 0 | 0.273 | 0.000 |
| <u>Q7</u> | Contention | 7 | 0 | 1 | 3 | 0 | 6 | 5 | 0 | 0.318 | 0.045 |
| <u>Q8</u> | Contention | 6 | 2 | 3 | 1 | 1 | 3 | 5 | 1 | 0.273 | 0.045 |
| <u>Q9</u> | Contention | 10 | 0 | 2 | 2 | 2 | 2 | 3 | 1 | 0.455 | 0.318 |
| <u>Q10</u> | Contention | 8 | 5 | 1 | 1 | 1 | 4 | 2 | 0 | 0.364 | 0.136 |
| <u>Q11</u> | Contention | 9 | 1 | 2 | 1 | 2 | 4 | 3 | 0 | 0.409 | 0.227 |
| <u>Q12</u> | Contention | 5 | 2 | 0 | 7 | 1 | 1 | 5 | 1 | 0.227 | -0.091 |
| <u>Q13</u> | Contention | 6 | 1 | 5 | 2 | 1 | 3 | 3 | 1 | 0.273 | 0.045 |
| <u>Q14</u> | Contention | 8 | 1 | 1 | 4 | 2 | 4 | 2 | 0 | 0.364 | 0.182 |
| <u>Q15</u> | Contention | 2 | 6 | 5 | 3 | 1 | 3 | 1 | 1 | 0.091 | -0.182 |
| <u>Q16</u> | Participation | 6 | 5 | 1 | 2 | 4 | 3 | 1 | 0 | 0.227 | -0.045 |
| <u>Q17</u> | Participation | 1 | 7 | 3 | 2 | 1 | 6 | 2 | 0 | 0.318 | 0.045 |
| <u>Q18</u> | Participation | 1 | 6 | 0 | 3 | 4 | 4 | 4 | 0 | 0.273 | 0.091 |
| <u>Q19</u> | Participation | 0 | 12 | 0 | 5 | 1 | 2 | 2 | 0 | 0.545 | 0.318 |
| <u>Q20</u> | Participation | 0 | 7 | 2 | 3 | 4 | 1 | 5 | 0 | 0.318 | 0.091 |
| <u>Q21</u> | Participation | 2 | 5 | 1 | 7 | 1 | 5 | 1 | 0 | 0.227 | -0.091 |
| <u>Q22</u> | Participation | 3 | 5 | 1 | 3 | 5 | 4 | 0 | 1 | 0.227 | 0.000 |
| <u>Q23</u> | Participation | 5 | 6 | 2 | 2 | 3 | 2 | 2 | 0 | 0.273 | 0.045 |
| <u>Q24</u> | Participation | 7 | 2 | 2 | 3 | 4 | 2 | 1 | 1 | 0.091 | -0.227 |
| <u>Q25</u> | Participation | 3 | 7 | 1 | 0 | 3 | 3 | 4 | 1 | 0.318 | 0.136 |
| <u>Q26</u> | Participation | 6 | 5 | 1 | 3 | 2 | 2 | 3 | 0 | 0.227 | -0.045 |
| <u>Q27</u> | Participation | 1 | 8 | 3 | 4 | 3 | 2 | 1 | 0 | 0.364 | 0.182 |
| <u>Q28</u> | Participation | 2 | 9 | 1 | 3 | 2 | 4 | 1 | 0 | 0.409 | 0.227 |
| <u>Q29</u> | Participation | 5 | 2 | 2 | 3 | 1 | 7 | 1 | 1 | 0.091 | -0.227 |
| <u>Q30</u> | Agreed Closure | 3 | 1 | 10 | 2 | 3 | 1 | 2 | 0 | 0.455 | 0.318 |
| <u>Q31</u> | Agreed Closure | 3 | 2 | 6 | 2 | 4 | 3 | 2 | 0 | 0.273 | 0.091 |
| <u>Q32</u> | Agreed Closure | 1 | 2 | 2 | 2 | 6 | 4 | 5 | 0 | 0.091 | -0.182 |
| <u>Q33</u> | Agreed Closure | 5 | 2 | 6 | 1 | 5 | 3 | 0 | 0 | 0.273 | 0.045 |
| <u>Q34</u> | Agreed Closure | 1 | 9 | 3 | 0 | 5 | 1 | 2 | 1 | 0.136 | -0.273 |
| <u>Q35</u> | Agreed Closure | 0 | 2 | 8 | 2 | 7 | 2 | 1 | 0 | 0.364 | 0.045 |
| <u>Q36</u> | Agreed Closure | 0 | 4 | 0 | 9 | 3 | 4 | 2 | 0 | 0.000 | -0.409 |
| <u>Q37</u> | Agreed Closure | 1 | 4 | 5 | 3 | 4 | 5 | 0 | 0 | 0.227 | 0.000 |
| <u>Q38</u> | Agreed Closure | 1 | 3 | 10 | 2 | 1 | 5 | 0 | 0 | 0.455 | 0.227 |
| <u>Q39</u> | Agreed Closure | 0 | 3 | 1 | 5 | 3 | 6 | 4 | 0 | 0.045 | -0.227 |

Table 5.1: Results of First Pre-Test (Continued)

Number of Item Matches Per Construct

| Item | Intended Construct | Contention | Participation | Agreed Closure | Commitment to Understanding | Procedural Equity | Logical Reasoning | Moral Satisfaction | Don't Know | PSA | CSV |
|------|-----------------------------|------------|---------------|----------------|-----------------------------|-------------------|-------------------|--------------------|------------|-------|--------|
| Q40 | Commitment to Understanding | 3 | 0 | 1 | 6 | 3 | 1 | 6 | 2 | 0.273 | 0.000 |
| Q41 | Commitment to Understanding | 2 | 3 | 0 | 3 | 4 | 4 | 5 | 1 | 0.136 | -0.091 |
| Q42 | Commitment to Understanding | 3 | 2 | 1 | 5 | 3 | 3 | 4 | 1 | 0.227 | 0.045 |
| Q43 | Commitment to Understanding | 1 | 3 | 3 | 2 | 9 | 2 | 2 | 0 | 0.091 | -0.318 |
| Q44 | Commitment to Understanding | 3 | 0 | 3 | 4 | 3 | 5 | 4 | 0 | 0.182 | -0.045 |
| Q45 | Commitment to Understanding | 4 | 1 | 3 | 6 | 2 | 3 | 2 | 1 | 0.273 | 0.091 |
| Q46 | Commitment to Understanding | 4 | 2 | 2 | 4 | 2 | 1 | 7 | 0 | 0.182 | -0.136 |
| Q47 | Commitment to Understanding | 1 | 2 | 2 | 3 | 5 | 2 | 7 | 0 | 0.136 | -0.182 |
| Q48 | Commitment to Understanding | 4 | 1 | 4 | 4 | 6 | 2 | 1 | 0 | 0.182 | -0.091 |
| Q49 | Commitment to Understanding | 6 | 5 | 2 | 4 | 1 | 2 | 1 | 1 | 0.182 | -0.091 |
| Q50 | Commitment to Understanding | 6 | 1 | 3 | 3 | 1 | 4 | 3 | 1 | 0.136 | -0.136 |
| Q51 | Procedural Equity | 0 | 1 | 2 | 3 | 12 | 2 | 1 | 1 | 0.545 | 0.409 |
| Q52 | Procedural Equity | 1 | 1 | 4 | 1 | 7 | 2 | 6 | 0 | 0.318 | 0.045 |
| Q53 | Procedural Equity | 2 | 1 | 4 | 4 | 4 | 4 | 2 | 1 | 0.182 | 0.000 |
| Q54 | Procedural Equity | 0 | 3 | 5 | 1 | 8 | 0 | 4 | 1 | 0.364 | 0.136 |
| Q55 | Procedural Equity | 1 | 2 | 1 | 6 | 4 | 6 | 2 | 0 | 0.182 | -0.091 |
| Q56 | Procedural Equity | 1 | 2 | 5 | 4 | 4 | 5 | 1 | 0 | 0.182 | -0.045 |
| Q57 | Procedural Equity | 0 | 5 | 1 | 10 | 1 | 2 | 3 | 0 | 0.045 | -0.409 |
| Q58 | Procedural Equity | 2 | 3 | 7 | 0 | 8 | 1 | 1 | 0 | 0.364 | 0.045 |
| Q59 | Procedural Equity | 1 | 3 | 4 | 2 | 9 | 1 | 2 | 0 | 0.409 | 0.227 |
| Q60 | Logical Reasoning | 3 | 2 | 1 | 2 | 4 | 5 | 5 | 0 | 0.227 | 0.000 |
| Q61 | Logical Reasoning | 0 | 3 | 5 | 4 | 0 | 8 | 2 | 0 | 0.364 | 0.136 |
| Q62 | Logical Reasoning | 1 | 3 | 1 | 2 | 5 | 7 | 1 | 2 | 0.318 | 0.091 |
| Q63 | Logical Reasoning | 4 | 2 | 1 | 5 | 3 | 5 | 1 | 1 | 0.227 | 0.000 |
| Q64 | Logical Reasoning | 2 | 3 | 4 | 1 | 1 | 10 | 1 | 0 | 0.455 | 0.273 |
| Q65 | Logical Reasoning | 5 | 2 | 4 | 0 | 6 | 3 | 2 | 0 | 0.136 | -0.136 |
| Q66 | Logical Reasoning | 0 | 6 | 2 | 6 | 2 | 5 | 1 | 0 | 0.227 | -0.045 |
| Q67 | Logical Reasoning | 1 | 0 | 3 | 2 | 2 | 8 | 5 | 1 | 0.364 | 0.136 |
| Q68 | Logical Reasoning | 5 | 1 | 2 | 7 | 3 | 3 | 0 | 1 | 0.136 | -0.182 |
| Q69 | Logical Reasoning | 5 | 3 | 3 | 1 | 3 | 5 | 2 | 0 | 0.227 | 0.000 |
| Q70 | Moral Satisfaction | 1 | 3 | 3 | 3 | 3 | 0 | 8 | 1 | 0.364 | 0.227 |
| Q71 | Moral Satisfaction | 3 | 3 | 1 | 5 | 2 | 1 | 7 | 0 | 0.318 | 0.091 |
| Q72 | Moral Satisfaction | 1 | 3 | 3 | 6 | 2 | 2 | 5 | 0 | 0.227 | -0.045 |
| Q73 | Moral Satisfaction | 6 | 0 | 1 | 4 | 5 | 3 | 2 | 1 | 0.091 | -0.182 |
| Q74 | Moral Satisfaction | 2 | 4 | 2 | 5 | 2 | 1 | 5 | 1 | 0.227 | 0.000 |
| Q75 | Moral Satisfaction | 1 | 3 | 4 | 3 | 3 | 3 | 5 | 0 | 0.227 | 0.045 |
| Q76 | Moral Satisfaction | 1 | 3 | 4 | 4 | 1 | 1 | 8 | 0 | 0.364 | 0.182 |
| Q77 | Moral Satisfaction | 4 | 1 | 2 | 2 | 2 | 4 | 5 | 2 | 0.227 | 0.045 |
| Q78 | Moral Satisfaction | 0 | 1 | 2 | 3 | 4 | 4 | 7 | 1 | 0.318 | 0.136 |
| Q79 | Moral Satisfaction | 7 | 4 | 0 | 3 | 2 | 1 | 5 | 0 | 0.227 | -0.091 |

For the second pre-test, 30 responses out of 54 were usable, for a 55.6% response rate. The mean age of respondents was 43.23 (12.39 SD), while the mean age of non-respondents was 44.13 (11.72 SD); 43% of respondents were female, while 46% of non-respondents were female. The second pre-test was conducted using a new set of survey items, as shown in Appendix I.

For n=thirty respondents, the critical CSV was 0.267; 19 respondents for an item would exceed the binomial probability with 95% confidence. Results are shown in Table 5.2; the revised items loaded substantially better than in the first pre-test. However, many items still loaded poorly on their intended construct. Moreover, “Commitment to Understanding” and “Procedural Equity” only had one item each that loaded as intended, and attracted a number of crossloadings from other constructs. Accordingly, I revised the item set again and conducted another pre-test.

Table 5.2: Results of Second Pre-Test
Number of Item Matches Per Construct

| <i>Item</i> | <i>Intended Construct</i> | Contention | Participation | Agreed Closure | Commitment to Understanding | Procedural Equity | Logical Reasoning | Moral Satisfaction | Don't Know | PSA | CSV |
|-------------|-----------------------------|------------|---------------|----------------|-----------------------------|-------------------|-------------------|--------------------|------------|-------|--------|
| Q1 | Contention | 8 | 2 | 3 | 8 | 2 | 3 | 2 | 2 | 0.267 | 0.000 |
| Q2 | Contention | 12 | 4 | 0 | 2 | 4 | 4 | 3 | 1 | 0.400 | 0.267 |
| Q3 | Contention | 9 | 4 | 3 | 4 | 2 | 1 | 2 | 5 | 0.300 | 0.133 |
| Q4 | Contention | 7 | 0 | 3 | 6 | 2 | 4 | 6 | 2 | 0.233 | 0.033 |
| Q5 | Contention | 12 | 3 | 2 | 6 | 2 | 1 | 1 | 3 | 0.400 | 0.200 |
| Q6 | Contention | 3 | 6 | 5 | 4 | 4 | 4 | 2 | 2 | 0.100 | -0.100 |
| Q7 | Contention | 16 | 2 | 3 | 4 | 0 | 3 | 2 | 0 | 0.533 | 0.400 |
| Q8 | Contention | 11 | 5 | 3 | 7 | 1 | 1 | 1 | 1 | 0.367 | 0.133 |
| Q9 | Contention | 9 | 1 | 2 | 2 | 3 | 3 | 7 | 3 | 0.300 | 0.067 |
| Q10 | Contention | 15 | 2 | 1 | 2 | 1 | 2 | 5 | 2 | 0.500 | 0.333 |
| Q11 | Participation | 11 | 4 | 2 | 3 | 8 | 2 | 0 | 0 | 0.133 | -0.233 |
| Q12 | Participation | 2 | 17 | 0 | 2 | 1 | 5 | 3 | 0 | 0.567 | 0.400 |
| Q13 | Participation | 1 | 7 | 5 | 9 | 3 | 3 | 2 | 0 | 0.233 | -0.067 |
| Q14 | Participation | 1 | 12 | 2 | 8 | 2 | 2 | 2 | 1 | 0.400 | 0.133 |
| Q15 | Participation | 0 | 7 | 3 | 6 | 5 | 3 | 1 | 5 | 0.233 | 0.033 |
| Q16 | Participation | 0 | 17 | 1 | 3 | 2 | 4 | 3 | 0 | 0.567 | 0.433 |
| Q17 | Participation | 0 | 9 | 1 | 5 | 9 | 5 | 0 | 1 | 0.300 | 0.000 |
| Q18 | Participation | 5 | 5 | 3 | 7 | 4 | 1 | 1 | 4 | 0.167 | -0.067 |
| Q19 | Participation | 6 | 7 | 1 | 3 | 5 | 3 | 1 | 4 | 0.233 | 0.033 |
| Q20 | Participation | 3 | 12 | 1 | 1 | 5 | 2 | 2 | 4 | 0.400 | 0.233 |
| Q21 | Participation | 3 | 12 | 1 | 1 | 5 | 3 | 3 | 2 | 0.400 | 0.233 |
| Q22 | Participation | 1 | 13 | 3 | 3 | 2 | 2 | 5 | 1 | 0.433 | 0.267 |
| Q23 | Agreed Closure | 2 | 4 | 11 | 3 | 3 | 2 | 3 | 2 | 0.367 | 0.233 |
| Q24 | Agreed Closure | 3 | 3 | 10 | 3 | 7 | 0 | 2 | 2 | 0.333 | 0.100 |
| Q25 | Agreed Closure | 1 | 3 | 14 | 1 | 6 | 3 | 1 | 1 | 0.467 | 0.267 |
| Q26 | Agreed Closure | 1 | 0 | 12 | 8 | 2 | 5 | 1 | 1 | 0.400 | 0.133 |
| Q27 | Agreed Closure | 6 | 4 | 4 | 7 | 3 | 2 | 1 | 3 | 0.133 | -0.100 |
| Q28 | Agreed Closure | 3 | 4 | 11 | 1 | 6 | 3 | 0 | 2 | 0.367 | 0.167 |
| Q29 | Agreed Closure | 5 | 3 | 6 | 4 | 9 | 0 | 2 | 1 | 0.200 | -0.100 |
| Q30 | Agreed Closure | 0 | 3 | 3 | 7 | 9 | 5 | 2 | 1 | 0.100 | -0.200 |
| Q31 | Agreed Closure | 1 | 3 | 8 | 6 | 3 | 4 | 4 | 1 | 0.267 | 0.067 |
| Q32 | Agreed Closure | 4 | 1 | 8 | 4 | 8 | 1 | 1 | 3 | 0.267 | 0.000 |
| Q33 | Commitment to Understanding | 4 | 2 | 4 | 2 | 5 | 5 | 4 | 4 | 0.067 | -0.100 |
| Q34 | Commitment to Understanding | 4 | 1 | 3 | 2 | 11 | 5 | 2 | 2 | 0.067 | -0.300 |
| Q35 | Commitment to Understanding | 9 | 2 | 0 | 4 | 4 | 4 | 2 | 5 | 0.133 | -0.167 |
| Q36 | Commitment to Understanding | 0 | 3 | 5 | 15 | 1 | 4 | 1 | 1 | 0.500 | 0.333 |
| Q37 | Commitment to Understanding | 4 | 1 | 6 | 9 | 3 | 5 | 2 | 0 | 0.300 | 0.100 |
| Q38 | Commitment to Understanding | 8 | 2 | 2 | 5 | 3 | 3 | 2 | 5 | 0.167 | -0.100 |
| Q39 | Commitment to Understanding | 9 | 5 | 1 | 7 | 3 | 2 | 1 | 2 | 0.233 | -0.067 |
| Q40 | Commitment to Understanding | 4 | 1 | 3 | 9 | 9 | 0 | 2 | 2 | 0.300 | 0.000 |
| Q41 | Commitment to Understanding | 6 | 2 | 1 | 6 | 8 | 1 | 2 | 4 | 0.200 | -0.067 |
| Q42 | Commitment to Understanding | 3 | 3 | 3 | 8 | 6 | 7 | 0 | 0 | 0.267 | 0.033 |
| Q43 | Commitment to Understanding | 0 | 3 | 1 | 6 | 3 | 14 | 1 | 2 | 0.200 | -0.267 |
| Q44 | Commitment to Understanding | 2 | 2 | 3 | 9 | 4 | 8 | 0 | 2 | 0.300 | 0.033 |

Table 5.2: Results of Second Pre-Test (Continued)
Number of Item Matches Per Construct

| <i>Item</i> | <i>Intended Construct</i> | <i>Contention</i> | <i>Participation</i> | <i>Agreed Closure</i> | <i>Commitment to Understanding</i> | <i>Procedural Equity</i> | <i>Logical Reasoning</i> | <i>Moral Satisfaction</i> | <i>Don't Know</i> | <i>PSA</i> | <i>CSV</i> |
|-------------|---------------------------|-------------------|----------------------|-----------------------|------------------------------------|--------------------------|--------------------------|---------------------------|-------------------|------------|------------|
| Q45 | Procedural Equity | 3 | 5 | 5 | 3 | 6 | 6 | 0 | 2 | 0.200 | 0.000 |
| Q46 | Procedural Equity | 1 | 3 | 3 | 6 | 11 | 2 | 0 | 4 | 0.367 | 0.167 |
| Q47 | Procedural Equity | 3 | 18 | 2 | 2 | 2 | 2 | 0 | 1 | 0.067 | -0.533 |
| Q48 | Procedural Equity | 3 | 2 | 3 | 6 | 9 | 3 | 1 | 3 | 0.300 | 0.100 |
| Q49 | Procedural Equity | 1 | 16 | 0 | 8 | 1 | 2 | 0 | 2 | 0.033 | -0.500 |
| Q50 | Procedural Equity | 1 | 1 | 6 | 7 | 5 | 5 | 2 | 3 | 0.167 | -0.067 |
| Q51 | Procedural Equity | 1 | 9 | 3 | 7 | 3 | 2 | 1 | 4 | 0.100 | -0.200 |
| Q52 | Procedural Equity | 6 | 2 | 5 | 5 | 8 | 1 | 2 | 1 | 0.267 | 0.067 |
| Q53 | Logical Reasoning | 1 | 2 | 1 | 6 | 4 | 16 | 0 | 0 | 0.533 | 0.333 |
| Q54 | Logical Reasoning | 0 | 6 | 1 | 3 | 4 | 15 | 0 | 1 | 0.500 | 0.300 |
| Q55 | Logical Reasoning | 4 | 3 | 3 | 5 | 2 | 9 | 0 | 4 | 0.300 | 0.133 |
| Q56 | Logical Reasoning | 4 | 8 | 4 | 6 | 2 | 2 | 1 | 3 | 0.067 | -0.200 |
| Q57 | Logical Reasoning | 2 | 3 | 3 | 2 | 5 | 12 | 1 | 2 | 0.400 | 0.233 |
| Q58 | Logical Reasoning | 0 | 3 | 2 | 6 | 5 | 10 | 1 | 3 | 0.333 | 0.133 |
| Q59 | Logical Reasoning | 2 | 2 | 3 | 4 | 2 | 11 | 3 | 3 | 0.367 | 0.233 |
| Q60 | Logical Reasoning | 3 | 2 | 2 | 8 | 3 | 7 | 3 | 2 | 0.233 | -0.033 |
| Q61 | Logical Reasoning | 3 | 2 | 1 | 8 | 6 | 5 | 2 | 3 | 0.167 | -0.100 |
| Q62 | Logical Reasoning | 2 | 6 | 2 | 10 | 3 | 2 | 1 | 4 | 0.067 | -0.267 |
| Q63 | Moral Satisfaction | 3 | 0 | 6 | 4 | 3 | 1 | 13 | 0 | 0.433 | 0.233 |
| Q64 | Moral Satisfaction | 3 | 2 | 2 | 9 | 5 | 2 | 7 | 0 | 0.233 | -0.067 |
| Q65 | Moral Satisfaction | 5 | 2 | 3 | 7 | 2 | 3 | 3 | 5 | 0.100 | -0.133 |
| Q66 | Moral Satisfaction | 4 | 3 | 3 | 1 | 1 | 2 | 15 | 1 | 0.500 | 0.367 |
| Q67 | Moral Satisfaction | 11 | 1 | 3 | 2 | 1 | 1 | 8 | 3 | 0.267 | -0.100 |
| Q68 | Moral Satisfaction | 2 | 2 | 3 | 2 | 1 | 2 | 16 | 2 | 0.533 | 0.433 |
| Q69 | Moral Satisfaction | 5 | 0 | 1 | 4 | 1 | 2 | 13 | 4 | 0.433 | 0.267 |
| Q70 | Moral Satisfaction | 9 | 0 | 2 | 2 | 2 | 0 | 9 | 6 | 0.300 | 0.000 |
| Q71 | Moral Satisfaction | 0 | 1 | 4 | 3 | 2 | 0 | 20 | 0 | 0.667 | 0.533 |
| Q72 | Moral Satisfaction | 1 | 1 | 6 | 3 | 0 | 0 | 17 | 2 | 0.567 | 0.367 |
| Q73 | Moral Satisfaction | 1 | 2 | 4 | 4 | 3 | 2 | 14 | 0 | 0.467 | 0.333 |
| Q74 | Moral Satisfaction | 1 | 1 | 4 | 6 | 1 | 2 | 14 | 1 | 0.467 | 0.267 |
| Q75 | Moral Satisfaction | 5 | 2 | 2 | 2 | 2 | 3 | 10 | 4 | 0.333 | 0.167 |
| Q76 | Moral Satisfaction | 4 | 2 | 3 | 6 | 4 | 4 | 5 | 2 | 0.167 | -0.033 |
| Q77 | Moral Satisfaction | 2 | 4 | 1 | 4 | 2 | 2 | 13 | 2 | 0.433 | 0.300 |

For the third pre-test, 26 responses out of 34 were usable, for a 76.5% response rate. The mean age of respondents was 43.42 (14.13 SD), while the mean age of non-respondents was

46.88 (9.99 SD); 54% of respondents were female, while 75% of non-respondents were female.

The third pre-test was conducted using a new set of survey items, as shown in Appendix J. This eliminated “Procedural Equity,” changed “Commitment to Understanding” to “Power” for clarity, renamed “Agreed Closure” as “Closure” for clarity, and culled a number of weak items from the prior pre-test.

For $n=26$ respondents, the critical CSV was 0.31; 17 respondents for an item would exceed the binomial probability with 95% confidence. Results are shown in Table 5.3. These results led to another cull of survey items, resulting in the 38 items that were subsequently used in Study 3.

Table 5.3: Results of Third Pre-Test
Number of Item Matches Per Construct

| <i>Item</i> | <i>Intended Construct</i> | <i>Contention</i> | <i>Participation</i> | <i>Closure</i> | <i>Power</i> | <i>Logic</i> | <i>Moral Satisfaction</i> | <i>Don't Know</i> | <i>PSA</i> | <i>CSV</i> |
|-------------|---------------------------|-------------------|----------------------|----------------|--------------|--------------|---------------------------|-------------------|------------|------------|
| <u>Q1</u> | Contention | 5 | 10 | 2 | 1 | 3 | 4 | 1 | 0.192 | -0.192 |
| <u>Q2</u> | Contention | 8 | 1 | 3 | 8 | 0 | 1 | 5 | 0.308 | 0.000 |
| <u>Q3</u> | Contention | 5 | 1 | 3 | 2 | 4 | 5 | 6 | 0.192 | -0.038 |
| <u>Q4</u> | Contention | 16 | 2 | 1 | 0 | 4 | 3 | 0 | 0.615 | 0.462 |
| <u>Q5</u> | Contention | 18 | 3 | 0 | 3 | 1 | 1 | 0 | 0.692 | 0.577 |
| <u>Q6</u> | Contention | 14 | 4 | 1 | 3 | 0 | 4 | 0 | 0.538 | 0.385 |
| <u>Q7</u> | Contention | 12 | 1 | 1 | 5 | 2 | 4 | 1 | 0.462 | 0.269 |
| <u>Q8</u> | Contention | 14 | 3 | 1 | 1 | 3 | 4 | 0 | 0.538 | 0.385 |
| <u>Q9</u> | Participation | 0 | 18 | 2 | 1 | 2 | 3 | 0 | 0.692 | 0.577 |
| <u>Q10</u> | Participation | 4 | 17 | 1 | 0 | 1 | 3 | 0 | 0.654 | 0.500 |
| <u>Q11</u> | Participation | 1 | 8 | 2 | 5 | 4 | 3 | 3 | 0.308 | 0.115 |
| <u>Q12</u> | Participation | 1 | 13 | 1 | 3 | 3 | 4 | 1 | 0.500 | 0.346 |
| <u>Q13</u> | Participation | 2 | 14 | 0 | 4 | 3 | 2 | 1 | 0.538 | 0.385 |
| <u>Q14</u> | Participation | 2 | 1 | 3 | 16 | 1 | 3 | 0 | 0.038 | -0.577 |
| <u>Q15</u> | Participation | 10 | 4 | 3 | 3 | 1 | 3 | 2 | 0.154 | -0.231 |
| <u>Q16</u> | Participation | 2 | 10 | 2 | 8 | 3 | 0 | 1 | 0.385 | 0.077 |
| <u>Q17</u> | Participation | 1 | 22 | 1 | 0 | 2 | 0 | 0 | 0.846 | 0.769 |
| <u>Q18</u> | Participation | 2 | 9 | 3 | 6 | 2 | 2 | 2 | 0.346 | 0.115 |
| <u>Q19</u> | Participation | 4 | 16 | 2 | 2 | 0 | 1 | 1 | 0.615 | 0.462 |
| <u>Q20</u> | Participation | 1 | 16 | 1 | 1 | 3 | 2 | 2 | 0.615 | 0.500 |
| <u>Q21</u> | Participation | 5 | 12 | 3 | 4 | 2 | 0 | 0 | 0.462 | 0.269 |
| <u>Q22</u> | Closure | 3 | 2 | 11 | 4 | 4 | 0 | 2 | 0.423 | 0.269 |
| <u>Q23</u> | Closure | 1 | 0 | 10 | 13 | 2 | 0 | 0 | 0.385 | -0.115 |
| <u>Q24</u> | Closure | 5 | 2 | 10 | 3 | 3 | 1 | 2 | 0.385 | 0.192 |
| <u>Q25</u> | Closure | 4 | 8 | 4 | 3 | 1 | 6 | 0 | 0.154 | -0.154 |
| <u>Q26</u> | Closure | 4 | 1 | 16 | 5 | 0 | 0 | 0 | 0.615 | 0.423 |
| <u>Q27</u> | Closure | 2 | 4 | 12 | 3 | 0 | 3 | 2 | 0.462 | 0.308 |
| <u>Q28</u> | Closure | 1 | 8 | 1 | 11 | 3 | 0 | 2 | 0.038 | -0.385 |
| <u>Q29</u> | Closure | 1 | 10 | 3 | 1 | 4 | 6 | 1 | 0.115 | -0.269 |
| <u>Q30</u> | Closure | 1 | 1 | 3 | 20 | 0 | 1 | 0 | 0.115 | -0.654 |
| <u>Q31</u> | Closure | 1 | 2 | 8 | 10 | 4 | 1 | 0 | 0.308 | -0.077 |

Table 5.3: Results of Third Pre-Test (Continued)*Number of Item Matches Per Construct*

| <i>Item</i> | <i>Intended Construct</i> | <i>Contention</i> | <i>Participation</i> | <i>Closure</i> | <i>Power</i> | <i>Logic</i> | <i>Moral Satisfaction</i> | <i>Don't Know</i> | <i>PSA</i> | <i>CSV</i> |
|-------------|---------------------------|-------------------|----------------------|----------------|--------------|--------------|---------------------------|-------------------|------------|------------|
| <u>Q32</u> | Power | 0 | 1 | 0 | 24 | 1 | 0 | 0 | 0.923 | 0.885 |
| <u>Q33</u> | Power | 4 | 3 | 0 | 13 | 3 | 1 | 2 | 0.500 | 0.346 |
| <u>Q34</u> | Power | 4 | 4 | 3 | 1 | 6 | 8 | 0 | 0.038 | -0.269 |
| <u>Q35</u> | Power | 2 | 2 | 2 | 18 | 1 | 1 | 0 | 0.692 | 0.615 |
| <u>Q36</u> | Power | 4 | 1 | 3 | 12 | 1 | 2 | 3 | 0.462 | 0.308 |
| <u>Q37</u> | Power | 9 | 1 | 1 | 12 | 3 | 0 | 0 | 0.462 | 0.115 |
| <u>Q38</u> | Power | 1 | 0 | 1 | 23 | 1 | 0 | 0 | 0.885 | 0.846 |
| <u>Q39</u> | Power | 6 | 3 | 0 | 13 | 1 | 0 | 3 | 0.500 | 0.269 |
| <u>Q40</u> | Logic | 0 | 3 | 1 | 2 | 18 | 1 | 1 | 0.692 | 0.577 |
| <u>Q41</u> | Logic | 1 | 7 | 2 | 0 | 16 | 0 | 0 | 0.615 | 0.346 |
| <u>Q42</u> | Logic | 8 | 4 | 2 | 1 | 6 | 3 | 2 | 0.231 | -0.077 |
| <u>Q43</u> | Logic | 2 | 7 | 0 | 2 | 12 | 2 | 1 | 0.462 | 0.192 |
| <u>Q44</u> | Logic | 2 | 6 | 2 | 1 | 15 | 0 | 0 | 0.577 | 0.346 |
| <u>Q45</u> | Logic | 1 | 4 | 3 | 1 | 13 | 3 | 1 | 0.500 | 0.346 |
| <u>Q46</u> | Logic | 12 | 3 | 2 | 1 | 5 | 2 | 1 | 0.192 | -0.269 |
| <u>Q47</u> | Logic | 10 | 7 | 3 | 0 | 3 | 1 | 2 | 0.115 | -0.269 |
| <u>Q48</u> | Logic | 3 | 2 | 3 | 7 | 5 | 2 | 4 | 0.192 | -0.077 |
| <u>Q49</u> | Logic | 2 | 3 | 0 | 19 | 0 | 0 | 2 | 0.000 | -0.731 |
| <u>Q50</u> | Logic | 3 | 6 | 0 | 1 | 11 | 3 | 2 | 0.423 | 0.192 |
| <u>Q51</u> | Logic | 4 | 2 | 5 | 4 | 6 | 1 | 4 | 0.231 | 0.038 |
| <u>Q52</u> | Moral Satisfaction | 2 | 2 | 3 | 2 | 4 | 13 | 0 | 0.500 | 0.346 |
| <u>Q53</u> | Moral Satisfaction | 1 | 8 | 0 | 2 | 5 | 8 | 2 | 0.308 | 0.000 |
| <u>Q54</u> | Moral Satisfaction | 8 | 3 | 3 | 3 | 4 | 4 | 1 | 0.154 | -0.154 |
| <u>Q55</u> | Moral Satisfaction | 2 | 0 | 5 | 1 | 5 | 13 | 0 | 0.500 | 0.308 |
| <u>Q56</u> | Moral Satisfaction | 8 | 0 | 3 | 4 | 2 | 4 | 5 | 0.154 | -0.154 |
| <u>Q57</u> | Moral Satisfaction | 2 | 2 | 2 | 0 | 2 | 18 | 0 | 0.692 | 0.615 |
| <u>Q58</u> | Moral Satisfaction | 7 | 1 | 3 | 4 | 0 | 7 | 4 | 0.269 | 0.000 |
| <u>Q59</u> | Moral Satisfaction | 12 | 0 | 2 | 2 | 1 | 6 | 3 | 0.231 | -0.231 |
| <u>Q60</u> | Moral Satisfaction | 2 | 1 | 3 | 0 | 0 | 20 | 0 | 0.769 | 0.654 |
| <u>Q61</u> | Moral Satisfaction | 2 | 1 | 6 | 1 | 2 | 14 | 0 | 0.538 | 0.308 |
| <u>Q62</u> | Moral Satisfaction | 3 | 2 | 1 | 0 | 4 | 16 | 0 | 0.615 | 0.462 |
| <u>Q63</u> | Moral Satisfaction | 3 | 3 | 2 | 0 | 4 | 14 | 0 | 0.538 | 0.385 |
| <u>Q64</u> | Moral Satisfaction | 11 | 2 | 1 | 1 | 2 | 4 | 5 | 0.154 | -0.269 |
| <u>Q65</u> | Moral Satisfaction | 5 | 0 | 1 | 11 | 2 | 4 | 3 | 0.154 | -0.269 |
| <u>Q66</u> | Moral Satisfaction | 1 | 3 | 3 | 1 | 7 | 11 | 0 | 0.423 | 0.154 |

Study Three: Scale Development

Study three examined the reliability of the scales for moral openness climate, contention, and moral satisfaction, and tested the factor structure of moral openness climate, contention, and moral satisfaction, using Exploratory Factor Analysis. Except where noted, all factor analyses used Maximum Likelihood extraction and Promax rotation with Kappa = 2. Factor extraction was performed according to the Kaiser Criterion, with factors extracted for Eigenvalues of greater than 1. I eliminated items that had high cross-loadings (i.e. loadings of greater than 0.3 on more than one factor), or communalities of less than 0.3. I finally evaluated the reliability of each resulting scale against a Cronbach's Alpha criterion ($\text{Alpha} \geq 0.7$). Descriptive statistics for the sample are shown in Table 5.4. The survey instrument is shown in Appendix K. The correlation matrix is shown in Table 5.5.

TABLE 5.4
Descriptive Statistics for eLab Sample in Study 3

| Demographic Variable | Completed Survey | Did Not Complete Survey |
|---|------------------|-------------------------|
| TOTAL | 604 | 124 |
| Mean Age | 44.01 | 46.21 |
| Median Age | 44 | 46 |
| Modal Age | 30 | 46 |
| Standard Deviation of Age | 11.99 | 12.30 |
| Male | 243 (40%) | 47 (38%) |
| Female | 361 (60%) | 77 (62%) |
| Clerical or service worker | 154 (25%) | 30 (24%) |
| Full-time homemaker | 0 (0%) | 1 (1%) |
| Laborer or machine operator | 43 (7%) | 7 (6%) |
| Management – middle | 104 (17%) | 22 (18%) |
| Management – upper | 1 (0%) | 0 (0%) |
| Other | 2 (0%) | 0 (0%) |
| Professional or technical | 210 (35%) | 49 (40%) |
| Sales or marketing | 57 (9%) | 14 (11%) |
| Tradesman | 33 (5%) | 1 (1%) |
| Associate’s degree | 61 (10%) | 11 (9%) |
| Bachelor’s degree | 148 (25%) | 31 (25%) |
| Completed grades 9-12, no diploma | 8 (1%) | 1 (1%) |
| Completed high school | 77 (13%) | 14 (11%) |
| Completed less than 9 th grade | 1 (0%) | 0 (0%) |
| Completed some college | 197 (33%) | 44 (35%) |
| Graduate or professional degree | 96 (16%) | 17 (14%) |
| NULL | 16 (3%) | 6 (5%) |
| United States | 446 (74%) | 97 (78%) |
| Canada | 158 (26%) | 27 (22%) |

TABLE 5.5
Correlation Matrix

| | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 |
|-----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|
| Q1 | | | | | | | | | | |
| Q2 | 0.496*** | | | | | | | | | |
| Q3 | 0.423*** | 0.489*** | | | | | | | | |
| Q4 | 0.420*** | 0.425*** | 0.309*** | | | | | | | |
| Q5 | -0.068 | -0.008 | 0.019 | 0.020 | | | | | | |
| Q6 | -0.397*** | -0.346*** | -0.293*** | -0.219*** | 0.227*** | | | | | |
| Q7 | -0.095* | -0.085* | -0.106** | -0.105** | 0.165*** | 0.309*** | | | | |
| Q8 | -0.115** | -0.108** | -0.158*** | -0.094* | 0.180*** | 0.295*** | 0.438*** | | | |
| Q9 | -0.352*** | -0.336*** | -0.327*** | -0.253*** | 0.220*** | 0.608*** | 0.335*** | 0.344*** | | |
| Q10 | -0.235*** | -0.237*** | -0.214*** | -0.119** | 0.018 | 0.205*** | 0.048 | 0.049 | 0.228*** | |
| Q11 | -0.258*** | -0.249*** | -0.191*** | -0.165*** | 0.125** | 0.373*** | 0.220*** | 0.182*** | 0.462*** | 0.284*** |
| Q12 | -0.041 | 0.017 | 0.054 | -0.107** | 0.113** | 0.169*** | 0.237*** | 0.091* | 0.134*** | 0.034 |
| Q13 | -0.271*** | -0.246*** | -0.218*** | -0.146*** | 0.282*** | 0.542*** | 0.390*** | 0.366*** | 0.526*** | 0.199*** |
| Q14 | -0.322*** | -0.357*** | -0.298*** | -0.203*** | 0.002 | 0.292*** | 0.094* | 0.163*** | 0.297*** | 0.326*** |
| Q15 | -0.420*** | -0.359*** | -0.311*** | -0.296*** | 0.018 | 0.330*** | 0.120** | 0.162*** | 0.326*** | 0.257*** |
| Q16 | -0.406*** | -0.413*** | -0.348*** | -0.369*** | 0.034 | 0.277*** | 0.139*** | 0.181*** | 0.334*** | 0.287*** |
| Q17 | -0.347*** | -0.321*** | -0.234*** | -0.268*** | 0.037 | 0.210*** | 0.051 | 0.020 | 0.224*** | 0.181*** |
| Q18 | -0.351*** | -0.354*** | -0.240*** | -0.291*** | 0.057 | 0.288*** | 0.173*** | 0.106** | 0.307*** | 0.266*** |
| Q19 | -0.324*** | -0.329*** | -0.362*** | -0.287*** | 0.051 | 0.322*** | 0.079* | 0.125** | 0.335*** | 0.201*** |
| Q20 | -0.325*** | -0.371*** | -0.353*** | -0.390*** | 0.098** | 0.279*** | 0.108** | 0.118** | 0.285*** | 0.151*** |
| Q21 | -0.300*** | -0.299*** | -0.286*** | -0.247*** | 0.009 | 0.274*** | 0.081* | 0.148*** | 0.311*** | 0.231*** |
| Q22 | -0.457*** | -0.500*** | -0.425*** | -0.350*** | 0.063 | 0.382*** | 0.080* | 0.126** | 0.367*** | 0.286*** |
| Q23 | -0.453*** | -0.449*** | -0.387*** | -0.412*** | 0.101** | 0.426*** | 0.123** | 0.126** | 0.425*** | 0.253*** |
| Q24 | -0.383*** | -0.367*** | -0.198*** | -0.455*** | 0.036 | 0.328*** | 0.112** | 0.061 | 0.265*** | 0.195*** |
| Q25 | -0.082* | -0.011 | -0.072* | -0.095* | 0.152*** | 0.110** | 0.192*** | 0.198*** | 0.164*** | -0.018 |
| Q26 | 0.033 | 0.028 | 0.040 | -0.026 | 0.169*** | 0.030 | 0.144*** | 0.202*** | 0.102** | -0.030 |
| Q27 | 0.088* | 0.168*** | 0.055 | 0.114** | 0.174*** | 0.073* | 0.044 | 0.119** | 0.161*** | -0.111** |
| Q28 | 0.005 | -0.043 | -0.065 | -0.032 | -0.133*** | -0.128*** | -0.194*** | -0.101** | -0.099** | 0.027 |
| Q29 | -0.145*** | -0.195*** | -0.164*** | -0.140*** | -0.179*** | 0.020 | -0.014 | -0.087* | 0.043 | 0.057 |
| Q30 | -0.091* | -0.111** | -0.129*** | 0.014 | 0.127** | 0.283*** | 0.293*** | 0.198*** | 0.331*** | 0.057 |
| Q31 | -0.485*** | -0.374*** | -0.345*** | -0.372*** | 0.236*** | 0.504*** | 0.282*** | 0.269*** | 0.565*** | 0.167*** |
| Q32 | -0.436*** | -0.404*** | -0.275*** | -0.337*** | 0.258*** | 0.491*** | 0.274*** | 0.213*** | 0.529*** | 0.200*** |
| Q33 | -0.399*** | -0.399*** | -0.298*** | -0.272*** | 0.229*** | 0.483*** | 0.263*** | 0.288*** | 0.570*** | 0.177*** |
| Q34 | -0.443*** | -0.391*** | -0.314*** | -0.313*** | 0.236*** | 0.488*** | 0.239*** | 0.245*** | 0.533*** | 0.202*** |
| Q35 | -0.402*** | -0.358*** | -0.292*** | -0.242*** | 0.249*** | 0.440*** | 0.216*** | 0.220*** | 0.496*** | 0.129*** |
| Q36 | -0.442*** | -0.378*** | -0.330*** | -0.337*** | 0.206*** | 0.486*** | 0.243*** | 0.206*** | 0.535*** | 0.219*** |
| Q37 | -0.478*** | -0.438*** | -0.344*** | -0.383*** | 0.236*** | 0.538*** | 0.251*** | 0.215*** | 0.589*** | 0.180*** |
| Q38 | -0.456*** | -0.392*** | -0.337*** | -0.376*** | 0.216*** | 0.520*** | 0.254*** | 0.229*** | 0.564*** | 0.176*** |

* p < .05 ** p < .01 *** p < .001

TABLE 5.5 (Continued)
Correlation Matrix

| | Q11 | Q12 | Q13 | Q14 | Q15 | Q16 | Q17 | Q18 | Q19 | Q20 |
|-----|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|
| Q1 | | | | | | | | | | |
| Q2 | | | | | | | | | | |
| Q3 | | | | | | | | | | |
| Q4 | | | | | | | | | | |
| Q5 | | | | | | | | | | |
| Q6 | | | | | | | | | | |
| Q7 | | | | | | | | | | |
| Q8 | | | | | | | | | | |
| Q9 | | | | | | | | | | |
| Q10 | | | | | | | | | | |
| Q11 | | | | | | | | | | |
| Q12 | 0.106** | | | | | | | | | |
| Q13 | 0.399*** | 0.169*** | | | | | | | | |
| Q14 | 0.181*** | 0.012 | 0.267*** | | | | | | | |
| Q15 | 0.212*** | -0.001 | 0.278*** | 0.392*** | | | | | | |
| Q16 | 0.226*** | 0.025 | 0.305*** | 0.340*** | 0.546*** | | | | | |
| Q17 | 0.141*** | -0.042 | 0.205*** | 0.260*** | 0.333*** | 0.378*** | | | | |
| Q18 | 0.185*** | 0.063 | 0.234*** | 0.297*** | 0.386*** | 0.443*** | 0.395*** | | | |
| Q19 | 0.186*** | 0.021 | 0.291*** | 0.342*** | 0.259*** | 0.339*** | 0.303*** | 0.331*** | | |
| Q20 | 0.082* | -0.004 | 0.204*** | 0.314*** | 0.308*** | 0.377*** | 0.272*** | 0.323*** | 0.350*** | |
| Q21 | 0.179*** | 0.010 | 0.233*** | 0.291*** | 0.250*** | 0.305*** | 0.281*** | 0.258*** | 0.514*** | 0.277*** |
| Q22 | 0.214*** | -0.058 | 0.269*** | 0.402*** | 0.382*** | 0.415*** | 0.334*** | 0.345*** | 0.440*** | 0.456*** |
| Q23 | 0.287*** | 0.056 | 0.307*** | 0.375*** | 0.438*** | 0.447*** | 0.396*** | 0.368*** | 0.451*** | 0.467*** |
| Q24 | 0.153*** | 0.077* | 0.210*** | 0.253*** | 0.348*** | 0.387*** | 0.299*** | 0.319*** | 0.292*** | 0.397*** |
| Q25 | 0.102** | 0.049 | 0.184*** | -0.012 | 0.044 | 0.126** | 0.059 | 0.055 | 0.021 | 0.032 |
| Q26 | 0.091* | -0.031 | 0.170*** | -0.123** | 0.038 | 0.050 | -0.036 | 0.010 | -0.060 | 0.003 |
| Q27 | 0.084* | -0.019 | 0.149*** | -0.090* | -0.087* | -0.069* | -0.077* | -0.073* | -0.011 | -0.067 |
| Q28 | -0.111** | -0.128*** | -0.153*** | 0.027 | 0.057 | 0.079* | 0.067 | 0.022 | 0.049 | 0.101** |
| Q29 | 0.016 | -0.125** | -0.060 | 0.181*** | 0.156*** | 0.129*** | 0.168*** | 0.157*** | 0.142*** | 0.105** |
| Q30 | 0.272*** | 0.126** | 0.383*** | 0.148*** | 0.064 | 0.103** | -0.022 | 0.148*** | 0.148*** | 0.102** |
| Q31 | 0.399*** | 0.155*** | 0.508*** | 0.242*** | 0.337*** | 0.339*** | 0.270*** | 0.303*** | 0.276*** | 0.363*** |
| Q32 | 0.414*** | 0.146*** | 0.449*** | 0.244*** | 0.348*** | 0.313*** | 0.243*** | 0.316*** | 0.271*** | 0.297*** |
| Q33 | 0.401*** | 0.113** | 0.446*** | 0.202*** | 0.309*** | 0.272*** | 0.215*** | 0.266*** | 0.283*** | 0.316*** |
| Q34 | 0.372*** | 0.106** | 0.488*** | 0.243*** | 0.348*** | 0.335*** | 0.280*** | 0.307*** | 0.290*** | 0.351*** |
| Q35 | 0.367*** | 0.091* | 0.439*** | 0.200*** | 0.324*** | 0.258*** | 0.284*** | 0.253*** | 0.251*** | 0.294*** |
| Q36 | 0.371*** | 0.087* | 0.461*** | 0.225*** | 0.336*** | 0.313*** | 0.245*** | 0.304*** | 0.257*** | 0.365*** |
| Q37 | 0.398*** | 0.135*** | 0.490*** | 0.224*** | 0.347*** | 0.372*** | 0.281*** | 0.338*** | 0.312*** | 0.349*** |
| Q38 | 0.366*** | 0.116** | 0.481*** | 0.279*** | 0.373*** | 0.396*** | 0.291*** | 0.345*** | 0.283*** | 0.380*** |

* p < .05 ** p < .01 *** p < .001

TABLE 5.5 (Continued)
Correlation Matrix

| | Q21 | Q22 | Q23 | Q24 | Q25 | Q26 | Q27 | Q28 | Q29 | Q30 |
|-----|----------|-----------|----------|----------|----------|----------|-----------|-----------|----------|----------|
| Q1 | | | | | | | | | | |
| Q2 | | | | | | | | | | |
| Q3 | | | | | | | | | | |
| Q4 | | | | | | | | | | |
| Q5 | | | | | | | | | | |
| Q6 | | | | | | | | | | |
| Q7 | | | | | | | | | | |
| Q8 | | | | | | | | | | |
| Q9 | | | | | | | | | | |
| Q10 | | | | | | | | | | |
| Q11 | | | | | | | | | | |
| Q12 | | | | | | | | | | |
| Q13 | | | | | | | | | | |
| Q14 | | | | | | | | | | |
| Q15 | | | | | | | | | | |
| Q16 | | | | | | | | | | |
| Q17 | | | | | | | | | | |
| Q18 | | | | | | | | | | |
| Q19 | | | | | | | | | | |
| Q20 | | | | | | | | | | |
| Q21 | | | | | | | | | | |
| Q22 | 0.336*** | | | | | | | | | |
| Q23 | 0.432*** | 0.559*** | | | | | | | | |
| Q24 | 0.287*** | 0.350*** | 0.521*** | | | | | | | |
| Q25 | 0.034 | 0.038 | 0.070* | 0.057 | | | | | | |
| Q26 | -0.051 | -0.007 | 0.028 | 0.029 | 0.398*** | | | | | |
| Q27 | 0.009 | -0.153*** | -0.053 | -0.090* | 0.221*** | 0.311*** | | | | |
| Q28 | -0.012 | 0.062 | 0.052 | 0.002 | -0.091* | -0.075* | -0.106** | | | |
| Q29 | 0.128*** | 0.195*** | 0.113** | 0.116** | -0.047 | -0.113** | -0.170*** | 0.143*** | | |
| Q30 | 0.131*** | 0.126** | 0.144*** | -0.006 | 0.093* | 0.092* | 0.184*** | -0.130*** | -0.008 | |
| Q31 | 0.281*** | 0.369*** | 0.456*** | 0.347*** | 0.179*** | 0.158*** | 0.056 | -0.123** | 0.072* | 0.320*** |
| Q32 | 0.261*** | 0.386*** | 0.439*** | 0.308*** | 0.148*** | 0.167*** | 0.009 | -0.153*** | 0.064 | 0.271*** |
| Q33 | 0.260*** | 0.328*** | 0.358*** | 0.233*** | 0.103** | 0.085* | 0.057 | -0.092* | 0.044 | 0.297*** |
| Q34 | 0.266*** | 0.404*** | 0.448*** | 0.278*** | 0.067 | 0.079* | 0.060 | -0.057 | 0.025 | 0.250*** |
| Q35 | 0.182*** | 0.339*** | 0.373*** | 0.226*** | 0.096* | 0.110** | 0.047 | -0.144*** | 0.082* | 0.281*** |
| Q36 | 0.270*** | 0.326*** | 0.442*** | 0.318*** | 0.154*** | 0.140*** | 0.052 | -0.053 | 0.109** | 0.244*** |
| Q37 | 0.302*** | 0.393*** | 0.443*** | 0.333*** | 0.126** | 0.124** | 0.068* | -0.138*** | 0.087* | 0.301*** |
| Q38 | 0.321*** | 0.394*** | 0.440*** | 0.346*** | 0.199*** | 0.122** | 0.070* | -0.078* | 0.135*** | 0.271*** |

* p < .05 ** p < .01 *** p < .001

TABLE 5.5 (Continued)
Correlation Matrix

| | Q31 | Q32 | Q33 | Q34 | Q35 | Q36 | Q37 | Q38 |
|-----|----------|----------|----------|----------|----------|----------|----------|-----|
| Q1 | | | | | | | | |
| Q2 | | | | | | | | |
| Q3 | | | | | | | | |
| Q4 | | | | | | | | |
| Q5 | | | | | | | | |
| Q6 | | | | | | | | |
| Q7 | | | | | | | | |
| Q8 | | | | | | | | |
| Q9 | | | | | | | | |
| Q10 | | | | | | | | |
| Q11 | | | | | | | | |
| Q12 | | | | | | | | |
| Q13 | | | | | | | | |
| Q14 | | | | | | | | |
| Q15 | | | | | | | | |
| Q16 | | | | | | | | |
| Q17 | | | | | | | | |
| Q18 | | | | | | | | |
| Q19 | | | | | | | | |
| Q20 | | | | | | | | |
| Q21 | | | | | | | | |
| Q22 | | | | | | | | |
| Q23 | | | | | | | | |
| Q24 | | | | | | | | |
| Q25 | | | | | | | | |
| Q26 | | | | | | | | |
| Q27 | | | | | | | | |
| Q28 | | | | | | | | |
| Q29 | | | | | | | | |
| Q30 | | | | | | | | |
| Q31 | | | | | | | | |
| Q32 | 0.724*** | | | | | | | |
| Q33 | 0.714*** | 0.688*** | | | | | | |
| Q34 | 0.721*** | 0.673*** | 0.733*** | | | | | |
| Q35 | 0.680*** | 0.663*** | 0.704*** | 0.708*** | | | | |
| Q36 | 0.735*** | 0.687*** | 0.671*** | 0.675*** | 0.637*** | | | |
| Q37 | 0.776*** | 0.717*** | 0.683*** | 0.710*** | 0.671*** | 0.759*** | | |
| Q38 | 0.737*** | 0.665*** | 0.657*** | 0.670*** | 0.640*** | 0.702*** | 0.768*** | |

* p < .05 ** p < .01 *** p < .001

Maximum Likelihood computation is widely accepted for EFA and is superior to the more-commonly-used Principal Components Analysis method (Fabrigar, Wegener, MacCallum, & Strahan, 1999). Promax rotation (Hendrickson & White, 1964) is a widely-used oblique factor rotation method that has generally been found to produce satisfactory results (Fabrigar et al., 1999). Orthogonal rotations are easier to interpret, but oblique rotations are methodologically superior because non-correlation between factors is generally an untenable assumption (Conway & Huffcutt, 2003; Fabrigar et al., 1999). Promax can be conducted with a range of Kappa values, such that Kappa = 1 results in a Varimax (orthogonal) rotation, and higher values result in progressively more oblique rotations (Norusis, 2006). Kappa values greater than four entail strong correlations between factors and are not recommended (Norusis, 2006). I ran my analyses using Kappa = 2.

The first factor analysis produced the results shown in Table 5.6. Extraction produced seven factors, with high cross-loadings. Several items also had alarmingly low communalities.

TABLE 5.6
First Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | | | | | Total Variance Explained | | | |
|---------------|-------------|------------------|--------------|-------------|--------------|-------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | Total | % of Variance | Cumulative % |
| Q1 | .460 | -.499 | -.522 | -.110 | -.267 | -.020 | -.384 | -.422 | 1 | 11.536 | 30.359 | 30.359 |
| Q2 | .487 | -.435 | -.518 | -.094 | -.295 | .038 | -.345 | -.564 | 2 | 3.369 | 8.865 | 39.224 |
| Q3 | .384 | -.352 | -.407 | -.121 | -.349 | -.045 | -.180 | -.626 | 3 | 1.708 | 4.494 | 43.718 |
| Q4 | .399 | -.349 | -.387 | -.048 | -.180 | -.074 | -.625 | -.386 | 4 | 1.481 | 3.897 | 47.615 |
| Q5 | .196 | .286 | .030 | .251 | .106 | .245 | -.030 | -.144 | 5 | 1.262 | 3.320 | 50.935 |
| Q6 | .524 | .576 | .411 | .501 | .426 | .107 | .153 | .144 | 6 | 1.125 | 2.961 | 53.896 |
| Q7 | .343 | .275 | .156 | .649 | .035 | .222 | .047 | .091 | 7 | 1.089 | 2.865 | 56.760 |
| Q8 | .321 | .259 | .188 | .548 | .109 | .304 | -.059 | .166 | 8 | .986 | 2.595 | 59.356 |
| Q9 | .571 | .641 | .413 | .510 | .427 | .216 | .094 | .194 | 9 | .948 | 2.495 | 61.850 |
| Q10 | .244 | .196 | .423 | .121 | .211 | -.068 | .053 | .140 | 10 | .894 | 2.354 | 64.204 |
| Q11 | .331 | .458 | .293 | .364 | .231 | .125 | .016 | .093 | 11 | .810 | 2.132 | 66.336 |
| Q12 | .153 | .133 | -.004 | .334 | .000 | -.034 | .145 | -.134 | 12 | .800 | 2.104 | 68.441 |
| Q13 | .513 | .549 | .374 | .589 | .326 | .271 | .002 | .057 | 13 | .784 | 2.063 | 70.504 |
| Q14 | .352 | .244 | .542 | .183 | .344 | -.095 | .105 | .288 | 14 | .749 | 1.971 | 72.475 |
| Q15 | .429 | .363 | .709 | .135 | .122 | .074 | .224 | .264 | 15 | .726 | 1.909 | 74.384 |
| Q16 | .476 | .338 | .713 | .155 | .195 | .153 | .314 | .318 | 16 | .655 | 1.725 | 76.109 |
| Q17 | .319 | .286 | .508 | -.021 | .238 | .017 | .261 | .194 | 17 | .631 | 1.660 | 77.769 |
| Q18 | .349 | .325 | .562 | .153 | .216 | .043 | .269 | .217 | 18 | .604 | 1.591 | 79.359 |
| Q19 | .426 | .304 | .431 | .120 | .625 | -.003 | .193 | .282 | 19 | .588 | 1.547 | 80.906 |
| Q20 | .395 | .368 | .440 | .049 | .348 | .064 | .394 | .345 | 20 | .572 | 1.504 | 82.411 |
| Q21 | .365 | .292 | .382 | .109 | .546 | .020 | .216 | .215 | 21 | .560 | 1.475 | 83.885 |
| Q22 | .509 | .405 | .572 | .083 | .455 | .003 | .289 | .449 | 22 | .526 | 1.385 | 85.270 |
| Q23 | .564 | .469 | .601 | .115 | .517 | .081 | .445 | .276 | 23 | .496 | 1.306 | 86.576 |
| Q24 | .416 | .313 | .487 | .073 | .282 | .055 | .613 | .140 | 24 | .487 | 1.281 | 87.857 |
| Q25 | .244 | .144 | .064 | .221 | -.014 | .566 | .088 | .058 | 25 | .463 | 1.220 | 89.077 |
| Q26 | .302 | .142 | -.002 | .141 | -.100 | .682 | .017 | -.056 | 26 | .451 | 1.187 | 90.264 |
| Q27 | .256 | .085 | -.147 | .143 | .125 | .456 | -.205 | -.213 | 27 | .443 | 1.165 | 91.429 |
| Q28 | .153 | -.132 | .101 | -.273 | .013 | -.098 | .027 | .133 | 28 | .423 | 1.113 | 92.542 |
| Q29 | .183 | .073 | .208 | -.133 | .059 | -.138 | .141 | .281 | 29 | .386 | 1.016 | 93.558 |
| Q30 | .283 | .337 | .097 | .421 | .232 | .161 | -.134 | .054 | 30 | .348 | .917 | 94.475 |
| Q31 | .748 | .867 | .362 | .328 | .247 | .243 | .336 | .258 | 31 | .342 | .899 | 95.375 |
| Q32 | .672 | .815 | .377 | .303 | .215 | .191 | .285 | .217 | 32 | .317 | .834 | 96.208 |
| Q33 | .693 | .832 | .314 | .319 | .242 | .134 | .135 | .264 | 33 | .293 | .770 | 96.978 |
| Q34 | .696 | .835 | .396 | .263 | .271 | .129 | .194 | .233 | 34 | .268 | .705 | 97.683 |
| Q35 | .648 | .808 | .327 | .241 | .194 | .145 | .131 | .223 | 35 | .253 | .667 | 98.350 |
| Q36 | .688 | .826 | .358 | .249 | .234 | .214 | .308 | .246 | 36 | .232 | .611 | 98.960 |
| Q37 | .761 | .868 | .382 | .295 | .283 | .204 | .338 | .260 | 37 | .214 | .563 | 99.523 |
| Q38 | .697 | .816 | .423 | .289 | .265 | .237 | .330 | .263 | 38 | .181 | .477 | 100.000 |

Accordingly, I eliminated items 5, 10, 12, 27, 28, 29, and 30 from the second factor analysis, because they had communalities of less than 0.3. I suspected that these low communalities caused the ungainly factor structure in the first analysis. Item 25 had a communality of 0.244, but I retained it because of its high face validity (“People here are expected to provide evidence to back up their claims”). I also eliminated items 19 and 21 because they loaded too heavily on a different factor than other items from the power dimension, and because they were quite similar to each other (“Powerful people here usually get their way on questions of ethics” and “Popular people here usually get their way on questions of ethics”), which caused me to suspect that they were disrupting other loadings. The other parameters of the analysis were the same (Maximum Likelihood, and Promax rotation with Kappa = 2), and the results are shown in Table 5.7.

TABLE 5.7
Second Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | Total | % of Variance | Cumulative % |
| Q1 | 0.457 | -0.496 | -0.631 | -0.184 | 0.004 | 1 | 10.769 | 37.133 | 37.133 |
| Q2 | 0.477 | -0.429 | -0.651 | -0.192 | 0.107 | 2 | 2.586 | 8.916 | 46.049 |
| Q3 | 0.354 | -0.329 | -0.526 | -0.215 | 0.071 | 3 | 1.586 | 5.471 | 51.520 |
| Q4 | 0.375 | -0.362 | -0.579 | -0.024 | -0.175 | 4 | 1.281 | 4.416 | 55.936 |
| Q6 | 0.513 | 0.557 | 0.444 | 0.591 | -0.002 | 5 | 0.985 | 3.396 | 59.332 |
| Q7 | 0.294 | 0.276 | 0.112 | 0.514 | 0.244 | 6 | 0.922 | 3.179 | 62.511 |
| Q8 | 0.309 | 0.247 | 0.129 | 0.542 | 0.203 | 7 | 0.861 | 2.968 | 65.478 |
| Q9 | 0.561 | 0.624 | 0.429 | 0.620 | 0.071 | 8 | 0.801 | 2.763 | 68.241 |
| Q11 | 0.300 | 0.445 | 0.250 | 0.422 | 0.050 | 9 | 0.726 | 2.504 | 70.745 |
| Q13 | 0.477 | 0.524 | 0.309 | 0.645 | 0.157 | 10 | 0.673 | 2.319 | 73.064 |
| Q14 | 0.311 | 0.219 | 0.517 | 0.316 | -0.177 | 11 | 0.637 | 2.195 | 75.260 |
| Q15 | 0.413 | 0.354 | 0.605 | 0.275 | -0.004 | 12 | 0.616 | 2.123 | 77.383 |
| Q16 | 0.467 | 0.323 | 0.665 | 0.256 | 0.107 | 13 | 0.594 | 2.049 | 79.431 |
| Q17 | 0.290 | 0.275 | 0.516 | 0.107 | -0.025 | 14 | 0.545 | 1.878 | 81.309 |
| Q18 | 0.319 | 0.307 | 0.543 | 0.219 | 0.038 | 15 | 0.533 | 1.838 | 83.147 |
| Q20 | 0.373 | 0.354 | 0.580 | 0.116 | 0.024 | 16 | 0.499 | 1.719 | 84.866 |
| Q22 | 0.477 | 0.393 | 0.680 | 0.246 | -0.121 | 17 | 0.485 | 1.672 | 86.538 |
| Q23 | 0.537 | 0.460 | 0.715 | 0.253 | 0.000 | 18 | 0.468 | 1.614 | 88.152 |
| Q24 | 0.407 | 0.320 | 0.603 | 0.104 | 0.133 | 19 | 0.452 | 1.557 | 89.710 |
| Q25 | 0.227 | 0.134 | 0.064 | 0.199 | 0.512 | 20 | 0.412 | 1.421 | 91.130 |
| Q26 | 0.232 | 0.120 | -0.044 | 0.124 | 0.519 | 21 | 0.371 | 1.278 | 92.408 |
| Q31 | 0.743 | 0.869 | 0.465 | 0.341 | 0.235 | 22 | 0.361 | 1.246 | 93.654 |
| Q32 | 0.663 | 0.814 | 0.443 | 0.330 | 0.160 | 23 | 0.335 | 1.156 | 94.810 |
| Q33 | 0.689 | 0.829 | 0.365 | 0.382 | 0.024 | 24 | 0.305 | 1.053 | 95.863 |
| Q34 | 0.688 | 0.828 | 0.449 | 0.351 | 0.009 | 25 | 0.286 | 0.988 | 96.850 |
| Q35 | 0.630 | 0.797 | 0.364 | 0.315 | 0.027 | 26 | 0.266 | 0.916 | 97.767 |
| Q36 | 0.678 | 0.829 | 0.446 | 0.289 | 0.202 | 27 | 0.237 | 0.817 | 98.584 |
| Q37 | 0.756 | 0.869 | 0.490 | 0.318 | 0.187 | 28 | 0.223 | 0.769 | 99.353 |
| Q38 | 0.690 | 0.814 | 0.507 | 0.338 | 0.221 | 29 | 0.188 | 0.647 | 100.000 |

For the third factor analysis, I eliminated items 6, 9, 13, and 38 because of their high cross-loadings on different factors from other items in their same expected dimensions (Participation for the first three, and Satisfaction for the last). The results are shown in Table 5.8.

TABLE 5.8
Third Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------|--------------------------|---------------------|--------|---------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | | Total | % of Variance |
| Q1 | 0.452 | -0.492 | -0.630 | -0.075 | -0.001 | 1 | 8.927 | 35.709 | 35.709 |
| Q2 | 0.476 | -0.431 | -0.652 | 0.034 | -0.070 | 2 | 2.403 | 9.611 | 45.320 |
| Q3 | 0.350 | -0.329 | -0.527 | 0.020 | -0.143 | 3 | 1.531 | 6.122 | 51.443 |
| Q4 | 0.359 | -0.345 | -0.569 | -0.236 | 0.130 | 4 | 1.146 | 4.582 | 56.025 |
| Q7 | 0.261 | 0.290 | 0.125 | 0.323 | 0.388 | 5 | 0.978 | 3.914 | 59.939 |
| Q8 | 0.282 | 0.263 | 0.142 | 0.276 | 0.576 | 6 | 0.920 | 3.681 | 63.620 |
| Q11 | 0.249 | 0.455 | 0.260 | 0.144 | 0.149 | 7 | 0.829 | 3.317 | 66.937 |
| Q14 | 0.295 | 0.224 | 0.523 | -0.113 | 0.216 | 8 | 0.773 | 3.092 | 70.029 |
| Q15 | 0.412 | 0.357 | 0.610 | 0.049 | 0.151 | 9 | 0.704 | 2.814 | 72.844 |
| Q16 | 0.455 | 0.320 | 0.668 | 0.140 | 0.115 | 10 | 0.654 | 2.616 | 75.460 |
| Q17 | 0.287 | 0.272 | 0.517 | 0.006 | -0.020 | 11 | 0.628 | 2.511 | 77.971 |
| Q18 | 0.317 | 0.306 | 0.545 | 0.086 | 0.078 | 12 | 0.581 | 2.324 | 80.295 |
| Q20 | 0.370 | 0.347 | 0.577 | 0.073 | 0.002 | 13 | 0.557 | 2.230 | 82.524 |
| Q22 | 0.472 | 0.392 | 0.680 | -0.036 | 0.089 | 14 | 0.514 | 2.055 | 84.579 |
| Q23 | 0.530 | 0.459 | 0.717 | 0.120 | -0.017 | 15 | 0.497 | 1.989 | 86.568 |
| Q24 | 0.397 | 0.307 | 0.601 | 0.241 | -0.165 | 16 | 0.484 | 1.935 | 88.503 |
| Q25 | 0.210 | 0.128 | 0.063 | 0.479 | 0.083 | 17 | 0.456 | 1.825 | 90.328 |
| Q26 | 0.221 | 0.121 | -0.041 | 0.482 | 0.042 | 18 | 0.430 | 1.720 | 92.048 |
| Q31 | 0.734 | 0.864 | 0.467 | 0.326 | 0.050 | 19 | 0.373 | 1.491 | 93.539 |
| Q32 | 0.662 | 0.817 | 0.447 | 0.252 | 0.066 | 20 | 0.351 | 1.404 | 94.943 |
| Q33 | 0.681 | 0.841 | 0.368 | 0.091 | 0.227 | 21 | 0.295 | 1.181 | 96.123 |
| Q34 | 0.684 | 0.836 | 0.454 | 0.079 | 0.157 | 22 | 0.287 | 1.148 | 97.271 |
| Q35 | 0.627 | 0.805 | 0.369 | 0.073 | 0.156 | 23 | 0.247 | 0.989 | 98.260 |
| Q36 | 0.673 | 0.824 | 0.447 | 0.291 | -0.012 | 24 | 0.237 | 0.947 | 99.207 |
| Q37 | 0.728 | 0.857 | 0.490 | 0.278 | -0.010 | 25 | 0.198 | 0.793 | 100.000 |

For the fourth factor analysis, I eliminated item 7 (“People here ask coworkers for advice about moral problems”), because it combined low communality with high cross-loadings. The results are shown in Table 5.9.

TABLE 5.9
Fourth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|---------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | Total | % of Variance | Cumulative % |
| Q1 | 0.451 | -0.493 | -0.608 | -0.024 | -0.329 | 1 | 8.849 | 36.873 | 36.873 |
| Q2 | 0.474 | -0.432 | -0.645 | 0.041 | -0.259 | 2 | 2.327 | 9.697 | 46.570 |
| Q3 | 0.350 | -0.334 | -0.537 | -0.016 | -0.145 | 3 | 1.436 | 5.984 | 52.554 |
| Q4 | 0.356 | -0.338 | -0.495 | -0.085 | -0.512 | 4 | 1.072 | 4.466 | 57.021 |
| Q8 | 0.173 | 0.283 | 0.183 | 0.317 | -0.058 | 5 | 0.977 | 4.071 | 61.092 |
| Q11 | 0.247 | 0.462 | 0.265 | 0.145 | 0.102 | 6 | 0.845 | 3.522 | 64.613 |
| Q14 | 0.295 | 0.234 | 0.563 | -0.057 | 0.037 | 7 | 0.812 | 3.381 | 67.994 |
| Q15 | 0.396 | 0.360 | 0.621 | 0.092 | 0.165 | 8 | 0.742 | 3.091 | 71.085 |
| Q16 | 0.453 | 0.326 | 0.677 | 0.176 | 0.235 | 9 | 0.674 | 2.809 | 73.894 |
| Q17 | 0.286 | 0.272 | 0.511 | 0.008 | 0.212 | 10 | 0.653 | 2.719 | 76.613 |
| Q18 | 0.311 | 0.309 | 0.545 | 0.082 | 0.208 | 11 | 0.625 | 2.603 | 79.215 |
| Q20 | 0.375 | 0.347 | 0.552 | 0.018 | 0.330 | 12 | 0.580 | 2.416 | 81.632 |
| Q22 | 0.471 | 0.396 | 0.681 | -0.014 | 0.239 | 13 | 0.535 | 2.231 | 83.862 |
| Q23 | 0.532 | 0.459 | 0.680 | 0.061 | 0.425 | 14 | 0.507 | 2.114 | 85.976 |
| Q24 | 0.396 | 0.299 | 0.526 | 0.074 | 0.562 | 15 | 0.479 | 1.997 | 87.974 |
| Q25 | 0.204 | 0.134 | 0.046 | 0.609 | 0.118 | 16 | 0.458 | 1.909 | 89.882 |
| Q26 | 0.218 | 0.128 | -0.063 | 0.621 | 0.099 | 17 | 0.437 | 1.819 | 91.701 |
| Q31 | 0.734 | 0.864 | 0.412 | 0.233 | 0.408 | 18 | 0.372 | 1.550 | 93.252 |
| Q32 | 0.661 | 0.818 | 0.409 | 0.197 | 0.328 | 19 | 0.352 | 1.466 | 94.718 |
| Q33 | 0.683 | 0.845 | 0.363 | 0.109 | 0.162 | 20 | 0.297 | 1.236 | 95.954 |
| Q34 | 0.684 | 0.839 | 0.439 | 0.074 | 0.227 | 21 | 0.287 | 1.198 | 97.152 |
| Q35 | 0.627 | 0.808 | 0.363 | 0.106 | 0.155 | 22 | 0.248 | 1.033 | 98.184 |
| Q36 | 0.673 | 0.822 | 0.387 | 0.184 | 0.411 | 23 | 0.237 | 0.989 | 99.174 |
| Q37 | 0.728 | 0.854 | 0.430 | 0.162 | 0.425 | 24 | 0.198 | 0.826 | 100.000 |

For the fifth factor analysis, in an attempt to simplify the factor structure (and particularly to get clean loadings for contention and moral satisfaction, which ought to be separate from moral openness) I eliminated six items: 4 (“The decisions we make here are morally controversial”), 23 (“People here trade favors to win support for their arguments”), 24 (“Disagreements about ethics here often involve threats”), 31 (“I believe that my group’s moral decisions are fair”), 36 (“My group makes good moral decisions”), and 37 (“My group makes respectable moral decisions”). Each of these were eliminated because of their high cross-

loadings. This succeeded in producing a three-factor solution, albeit one with stubbornly high cross-loadings. The results are shown in Table 5.10.

TABLE 5.10
Fifth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | Total | % of Variance | Cumulative % |
| Q1 | 0.421 | -0.630 | -0.471 | 0.006 | 1 | 6.100 | 33.890 | 33.890 |
| Q2 | 0.447 | -0.655 | -0.433 | 0.057 | 2 | 1.870 | 10.392 | 44.282 |
| Q3 | 0.329 | -0.555 | -0.316 | 0.010 | 3 | 1.380 | 7.667 | 51.949 |
| Q8 | 0.164 | 0.166 | 0.286 | 0.284 | 5 | 0.974 | 5.410 | 57.359 |
| Q11 | 0.234 | 0.267 | 0.458 | 0.130 | 6 | 0.903 | 5.016 | 62.375 |
| Q14 | 0.284 | 0.551 | 0.230 | -0.081 | 7 | 0.837 | 4.650 | 67.024 |
| Q15 | 0.384 | 0.620 | 0.354 | 0.077 | 8 | 0.690 | 3.834 | 70.859 |
| Q16 | 0.442 | 0.694 | 0.302 | 0.160 | 9 | 0.674 | 3.746 | 74.605 |
| Q17 | 0.269 | 0.514 | 0.266 | 0.000 | 10 | 0.645 | 3.585 | 78.189 |
| Q18 | 0.309 | 0.567 | 0.292 | 0.072 | 11 | 0.598 | 3.321 | 81.511 |
| Q20 | 0.314 | 0.541 | 0.333 | -0.005 | 12 | 0.575 | 3.193 | 84.704 |
| Q22 | 0.431 | 0.669 | 0.398 | -0.020 | 13 | 0.529 | 2.937 | 87.640 |
| Q25 | 0.192 | 0.064 | 0.109 | 0.575 | 16 | 0.476 | 2.647 | 90.288 |
| Q26 | 0.215 | -0.052 | 0.112 | 0.668 | 17 | 0.463 | 2.571 | 92.859 |
| Q32 | 0.603 | 0.438 | 0.795 | 0.173 | 19 | 0.421 | 2.338 | 95.197 |
| Q33 | 0.658 | 0.378 | 0.863 | 0.080 | 20 | 0.322 | 1.787 | 96.983 |
| Q34 | 0.651 | 0.453 | 0.842 | 0.052 | 21 | 0.297 | 1.648 | 98.631 |
| Q35 | 0.604 | 0.382 | 0.817 | 0.098 | 22 | 0.246 | 1.369 | 100.000 |

For the sixth factor analysis, I eliminated item 8 (“People here ask supervisors for advice about moral problems”) because of its low communality (0.164). This resulted in another three-factor solution; however, simple structure was not yet achieved. Note particularly that the two remaining logic items (25 and 26) are the only two which load simply on factor 3, the four remaining satisfaction items (32-35) and the three remaining contention items (1-3) load heavily on factor 2 but cross-load on factor 1, and everything but items 11, 25, and 26 load on factor 1. The results are shown in Table 5.11.

TABLE 5.11
Sixth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------------------|---------------------|--------|---------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | | Total | % of Variance |
| Q1 | 0.421 | -0.629 | -0.473 | -0.001 | 1 | 6.019 | 35.407 | 35.407 |
| Q2 | 0.445 | -0.654 | -0.434 | 0.051 | 2 | 1.809 | 10.639 | 46.046 |
| Q3 | 0.326 | -0.554 | -0.315 | 0.023 | 3 | 1.339 | 7.878 | 53.923 |
| Q11 | 0.232 | 0.265 | 0.459 | 0.130 | 4 | 0.941 | 5.534 | 59.458 |
| Q14 | 0.274 | 0.551 | 0.228 | -0.103 | 5 | 0.857 | 5.040 | 64.497 |
| Q15 | 0.383 | 0.620 | 0.355 | 0.074 | 6 | 0.756 | 4.446 | 68.943 |
| Q16 | 0.440 | 0.694 | 0.305 | 0.151 | 7 | 0.675 | 3.968 | 72.911 |
| Q17 | 0.264 | 0.514 | 0.269 | 0.017 | 8 | 0.650 | 3.822 | 76.733 |
| Q18 | 0.309 | 0.568 | 0.295 | 0.077 | 9 | 0.603 | 3.548 | 80.280 |
| Q20 | 0.314 | 0.540 | 0.334 | 0.000 | 10 | 0.578 | 3.402 | 83.682 |
| Q22 | 0.431 | 0.668 | 0.399 | -0.013 | 11 | 0.539 | 3.172 | 86.854 |
| Q25 | 0.182 | 0.067 | 0.115 | 0.548 | 12 | 0.476 | 2.803 | 89.657 |
| Q26 | 0.200 | -0.050 | 0.119 | 0.695 | 13 | 0.463 | 2.724 | 92.381 |
| Q32 | 0.602 | 0.436 | 0.798 | 0.197 | 14 | 0.423 | 2.489 | 94.870 |
| Q33 | 0.651 | 0.375 | 0.860 | 0.086 | 15 | 0.324 | 1.906 | 96.775 |
| Q34 | 0.651 | 0.450 | 0.842 | 0.070 | 16 | 0.300 | 1.763 | 98.538 |
| Q35 | 0.604 | 0.379 | 0.819 | 0.121 | 17 | 0.248 | 1.462 | 100.000 |

For the seventh factor analysis, I therefore reintroduced item 27 from the logic subscale (“People who discuss ethics expect others to challenge the reasons they give for their position”), in the hope that a stronger third factor for moral openness climate might emerge. The results are shown in Table 5.12; as hoped, the item loaded with the other logic items.

TABLE 5.12
Seventh Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------------------|---------------------|--------|---------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | | Total | % of Variance |
| Q1 | 0.419 | -0.630 | -0.467 | 0.018 | 1 | 6.035 | 33.525 | 33.525 |
| Q2 | 0.455 | -0.658 | -0.426 | 0.080 | 2 | 1.993 | 11.071 | 44.596 |
| Q3 | 0.329 | -0.551 | -0.314 | 0.037 | 3 | 1.405 | 7.805 | 52.401 |
| Q11 | 0.234 | 0.265 | 0.455 | 0.141 | 4 | 0.943 | 5.239 | 57.640 |
| Q14 | 0.277 | 0.545 | 0.228 | -0.118 | 5 | 0.848 | 4.711 | 62.351 |
| Q15 | 0.388 | 0.623 | 0.347 | 0.051 | 6 | 0.819 | 4.548 | 66.900 |
| Q16 | 0.442 | 0.698 | 0.301 | 0.111 | 7 | 0.732 | 4.067 | 70.967 |
| Q17 | 0.266 | 0.514 | 0.270 | -0.012 | 8 | 0.670 | 3.723 | 74.691 |
| Q18 | 0.309 | 0.569 | 0.291 | 0.047 | 9 | 0.646 | 3.590 | 78.280 |
| Q20 | 0.314 | 0.540 | 0.339 | -0.020 | 10 | 0.601 | 3.337 | 81.618 |
| Q22 | 0.436 | 0.669 | 0.395 | -0.046 | 11 | 0.578 | 3.213 | 84.831 |
| Q25 | 0.202 | 0.080 | 0.105 | 0.551 | 12 | 0.527 | 2.928 | 87.759 |
| Q26 | 0.256 | -0.034 | 0.121 | 0.722 | 13 | 0.465 | 2.583 | 90.341 |
| Q27 | 0.168 | -0.181 | 0.070 | 0.406 | 14 | 0.460 | 2.554 | 92.895 |
| Q32 | 0.603 | 0.442 | 0.792 | 0.185 | 15 | 0.413 | 2.293 | 95.188 |
| Q33 | 0.650 | 0.374 | 0.860 | 0.101 | 16 | 0.319 | 1.773 | 96.961 |
| Q34 | 0.654 | 0.446 | 0.844 | 0.084 | 17 | 0.298 | 1.656 | 98.617 |
| Q35 | 0.604 | 0.379 | 0.818 | 0.129 | 18 | 0.249 | 1.383 | 100.000 |

For the eighth factor analysis, I eliminated Q11 (“Moral decision-making includes everyone who would be affected”), because it had the lowest communality among the items that loaded on factors 1 and 2, and I hoped that eliminating an item with a low communality would increase the simplicity of the factor structure. The results are shown in Table 5.13. Unfortunately, this did not produce a simple structure; cross-loadings remained high between factors 1 and 2.

TABLE 5.13
Eighth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | Total | % of Variance | Cumulative % |
| Q1 | 0.419 | -0.632 | -0.464 | 0.009 | 1 | 5.848 | 34.398 | 34.398 |
| Q2 | 0.453 | -0.659 | -0.423 | 0.067 | 2 | 1.928 | 11.340 | 45.738 |
| Q3 | 0.327 | -0.550 | -0.312 | 0.031 | 3 | 1.394 | 8.201 | 53.938 |
| Q14 | 0.273 | 0.544 | 0.223 | -0.114 | 4 | 0.936 | 5.508 | 59.446 |
| Q15 | 0.388 | 0.624 | 0.344 | 0.058 | 5 | 0.819 | 4.819 | 64.265 |
| Q16 | 0.438 | 0.697 | 0.295 | 0.114 | 6 | 0.738 | 4.340 | 68.606 |
| Q17 | 0.265 | 0.514 | 0.269 | -0.007 | 7 | 0.726 | 4.272 | 72.877 |
| Q18 | 0.309 | 0.570 | 0.288 | 0.052 | 8 | 0.665 | 3.912 | 76.790 |
| Q20 | 0.300 | 0.543 | 0.343 | -0.004 | 9 | 0.608 | 3.578 | 80.368 |
| Q22 | 0.436 | 0.671 | 0.393 | -0.034 | 10 | 0.590 | 3.472 | 83.840 |
| Q25 | 0.201 | 0.081 | 0.099 | 0.543 | 11 | 0.527 | 3.100 | 86.940 |
| Q26 | 0.257 | -0.031 | 0.115 | 0.736 | 12 | 0.470 | 2.762 | 89.702 |
| Q27 | 0.164 | -0.179 | 0.065 | 0.402 | 13 | 0.465 | 2.737 | 92.439 |
| Q32 | 0.595 | 0.449 | 0.787 | 0.203 | 14 | 0.415 | 2.440 | 94.878 |
| Q33 | 0.645 | 0.382 | 0.859 | 0.122 | 15 | 0.321 | 1.891 | 96.769 |
| Q34 | 0.654 | 0.453 | 0.846 | 0.106 | 16 | 0.300 | 1.764 | 98.533 |
| Q35 | 0.602 | 0.386 | 0.819 | 0.151 | 17 | 0.249 | 1.467 | 100.000 |

For the ninth factor analysis, therefore, I eliminated all three items for contention. Although I hesitated to do so because of the place of contention in my theory, it became clear over the course of this analysis that contention would not have discriminant validity from moral openness climate or moral satisfaction, and incorporating such a confound into subsequent analyses would detract from them. The results are shown in Table 5.14. Moral satisfaction items loaded strongly on factor 1, and logic items loaded strongly on factor 3, while other moral openness climate items loaded relatively strongly on factor 2 with weaker but still meaningful cross-loadings.

TABLE 5.14
Ninth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------|--------------------------|---------------------|--------|---------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | | Total | % of Variance |
| Q14 | 0.261 | 0.217 | 0.535 | -0.121 | 1 | 4.729 | 33.780 | 33.780 |
| Q15 | 0.380 | 0.341 | 0.658 | 0.050 | 2 | 1.879 | 13.424 | 47.204 |
| Q16 | 0.426 | 0.296 | 0.737 | 0.108 | 3 | 1.385 | 9.896 | 57.100 |
| Q17 | 0.256 | 0.277 | 0.521 | -0.011 | 4 | 0.822 | 5.868 | 62.969 |
| Q18 | 0.303 | 0.294 | 0.592 | 0.050 | 5 | 0.793 | 5.664 | 68.632 |
| Q20 | 0.293 | 0.351 | 0.532 | -0.004 | 6 | 0.732 | 5.226 | 73.858 |
| Q22 | 0.389 | 0.398 | 0.620 | -0.027 | 7 | 0.673 | 4.808 | 78.666 |
| Q25 | 0.190 | 0.100 | 0.079 | 0.538 | 8 | 0.608 | 4.346 | 83.012 |
| Q26 | 0.247 | 0.125 | -0.011 | 0.751 | 9 | 0.569 | 4.068 | 87.080 |
| Q27 | 0.149 | 0.060 | -0.157 | 0.390 | 10 | 0.499 | 3.561 | 90.641 |
| Q32 | 0.588 | 0.788 | 0.417 | 0.216 | 11 | 0.428 | 3.055 | 93.696 |
| Q33 | 0.637 | 0.855 | 0.350 | 0.133 | 12 | 0.325 | 2.320 | 96.015 |
| Q34 | 0.649 | 0.849 | 0.423 | 0.117 | 13 | 0.299 | 2.132 | 98.148 |
| Q35 | 0.603 | 0.822 | 0.360 | 0.157 | 14 | 0.259 | 1.852 | 100.000 |

For the tenth factor analysis of Study 3, I eliminated the logic items (25-27) because logic consistently appeared as a separate factor in these analyses. This resulted in a two-factor solution with high cross-loadings; eliminating the logic items from moral openness climate did not seem to simplify the factor structure. The results are shown in Table 5.15.

TABLE 5.15
Tenth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------------------|---------------------|--------|---------------|
| | | Factor | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | | | Total | % of Variance |
| Q14 | 0.238 | 0.221 | 0.529 | 1 | 4.687 | 42.605 | 42.605 |
| Q15 | 0.374 | 0.350 | 0.654 | 2 | 1.621 | 14.734 | 57.339 |
| Q16 | 0.417 | 0.308 | 0.729 | 3 | 0.825 | 7.501 | 64.841 |
| Q17 | 0.253 | 0.280 | 0.525 | 4 | 0.739 | 6.717 | 71.557 |
| Q18 | 0.305 | 0.302 | 0.595 | 5 | 0.655 | 5.952 | 77.509 |
| Q20 | 0.293 | 0.345 | 0.542 | 6 | 0.607 | 5.518 | 83.027 |
| Q22 | 0.380 | 0.400 | 0.622 | 7 | 0.521 | 4.738 | 87.765 |
| Q32 | 0.575 | 0.790 | 0.408 | 8 | 0.442 | 4.016 | 91.781 |
| Q33 | 0.633 | 0.855 | 0.337 | 9 | 0.339 | 3.077 | 94.859 |
| Q34 | 0.644 | 0.849 | 0.419 | 10 | 0.304 | 2.765 | 97.624 |
| Q35 | 0.600 | 0.822 | 0.354 | 11 | 0.261 | 2.376 | 100.000 |

For the eleventh and twelfth factor analyses of Study 3, I duplicated the item sets of analyses nine and ten, respectively, but instead of using Promax factor rotation with Kappa = 2, I used a Varimax factor rotation, which is intended to produce an orthogonal result. Orthogonal factor rotations are more likely to produce a simple factor structure, but are generally not recommended for psychological or organizational research because non-correlation between factors is generally an untenable assumption (Conway & Huffcutt, 2003; Fabrigar et al., 1999). Nonetheless, it is useful to examine the outcomes of orthogonal rotations, and these results are reported in Tables 5.16 and 5.17, respectively; note the lack of cross-loadings.

TABLE 5.16
Eleventh Exploratory Factor Analysis

| Communalities | | Structure Matrix | | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | Total | % of Variance | Cumulative % |
| Q14 | 0.261 | 0.150 | 0.503 | -0.130 | 1 | 4.729 | 33.780 | 33.780 |
| Q15 | 0.380 | 0.248 | 0.608 | 0.032 | 2 | 1.879 | 13.424 | 47.204 |
| Q16 | 0.426 | 0.182 | 0.710 | 0.100 | 3 | 1.385 | 9.896 | 57.100 |
| Q17 | 0.256 | 0.208 | 0.476 | -0.027 | 4 | 0.822 | 5.868 | 62.969 |
| Q18 | 0.303 | 0.209 | 0.551 | 0.036 | 5 | 0.793 | 5.664 | 68.632 |
| Q20 | 0.293 | 0.284 | 0.466 | -0.029 | 6 | 0.732 | 5.226 | 73.858 |
| Q22 | 0.389 | 0.320 | 0.545 | -0.055 | 7 | 0.673 | 4.808 | 78.666 |
| Q25 | 0.190 | 0.052 | 0.086 | 0.536 | 8 | 0.608 | 4.346 | 83.012 |
| Q26 | 0.247 | 0.078 | -0.007 | 0.745 | 9 | 0.569 | 4.068 | 87.080 |
| Q27 | 0.149 | 0.060 | -0.165 | 0.382 | 10 | 0.499 | 3.561 | 90.641 |
| Q32 | 0.588 | 0.752 | 0.220 | 0.132 | 11 | 0.428 | 3.055 | 93.696 |
| Q33 | 0.637 | 0.840 | 0.122 | 0.036 | 12 | 0.325 | 2.320 | 96.015 |
| Q34 | 0.649 | 0.823 | 0.202 | 0.024 | 13 | 0.299 | 2.132 | 98.148 |
| Q35 | 0.603 | 0.802 | 0.145 | 0.065 | 14 | 0.259 | 1.852 | 100.000 |

TABLE 5.17
Twelfth Exploratory Factor Analysis

| Communalities | | Structure Matrix | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | | Total | % of Variance | Cumulative % |
| Q14 | 0.238 | 0.146 | 0.501 | 1 | 4.687 | 42.605 | 42.605 |
| Q15 | 0.374 | 0.261 | 0.594 | 2 | 1.621 | 14.734 | 57.339 |
| Q16 | 0.417 | 0.205 | 0.689 | 3 | 0.825 | 7.501 | 64.841 |
| Q17 | 0.253 | 0.209 | 0.477 | 4 | 0.739 | 6.717 | 71.557 |
| Q18 | 0.305 | 0.220 | 0.546 | 5 | 0.655 | 5.952 | 77.509 |
| Q20 | 0.293 | 0.274 | 0.474 | 6 | 0.607 | 5.518 | 83.027 |
| Q22 | 0.380 | 0.319 | 0.543 | 7 | 0.521 | 4.738 | 87.765 |
| Q32 | 0.575 | 0.766 | 0.185 | 8 | 0.442 | 4.016 | 91.781 |
| Q33 | 0.633 | 0.845 | 0.086 | 9 | 0.339 | 3.077 | 94.859 |
| Q34 | 0.644 | 0.826 | 0.176 | 10 | 0.304 | 2.765 | 97.624 |
| Q35 | 0.600 | 0.808 | 0.115 | 11 | 0.261 | 2.376 | 100.000 |

Reliability analysis was then conducted for four scales: moral openness climate, moral openness climate less logic, logic, and moral satisfaction. Moral openness climate was comprised of items 14, 15, 16, 17, 18, 20, 22, 25, 26, and 27, and had a Cronbach's Alpha of 0.704. Moral openness climate less logic was comprised of items 14, 15, 16, 17, 18, 20, and 22, and had a Cronbach's Alpha of 0.801. Moral satisfaction was comprised of items 32, 33, 34, and 35, and had a Cronbach's Alpha of 0.898. Logic was comprised of items 25, 26, and 27, and had a Cronbach's Alpha of 0.57.

Overall, I decided to use the complete moral openness climate scale for the Study 4 survey, incorporating what remained of the subscales for participation, closure, power, and logic. Doing so enabled subsequent analysis of derivative versions of moral openness climate in Study Four. Moral satisfaction had superb reliability, indicating its readiness for use in Study 4. Unfortunately, contention did not emerge from Study 3 as a reliable construct in its own right, but rather lacked discriminant validity from both moral openness climate and moral satisfaction. This made subsequent analyses incorporating contention as a scale of its own impossible.

Study Four: Assessment of Construct Validity Using Field Data

The fourth study attempted to ascertain the construct validity of moral openness climate. Using data collected through both online and paper surveys, I measured the sharedness of moral openness climate perceptions using standard measures of aggregation that are typical for climate research: Rwg(j) (James et al., 1984), One-way ANOVA (Kenny & Judd, 1986), and ICC(1) and ICC(2) (Bliese, 2000). I also ran another factor analysis to assess the expected unidimensionality of moral openness climate, and a separate factor analysis to establish its discriminant validity

from other similar but conceptually distinct scales: respectful interaction (Vogus, 2004), and participatory decision-making (Arnold et al., 2000). I next ran regressions to test whether the machiavellianism (Christie & Geis, 1970) of a work group's manager predicted moral openness climate. I also ran regression analyses to establish its criterion validity with respect to other scales with which moral openness climate could be expected to be related: collective moral character and collective moral motivation (Arnaud, 2006), and moral satisfaction. Finally, I ran regressions to test whether the standard deviation of moral openness climate within a work group (as a proxy for contention) predicted moral satisfaction or moderated the relationship between moral openness climate and moral satisfaction.

Because the eLab panel was used for the prior two studies, it was important to return to the field to assess construct validity, especially since moral openness climate's nature as a climate construct requires that it be assessed as a shared perception within work groups rather than as the independent perceptions of dissociated individuals. I used three surveys to gather information on moral openness climate and its related scales: an initial survey that was sent to work group members in participating organizations, which incorporated all of the scales listed above except moral satisfaction; a manager survey that was sent at the same time as the initial survey and incorporated machiavellianism items; and a followup survey which only incorporated moral satisfaction items, and that was sent to work group members in participating organizations three weeks after the initial survey. I sent the followup survey to introduce temporal separation and thereby control common method bias: Podsakoff, MacKenzie, Lee, and Podsakoff (2003) state "[I]f the predictor and criterion variables can be measured from different sources, we recommend that this be done. Additional statistical remedies could be used but in our view are

probably unnecessary in these instances." (Podsakoff et al., 2003: 897). The three surveys are shown in Appendices L-N.

Sample sizes and response rates

I solicited a grand total of 73 organizations, with 24 agreeing to participate, for a 33% response rate. Participating organizations included retail banks in Tennessee, Michigan, and New Jersey; a commercial bank in Georgia; CPA firms in Georgia and California; an architecture firm in Georgia; a software company in North Carolina; a commercial real estate appraisal firm in Georgia; a roofer in Michigan; an electrical engineering and contracting firm in Michigan; a legal document production and management company in Michigan; a furniture manufacturer in Michigan; an automotive aftermarket parts manufacturer in Michigan; and dentists in Georgia, Illinois, and Michigan.

Within those 24 organizations, I surveyed 56 groups, of which 16 were usable (i.e. had a manager response and 33% staff response rates for both the initial and followup surveys), for a 29% response rate.

I sent out a total of 463 staff and 74 manager surveys; I got 196 usable initial staff surveys back (42%), and 148 usable followup staff surveys back (32%). I got 37 usable manager surveys back (50%). A survey was usable if the consent box was checked, if the respondent was over 18, and if the survey was substantially completed (i.e. with only occasional missing data).

Finally, the subset of usable individual responses that occur within usable groups is smaller: 97 staff for the initial survey (23%), 98 staff for the followup survey (also 23%), and 19 managers (or 26%), (three of whom were managers at the California accounting firm to whom 15 employees reported collectively; I averaged their responses together for their group).

Descriptive statistics and correlations are shown in Tables 5.18-5.25.

TABLE 5.18
Descriptive Statistics for Initial Staff Survey

| | N | Mean | Std. Deviation | | N | Mean | Std. Deviation |
|-------|----|------|-------------------|------|----|------|-------------------|
| MOC1 | 97 | 3.27 | .99 | CMM1 | 95 | 4.29 | .74 |
| MOC2 | 97 | 3.04 | 1.00 | CMM2 | 96 | 4.40 | .76 |
| MOC3 | 97 | 2.91 | 1.02 | CMM3 | 95 | 3.92 | 1.02 |
| MOC4 | 97 | 2.57 | .92 | CMM4 | 96 | 3.83 | .93 |
| MOC5 | 97 | 2.39 | 1.03 | CMM5 | 96 | 4.16 | .82 |
| MOC6 | 97 | 2.20 | 1.11 | CMM6 | 96 | 4.36 | .71 |
| MOC7 | 97 | 2.40 | 1.11 | CMM7 | 96 | 4.28 | .84 |
| MOC8 | 95 | 2.45 | .90 | CMM8 | 96 | 4.21 | .81 |
| MOC9 | 96 | 2.65 | 1.03 | PDM1 | 96 | 1.92 | .87 |
| MOC10 | 96 | 3.26 | .81 | PDM2 | 96 | 1.82 | .58 |
| CMC1 | 97 | 1.77 | .71 | PDM3 | 93 | 2.02 | .77 |
| CMC2 | 96 | 2.14 | .88 | PDM4 | 96 | 1.92 | .78 |
| CMC3 | 96 | 2.32 | 1.01 | PDM5 | 94 | 2.23 | .84 |
| CMC4 | 96 | 2.27 | 1.03 | PDM6 | 95 | 3.72 | .96 |
| CMC5 | 95 | 2.24 | .82 | RI1 | 95 | 2.42 | .89 |
| CMC6 | 96 | 1.78 | .78 | RI2 | 96 | 1.81 | .76 |
| | | | | RI3 | 96 | 1.99 | .67 |
| | | | | RI4 | 96 | 1.61 | .70 |

Staff respondents were 71.1% female. Educational attainment included less than high school (6.2 %), a Diploma (23.7%), some college (11.3%), Bachelor's degree (36.1%), and Graduate degree (22.7%). Staff job types included Clerical / Service (14.4%), Sales / Marketing (2.1%), Management (4.1%) and Professional / Technical (64.9%). Modal job tenures were 1 year (19.6%), 3 years (16.5%), and 4 and 5 years (7.2% each). Their mean age was 41.

TABLE 5.19
Correlation Matrix for Initial Staff Survey

| | MOC1 | MOC2 | MOC3 | MOC4 | MOC5 | MOC6 | MOC7 | MOC8 | MOC9 | MOC10 |
|-------|-------|---------|---------|---------|---------|---------|---------|--------|--------|-------|
| MOC1 | 1 | | | | | | | | | |
| MOC2 | .246* | 1 | | | | | | | | |
| MOC3 | .220 | .655** | 1 | | | | | | | |
| MOC4 | .170 | .320** | .372** | 1 | | | | | | |
| MOC5 | .027 | .237* | .105 | .352** | 1 | | | | | |
| MOC6 | .041 | .218* | .189 | .323** | .256* | 1 | | | | |
| MOC7 | .133 | .356** | .399** | .438** | .378** | .232 | 1 | | | |
| MOC8 | -.114 | .194 | .112 | -.175 | .269 | .233 | -.043 | 1 | | |
| MOC9 | -.249 | .104 | .119 | -.017 | .016 | -.016 | -.099 | .347** | 1 | |
| MOC10 | -.053 | .071 | -.009 | -.097 | .090 | .065 | -.117 | .198 | .290** | 1 |
| CMC1 | -.179 | .145 | .207 | .051 | .136 | -.080 | .332** | .088 | .172 | -.028 |
| CMC2 | -.161 | .161 | .187 | .183 | .377** | .263 | .228 | .207 | .294** | -.083 |
| CMC3 | .065 | .337** | .256 | .286** | .339** | .160 | .418** | .135 | .077 | .051 |
| CMC4 | .021 | .235* | .046 | .093 | .228 | .064 | .220 | .275** | .214* | .075 |
| CMC5 | .064 | .389** | .265 | .103 | .184 | .124 | .195 | .233 | .157 | -.083 |
| CMC6 | -.102 | .168 | .231 | .104 | .318** | .141 | .423** | .148 | .256* | .173 |
| CMM1 | -.006 | -.284** | -.259 | -.324** | -.316** | -.083 | -.562** | .032 | -.012 | .163 |
| CMM2 | .112 | -.303** | -.310** | -.277** | -.338** | -.110 | -.473** | -.143 | .019 | .095 |
| CMM3 | .030 | -.219* | -.243** | -.298** | -.242** | -.031 | -.413** | -.037 | .045 | .072 |
| CMM4 | -.055 | -.171 | -.182 | -.257** | -.220 | -.068 | -.255** | .178 | -.101 | -.188 |
| CMM5 | .059 | -.147 | -.203 | -.310** | -.255** | .000 | -.456** | .116 | -.121 | -.030 |
| CMM6 | .074 | -.244** | -.416** | -.257** | -.335** | -.180 | -.426** | -.106 | -.049 | .041 |
| CMM7 | .167 | -.252** | -.257** | -.309** | -.371** | -.059 | -.558** | -.010 | -.093 | -.018 |
| CMM8 | .056 | -.360** | -.416** | -.257** | -.225** | -.330** | -.376** | -.146 | -.033 | -.117 |
| PDM1 | -.044 | .174 | .215 | .191 | .323** | .044 | .276** | .128 | .199 | .117 |
| PDM2 | .020 | .165 | .225* | .090 | .233* | .070 | .160 | .184 | .185 | .137 |
| PDM3 | -.036 | .188 | .213 | .072 | .373** | -.003 | .285** | .174 | .276** | .179 |
| PDM4 | .038 | .213 | .254 | .104 | .256 | .109 | .140 | .209 | -.002 | .066 |
| PDM5 | -.068 | .066 | .133 | .180 | .257* | .071 | .262 | .238 | .236 | .180 |
| PDM6 | -.044 | -.245** | -.178 | -.211 | -.304** | -.113 | -.303** | -.081 | -.173 | -.154 |
| RI1 | .117 | .180 | .267* | .226 | .363** | .014 | .390** | .229 | .142 | .104 |
| RI2 | -.130 | .201 | .199 | .202 | .375** | .113 | .383** | .238 | .218 | .022 |
| RI3 | .087 | .167 | .139 | .235* | .195 | .176 | .395** | .210 | .144 | -.048 |
| RI4 | -.053 | .185 | .345** | .201 | .399** | .142 | .364** | .171 | .170 | .064 |

* p<.05 ** p<.01 *** p < .001

TABLE 5.19 (Continued)
Correlation Matrix for Initial Staff Survey

| | CMC1 | CMC2 | CMC3 | CMC4 | CMC5 | CMC6 | CMM1 | CMM2 | CMM3 | CMM4 |
|-------|---------|---------|---------|---------|--------|---------|---------|---------|---------|---------|
| MOC1 | | | | | | | | | | |
| MOC2 | | | | | | | | | | |
| MOC3 | | | | | | | | | | |
| MOC4 | | | | | | | | | | |
| MOC5 | | | | | | | | | | |
| MOC6 | | | | | | | | | | |
| MOC7 | | | | | | | | | | |
| MOC8 | | | | | | | | | | |
| MOC9 | | | | | | | | | | |
| MOC10 | | | | | | | | | | |
| CMC1 | 1 | | | | | | | | | |
| CMC2 | .246 | 1 | | | | | | | | |
| CMC3 | .286** | .268* | 1 | | | | | | | |
| CMC4 | .309** | .243* | .504** | 1 | | | | | | |
| CMC5 | .357** | .291* | .312* | .380** | 1 | | | | | |
| CMC6 | .400** | .358** | .376** | .332** | .301** | 1 | | | | |
| CMM1 | -.272** | -.199 | -.394** | -.326** | -.165 | -.338** | 1 | | | |
| CMM2 | -.396** | -.215* | -.294** | -.256** | -.191 | -.364** | .556** | 1 | | |
| CMM3 | -.180 | -.274** | -.267* | -.132 | -.184 | -.171 | .390** | .497** | 1 | |
| CMM4 | -.051 | -.062 | -.170 | .016 | -.107 | -.202 | .182 | .193 | .440** | 1 |
| CMM5 | -.231* | -.167 | -.375** | -.351** | -.128 | -.357** | .496** | .491** | .408** | .465** |
| CMM6 | -.517** | -.278** | -.250* | -.072 | -.188 | -.548** | .455** | .695** | .436** | .381** |
| CMM7 | -.454** | -.250* | -.320** | -.260** | -.127 | -.488** | .562** | .674** | .490** | .426** |
| CMM8 | -.133 | -.144 | -.082 | -.159 | -.195 | -.293** | .166 | .486** | .320** | .228 |
| PDM1 | .253 | .312* | .379** | .351** | .158 | .330** | -.367** | -.294** | -.368** | -.340** |
| PDM2 | .237* | .143 | .145 | .086 | .221* | .203 | -.030 | -.230* | -.412** | -.479** |
| PDM3 | .255* | .265* | .295** | .273** | .153 | .428** | -.314** | -.256** | -.259** | -.354** |
| PDM4 | .233 | .170 | .192 | .271** | .328** | .141 | -.092 | -.316** | -.330** | -.264** |
| PDM5 | .205 | .238* | .108 | .146 | .187 | .315** | -.115 | -.229* | -.441** | -.370** |
| PDM6 | -.174 | -.062 | -.136 | -.066 | -.048 | -.168 | .298** | .202 | .298** | .400** |
| RI1 | .351** | .178 | .297** | .250* | .144 | .285** | -.345** | -.249* | -.186 | -.240 |
| RI2 | .506** | .231* | .163 | .365** | .161 | .482** | -.341** | -.353** | -.363** | -.218 |
| RI3 | .360** | .309** | .258* | .424** | .292** | .322** | -.178 | -.298** | -.347** | -.203 |
| RI4 | .337** | .340** | .244* | .157 | .119 | .616** | -.287** | -.426** | -.286** | -.168 |

* p < .05 * p < .05 ** p < .01 *** p < .001

TABLE 5.19 (Continued)
Correlation Matrix for Initial Staff Survey

| | CMM5 | CMM6 | CMM7 | CMM8 | PDM1 | PDM2 | PDM3 | PDM4 | PDM5 | PDM6 |
|-------|---------|---------|---------|---------|---------|---------|---------|--------|---------|---------|
| MOC1 | | | | | | | | | | |
| MOC2 | | | | | | | | | | |
| MOC3 | | | | | | | | | | |
| MOC4 | | | | | | | | | | |
| MOC5 | | | | | | | | | | |
| MOC6 | | | | | | | | | | |
| MOC7 | | | | | | | | | | |
| MOC8 | | | | | | | | | | |
| MOC9 | | | | | | | | | | |
| MOC10 | | | | | | | | | | |
| CMC1 | | | | | | | | | | |
| CMC2 | | | | | | | | | | |
| CMC3 | | | | | | | | | | |
| CMC4 | | | | | | | | | | |
| CMC5 | | | | | | | | | | |
| CMC6 | | | | | | | | | | |
| CMM1 | | | | | | | | | | |
| CMM2 | | | | | | | | | | |
| CMM3 | | | | | | | | | | |
| CMM4 | | | | | | | | | | |
| CMM5 | 1 | | | | | | | | | |
| CMM6 | .425** | 1 | | | | | | | | |
| CMM7 | .686** | .707** | 1 | | | | | | | |
| CMM8 | .333** | .499** | .398** | 1 | | | | | | |
| PDM1 | -.454** | -.322** | -.481** | -.195 | 1 | | | | | |
| PDM2 | -.190 | -.399** | -.321** | -.247* | .516** | 1 | | | | |
| PDM3 | -.450** | -.314** | -.398** | -.203 | .728** | .472** | 1 | | | |
| PDM4 | -.200 | -.349** | -.309** | -.340** | .597** | .699** | .404** | 1 | | |
| PDM5 | -.371** | -.320** | -.331** | -.359** | .355** | .577** | .389** | .445** | 1 | |
| PDM6 | .349 | .232 | .385** | .107 | -.509** | -.461** | -.483** | -.245 | -.374** | 1 |
| RI1 | -.191 | -.274** | -.285** | -.156 | .372** | .263 | .432** | .237* | .223 | -.358** |
| RI2 | -.284** | -.477** | -.513** | -.310** | .445** | .391** | .440** | .323 | .230 | -.395** |
| RI3 | -.294** | -.230 | -.256 | -.131 | .398** | .293 | .301** | .275** | .228 | -.325** |
| RI4 | -.351** | -.628** | -.565** | -.405** | .345** | .402** | .384** | .311** | .275** | -.174 |

* p < .05 * p < .05 ** p < .01 *** p < .001

TABLE 5.19 (Continued)
Correlation Matrix for Initial Staff Survey

| | R11 | R12 | R13 | R14 |
|-------|--------|--------|-------|-----|
| MOC1 | | | | |
| MOC2 | | | | |
| MOC3 | | | | |
| MOC4 | | | | |
| MOC5 | | | | |
| MOC6 | | | | |
| MOC7 | | | | |
| MOC8 | | | | |
| MOC9 | | | | |
| MOC10 | | | | |
| CMC1 | | | | |
| CMC2 | | | | |
| CMC3 | | | | |
| CMC4 | | | | |
| CMC5 | | | | |
| CMC6 | | | | |
| CMM1 | | | | |
| CMM2 | | | | |
| CMM3 | | | | |
| CMM4 | | | | |
| CMM5 | | | | |
| CMM6 | | | | |
| CMM7 | | | | |
| CMM8 | | | | |
| PDM1 | | | | |
| PDM2 | | | | |
| PDM3 | | | | |
| PDM4 | | | | |
| PDM5 | | | | |
| PDM6 | | | | |
| R11 | 1 | | | |
| R12 | .591** | 1 | | |
| R13 | .373** | .527** | 1 | |
| R14 | .251* | .566** | .257* | 1 |

* p < .05

* p < .05

** p < .01

*** p < .001

TABLE 5.20

Correlation Matrix for All Survey Scales Included in the Initial Staff Survey

| | MO | MO-LL | StDevMOC-LL | StDevMOC | CMC | CMM | PDM | RI |
|-------------|--------|--------|-------------|----------|---------|--------|--------|--------|
| MO | 1 | .964** | -.068 | -.070 | .429** | .344** | .165 | .425** |
| MO-LL | .964** | 1 | -.085 | -.076 | .413** | .410** | .139 | .412** |
| StDevMOC-LL | -.068 | -.085 | 1 | .842** | -.199 | -.150 | -.140 | -.185 |
| StDevMOC | -.070 | -.076 | .842** | 1 | -.279** | -.159 | -.169 | -.223* |
| CMC | .429** | .413** | -.199 | -.279** | 1 | .422** | .442** | .574** |
| CMM | .344** | .410** | -.150 | -.159 | .422** | 1 | .456** | .512** |
| PDM | .165 | .139 | -.140 | -.169 | .442** | .456** | 1 | .467** |
| RI | .425** | .412** | -.185 | -.223* | .574** | .512** | .467** | 1 |

* p<.05 ** p<.01

TABLE 5.21

Descriptive Statistics for Followup Survey

| | N | Mean | Std. Deviation |
|-------|----|------|----------------|
| QSat1 | 98 | 1.90 | .82 |
| QSat2 | 98 | 1.84 | .80 |
| QSat3 | 98 | 1.91 | .83 |
| QSat4 | 98 | 2.14 | .86 |

TABLE 5.22

Correlation Matrix for Followup Survey

| | QSat1 | QSat2 | QSat3 | QSat4 |
|-------|--------|--------|--------|-------|
| QSat1 | 1 | | | |
| QSat2 | .766** | 1 | | |
| QSat3 | .794** | .903** | 1 | |
| QSat4 | .606** | .726** | .700** | 1 |

* p < .05 ** p < .01 *** p < .001

TABLE 5.23
Descriptive Statistics for Managers

| | N | Mean | Std. Deviation | | N | Mean | Std. Deviation |
|-------|----|------|----------------|--------|----|------|----------------|
| MOC1 | 16 | 2.72 | 1.00 | RI1 | 16 | 2.42 | .80 |
| MOC2 | 16 | 2.53 | .81 | RI2 | 16 | 1.63 | .62 |
| MOC3 | 16 | 2.31 | .70 | RI3 | 16 | 2.28 | .82 |
| MOC4 | 16 | 2.59 | .88 | RI4 | 16 | 1.48 | .62 |
| MOC5 | 16 | 2.28 | .58 | Mach1 | 16 | 3.96 | .93 |
| MOC6 | 16 | 1.93 | 1.05 | Mach2 | 16 | 3.92 | .77 |
| MOC7 | 16 | 2.41 | 1.11 | Mach3 | 16 | 3.29 | .93 |
| MOC8 | 16 | 2.53 | .76 | Mach4 | 16 | 3.71 | 1.09 |
| MOC9 | 16 | 2.60 | 1.04 | Mach5 | 16 | 3.71 | .78 |
| MOC10 | 16 | 3.03 | .78 | Mach6 | 16 | 2.02 | 1.01 |
| CMC1 | 16 | 1.73 | .44 | Mach7 | 15 | 3.43 | 1.27 |
| CMC2 | 16 | 2.16 | .51 | Mach8 | 16 | 4.03 | .59 |
| CMC3 | 16 | 1.92 | .45 | Mach9 | 16 | 4.44 | .51 |
| CMC4 | 16 | 2.25 | .86 | Mach10 | 16 | 3.98 | .52 |
| CMC5 | 16 | 2.29 | .62 | Mach11 | 15 | 3.09 | .67 |
| CMC6 | 16 | 1.48 | .50 | Mach12 | 16 | 3.71 | .96 |
| CMM1 | 16 | 4.73 | .44 | Mach13 | 16 | 3.94 | .85 |
| CMM2 | 16 | 4.39 | .79 | Mach14 | 16 | 2.78 | .80 |
| CMM3 | 16 | 4.43 | .60 | Mach15 | 16 | 3.40 | .49 |
| CMM4 | 16 | 3.77 | .79 | Mach16 | 16 | 3.23 | 1.11 |
| CMM5 | 16 | 4.15 | .50 | Mach17 | 16 | 2.80 | .73 |
| CMM6 | 16 | 4.42 | .61 | Mach18 | 16 | 3.98 | .70 |
| CMM7 | 16 | 4.51 | .48 | | | | |
| CMM8 | 16 | 4.23 | .66 | | | | |

Manager respondents were 40% female. Educational attainment included a Diploma (12.5%), some college / Associate's degree (20%), a Bachelor's degree (6.7%), and a Graduate degree (60%). Their mean age was 51.

TABLE 5.24

Correlation Matrix for All Survey Scales Included in the Manager Survey

| | MO | MO-LL | CMC | CMM | RI | MachIV | Honesty | Optimism |
|----------|--------|--------|-------|--------|-------|--------|---------|----------|
| MO | 1 | .932** | .362 | .779** | .566 | -.154 | .109 | .167 |
| MO-LL | .932** | 1 | .384 | .760** | .490 | -.305 | .091 | -.013 |
| CMC | .362 | .384 | 1 | .610 | .499 | -.021 | -.009 | .114 |
| CMM | .779** | .760** | .610 | 1 | .574 | -.244 | -.049 | .259 |
| RI | .566 | .490 | .499 | .574 | 1 | -.227 | -.109 | .098 |
| MachIV | -.154 | -.305 | -.021 | -.244 | -.227 | 1 | .707** | .503 |
| Honesty | .109 | .091 | -.009 | -.049 | -.109 | .707** | 1 | .237 |
| Optimism | .167 | -.013 | .114 | .259 | .098 | .503 | .237 | 1 |

* p<.05 ** p<.01

TABLE 5.25
Correlation Matrix for Manager Survey

| | MOC1 | MOC2 | MOC3 | MOC4 | MOC5 | MOC6 | MOC7 | MOC8 | MOC9 | MOC10 |
|-------|-------|---------|-------|--------|---------|-------|---------|-------|--------|-------|
| MOC1 | 1 | | | | | | | | | |
| MOC2 | .283 | 1 | | | | | | | | |
| MOC3 | .626 | .123 | 1 | | | | | | | |
| MOC4 | -.145 | .339 | .280 | 1 | | | | | | |
| MOC5 | .197 | .293 | .480 | .323 | 1 | | | | | |
| MOC6 | -.228 | .232 | .100 | .667** | .091 | 1 | | | | |
| MOC7 | -.036 | .319 | .000 | .147 | .167 | .394 | 1 | | | |
| MOC8 | .067 | .056 | .227 | -.373 | .187 | -.202 | .254 | 1 | | |
| MOC9 | -.030 | -.244 | .399 | -.068 | .324 | .088 | -.054 | .486 | 1 | |
| MOC10 | .017 | -.113 | .150 | -.409 | -.173 | -.154 | -.043 | .544 | .579 | 1 |
| CMC1 | -.411 | .224 | .035 | .131 | .347 | .325 | .461 | .432 | .208 | -.030 |
| CMC2 | .619 | .497 | .453 | -.051 | .346 | .100 | .314 | .235 | -.038 | -.030 |
| CMC3 | .355 | .313 | .298 | .146 | .366 | .322 | .095 | .084 | .122 | -.412 |
| CMC4 | .322 | .294 | -.008 | -.319 | .109 | -.226 | -.074 | .076 | .077 | -.197 |
| CMC5 | .311 | .663** | .004 | .023 | .475 | -.137 | -.036 | -.137 | -.205 | -.210 |
| CMC6 | .147 | -.145 | .452 | .044 | .363 | .153 | .286 | .072 | .337 | -.052 |
| CMM1 | -.411 | -.352 | -.190 | .131 | -.187 | -.273 | -.558 | -.382 | -.106 | -.236 |
| CMM2 | -.297 | -.688** | -.175 | -.202 | -.651** | .031 | -.234 | -.174 | -.077 | .224 |
| CMM3 | -.079 | -.671** | -.093 | -.059 | -.500 | -.269 | -.345 | -.187 | -.011 | -.163 |
| CMM4 | .106 | -.355 | -.087 | -.300 | -.557 | -.492 | -.067 | -.031 | -.246 | -.080 |
| CMM5 | .008 | -.531 | -.318 | -.382 | -.630 | -.417 | -.021 | -.176 | -.316 | -.166 |
| CMM6 | -.028 | -.470 | -.084 | -.400 | -.039 | -.425 | -.463 | -.306 | .217 | .256 |
| CMM7 | -.116 | -.419 | .019 | -.213 | -.225 | -.365 | -.794** | -.123 | .164 | .383 |
| CMM8 | -.264 | -.575 | -.111 | -.206 | -.148 | -.249 | -.537 | -.260 | .262 | .155 |
| RI1 | .042 | .492 | .151 | .172 | .147 | .216 | .053 | .099 | .291 | .025 |
| RI2 | -.061 | .480 | -.064 | .038 | .248 | .366 | .676** | .276 | .120 | .044 |
| RI3 | .185 | .052 | .579 | .275 | .201 | .185 | -.235 | .405 | .650** | .266 |
| RI4 | .076 | .437 | -.007 | .145 | .135 | .176 | .332 | .340 | -.129 | -.259 |

* p < .05 ** p < .01 *** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | CMC1 | CMC2 | CMC3 | CMC4 | CMC5 | CMC6 | CMM1 | CMM2 | CMM3 | CMM4 |
|-------|-------|---------|-------|--------|--------|-------|---------|--------|--------|--------|
| MOC1 | | | | | | | | | | |
| MOC2 | | | | | | | | | | |
| MOC3 | | | | | | | | | | |
| MOC4 | | | | | | | | | | |
| MOC5 | | | | | | | | | | |
| MOC6 | | | | | | | | | | |
| MOC7 | | | | | | | | | | |
| MOC8 | | | | | | | | | | |
| MOC9 | | | | | | | | | | |
| MOC10 | | | | | | | | | | |
| CMC1 | 1 | | | | | | | | | |
| CMC2 | .218 | 1 | | | | | | | | |
| CMC3 | .248 | .656** | 1 | | | | | | | |
| CMC4 | .028 | .206 | .412 | 1 | | | | | | |
| CMC5 | .044 | .422 | .364 | .268 | 1 | | | | | |
| CMC6 | .223 | .380 | .425 | -.126 | .035 | 1 | | | | |
| CMM1 | -.049 | -.688** | -.436 | .028 | -.215 | -.411 | 1 | | | |
| CMM2 | -.145 | -.276 | -.341 | -.545* | -.584* | -.063 | .252 | 1 | | |
| CMM3 | -.374 | -.390 | -.152 | -.208 | -.589* | .031 | .413 | .514 | 1 | |
| CMM4 | -.387 | -.256 | -.299 | .179 | -.486 | -.228 | .342 | .316 | .593* | 1 |
| CMM5 | -.439 | -.366 | -.270 | -.097 | -.380 | .051 | .172 | .418 | .733** | .715** |
| CMM6 | -.407 | -.320 | -.431 | .196 | -.115 | -.017 | .363 | .144 | .100 | .152 |
| CMM7 | -.377 | -.549* | -.507 | -.152 | -.115 | -.368 | .604* | .412 | .168 | .118 |
| CMM8 | -.351 | -.720** | -.470 | .160 | -.336 | -.162 | .617* | .209 | .215 | .255 |
| RI1 | .135 | -.018 | .257 | .611* | .163 | .084 | -.057 | -.637* | -.341 | -.138 |
| RI2 | .317 | .324 | .358 | .204 | .271 | .377 | -.683** | -.486 | -.593* | -.289 |
| RI3 | .056 | .162 | .441 | -.019 | -.084 | .256 | -.132 | -.085 | .141 | -.131 |
| RI4 | .250 | .374 | .605* | -.006 | .355 | .236 | -.505 | -.313 | -.143 | -.162 |

* p < .05 ** p < .01 *** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | CMM5 | CMM6 | CMM7 | CMM8 | R11 | R12 | R13 | R14 | Mach1 | Mach2 |
|-------|-------|---------|--------|---------|------|-------|------|-----|-------|-------|
| MOC1 | | | | | | | | | | |
| MOC2 | | | | | | | | | | |
| MOC3 | | | | | | | | | | |
| MOC4 | | | | | | | | | | |
| MOC5 | | | | | | | | | | |
| MOC6 | | | | | | | | | | |
| MOC7 | | | | | | | | | | |
| MOC8 | | | | | | | | | | |
| MOC9 | | | | | | | | | | |
| MOC10 | | | | | | | | | | |
| CMC1 | | | | | | | | | | |
| CMC2 | | | | | | | | | | |
| CMC3 | | | | | | | | | | |
| CMC4 | | | | | | | | | | |
| CMC5 | | | | | | | | | | |
| CMC6 | | | | | | | | | | |
| CMM1 | | | | | | | | | | |
| CMM2 | | | | | | | | | | |
| CMM3 | | | | | | | | | | |
| CMM4 | | | | | | | | | | |
| CMM5 | 1 | | | | | | | | | |
| CMM6 | .076 | 1 | | | | | | | | |
| CMM7 | .031 | .537* | 1 | | | | | | | |
| CMM8 | .171 | .789** | .717** | 1 | | | | | | |
| R11 | -.304 | -.010 | -.133 | .167 | 1 | | | | | |
| R12 | -.233 | -.318 | -.615* | -.334 | .503 | 1 | | | | |
| R13 | -.279 | -.304 | .105 | -.104 | .310 | .040 | 1 | | | |
| R14 | .007 | -.822** | -.522* | -.682** | .143 | .551* | .365 | 1 | | |

* p < .05 ** p < .01 *** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | MOC1 | MOC2 | MOC3 | MOC4 | MOC5 | MOC6 | MOC7 | MOC8 | MOC9 | MOC10 |
|--------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Mach1 | .369 | -.110 | .489 | -.254 | -.065 | -.237 | -.297 | .327 | .364 | .499 |
| Mach2 | .011 | .072 | -.335 | -.513 | -.392 | -.151 | .383 | .048 | -.284 | .227 |
| Mach3 | -.169 | -.076 | -.534 | -.364 | -.268 | -.243 | .081 | .057 | -.082 | -.185 |
| Mach4 | .407 | -.051 | .293 | -.287 | .366 | -.497 | -.449 | .244 | .207 | .319 |
| Mach5 | .293 | -.260 | .072 | -.377 | .117 | -.245 | -.380 | .069 | .306 | .363 |
| Mach6 | .497 | .482 | .378 | .288 | .333 | -.035 | .115 | -.075 | .139 | -.176 |
| Mach7 | -.286 | -.308 | .262 | .544 | .172 | .355 | -.156 | -.250 | -.037 | -.186 |
| Mach8 | .165 | -.158 | -.160 | -.280 | -.242 | -.052 | -.060 | -.245 | -.268 | -.299 |
| Mach9 | -.230 | -.427 | -.120 | -.204 | -.071 | -.146 | .065 | .018 | -.196 | .129 |
| Mach10 | -.104 | -.614 | -.171 | -.411 | -.201 | -.222 | .020 | -.025 | .299 | .514 |
| Mach11 | .334 | .172 | .399 | -.219 | .108 | -.255 | .228 | .353 | .163 | .560 |
| Mach12 | .481 | .078 | .385 | -.035 | .222 | -.021 | -.012 | -.045 | .137 | .082 |
| Mach13 | .117 | .000 | -.084 | -.349 | -.164 | -.421 | -.074 | .007 | .121 | .049 |
| Mach14 | -.079 | .317 | -.132 | -.052 | .338 | -.270 | -.040 | .306 | -.105 | .185 |
| Mach15 | .113 | -.204 | -.141 | -.002 | -.463 | -.021 | -.022 | -.419 | -.050 | .040 |
| Mach16 | .122 | .204 | .474 | .092 | .554 | -.203 | -.019 | .500 | .527 | .501 |
| Mach17 | -.690** | -.259 | -.478 | .233 | -.100 | .248 | .030 | .103 | .032 | -.105 |
| Mach18 | .013 | -.559 | .054 | -.256 | -.287 | -.347 | -.424 | -.079 | .260 | -.006 |

* p < .05

** p < .01

*** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | CMC1 | CMC2 | CMC3 | CMC4 | CMC5 | CMC6 | CMM1 | CMM2 | CMM3 | CMM4 |
|--------|---------|-------|-------|-------|-------|-------|-------|---------|--------|-------|
| Mach1 | -.101 | .041 | -.211 | .214 | -.343 | -.006 | .070 | -.020 | .097 | .110 |
| Mach2 | .143 | .038 | -.387 | .238 | -.082 | -.291 | -.054 | .138 | -.235 | .238 |
| Mach3 | -.027 | .056 | .180 | .514 | -.138 | -.179 | -.027 | -.077 | .225 | .421 |
| Mach4 | -.346 | .338 | .065 | -.054 | .316 | .038 | -.205 | -.093 | -.113 | -.138 |
| Mach5 | -.310 | .178 | -.060 | .169 | -.064 | -.184 | -.091 | .063 | -.003 | -.129 |
| Mach6 | -.253 | .253 | .331 | .378 | .350 | .328 | -.253 | -.730** | -.040 | -.019 |
| Mach7 | .068 | -.359 | -.214 | -.494 | -.316 | -.082 | .443 | .366 | .052 | -.039 |
| Mach8 | -.425 | -.041 | .175 | .461 | -.151 | .101 | -.137 | -.067 | .060 | .355 |
| Mach9 | .125 | -.135 | -.548 | -.414 | -.415 | .000 | .125 | .371 | .117 | .000 |
| Mach10 | -.288 | -.238 | -.547 | -.285 | -.391 | -.020 | .004 | .478 | .223 | .173 |
| Mach11 | .143 | .158 | -.381 | -.163 | .156 | -.008 | -.092 | .013 | -.307 | -.012 |
| Mach12 | -.299 | .287 | .064 | .307 | -.092 | .270 | -.299 | -.370 | -.088 | -.062 |
| Mach13 | -.052 | .103 | -.016 | .573 | -.100 | .072 | .127 | -.218 | .253 | .359 |
| Mach14 | .190 | .305 | -.059 | -.302 | .478 | -.165 | -.195 | -.168 | -.345 | -.386 |
| Mach15 | -.728** | -.291 | -.171 | -.112 | -.156 | .118 | -.090 | .188 | .394 | .402 |
| Mach16 | .076 | .067 | -.134 | -.193 | .220 | .286 | -.203 | -.432 | -.294 | -.337 |
| Mach17 | .347 | -.543 | -.206 | -.381 | -.282 | -.391 | .347 | .253 | .224 | -.146 |
| Mach18 | -.378 | -.361 | -.078 | .283 | -.504 | .221 | .327 | .120 | .659** | .502 |

* p < .05

** p < .01

*** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | CMM5 | CMM6 | CMM7 | CMM8 | R11 | R12 | R13 | R14 | Mach1 | Mach2 |
|--------|-------|-------|-------|-------|-------|-------|---------|--------|-------|-------|
| Mach1 | -.094 | .359 | .323 | .298 | .279 | -.326 | .230 | -.484 | 1 | |
| Mach2 | .189 | .186 | -.108 | .002 | -.068 | .066 | -.699** | -.360 | .168 | 1 |
| Mach3 | .241 | .130 | -.360 | -.024 | .075 | .175 | -.188 | .068 | -.194 | .198 |
| Mach4 | -.266 | .308 | .323 | .005 | -.286 | -.188 | .257 | -.040 | .179 | -.359 |
| Mach5 | -.256 | .594* | .258 | .237 | -.231 | -.354 | -.035 | -.559 | .444 | .089 |
| Mach6 | -.036 | -.063 | -.366 | -.157 | .612* | .337 | .315 | .258 | .134 | -.318 |
| Mach7 | -.183 | -.026 | .387 | .303 | -.290 | -.348 | .087 | -.239 | -.119 | -.335 |
| Mach8 | .354 | .286 | -.093 | .349 | .298 | .267 | -.247 | -.016 | .039 | .101 |
| Mach9 | .109 | .320 | .087 | .129 | -.513 | -.356 | -.553* | -.538* | .305 | .387 |
| Mach10 | .240 | .622* | .256 | .371 | -.493 | -.236 | -.298 | -.641* | .122 | .343 |
| Mach11 | -.088 | .009 | .202 | -.111 | -.134 | -.078 | -.051 | -.190 | .337 | .443 |
| Mach12 | -.150 | .422 | -.171 | .145 | .351 | .090 | -.028 | -.354 | .626* | .037 |
| Mach13 | .181 | .444 | -.171 | .146 | .338 | -.051 | -.115 | -.320 | .428 | .294 |
| Mach14 | -.413 | -.167 | -.014 | -.450 | -.364 | .014 | -.021 | .248 | -.225 | -.142 |
| Mach15 | .592* | .194 | .059 | .242 | .071 | .122 | .017 | -.003 | -.185 | -.099 |
| Mach16 | -.389 | .045 | .153 | -.003 | .250 | .206 | .465 | .109 | .309 | -.392 |
| Mach17 | .022 | -.340 | .069 | -.009 | -.297 | -.213 | -.012 | .104 | -.369 | -.119 |
| Mach18 | .499 | .509 | .238 | .599* | .263 | -.258 | .177 | -.317 | .469 | -.178 |

* p < .05

** p < .01

*** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | Mach3 | Mach4 | Mach5 | Mach6 | Mach7 | Mach8 | Mach9 | Mach10 | Mach11 | Mach12 |
|--------|--------|-------|-------|--------|---------|-------|-------|--------|--------|---------|
| Mach1 | | | | | | | | | | |
| Mach2 | | | | | | | | | | |
| Mach3 | 1 | | | | | | | | | |
| Mach4 | -.043 | 1 | | | | | | | | |
| Mach5 | .203 | .618 | 1 | | | | | | | |
| Mach6 | .034 | .053 | -.135 | 1 | | | | | | |
| Mach7 | -.532* | -.083 | -.173 | -.420 | 1 | | | | | |
| Mach8 | .383 | -.095 | .026 | .166 | -.157 | 1 | | | | |
| Mach9 | -.119 | .025 | .312 | -.510 | .211 | -.077 | 1 | | | |
| Mach10 | .120 | .210 | .566* | -.348 | -.020 | -.083 | .468 | 1 | | |
| Mach11 | -.535* | .113 | -.008 | -.059 | -.021 | -.507 | .168 | .246 | 1 | |
| Mach12 | .050 | .230 | .496 | .508 | -.257 | .442 | .244 | .109 | -.083 | 1 |
| Mach13 | .618 | -.022 | .293 | .387 | -.643** | .216 | .064 | .146 | -.110 | .491 |
| Mach14 | -.013 | .613 | .202 | -.159 | -.119 | -.533 | .154 | -.013 | .170 | -.219 |
| Mach15 | .103 | -.118 | -.166 | .362 | -.161 | .405 | -.341 | .274 | -.168 | .079 |
| Mach16 | -.413 | .508 | .049 | .390 | -.024 | -.372 | -.050 | -.019 | .405 | .220 |
| Mach17 | .009 | -.341 | -.187 | -.516* | .351 | -.445 | .136 | .032 | -.199 | -.643** |
| Mach18 | .311 | -.018 | .155 | .262 | -.147 | .507 | .042 | .147 | -.368 | .427 |

* p < .05

** p < .01

*** p < .001

TABLE 5.25 (Continued)
Correlation Matrix for Manager Survey

| | Mach13 | Mach14 | Mach15 | Mach16 | Mach17 | Mach18 |
|--------|--------|--------|--------|--------|--------|--------|
| Mach1 | | | | | | |
| Mach2 | | | | | | |
| Mach3 | | | | | | |
| Mach4 | | | | | | |
| Mach5 | | | | | | |
| Mach6 | | | | | | |
| Mach7 | | | | | | |
| Mach8 | | | | | | |
| Mach9 | | | | | | |
| Mach10 | | | | | | |
| Mach11 | | | | | | |
| Mach12 | | | | | | |
| Mach13 | 1 | | | | | |
| Mach14 | -.171 | 1 | | | | |
| Mach15 | .069 | -.443 | 1 | | | |
| Mach16 | -.059 | .432 | -.115 | 1 | | |
| Mach17 | -.406 | .149 | -.260 | -.179 | 1 | |
| Mach18 | .591 | -.558 | .383 | -.030 | -.240 | 1 |

* p < .05

** p < .01

*** p < .001

Alpha reliabilities and measures of aggregation

I used two versions of the moral openness climate scale for the analyses in Study Four. The first version is a modified nine-item scale that includes all of the items incorporated into moral openness climate at the end of Study Three, except for “People who discuss ethics are expected to provide reasons to justify their position,” which is one of the three items for Logic; omission of this item resulted in an Alpha reliability of .69, while inclusion of it resulted in an inadequate reliability of .63. The second version is the seven-item scale that emerged at the end of Study Three, which omits all three items for logic, and which I call here “moral openness climate less logic.” It seems valuable to include both scales in this analysis because the former

incorporates items that are conceptually important to the original construct domain of moral openness climate, while the latter has superior psychometric properties, as will become clear below.

The original ten-item moral openness climate scale had a Cronbach's Alpha of .63, while the modified nine-item moral openness climate scale has an Alpha of .69, as noted above. Moral openness climate less logic had a superior Cronbach's Alpha of .74, which is unsurprising in light of the superior reliability (Alpha = .80) that the same scale had using the data from Study 3.

Three of the scales that I used to test the criterion validity of moral openness climate against all had adequate-or-better reliability: collective moral character (CMC) and collective moral motivation (CMM) had Cronbach's Alpha reliabilities of .76 and .86, respectively, while moral satisfaction came in at .92. However, machiavellianism rated a surprisingly low .32, even though I omitted the distracting items "Most men forget more easily the death of their father than the loss of their property" and "People suffering from incurable diseases should have the choice of being put painlessly to death." This surprisingly low reliability may result from the age of the scale; cultural changes since the 1970s may have disrupted response patterns. The scales I used to test discriminant validity had mixed reliabilities: participatory decision making (PDM) came in at a disappointing .51, but respectful interaction (RI) hit .74.

To test aggregation, I first took the Median Rwg(j) (James et al., 1984), and found that it was above .92 for all scales but moral satisfaction, which was .89; all are well above the recommended threshold of .70 (James et al., 1984). This indicates that systematic variance among respondents within work groups was a dominant proportion of total variance within work groups, for each construct.

An ANOVA test revealed significantly greater differences between groups than within groups for moral openness climate, moral openness climate less logic, moral satisfaction, and CMC; however, the F-test was insignificant for CMM, PDM, and RI, indicating negligible variation in these constructs across the groups in the sample.

A separate measure, ICC(1), assesses the proportion of individual variation among responses for a given scale that can be explained by group membership; ICC(1) was .16 for moral openness climate, .15 for moral openness climate less logic, .16 for moral satisfaction, and .13 for CMC, but only .01 for RI, and a disappointing -.03 for CMM, and -.01 for PDM. Finally, ICC(2) assesses the reliability of group means; it was .53 for moral openness climate, .51 for moral openness climate less logic, .53 for moral satisfaction, and .48 for CMC, but again only .06 for RI, and a disappointing -.18 for CMM, and -.09 for PDM. Note that because Machiavellianism was measured only for work group managers, it only exists at the work group level and requires no aggregation analysis. Alpha reliabilities and measures of aggregation are listed for all variables in Table 5.26.

TABLE 5.26
Aggregation and Reliability

| | Median Rwg(j) | ANOVA F | ANOVA Sig | ICC(1) | ICC(2) | Alpha |
|---------------------------|----------------------|----------------|------------------|---------------|---------------|--------------|
| MOC | 0.93 | 2.13 | 0.02 | 0.16 | 0.53 | 0.69 |
| MOC Less Logic | 0.92 | 2.03 | 0.02 | 0.15 | 0.51 | 0.74 |
| CMC | 0.94 | 1.91 | 0.04 | 0.13 | 0.48 | 0.76 |
| CMM | 0.96 | 0.84 | 0.63 | -0.03 | -0.18 | 0.86 |
| PDM | 0.94 | 0.97 | 0.50 | -0.01 | -0.03 | 0.51 |
| RI | 0.92 | 1.06 | 0.41 | 0.01 | 0.06 | 0.74 |
| Moral Satisfaction | 0.89 | 2.12 | 0.02 | 0.16 | 0.53 | 0.92 |
| Machiavellianism | | | | | | 0.32 |

These results indicate that aggregation may be appropriate for both versions of moral openness climate, for CMM, and for moral satisfaction, but not for the other variables measured here. In particular, the other variables seem to be strangely consistent across groups. I suspect that such consistency resulted from a sampling artifact: data collection for this study began in the spring of 2008 and ended in the winter of 2009, concurrent with the unfolding of a major financial crisis. Tremendous uncertainty in the business environment, coupled with overwhelmingly negative coverage of business ethics in the news media, may have caused only organizations with a strong culture not only of ethics but also of openness, to participate in my survey.

Correlations for aggregated variables appear in Table 5.27. Note that the bivariate correlations in this table correspond, by definition, to the standardized regression coefficients for the bivariate group-level OLS regressions that follow.

TABLE 5.27
Correlation Matrix for Variables Aggregated to the Group Level

| | MO | MO-LL | StDevMOC-LL | StDevMOC | CMC | CMM |
|-------------|------|-------|-------------|----------|--------|--------|
| MO | 1 | .617 | .026 | .395 | .408 | .176 |
| MO-LL | .617 | 1 | .571 | .579 | .248 | .034 |
| StDevMOC-LL | .026 | .571 | 1 | .741** | -.262 | -.262 |
| StDevMOC | .395 | .579 | .741** | 1 | -.237 | -.193 |
| CMC | .408 | .248 | -.262 | -.237 | 1 | .680** |
| CMM | .176 | .034 | -.262 | -.193 | .680** | 1 |
| RI | .570 | .365 | -.257 | -.080 | .463 | .336 |
| PDM | .018 | .092 | -.252 | -.416 | .559 | .445 |
| MachIV | .105 | -.325 | -.246 | -.134 | .033 | -.087 |
| Honesty | .318 | .012 | -.125 | -.103 | .110 | -.075 |
| Optimism | .054 | -.057 | -.102 | -.002 | .244 | .250 |
| MoralSat | .209 | .351 | .062 | -.021 | .791** | .619 |

* p<.05 ** p<.01

TABLE 5.27 (Continued)
Correlation Matrix for Variables Aggregated to the Group Level

| | RI | PDM | MachIV | Honesty | Optimism | MoralSat |
|-------------|-------|-------|--------|---------|----------|----------|
| MO | .570 | .018 | .105 | .318 | .054 | .209 |
| MO-LL | .365 | .092 | -.325 | .012 | -.057 | .351 |
| StDevMOC-LL | -.257 | -.252 | -.246 | -.125 | -.102 | .062 |
| StDevMOC | -.080 | -.416 | -.134 | -.103 | -.002 | -.021 |
| CMC | .463 | .559* | .033 | .110 | .244 | .791** |
| CMM | .336 | .445 | -.087 | -.075 | .250 | .619* |
| RI | 1 | .363 | -.225 | .059 | .217 | .202 |
| PDM | .363 | 1 | -.136 | .068 | -.012 | .538* |
| MachIV | -.225 | -.136 | 1 | .707** | .503* | -.252 |
| Honesty | .059 | .068 | .707** | 1 | .237 | .023 |
| Optimism | .217 | -.012 | .503* | .237 | 1 | .081 |
| MoralSat | .202 | .538* | -.252 | .023 | .081 | 1 |

* p<.05 ** p<.01

Factor Analyses

To assess test-retest validity of the expected unidimensionality of moral openness climate, I ran an exploratory factor analysis on both the 9-item modified moral openness climate scale, and the seven-item “moral openness climate less logic” scale, using the field data. I ran EFAs to allow factors to emerge from the data rather than constraining the solution to one factor and then assessing goodness of fit; this results in a more conservative test of unidimensionality, because even if the fit of a single-factor model to the data is adequate, other factor structures may have a better fit. Per the recommendations of Fabrigar, Wegener, MacCallum, and Strahan (1999), I used Maximum Likelihood extraction. Multiple-factor models were rotated first using Promax, with Kappa=2, because I would expect emergent multiple within the scale factors to be correlated and therefore an oblique rotation is appropriate; I then used an orthogonal Varimax

rotation to better discern a simple structure (Conway & Huffcutt, 2003). All tests were run on the same set of data as subsequent analyses, that is, on valid responses from valid groups.

Unfortunately, unidimensional solutions did not emerge for either moral openness climate scale. For moral openness climate, a three-factor solution emerged, and for moral openness climate less logic, a two-factor solution emerged. For moral openness climate less logic, an orthogonal rotation produced a simple structure, but oblique rotation did not; item 1 (“People who have trouble putting their thoughts into words get left out of conversations about ethics”) had a low communality and weak loadings on both factors, while items 2 and 3 (“Discussions about morality often end before any conclusion is reached” and “Discussions about ethics often end before all the arguments have been heard”) loaded separately from the remainder of the scale. For moral openness climate, neither rotation produced a simple structure. Items 1 and 10 (“People who discuss ethics expect others to challenge the reasons they give for their position”) had low communalities and weak loadings, item 8 (“People here are expected to provide evidence to back up their claims”) accounted for a factor of its own, while items 4 and 7 (“Sometimes people here stretch the truth to win an argument about ethics”) had cross-loadings between the other two factors. Results are shown in Tables 5.28-5.31.

TABLE 5.28
EFA (Promax Rotation, Kappa = 2) on MOC Less Logic

| Communalities | | Structure Matrix | | | Total Variance Explained | | |
|---------------|--------------|------------------|--------------|--------|--------------------------|--------|---------------|
| | | Factor | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | | | Total | % of Variance |
| MOC1 | 0.097 | 0.216 | 0.267 | 1 | 2.830 | 40.433 | 40.433 |
| MOC2 | 0.486 | 0.672 | 0.346 | 2 | 1.134 | 16.194 | 56.627 |
| MOC3 | 0.501 | 0.999 | 0.253 | 3 | 0.884 | 12.634 | 69.261 |
| MOC4 | 0.376 | 0.383 | 0.697 | 4 | 0.739 | 10.555 | 79.817 |
| MOC5 | 0.255 | 0.161 | 0.605 | 5 | 0.618 | 8.834 | 88.650 |
| MOC6 | 0.178 | 0.186 | 0.490 | 6 | 0.498 | 7.110 | 95.760 |
| MOC7 | 0.333 | 0.390 | 0.617 | 7 | 0.297 | 4.240 | 100.000 |

TABLE 5.29
EFA (Varimax Rotation) on MOC Less Logic

| Communalities | | Rotated Factor Matrix | | | Total Variance Explained | | |
|---------------|--------------|-----------------------|--------------|--------|--------------------------|--------|---------------|
| | | Factor | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | | | Total | % of Variance |
| MOC1 | 0.097 | 0.176 | 0.248 | 1 | 2.830 | 40.433 | 40.433 |
| MOC2 | 0.486 | 0.635 | 0.276 | 2 | 1.134 | 16.194 | 56.627 |
| MOC3 | 0.501 | 0.989 | 0.142 | 3 | 0.884 | 12.634 | 69.261 |
| MOC4 | 0.376 | 0.274 | 0.671 | 4 | 0.739 | 10.555 | 79.817 |
| MOC5 | 0.255 | 0.060 | 0.602 | 5 | 0.618 | 8.834 | 88.650 |
| MOC6 | 0.178 | 0.106 | 0.481 | 6 | 0.498 | 7.110 | 95.760 |
| MOC7 | 0.333 | 0.295 | 0.588 | 7 | 0.297 | 4.240 | 100.000 |

TABLE 5.30
EFA (Promax Rotation, Kappa = 2) on MOC

| Communalities | | Structure Matrix | | | | Total Variance Explained | | |
|---------------|--------------|------------------|--------------|--------------|--------|--------------------------|--------|---------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | | Total | % of Variance |
| MOC1 | 0.110 | 0.230 | 0.155 | -0.111 | 1 | 2.788 | 30.973 | 30.973 |
| MOC2 | 0.496 | 0.672 | 0.345 | 0.187 | 2 | 1.450 | 16.113 | 47.085 |
| MOC3 | 0.510 | 0.999 | 0.248 | 0.123 | 3 | 1.112 | 12.357 | 59.442 |
| MOC4 | 0.412 | 0.396 | 0.711 | -0.157 | 4 | 0.861 | 9.570 | 69.013 |
| MOC5 | 0.296 | 0.170 | 0.569 | 0.240 | 5 | 0.786 | 8.735 | 77.748 |
| MOC6 | 0.229 | 0.202 | 0.459 | 0.235 | 6 | 0.768 | 8.528 | 86.277 |
| MOC7 | 0.311 | 0.397 | 0.565 | -0.006 | 7 | 0.556 | 6.175 | 92.451 |
| MOC8 | 0.283 | 0.174 | 0.045 | 0.999 | 8 | 0.386 | 4.293 | 96.744 |
| MOC10 | 0.067 | 0.004 | 0.022 | 0.225 | 9 | 0.293 | 3.256 | 100.000 |

TABLE 5.31
EFA (Varimax Rotation) on MOC

| Communalities | | Structure Matrix | | | | Total Variance Explained | | |
|---------------|--------------|------------------|--------------|--------------|--------|--------------------------|---------------|--------------|
| | | Factor | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | | Total | % of Variance | Cumulative % |
| MOC1 | 0.110 | 0.223 | 0.123 | -0.132 | 1 | 2.788 | 30.973 | 30.973 |
| MOC2 | 0.496 | 0.627 | 0.278 | 0.132 | 2 | 1.450 | 16.113 | 47.085 |
| MOC3 | 0.510 | 0.989 | 0.133 | 0.047 | 3 | 1.112 | 12.357 | 59.442 |
| MOC4 | 0.412 | 0.305 | 0.671 | -0.205 | 4 | 0.861 | 9.570 | 69.013 |
| MOC5 | 0.296 | 0.059 | 0.576 | 0.216 | 5 | 0.786 | 8.735 | 77.748 |
| MOC6 | 0.229 | 0.112 | 0.458 | 0.211 | 6 | 0.768 | 8.528 | 86.277 |
| MOC7 | 0.311 | 0.318 | 0.529 | -0.049 | 7 | 0.556 | 6.175 | 92.451 |
| MOC8 | 0.283 | 0.089 | 0.077 | 0.993 | 8 | 0.386 | 4.293 | 96.744 |
| MOC10 | 0.067 | -0.019 | 0.034 | 0.225 | 9 | 0.293 | 3.256 | 100.000 |

Moral satisfaction was unifactorial. Results are shown in Table 5.32.

TABLE 5.32
EFA on Moral Satisfaction

| Communalities | | Factor Matrix | Total Variance Explained | | | |
|---------------|--------------|---------------|--------------------------|-------|---------------|--------------|
| | | 1 | Factor | Total | % of Variance | Cumulative % |
| QSat1 | 0.645 | 0.821 | 1 | 3.255 | 81.383 | 81.383 |
| QSat2 | 0.837 | 0.946 | 2 | 0.409 | 10.224 | 91.607 |
| QSat3 | 0.843 | 0.954 | 3 | 0.241 | 6.026 | 97.633 |
| QSat4 | 0.540 | 0.748 | 4 | 0.095 | 2.367 | 100.000 |

Discriminant Validity

The discriminant validity of moral openness climate was first assessed using exploratory factor analysis. As seen in the interscale correlation matrix shown in Table 5.20, moral openness climate is significantly correlated with respectful interaction but not with participatory decision-making. Both moral openness climate and moral openness climate less logic were separately analyzed together with participatory decision-making and respectful interaction; if EFA

produced a simple factor structure, that result would be strong evidence of these constructs' discriminant validity. Unfortunately, moral openness climate less logic produced high cross-loadings with participatory decision-making, whether an oblique or an orthogonal rotation was used. An EFA of moral openness climate less logic with respectful interaction failed to extract factors after 100 iterations. Moral openness climate produced high cross-loadings with respectful interaction, whether oblique or orthogonal rotations were used. It also produced high cross-loadings with participatory decision-making when an oblique rotation was used, although an orthogonal rotation resulted in a four-factor solution in which each scale loaded on two factors of its own. Results are shown in Tables 5.33-5.38. The items that comprised respectful interaction and participatory decision-making are shown in Appendices O and P, respectively.

TABLE 5.33
EFA (Promax Rotation with Kappa = 2) on MOC Less Logic and PDM

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|---------------|--------|--------------------------|---------------|--------------|--|
| | | Factor | | | Factor | Initial Eigenvalues | | | |
| | | 1 | 2 | 3 | | Total | % of Variance | Cumulative % | |
| MOC1 | 0.104 | 0.019 | 0.309 | -0.047 | 1 | 4.206 | 32.355 | 32.355 | |
| MOC2 | 0.502 | 0.175 | 0.75 | 0.214 | 2 | 2.154 | 16.569 | 48.924 | |
| MOC3 | 0.535 | 0.231 | 0.748 | 0.226 | 3 | 1.184 | 9.11 | 58.034 | |
| MOC4 | 0.389 | 0.083 | 0.562 | 0.217 | 4 | 0.938 | 7.219 | 65.253 | |
| MOC5 | 0.372 | 0.192 | 0.36 | 0.393 | 5 | 0.838 | 6.443 | 71.696 | |
| MOC6 | 0.179 | 0.055 | 0.369 | 0.06 | 6 | 0.745 | 5.734 | 77.43 | |
| MOC7 | 0.393 | 0.134 | 0.578 | 0.348 | 7 | 0.697 | 5.363 | 82.793 | |
| PDM1 | 0.685 | 0.518 | 0.141 | 0.86 | 8 | 0.574 | 4.412 | 87.205 | |
| PDM2 | 0.637 | 0.999 | 0.121 | 0.361 | 9 | 0.528 | 4.064 | 91.269 | |
| PDM3 | 0.616 | 0.463 | 0.157 | 0.786 | 10 | 0.423 | 3.253 | 94.523 | |
| PDM4 | 0.626 | 0.688 | 0.21 | 0.461 | 11 | 0.299 | 2.3 | 96.823 | |
| PDM5 | 0.411 | 0.574 | 0.127 | 0.34 | 12 | 0.25 | 1.921 | 98.743 | |
| PDM6 | 0.435 | -0.474 | -0.214 | -0.517 | 13 | 0.163 | 1.257 | 100 | |

TABLE 5.34
EFA (Promax Rotation with Kappa = 2) on MOC and PDM

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | Total | % of Variance | Cumulative % |
| MOC1 | 0.12 | 0.013 | -0.032 | 0.287 | 0.043 | 1 | 4.298 | 28.655 | 28.655 |
| MOC2 | 0.515 | 0.138 | 0.215 | 0.737 | 0.241 | 2 | 2.177 | 14.51 | 43.166 |
| MOC3 | 0.537 | 0.194 | 0.247 | 0.893 | 0.084 | 3 | 1.419 | 9.459 | 52.625 |
| MOC4 | 0.476 | 0.048 | 0.227 | 0.453 | 0.412 | 4 | 1.161 | 7.74 | 60.364 |
| MOC5 | 0.444 | 0.161 | 0.339 | 0.193 | 0.818 | 5 | 0.956 | 6.372 | 66.736 |
| MOC6 | 0.258 | 0.041 | 0.065 | 0.268 | 0.377 | 6 | 0.866 | 5.771 | 72.507 |
| MOC7 | 0.423 | 0.097 | 0.297 | 0.48 | 0.472 | 7 | 0.782 | 5.212 | 77.719 |
| MOC8 | 0.357 | 0.148 | 0.119 | 0.122 | 0.291 | 8 | 0.703 | 4.684 | 82.403 |
| MOC10 | 0.12 | 0.095 | 0.092 | 0.012 | 0.165 | 9 | 0.666 | 4.44 | 86.843 |
| PDM1 | 0.69 | 0.456 | 0.989 | 0.167 | 0.152 | 10 | 0.522 | 3.481 | 90.324 |
| PDM2 | 0.641 | 0.997 | 0.433 | 0.169 | 0.043 | 11 | 0.436 | 2.905 | 93.23 |
| PDM3 | 0.62 | 0.422 | 0.722 | 0.182 | 0.271 | 12 | 0.327 | 2.181 | 95.41 |
| PDM4 | 0.637 | 0.666 | 0.551 | 0.233 | 0.116 | 13 | 0.298 | 1.985 | 97.396 |
| PDM5 | 0.46 | 0.568 | 0.323 | 0.114 | 0.239 | 14 | 0.232 | 1.548 | 98.944 |
| PDM6 | 0.448 | -0.446 | -0.504 | -0.178 | -0.222 | 15 | 0.158 | 1.056 | 100 |

TABLE 5.35
EFA (Promax Rotation with Kappa = 2) on MOC and RI

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | Factor | Total | % of Variance | Cumulative % |
| MOC1 | 0.18 | -0.059 | 0.228 | 0.223 | -0.101 | 1 | 3.958 | 30.444 | 30.444 |
| MOC2 | 0.529 | 0.288 | 0.655 | 0.294 | 0.17 | 2 | 1.651 | 12.701 | 43.145 |
| MOC3 | 0.6 | 0.288 | 0.997 | 0.2 | 0.084 | 3 | 1.292 | 9.935 | 53.08 |
| MOC4 | 0.443 | 0.295 | 0.374 | 0.661 | -0.163 | 4 | 1.09 | 8.386 | 61.466 |
| MOC5 | 0.471 | 0.453 | 0.105 | 0.585 | 0.266 | 5 | 0.926 | 7.124 | 68.591 |
| MOC6 | 0.269 | 0.192 | 0.197 | 0.421 | 0.237 | 6 | 0.878 | 6.751 | 75.342 |
| MOC7 | 0.459 | 0.44 | 0.381 | 0.567 | -0.033 | 7 | 0.708 | 5.445 | 80.787 |
| MOC8 | 0.387 | 0.286 | 0.15 | -0.054 | 0.995 | 8 | 0.679 | 5.223 | 86.01 |
| MOC10 | 0.092 | 0.057 | 0.005 | 0.013 | 0.222 | 9 | 0.524 | 4.033 | 90.043 |
| RI1 | 0.514 | 0.596 | 0.257 | 0.21 | 0.22 | 10 | 0.494 | 3.802 | 93.845 |
| RI2 | 0.645 | 0.992 | 0.147 | 0.151 | 0.178 | 11 | 0.385 | 2.961 | 96.806 |
| RI3 | 0.405 | 0.555 | 0.121 | 0.276 | 0.192 | 12 | 0.242 | 1.858 | 98.664 |
| RI4 | 0.512 | 0.601 | 0.314 | 0.257 | 0.125 | 13 | 0.174 | 1.336 | 100 |

TABLE 5.36
EFA (Varimax Rotation) on MOC Less Logic and PDM

| Communalities | | Rotated Factor Matrix | | | | Total Variance Explained | | |
|---------------|--------------|-----------------------|--------------|---------------|--------|--------------------------|---------------------|--------------|
| | | Factor | | | | | Initial Eigenvalues | |
| | | 1 | 2 | 3 | Factor | Total | % of Variance | Cumulative % |
| MOC1 | 0.104 | 0.01 | 0.319 | -0.087 | 1 | 4.206 | 32.355 | 32.355 |
| MOC2 | 0.502 | 0.105 | 0.737 | 0.115 | 2 | 2.154 | 16.569 | 48.924 |
| MOC3 | 0.535 | 0.162 | 0.731 | 0.116 | 3 | 1.184 | 9.11 | 58.034 |
| MOC4 | 0.389 | 0.018 | 0.55 | 0.157 | 4 | 0.938 | 7.219 | 65.253 |
| MOC5 | 0.372 | 0.116 | 0.322 | 0.344 | 5 | 0.838 | 6.443 | 71.696 |
| MOC6 | 0.179 | 0.027 | 0.368 | 0.014 | 6 | 0.745 | 5.734 | 77.43 |
| MOC7 | 0.393 | 0.05 | 0.551 | 0.286 | 7 | 0.697 | 5.363 | 82.793 |
| PDM1 | 0.685 | 0.395 | 0.038 | 0.799 | 8 | 0.574 | 4.412 | 87.205 |
| PDM2 | 0.637 | 0.985 | 0.038 | 0.167 | 9 | 0.528 | 4.064 | 91.269 |
| PDM3 | 0.616 | 0.348 | 0.064 | 0.729 | 10 | 0.423 | 3.253 | 94.523 |
| PDM4 | 0.626 | 0.635 | 0.136 | 0.328 | 11 | 0.299 | 2.3 | 96.823 |
| PDM5 | 0.411 | 0.541 | 0.068 | 0.232 | 12 | 0.25 | 1.921 | 98.743 |
| PDM6 | 0.435 | -0.401 | -0.147 | -0.432 | 13 | 0.163 | 1.257 | 100 |

TABLE 5.37
EFA (Varimax Rotation) on MOC and PDM

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | Total | % of Variance | Cumulative % |
| MOC1 | 0.12 | 0.006 | -0.069 | 0.296 | 0.03 | 1 | 4.298 | 28.655 | 28.655 |
| MOC2 | 0.515 | 0.076 | 0.105 | 0.711 | 0.192 | 2 | 2.177 | 14.51 | 43.166 |
| MOC3 | 0.537 | 0.128 | 0.142 | 0.876 | 0.024 | 3 | 1.419 | 9.459 | 52.625 |
| MOC4 | 0.476 | -0.011 | 0.133 | 0.41 | 0.378 | 4 | 1.161 | 7.74 | 60.364 |
| MOC5 | 0.444 | 0.091 | 0.181 | 0.091 | 0.807 | 5 | 0.956 | 6.372 | 66.736 |
| MOC6 | 0.258 | 0.014 | -0.023 | 0.238 | 0.366 | 6 | 0.866 | 5.771 | 72.507 |
| MOC7 | 0.423 | 0.026 | 0.186 | 0.422 | 0.435 | 7 | 0.782 | 5.212 | 77.719 |
| MOC8 | 0.357 | 0.126 | 0.037 | 0.081 | 0.289 | 8 | 0.703 | 4.684 | 82.403 |
| MOC10 | 0.12 | 0.081 | 0.049 | -0.016 | 0.166 | 9 | 0.666 | 4.44 | 86.843 |
| PDM1 | 0.69 | 0.316 | 0.943 | 0.027 | 0.096 | 10 | 0.522 | 3.481 | 90.324 |
| PDM2 | 0.641 | 0.971 | 0.222 | 0.055 | 0.06 | 11 | 0.436 | 2.905 | 93.23 |
| PDM3 | 0.62 | 0.318 | 0.636 | 0.062 | 0.235 | 12 | 0.327 | 2.181 | 95.41 |
| PDM4 | 0.637 | 0.602 | 0.412 | 0.127 | 0.102 | 13 | 0.298 | 1.985 | 97.396 |
| PDM5 | 0.46 | 0.537 | 0.172 | 0.025 | 0.247 | 14 | 0.232 | 1.548 | 98.944 |
| PDM6 | 0.448 | -0.378 | -0.398 | -0.083 | -0.204 | 15 | 0.158 | 1.056 | 100 |

TABLE 5.38
EFA (Varimax Rotation) on MOC and RI

| Communalities | | Structure Matrix | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|--------------|--------------|--------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | | Total | % of Variance | Cumulative % |
| MOC1 | 0.18 | -0.096 | 0.222 | 0.218 | -0.094 | 1 | 3.958 | 30.444 | 30.444 |
| MOC2 | 0.529 | 0.199 | 0.606 | 0.243 | 0.132 | 2 | 1.651 | 12.701 | 43.145 |
| MOC3 | 0.6 | 0.197 | 0.972 | 0.121 | 0.025 | 3 | 1.292 | 9.935 | 53.08 |
| MOC4 | 0.443 | 0.217 | 0.284 | 0.615 | -0.181 | 4 | 1.09 | 8.386 | 61.466 |
| MOC5 | 0.471 | 0.363 | -0.018 | 0.562 | 0.247 | 5 | 0.926 | 7.124 | 68.591 |
| MOC6 | 0.269 | 0.106 | 0.128 | 0.418 | 0.234 | 6 | 0.878 | 6.751 | 75.342 |
| MOC7 | 0.459 | 0.366 | 0.279 | 0.508 | -0.069 | 7 | 0.708 | 5.445 | 80.787 |
| MOC8 | 0.387 | 0.183 | 0.097 | -0.03 | 0.977 | 8 | 0.679 | 5.223 | 86.01 |
| MOC10 | 0.092 | 0.032 | -0.01 | 0.022 | 0.221 | 9 | 0.524 | 4.033 | 90.043 |
| RI1 | 0.514 | 0.558 | 0.163 | 0.143 | 0.158 | 10 | 0.494 | 3.802 | 93.845 |
| RI2 | 0.645 | 0.996 | 0.007 | 0.036 | 0.07 | 11 | 0.385 | 2.961 | 96.806 |
| RI3 | 0.405 | 0.519 | 0.021 | 0.223 | 0.142 | 12 | 0.242 | 1.858 | 98.664 |
| RI4 | 0.512 | 0.564 | 0.219 | 0.181 | 0.061 | 13 | 0.174 | 1.336 | 100 |

Discriminant validity was also assessed through regression analysis. Participatory decision-making significantly predicted moral satisfaction, collective moral motivation, and collective moral character, while respectful interaction significantly predicted only collective moral motivation and collective moral character. Results are reported in Tables 5.39-41. As will be shown below, these predictive results are similar to those for moral openness climate, although MOC did not predict moral satisfaction in the following analyses. These results provide evidence against the discriminant validity of moral openness climate. Hypotheses 1a was not supported. Because participatory decision-making is not significantly correlated with moral openness climate, and loads on separate factors from moral openness climate in EFA using an orthogonal rotation, Hypothesis 1b was partially supported.

TABLE 5.39
OLS Regression of Moral Satisfaction on PDM and RI

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|--|------------|-----------------------------|------------|---------------------------|--------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: Moral Satisfaction | (Constant) | -1.689 | 1.542 | | -1.095 | .292 | 0.289 |
| | PDM | 1.602 | .671 | .538 | 2.387 | .032 | |
| Dependent Variable: Moral Satisfaction | (Constant) | 1.280 | .922 | | 1.389 | .187 | 0.041 |
| | RI | .341 | .443 | .202 | .770 | .454 | |

TABLE 5.40**Linear Mixed Model Regression of Collective Moral Motivation on PDM and RI, with Random Effects for Group**

| | | Parameter Estimate | Std. Error | df | t | Sig. |
|---|-----------|--------------------|------------|-----|--------|------|
| Dependent Variable: Collective Moral Motivation | Intercept | 1.441412 | .134315 | 105 | 10.732 | .000 |
| | PDM | .181169 | .062297 | 105 | 2.908 | .004 |
| Dependent Variable: Collective Moral Motivation | Intercept | .764365 | .173184 | 107 | 4.414 | .000 |
| | RI | .529339 | .085563 | 107 | 6.187 | .000 |

TABLE 5.41**Linear Mixed Model Regression of Collective Moral Character on PDM and RI, with Random Effects for Group**

| | | Parameter Estimate | Std. Error | df | t | Sig. |
|--|-----------|--------------------|------------|---------|--------|------|
| Dependent Variable: Collective Moral Character | Intercept | .288575 | .060461 | 45.791 | 4.773 | .000 |
| | PDM | .785101 | .037739 | 202.426 | 20.803 | .000 |
| Dependent Variable: Collective Moral Character | Intercept | .097569 | .045443 | 24.244 | 2.147 | .042 |
| | RI | .974051 | .027615 | 200.016 | 35.273 | .000 |

Predictive Validity

According to my theory, I expected a group's moral openness climate to be predicted by the machiavellianism of its manager. I expected moral openness climate to predict collective moral motivation (CMM) and collective moral character (CMC). I expected both of those constructs to mediate the relationship between moral openness climate and moral satisfaction.

Finally, I expected contention (a construct intended to capture the shared perception of the importance and lack of consensus on moral issues faced by a work group) to moderate the relationship between moral openness climate and moral satisfaction; however, I was unable to create a reliable scale with which to measure contention, so instead I have included the standard deviation of moral openness climate as a rough proxy for it.

Machiavellianism did not have sufficient reliability (Alpha = .32, well below the usual threshold of .7) to justify inclusion as a scale of its own in this study. Therefore, I conducted another EFA on the eighteen items used in this study (shown in Appendix Q) to ascertain whether certain subscales might have acceptable properties. Unfortunately, because only managers were surveyed on machiavellianism, the sample size was too small to support EFA if only managers from the “good” groups were used. Therefore, I performed EFA on the set of all 37 usable manager responses. Correlations are shown in Table 5.42, and results are shown in Table 5.43. Extraction produced six factors, but due to the small sample size, the rotation algorithm was not able to converge on a solution. Therefore I constrained the solution to five factors and re-ran the analysis; this produced the model shown in Table 5.43, though it was difficult to interpret.

TABLE 5.42

Correlations between Machiavellianism Items

| | Mach1 | Mach2 | Mach3 | Mach4 | Mach5 | Mach6 | Mach7 | Mach8 | Mach9 |
|--------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| Mach1 | 1 | | | | | | | | |
| Mach2 | .376* | 1 | | | | | | | |
| Mach3 | .169 | .378* | 1 | | | | | | |
| Mach4 | .290 | .080 | .040 | 1 | | | | | |
| Mach5 | .126 | .260 | .075 | .468** | 1 | | | | |
| Mach6 | .065 | .310 | .158 | .116 | .037 | 1 | | | |
| Mach7 | .111 | .081 | .102 | -.030 | -.131 | .612** | 1 | | |
| Mach8 | .133 | .097 | .066 | .031 | .122 | -.084 | -.029 | 1 | |
| Mach9 | .372* | .384* | .077 | .121 | .070 | .530** | .391* | .024 | 1 |
| Mach10 | .367* | .345* | .202 | .286 | .156 | .475** | .196 | -.071 | .394* |
| Mach11 | .104 | .304 | -.074 | .113 | .183 | .113 | -.035 | -.056 | .056 |
| Mach12 | .384* | .156 | .057 | .341 | .341 | -.048 | -.030 | .541** | .124 |
| Mach13 | .152 | .128 | .017 | .192 | .277 | -.245 | -.369 | .178 | -.036 |
| Mach14 | -.092 | .051 | -.087 | .463** | .252 | .047 | -.190 | -.018 | -.034 |
| Mach15 | .034 | .004 | -.013 | -.029 | -.133 | -.299 | -.064 | .311 | -.260 |
| Mach16 | .380* | -.028 | .021 | .269 | .055 | -.012 | .125 | -.012 | .250 |
| Mach17 | -.079 | .149 | -.053 | .025 | .099 | .231 | .153 | -.289 | .107 |
| Mach18 | .373* | .189 | .050 | .373 | .373 | -.062 | .016 | .569** | .103 |

* p < .05

** p < .01

*** p < .001

TABLE 5.42 (Continued)

Correlations between Machiavellianism Items

| | Mach10 | Mach11 | Mach12 | Mach13 | Mach14 | Mach15 | Mach16 | Mach17 | Mach18 |
|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|
| Mach1 | | | | | | | | | |
| Mach2 | | | | | | | | | |
| Mach3 | | | | | | | | | |
| Mach4 | | | | | | | | | |
| Mach5 | | | | | | | | | |
| Mach6 | | | | | | | | | |
| Mach7 | | | | | | | | | |
| Mach8 | | | | | | | | | |
| Mach9 | | | | | | | | | |
| Mach10 | 1 | | | | | | | | |
| Mach11 | .047 | 1 | | | | | | | |
| Mach12 | .209 | .124 | 1 | | | | | | |
| Mach13 | -.054 | -.024 | .249 | 1 | | | | | |
| Mach14 | .000 | .321 | .162 | .010 | 1 | | | | |
| Mach15 | .081 | -.439** | -.010 | .183 | -.139 | 1 | | | |
| Mach16 | .191 | .027 | .210 | -.197 | .172 | -.013 | 1 | | |
| Mach17 | .347 | -.235 | -.269 | -.148 | .130 | .027 | -.085 | 1 | |
| Mach18 | .111 | .025 | .475** | .466** | .035 | .296 | -.050 | -.001 | 1 |

* p < .05

** p < .01

*** p < .001

TABLE 5.43
EFA (Promax Rotation with Kappa = 2) on Machiavellianism

| Communalities | | Structure Matrix | | | | | Total Variance Explained | | | |
|---------------|--------------|------------------|---------------|--------------|--------------|---------------|--------------------------|---------------------|---------------|--------------|
| | | Factor | | | | | Factor | Initial Eigenvalues | | |
| | | 1 | 2 | 3 | 4 | 5 | | Total | % of Variance | Cumulative % |
| Mach1 | 0.547 | 0.189 | 0.340 | 0.329 | 0.397 | 0.025 | 1 | 3.489 | 19.382 | 19.382 |
| Mach2 | 0.633 | 0.181 | 0.131 | 0.161 | 0.994 | -0.039 | 2 | 2.850 | 15.834 | 35.217 |
| Mach3 | 0.357 | 0.138 | 0.069 | 0.030 | 0.372 | -0.021 | 3 | 1.947 | 10.815 | 46.032 |
| Mach4 | 0.569 | 0.074 | 0.212 | 0.863 | 0.142 | -0.017 | 4 | 1.520 | 8.443 | 54.475 |
| Mach5 | 0.421 | -0.067 | 0.269 | 0.549 | 0.292 | -0.166 | 5 | 1.410 | 7.832 | 62.307 |
| Mach6 | 0.731 | 0.808 | -0.122 | 0.092 | 0.276 | -0.208 | 6 | 1.159 | 6.439 | 68.745 |
| Mach7 | 0.632 | 0.752 | -0.029 | -0.106 | 0.053 | 0.031 | 7 | 0.949 | 5.274 | 74.019 |
| Mach8 | 0.640 | -0.056 | 0.806 | -0.007 | 0.127 | 0.259 | 8 | 0.828 | 4.598 | 78.618 |
| Mach9 | 0.576 | 0.600 | 0.094 | 0.141 | 0.362 | -0.213 | 9 | 0.657 | 3.650 | 82.268 |
| Mach10 | 0.689 | 0.475 | 0.009 | 0.361 | 0.362 | 0.135 | 10 | 0.634 | 3.522 | 85.790 |
| Mach11 | 0.645 | -0.016 | 0.032 | 0.172 | 0.284 | -0.473 | 11 | 0.621 | 3.451 | 89.241 |
| Mach12 | 0.638 | 0.005 | 0.711 | 0.377 | 0.190 | -0.053 | 12 | 0.496 | 2.755 | 91.996 |
| Mach13 | 0.469 | -0.353 | 0.349 | 0.252 | 0.168 | 0.118 | 13 | 0.381 | 2.114 | 94.110 |
| Mach14 | 0.549 | -0.102 | -0.006 | 0.494 | 0.079 | -0.149 | 14 | 0.356 | 1.978 | 96.088 |
| Mach15 | 0.682 | -0.219 | 0.224 | -0.043 | 0.072 | 0.988 | 15 | 0.258 | 1.432 | 97.520 |
| Mach16 | 0.425 | 0.161 | 0.070 | 0.278 | -0.010 | 0.012 | 16 | 0.224 | 1.246 | 98.766 |
| Mach17 | 0.612 | 0.240 | -0.336 | 0.111 | 0.147 | 0.075 | 17 | 0.144 | 0.803 | 99.568 |
| Mach18 | 0.712 | -0.027 | 0.699 | 0.387 | 0.244 | 0.257 | 18 | 0.078 | 0.432 | 100.000 |

I subsequently created subscales for “Honesty” and “Optimism” based on common strong loadings in the five-factor structure matrix, and on face similarities between the items. Honesty was comprised of items 6, 7, 9, and 10, while optimism was comprised of 4, 14, and 16. The Cronbach’s Alpha for honesty was .69, but deletion of item 7 boosted the alpha to .71. Alpha for optimism was .97.

I subsequently ran an OLS regression on the relationship between honesty and average moral openness climate in a given manager’s work group, and between optimism and average moral openness climate in a given manager’s work group, for all “good” groups. I also ran OLS regressions for honesty and average moral openness climate less logic, and for optimism and

average moral openness climate less logic, for all “good” groups. Results in all cases were insignificant, so Hypothesis 1c was not supported. Results are shown in Tables 5.44 and 5.45.

TABLE 5.44
OLS Regression of MOC and MOC Less Logic on Honesty

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|---------------------|------------|-----------------------------|------------|---------------------------|-------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: | (Constant) | 1.534 | 1.022 | | 1.501 | .156 | 0.101 |
| MOC | Honesty | .368 | .293 | .318 | 1.257 | .229 | |
| Dependent Variable: | (Constant) | 2.518 | 2.373 | | 1.061 | .307 | 0.000 |
| MOC Less Logic | Honesty | .030 | .679 | .012 | .044 | .965 | |

TABLE 5.45
OLS Regression of MOC and MOC Less Logic on Optimism

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|---------------------|------------|-----------------------------|------------|---------------------------|-------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: | (Constant) | 2.734 | .400 | | 6.830 | .000 | 0.003 |
| MOC | Optimism | .024 | .120 | .054 | .203 | .842 | |
| Dependent Variable: | (Constant) | 2.806 | .881 | | 3.185 | .007 | 0.003 |
| MOC Less Logic | Optimism | -.057 | .264 | -.057 | -.215 | .833 | |

Contention was measured using the variance of moral openness climate for a given workgroup. OLS regressions on the relationships between average moral openness climate, average moral openness climate less logic, and average moral satisfaction at the group level also showed no significant relationship, so Hypothesis 2a was not supported. Results are shown in Table 5.46. I ran an OLS regression on the relationship between contention (i.e. the standard

deviation of moral openness climate and moral openness climate less logic) and moral satisfaction for all “good” groups. Results were insignificant, so Hypothesis 2b was not supported. Results are shown in Table 5.47. Because neither H2a nor H2b were supported, H2c is moot, since a nonexistent relationship cannot be moderated. It appears that contention does not moderate the relationship between moral openness climate and moral satisfaction, nor does moral openness climate predict moral satisfaction.

TABLE 5.46
OLS Regression of Moral Satisfaction on MOC

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|--|----------------|-----------------------------|------------|---------------------------|-------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: Moral Satisfaction | (Constant) | 1.280 | .889 | | 1.441 | .172 | 0.044 |
| | MOC | .251 | .313 | .209 | .800 | .437 | |
| Dependent Variable: Moral Satisfaction | (Constant) | 1.484 | .373 | | 3.974 | .001 | 0.123 |
| | MOC Less Logic | .191 | .136 | .351 | 1.402 | .183 | |

TABLE 5.47
OLS Regression of Moral Satisfaction on Contention

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|--|----------------------|-----------------------------|------------|---------------------------|-------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: Moral Satisfaction | (Constant) | 2.013 | .378 | | 5.328 | .000 | 0.000 |
| | StDev MOC | -.065 | .839 | -.021 | -.077 | .939 | |
| Dependent Variable: Moral Satisfaction | (Constant) | 1.911 | .342 | | 5.592 | .000 | 0.004 |
| | StDev MOC Less Logic | .150 | .648 | .062 | .231 | .821 | |

CMM was hypothesized to mediate the relationship between moral openness climate and moral satisfaction. I also incorporated the similar scale for CMC, anticipating the same relationship; items for both scales are shown in Appendices R and S. Because group-level aggregation is not appropriate for CMM or CMC, as discussed above, I ran a linear mixed model with moral openness climate entered as a fixed covariate predicting CMM, and a random factor for group membership. This random-effects model allows different regression slopes to be specified for each random factor (i.e. group) while a single coefficient estimate is produced for the covariate of interest (i.e. CMM), thereby partialing out the effects of group membership. Therefore, random-effects modeling allows individual-response data to be used while controlling for group effects. That model returned strongly significant results; moral openness climate predicted CMM with a beta of 0.39 with a significance of $p < .001$, while moral openness climate less logic predicted CMM with a beta of 0.33 and a significance of $p < .001$. (Note that all of the items for CMM were reverse-coded). Accordingly, Hypothesis 3a was supported. Results are shown in Table 5.48. Even more powerful results were obtained for CMC: moral openness climate had a beta of 0.74 with a significance of $p < .001$, and moral openness climate less logic had a beta of 0.72 with a significance of $p < .001$. Accordingly, Hypothesis 3b was supported. Results are shown in Table 5.49.

TABLE 5.48
Linear Mixed Model Regression of Collective Moral Motivation on MOC, with Random Effects for Group

| | | Parameter Estimate | Std. Error | df | t | Sig. |
|---|----------------|--------------------|------------|-----|-------|------|
| Dependent Variable: Collective Moral Motivation | Intercept | .751820 | .251498 | 106 | 2.989 | .003 |
| | MOC | .391607 | .092587 | 106 | 4.230 | .000 |
| Dependent Variable: Collective Moral Motivation | Intercept | .939797 | .196662 | 107 | 4.779 | .000 |
| | MOC Less Logic | .329468 | .073220 | 107 | 4.500 | .000 |

TABLE 5.49
Linear Mixed Model Regression of Collective Moral Character on MOC, with Random Effects for Group

| | | Parameter Estimate | Std. Error | df | t | Sig. |
|--|----------------|--------------------|------------|---------|--------|------|
| Dependent Variable: Collective Moral Character | Intercept | .070219 | .054364 | 24.416 | 1.292 | .209 |
| | MOC | .737248 | .020737 | 196.134 | 35.553 | .000 |
| Dependent Variable: Collective Moral Character | Intercept | .118043 | .056136 | 21.926 | 2.103 | .047 |
| | MOC Less Logic | .722914 | .022738 | 196.448 | 31.793 | .000 |

Similarly, CMM and CMC both significantly predicted moral satisfaction. It was necessary to conduct an OLS regression at the group level, because these variables were measured in two different surveys, and there is no correspondence between individual-level responses. OLS on the relationship of CMM to moral satisfaction produced a standardized Beta of .619, with $p=.010$. OLS on the relationship of CMC to moral satisfaction produced a

standardized Beta of .791, with $p=.000$. Accordingly, Hypotheses 3c and 3d were both supported.

Results are shown in Table 5.50.

TABLE 5.50
OLS Regression of Moral Satisfaction on CMM and CMC

| | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | R ² |
|--|------------|-----------------------------|------------|---------------------------|-------|------|----------------|
| | | B | Std. Error | Beta | | | |
| Dependent Variable: Moral Satisfaction | (Constant) | .203 | .610 | | .333 | .744 | 0.384 |
| | CMM | .960 | .325 | .619 | 2.953 | .010 | |
| Dependent Variable: Moral Satisfaction | (Constant) | -.386 | .494 | | -.780 | .448 | 0.626 |
| | CMC | 1.113 | .230 | .791 | 4.845 | .000 | |

CHAPTER VI

DISCUSSION AND CONCLUSIONS

In this dissertation, I have attempted to develop the concept of moral openness climate. I outlined the necessary presuppositions of reasoned agreement, which together constitute the conditions for a morally-valid consensus on the acceptability of a norm. However, these conditions are ideal, and actual attempts to reach a reasoned agreement will only adhere to them to some limited extent. Moral openness climate therefore describes the extent to which a given group's prevailing habits of moral discourse realize the ideal conditions of morally valid consensus. I theorized that moral openness climate would be negatively related to the machiavellianism (Christie & Geis, 1970) of a group's manager, since the manager's beliefs about the possibility and / or desirability of reasoned agreement are likely to influence the climate for such agreement within the work group. I theorized that moral openness climate would be negatively related to the satisfaction that members of a work group feel with the moral decisions made in their group, because of the criticism to which discourse exposes familiar conceptions of the ethical good, and because of the effort that discourse requires. I theorized that contention would be negatively related to that same satisfaction, because an experienced lack of consensus on the issues at hand or on the means for resolving them seems likely to highlight points of dissatisfaction with those issues' resolutions. I theorized that contention would moderate the impact of moral openness climate on a group's moral satisfaction, because the importance of valid moral discourse would become more obvious with higher contention. I theorized that moral openness climate would increase collective moral motivation and collective

moral character, that is, the group's prevailing inclination to follow through on its moral decisions, and to persist in the face of resistance. I finally theorized that CMM and CMC would positively predict moral satisfaction, because it is difficult to be satisfied with decisions that are not implemented.

Over the course of four empirical studies, I qualitatively confirmed that front-line workers and managers both experience moral equivocality and engage in moral discourse in order to reach a reasoned agreement about how to resolve it. I then created survey scales for moral openness climate and for moral satisfaction that had satisfactory psychometric qualities. Using field data, I finally tested the above-theorized relationships, as well as the appropriateness for group-level aggregation, the reliability, and the discriminant validity of moral openness climate.

Results indicated that moral satisfaction and a shortened version of the moral openness climate scale that omits items for procedural equity and logic have adequate reliability and aggregation properties. However, even that moral openness climate scale did not have discriminant validity from other similar scales, and it did not achieve test-retest reliability in an EFA of its expected unifactorial structure. It did not have a significant relationship with machiavellianism, although machiavellianism itself had problematic psychometric properties in this study. It did not have a significant relationship with moral satisfaction, nor did the standard deviation of moral openness climate (a proxy for contention, for which a reliable survey scale could not be created) have a significant relationship with moral satisfaction. However, moral openness climate did positively predict CMM and CMC at the level of individual perceptions, which was the appropriate level of analysis because CMM and CMC did not support group-level aggregation. CMM and CMC subsequently positively predicted moral satisfaction.

These results would seem to indicate that moral openness climate does not have the reliability or the relationships with other constructs that would indicate construct validity. However, it is important to note that if moral openness climate does not incorporate logic or procedural equity, leaving it comprised of participation, closure, and power, then it is conceptually rather similar to participatory decision-making (Arnold et al., 2000) and especially respectful interaction (Vogus, 2004), both of which characterize openness to voice within work groups. The lack of discriminant validity between moral openness climate and these alternative constructs is therefore unsurprising, and may indicate that the latter constructs may have important implications for ethical decision-making as well as their other known consequences. Although they are conceptually distinct, moral openness climate may be descriptively the same as empowerment.

Assimilating moral openness climate to empowerment can also account for my other empirical results. If the two are effectively congruent, it is not surprising that employees to whom participatory empowerment is extended would be more likely to intend to follow through on the decisions made, since empowerment has already been found to increase follow-through intentions for other decisions (Conger & Kanungo, 1988; Spreitzer, 1995). Moreover, if moral openness climate implies a sharing of responsibility as well as authority, it is not surprising that it would not have an effect on moral satisfaction; Barker (1993) found that a particular form of empowerment (i.e. self-managing teams) did not lead to higher satisfaction with management decisions in one workplace, but simply familiarized employees with the difficulties of decision-making.

Altogether, it appears that moral discourse does occur within organizations, and that moral openness climate can characterize some of the variation between work groups in their

propensities to engage in those discourses. However, despite the conceptual distinctiveness of moral openness climate, it also appears that it is empirically quite similar to the participatory elements of empowerment.

Contributions

These findings suggest contributions to the literatures on voice and silence, moral psychology, sensemaking, and discourse ethics in business.

Voice and silence

This dissertation contributes to the literature on voice and silence (Bird & Waters, 1989; Milliken, Morrison, & Hewlin, 2003; Morrison & Milliken, 2000). Moral muteness has been shown to be related to a desire to appear decisive and a desire to keep others' focus on the non-moral aspects of the problem at hand (Bird & Waters, 1989), while the collective-level phenomenon of silence has been shown to be predicted by beliefs that management knows best, and predictive of reduced communication (Milliken, Morrison, & Hewlin, 2003; Morrison & Milliken, 2000). Moral openness climate describes and measures a continuous range of restrictions of voice, like excluding certain participants or ending the conversation before a conclusion has been reached, rather than a binary dichotomy between voice and silence. This continuous range can be used to characterize the differential impact of various organizational antecedents upon silence, and the differential impact of varying degrees of silence upon various consequences. If moral openness climate is found to be congruent with participatory decision-

making or other elements of empowerment in future research, the continuous characterization of silence described above could be generalized beyond ethical issues to issues of all types.

Moral psychology

This dissertation has implications for the literature on moral psychology. Rest (1986) distinguished moral judgment from moral motivation or moral character, and Arnaud (2006) theorized an extension of Rest's four-part model to the level of work-group climate. I have found that moral openness climate positively predicts collective moral motivation and collective moral character, which are the latter two stages of Arnaud's model. It appears that a group's moral openness in deliberative discourse does enhance the willingness of parties to it to follow through on the decisions made, and to persist in the face of setbacks. Pending empirical confirmation in future research, it appears that moral openness climate is an important antecedent of these two elements of collective moral action, which may be an important finding for practicing managers who strive to improve the business conduct of their organizations. Moreover, if future research finds that moral openness climate and aspects of empowerment are congruent, the practical implications of this finding become all the more valuable: greater collective ethical follow-through can be added to the other known advantages of participatory management, further commending the practice to managers.

Sensemaking

Sensemaking occurs as people face a stream of experiences and impressions and ask "now what should I do?" (Weick, Sutcliffe, & Obstfeld, 2005: 410), a question that requires some meaning to be assigned to those experiences and impressions. Sensemaking can be used to

model a range of individual and collective decisions (Weick et al., 2005), including ethical ones (Sonenshein, 2007), and describes the broader set of rational and non-rational decision-making processes of which moral openness is a part. My findings that many of the rational nuances of reasoned agreement are unimportant to most businesspeople (i.e. that they do not readily discriminate between moral openness climate and respectful interaction or participatory decision-making; that they neither reliably recognize separate dimensions for theoretically important aspects of moral openness climate like logic, nor incorporate those into a single factor for moral openness climate; and that participants in the qualitative study readily accede to managerial authority) supports the assertion in sensemaking theory that decision-making is more narrative (Weick, 1979; Weick et al., 2005) and intuitive (Sonenshein, 2007) than rational.

The sensemaking-intuition model of ethical decision making (Sonenshein, 2007) posits that individuals who face a situation of moral equivocality first construct the issue at hand, applying a label to it that encompasses and highlights its salient features. That issue construction has individual-level antecedents in the decision-maker's expectations about what a signal will mean, and his or her motivations to reach instrumental conclusions about those meanings. Issue construction also has social antecedents in social anchors (i.e. the reference group against which the individual tests the plausibility of his or her interpretation) and the decision-maker's representations of how others are expected to see the situation. Once an issue has been constructed, the decision-maker will make an instantaneous intuitive judgment about whether the situation is good or bad, or whether the action under consideration is right or wrong. Only after that judgment has been made will rational processes engage to explain and justify the intuitive determination (Sonenshein, 2007).

My findings may be understood in the context of sensemaking as a more nuanced view of social anchoring, that is, “having interlocutors who help an actor test his or her interpretation of social stimuli” (Sonenshein, 2007: 1030), which is thought to influence issue construction (Sonenshein, 2007). Greater moral openness may contribute to more influential social anchoring. Normatively, it might be expected that greater moral openness would help decision-makers to reach more valid conclusions by more carefully engaging their interlocutors, and thereby better comprehending the normative implications of the problem at hand. My findings also descriptively suggest that perceptions of moral openness in engaging social anchors enhance perceptions of motivation to follow through; perhaps more robust constructions of the issue at hand are easier to subsequently justify.

Moreover, if understood as an aspect of social anchoring, moral openness may best describe not deliberation over what ought to be done, but rather bounded deliberation over the construction of moral issues. Once those issues have been constructed, the adequacy of those constructions for encompassing salient features of the situation and guiding subsequent action may influence collective moral motivation and collective moral character. Satisfaction with the eventual outcomes of the decision may only be distally influenced by the openness of the discourse in which the issues were constructed; other processes of individual and collective deliberation and action intervene between issue construction and moral satisfaction (or the lack thereof).

Discourse ethics in business

The literature on discourse ethics in business (Palazzo & Scherer, 2006; Scherer & Palazzo, 2007; Smith, 2004) comprehends the impossibility of adhering to the principles of ideal

speech that ought to structure reasoned agreement at its best (Habermas, 1979 & 1984); however, it does so by shifting the locus of analysis from reasoned agreement between individuals (Forester, 2003) to deliberative democracy, which mediates among representative institutions (Habermas, 1996). The existing literature therefore normatively commends corporate participation in deliberative democracy, particularly with reference to corporate social responsibility. As important as reasoned agreement is between organizations and their institutional stakeholders, I believe that it is also important to study the possibility and actuality of reasoned agreement among individuals, and particularly those individuals who work within organizations. My findings have identified the descriptive form and limitations of the climate for reasoned agreement at a lower level of analysis, within organizations rather than between them.

This dissertation has provided evidence that moral discourse does occur within organizations, and it has described moral openness climate as a construct that characterizes the degree to which a group of interdependent workers' shared perceptions of moral discourse approximate the terms of ideal speech. Importantly, my empirical investigation has examined whether or not those perceptions meaningfully encompass the principles of reasoned agreement, and I have found that some of those principles are not reliably related to the others. Participants did not distinguish between my original dimensions of moral openness climate, but instead subsumed them all under a single factor, indicating that the articulation of dimensions of openness like closure or power may not be salient for most people. Moreover, logic appears to be a separate and distinct construct, though one that is difficult to reliably measure. Finally, procedural equity did not emerge as an aspect of moral openness climate at all. These results seem to indicate that most people do not have a particularly nuanced conception of moral

openness, and therefore that they may not object when important principles of discourse ethics are violated in the course of reaching a (somewhat) reasoned agreement.

The empirical finding that businesspeople do not recognize conceptually important principles of valid moral discourse has normative implications. Discourse ethics identifies the ideal principles that a moral discourse must adhere to in order for its conclusions to be normatively valid. Actual businesspeople seem to honor only a subset of these principles, while remaining blithely unaware of the others. It therefore follows that actual moral discourses in organizations likely fall considerably short of the ideals of valid reasoned agreement; instead, they are probably rife with inconsistent or fallacious logic, unchallenged premises, and uncontested assertions, and may be frequently dominated by skillful talkers or people who have the luxury of time to participate. The objection that rational moral discourse is also a field that is readily dominated by parties who are able to marshal considerable supporting evidence by virtue of their financial or social power (Lyotard, 1984) is likely to be all the more true if moral openness omits logic or procedural equity. When others who lack the resources to provide contradictory evidence also lack the inclination to challenge their opponents' logic or expose their domination, then conclusions based on the volume of supporting information rather than its quality will likely proliferate. Such conclusions probably disproportionately favor powerful parties.

Is moral openness therefore simply an instrument of domination, whereby the values and preferences of some people are reified into an ethos that is subsequently used not only to control others, but also to legitimate that control over them (Scott, 1996)? Not necessarily. If ethics is a sublime and inexhaustible human experience (Scott, 1996), amenable to partial but not complete theorization (Lyotard, 1984), then all ethical schemes will have limitations. In fact, those

limitations may not be apparent for quite some time (Rorty, 2006), and may emerge as a result of the scheme's success and widespread adoption (Scott, 1996). The prevalence of the ethos of rationality seems to be exposing the limitations of reasoned agreement, particularly as some parties resist the forms of domination it facilitates, as listed above (Welcomer et al., 2000). But reasoned agreement nonetheless represents an attempt to solve some ethical problem consensually rather than by the assertion of one party's will (Habermas, 1984). Where social cooperation necessitates agreement upon the acceptability of the means and ends of that cooperation, as is often the case in business, then reasoned agreement enables cooperation without coercion; that cooperation becomes less coercive as the reasoned agreement that facilitates it becomes more open. Satisfaction with the process and its outcomes must be recognized as being limited and provisional (Habermas, 1993), and always open to revision in light of new realizations (Alexy, 1990). If satisfaction is not mistaken for the achievement of moral perfection, but instead prompts the search for the perspectives that have been inadequately represented in the discourse at hand (Benhabib, 1992), then it need not facilitate domination.

Limitations

The small sample size of the fourth study is the primary limitation of this dissertation, and it both constrained the set of analytical techniques available and impacted the results of those tests. This small sample size occurred for two reasons. First, the timing of the survey was unfortunate, coming at a time when businesspeople at every level were likely more distracted and fearful than usual; an outsider wanting to ask questions about business ethics is not well-received in a crisis. Second, the design of the study impacted the sample size, because inclusion

of a work group required not only 33% usable responses for a single survey, but for two . . . plus a usable response from the manager of a given group. A larger sample would have lent itself to more powerful analyses. The non-significant result for the relationship of moral openness climate to moral satisfaction in particular may be an artifact of the small sample size available for that group-level regression, accounting for the perplexing finding that moral openness climate predicts CMM& CMC, which predicts moral satisfaction, but moral openness climate does not predict moral satisfaction. Were it collected at a time of economic normalcy, it might also have incorporated greater between-group variation on several of the variables, had a broader sample of organizations agreed to participate; as it stands, participating organizations were likely those that already had strong climates for ethics and openness.

Furthermore, use of the follow-up survey to collect moral satisfaction data eliminated individual-response correspondence between those data and the other scales. Although it does produce the temporal separation needed to establish causality, the small number of groups successfully measured reduces the power of the tests run. Had moral satisfaction been incorporated into a single survey, the larger number of individual responses might have enabled more robust tests of its relationships to other variables at the level of individual perceptions rather than group climate. In particular, it would have been possible to directly test for mediation between moral openness climate, CMM& CMC, and moral satisfaction.

Similarly, the manager-only nature of the machiavellianism response also restricted its analysis to the group level. Surveying all participants on machiavellianism, and then attempting to aggregate that variable to the group level, would have allowed for more robust analyses at the level of individual perception, although that was not its intended level of analysis.

Finally, it is risky to generalize too much from this set of results. Moral openness climate does not have apparent discriminant validity from participatory decision-making (Arnold et al., 2000) or respectful interaction (Vogus, 2004), and it does not relate to other constructs in its nomological net (i.e. machiavellianism, contention, and moral satisfaction) as expected. Moral openness climate and moral satisfaction do appear to be reliable scales using field data, and they do relate to two other constructs of theoretical interest: collective moral motivation and collective moral character (Arnaud, 2006). However, the small sample sizes obtained during data collection limit the scope of interpretation of these findings, whether positive or negative. Further research, incorporating larger and better-designed samples, might replicate these findings and extend them by testing the relationship of moral openness climate to other potentially-related constructs.

Future Research

One possibility for future research addresses the embeddedness of moral discourse within broader non-rational processes of moral reasoning. A qualitative study, perhaps even a conversation analysis (Rapley, 2007) that quantifies and analyzes relationships among coded speech acts identified in transcripts of actual conversations between research participants, could help to better understand the elements of reasoned agreement that are important to businesspeople. For instance, small groups of business students could each separately read a case that contains a moral problem, and then jointly formulate a solution to the case in a transcribed conversation, before rating their satisfaction with the solution, their inclination to follow through with it, and perhaps their assessment of the distributive, procedural, and

interactional justice of the solution (Niehoff & Moorman, 1993). Analysis of a number of such conversations could identify violations of the principles of reasoned agreement, and relate them to the participants' subjective ratings of the outcome, as well as perhaps a judge's assessment of the adequacy of the solution. Such a study could also identify the extent to which the conversations focus on issue construction rather than justification of a decision. By better understanding the aspects of openness that are salient to businesspeople in particular moral discourses, conversation analysis studies could enable a more accurate theory of the climate for moral openness climate in work groups.

Another possibility for future research is to conduct further survey studies on moral openness climate. One study could further confirm or disconfirm the discriminant validity of moral openness climate; because participants may confound moral openness climate with an overall sense of the value of their participation, or of the justice of the decision, it would be valuable to incorporate the entire empowering leadership questionnaire (Arnold et al., 2000), the empowerment climate questionnaire (Blanchard, Carlos, & Randolph, 1995; Seibert, Silver, & Randolph, 2004), and scales for distributive, procedural, or interactional justice (Niehoff & Moorman, 1993). Such a study need not be conducted in the field using clustered members of workgroups, but could instead be conducted using a large sample of participants who have no association with each other. Importantly, this study could better assess whether moral openness climate is effectively congruent with participatory management or other aspects of empowerment.

A different study could further confirm or disconfirm the construct validity of moral openness climate, using different predictor and outcome variables. Such a study would need to garner a larger sample, which may be feasible if it is conducted during a period of economic

normalcy. One predictor might be the entire empowering leadership questionnaire (Arnold et al., 2000), which I would expect to increase moral openness climate by suppressing the belief that “management knows best,” itself an antecedent of silence (Morrison & Milliken, 2000) and potentially a mediator of the relationship between empowering leadership and moral openness climate. The presence of corporate ethics program elements like ethics training, a code of conduct, a confidential ethics advice line, and / or a confidential ethics reporting hotline (Harned, Baviskar, & Seligson, 2005) may all indicate the organization’s commitment to explaining and upholding ethical standards, and similarly positively predict moral openness climate. One different outcome may be moral disengagement (Bandura, 1999; Detert, Trevino, & Sweitzer, 2008), which encompasses various rationalizations of ethical misbehavior like blaming the victim or denial of responsibility, and would likely be negatively predicted by moral openness climate since robust discourse would likely expose the disingenuousness of such excuses. Similarly, moral openness climate may also positively predict distributive, procedural, or interactional justice (Niehoff & Moorman, 1993), since robust discourse would likely eliminate solutions that violate these.

Moral openness may have implications for ethical leadership. If the “burdens of judgment” (Rawls, 1993) are unavoidable in ethical decision-making, in part because of the equivocality that occasions moral discourse, then it may be particularly important for leaders to accept several responsibilities. Maintaining orderly participation and eliciting contributions from reluctant parties are two functions of a leader that are entirely consistent with the rules specified by Alexy (1989). However, reasoned agreement may require leaders to bear the burdens of judgment, and by authoritative actions create the circumstances under which discourse is possible (Habermas, 1996). These actions may include raising an issue and framing the problem

in a way that allows relevant parties to recognize it and discuss it, rather than in a way that alienates or privileges some participants; recognizing impasses that cannot be resolved because of a lack of information or will, and making a decision (with a concomitant acceptance of responsibility) that breaks the impasse and allows the discourse to resume; and sometimes even hurrying a discourse along in order to leave a point intentionally vague, whether to prevent unproductive conflict in the present or leave leeway for interpretation in the future. Future normative research may examine the normative implications of these restrictions on moral openness, which necessarily privilege the prerogatives of the manager and raise the possibility of domination. Future empirical research may examine the prevalence of these leadership practices and their antecedents in the personality traits or demographic characteristics of the leader, as well as the attributes of the leadership situation. Such research may also investigate the consequences of such leadership practices for the depth of the consensus and satisfaction among group members. Such research may finally examine the overlap of these leadership practices with the attributes of ethical leadership as defined by Brown, Trevino, and Harrison (2005: 120): “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making.” Conversation analyses of actual work groups solving case studies in ethics under the facilitation of their leaders may provide valuable data.

Finally, it will be important to examine the normative weaknesses of actual reasoned agreement. Existing research has demonstrated that procedural aspects of a decision contribute to perceptions of its justice, especially among individuals disposed to attend to the formal elements of ethics rather than to its consequences (Schminke, Ambrose, & Noel, 1997). Moral openness may highlight a new set of procedural elements that predict perceptions of the justice

of a decision, or at least intentions to follow through on it. However, justice perceptions are not the same as justice. Rather, moral openness may be an expression of the *ethos* of ethical rationality (Habermas, 1984), employee empowerment (Potterfield, 1999), or both. These *ethos* have limitations of their own, whether in their reduction of the set of admissible considerations (Lyotard, 1984; Scott, 1996), in their constraint of the scope of issues which employees are empowered to decide (Potterfield, 1999), or in the displacement of responsibility from some decision-makers to others (Jackall, 1988; Potterfield, 1999). Such limitations will become all the more dangerous to the extent that they are ignored, a problem which in turn may become all the more prevalent as participants feel more satisfied with the openness of their decisions: like every *ethos* (Scott, 1996), the success of moral openness may bring about its downfall. Therefore, in addition to the critiques of the exclusivity (Benhabib, 1992; Lyotard, 1984) and utopianism (Apel, 1990) of discourse ethics that have already been made, it will be important to elaborate the specific normative weaknesses of actual moral discourse in organizations. Even if those limitations cannot yet be overcome so long as decision-makers must reach some reasoned agreement, it will be important for those decision-makers to recognize and accept responsibility for those limitations.

All of these opportunities for future research may facilitate greater moral openness in actual organizations, and therefore better adaptation to emergent moral problems in a changing and pluralistic world.

APPENDIX A

Interview Instrument

Hello,

My name is Jason Stansbury, and I'm a researcher from Vanderbilt University.

I'm studying ethical decision-making in organizations, and [Bank] is taking part in my research. They're letting me interview employees in several branches about their experiences in making ethical decisions.

Research has shown that although some decisions are obviously ethical or unethical, others are not so clear. Sometimes you may not know if there is a rule or policy that applies, and sometimes there may not be one. I'm interested in finding out how people respond to situations when they don't know what the right thing to do is, and especially in finding out whether they talk with anyone, and how those conversations go.

[Bank] cares about ethical business conduct, and that is why they are participating in my study. However, I don't work for [Bank], and I will not be sharing any of my interview notes or transcripts with them. I do hope to eventually publish my results, but will present them as a summary of my findings so that no one person or group of people can be recognized.

I'm also not trying to find out about any specific problem or incident. What's more important to me is to understand how real people like yourself decide what to do when they aren't sure what is right.

You have the right to quit this interview at any time, or to not answer any question. If you decide to quit, you can leave immediately, or remain here and talk with me until the end of the scheduled time.

You may also decide to grant me this interview without being audio-recorded. The recording is intended to help me not to miss anything that you say, but I can turn the recorder off if you want me to.

Before we start, I need you to sign this consent form. If you allow me to record our conversation, I also need you to acknowledge that our conversation is being recorded, so that I can write up a complete transcript.

As an example of a moral decision where people weren't sure what was right, let me tell you about something that happened at a coffee shop across the street from Vanderbilt. Last winter, a number of homeless people kept coming into the store, panhandling customers, sleeping in the chairs, and sometimes taking things. One employee kept a blog on the internet, and asked her friends on the blog (most of whom also worked at the coffee shop) what they should do about the homeless. Some said give them a glass of milk, others said ask them to leave if they bother a paying customer, and others said call the police because they're trespassing. The store manager (who also visited the blog) agreed to call a meeting to discuss what the policy should be.

Would you tell me about some circumstances that come up at this branch, where employees are not sure what the right thing to do is?

Do you remember any decisions made here that were at all controversial, in ethical terms? Do the decisions impact people that you know? Do the decisions have much of an impact?

Do you or other people here ask others for advice when they don't know what the right thing to do is? Do you or others ask coworkers, supervisors, friends, family, or someone else?

Are there some topics that it's not safe to ask about? Are there some people that it's best not to ask questions of?

Is everyone allowed to ask questions or share opinions, or do a few people do most of the talking? Who does the talking? Does anyone get ignored when they speak up?

When you or others here talk about what the right thing to do is, do you reach a conclusion? How do you know when you've reached a conclusion?

Do conversations about doing the right thing ever get cut short? Why?

Are conversations about doing the right thing ever used to discredit someone? Do people take sides because of popularity, or to win favors?

Are decisions about doing the right thing influenced by the good debaters, the people who care the most, or the people with time to spend?

Do people give reasons for what they think the right thing to do is? Can other people disagree with those reasons?

When talking about what the right thing to do is, do people reason together, or do they change the subject? Argue emotionally? Confuse the issue?

Do you feel satisfied that the people in this branch make good decisions when they aren't sure what the right thing to do is?

Thanks for all your valuable contributions!

APPENDIX B

Pre-Test Survey Items and Construct Definition for Contention

[Construct definition for use in substantive validity pre-test:] Recognized moral impact describes the moral intensity that people in the group notice. The more a group's decisions (or the decisions made by people in the group) hurt or help people, the higher the moral intensity. But, the people in the group may not realize the impact of their decisions; if their decisions have a large impact that the decision-makers do not recognize, then moral contention will be low. Recognized moral impact doesn't always mean disagreement; if a group agrees that what it does hurts (or helps) lots of people, then recognized moral impact is high.

1. Moral problems never come up here.
2. Our decisions impact lots of people.
3. Employees here think about whether what they do is morally right.
4. When one of our decisions touches people, it affects them a lot.
5. We know the people that our decisions impact.
6. The chances of somebody being hurt by a decision we make here are small.
7. The decisions made here are morally controversial.
8. Outsiders praise our morality.
9. Outsiders think that we are immoral.
10. Our decisions impact mostly strangers.
11. It is hard to predict how our decisions will impact people.
12. Few people have any reason to care about the morality of our decisions.
13. Nothing we do here can hurt anybody very much.
14. Nothing we do here can help anybody very much.
15. We all agree that the people in our department make moral decisions.

APPENDIX C

Pre-Test Survey Items and Construct Definition for Participation

[Construct definition for use in substantive validity pre-test:]

Some groups let everyone who might be affected by a decision have a say in that decision. Other groups restrict participation, so that not everyone has a say, or some things cannot be said. Sometimes some things cannot be said by some people, or those things are not listened to if certain people say them. Participation measures how freely everyone can participate in decisions that affect them.

16. People ask coworkers for advice about moral problems.
17. People ask supervisors for advice about moral problems.
18. People call the helpline for advice about moral problems.
19. People call the ombudsperson for advice about moral problems.
20. People who raise moral questions here get ignored by their coworkers.
21. People who raise moral questions here get ignored by their supervisors.
22. People here are comfortable speaking up about moral concerns.
23. Everyone's concerns are taken seriously in moral conversations.
24. Some moral topics never get raised here, even though they concern people.
25. Some people's moral opinions matter less than others'.
26. People here would rather not talk about ethics.
27. People here are careful who they talk with about moral problems.
28. Moral decision-making includes everyone who would be affected.
29. People keep their moral concerns to themselves here.

APPENDIX D

Pre-Test Survey Items and Construct Definition for Agreed Closure

[Construct definition for use in substantive validity pre-test:]

Conversations about what is right or wrong must eventually end, so that a decision can be made. Sometimes the conversation ends before the participants reach a conclusion; other times, the conversation ends when everyone agrees. Sometimes the conversation ends when everyone understands each other, but still disagrees. Agreed Closure refers to how much understanding has been reached before the conversation ends and a decision is made.

30. Discussions about morality often end before any conclusion is reached.
31. Decision-makers end conversations about ethics when they feel they have heard enough.
32. People make moral decisions before they understand all the stakes.
33. People stop listening to each other before everyone is done talking.
34. Decision-makers wait until everyone has had their say before making moral decision.
35. Time is a factor in moral decision-making.
36. People are patient with discussions about ethics.
37. Moral problems get a complete hearing before any decision is made.
38. Moral decisions require complete agreement here.
39. People here can tell the difference between disagreements about morality and disagreements about the terms of a deal.

APPENDIX E

Pre-Test Survey Items and Construct Definition for Commitment to Understanding

[Construct definition for use in substantive validity pre-test:]

Sometimes people talk about ethics because they care about deciding what is right. Other times, people care what is right but only talk about it to discredit others who disagree with them. Sometimes, people use conversations about ethics to attack other people, to look good themselves, or to bargain for things they want. Commitment to Understanding describes how much people seek to reach a reasoned agreement about what is right in conversations about ethics.

40. Discussions about ethics are used by some employees to discredit others.
41. Some people talk about ethics to make themselves look good.
42. Some people talk about ethics to make others do things for them.
43. Some people talk about ethics to buy time before a decision is made.
44. Some people say things they don't believe to win a moral argument.
45. Ethics is sometimes an excuse for attacking someone's enemies.
46. People here only argue for things they believe themselves.
47. Taking the moral high ground is a sure way to win an argument.
48. Bringing up a moral issue is a common way to delay a decision.
49. Taking someone's side in a moral debate is a common way to earn favors.
50. People are sometimes made fun of for making a moral argument.

APPENDIX F

Pre-Test Survey Items and Construct Definition for Procedural Equity

[Construct definition for use in substantive validity pre-test:]

Sometimes people win moral arguments because they have more time to spend than the people who disagree with them. Other people win because they are better at arguing than their opponents are, or because their opponents don't understand their arguments. Finally, sometimes people win moral arguments because their opponents just don't care enough to argue anymore. Procedural Equity measures how often a moral issue is decided because one side lacks the time, will, or ability to argue their case, and not because their case is weak.

51. The best debaters dominate discussions about ethics.
52. People who have the most time to spend usually win discussions about ethics.
53. People are willing to give weak moral arguments the benefit of the doubt.
54. Getting your way in moral conversations depends on waiting out the opposition.
55. The people who care the most usually win moral arguments.
56. People here give in to good talkers in moral conversations, even if they aren't sure they believe their arguments.
57. Caring about a moral problem isn't enough to get your way, you also have to convince people who don't care.
58. Moral debates are decided by majority rule.
59. Moral decisions usually come down to who has more people on their side.

APPENDIX G

Pre-Test Survey Items and Construct Definition for Logical Reasoning

[Construct definition for use in substantive validity pre-test:]

Sometimes moral decisions are made by clearly thinking about the reasons for one alternative or another. Sometimes, some reasons are considered above criticism. Some participants give reasons that contradict each other, or keep changing the subject. Some participants won't accept the reasons they've been given, even if they can't find anything wrong with them. Some participants won't give reasons for their position. Logical Reasoning is about talking about ethics by giving consistent reasons for your position, accepting criticism of your reasons from others, and criticizing others' reasons.

60. Discussions about ethics are won by those who shout the loudest.
61. People who discuss ethics are expected to provide reasons to justify their position.
62. People who discuss ethics often contradict themselves.
63. Criticizing a person's argument is taken as criticizing the person.
64. People who discuss ethics expect others to challenge the reasons they give for their position.
65. The moral decisions made here are hard to act on.
66. The moral decisions made here are clearly communicated.
67. Some people will not accept reasons for a moral decision they don't agree with, even if they can't say what is wrong with those reasons.
68. Some people keep changing the subject when a moral problem comes up.
69. Some people bring extra problems into a moral discussion.

APPENDIX H

Pre-Test Survey Items and Construct Definition for Survey items for Moral Satisfaction

[Construct definition for use in substantive validity pre-test:]

Sometimes people are satisfied with the moral decisions that are made by their groups. Other times, they feel that the wrong decisions have been made. Moral Satisfaction measures how people feel about the morality of the decisions that are made in their work groups.

70. I am generally satisfied with the ethical decisions that are made here.

71. I would agree that decisions here that affect me are made morally.

72. I would agree that decisions here that affect other people are made morally.

73. I would agree that ethics is a problem here.

74. I feel that I work with a morally respectable set of people.

75. I would agree that the moral decisions that are made here are acceptable to everyone.

76. I am proud to work for this group.

77. I disagree with the moral decisions that are made here.

78. I agree that moral decisions are made fairly here.

79. Moral decisions are a sore subject here.

APPENDIX I

Moral Openness in Organizations (Second Pre-Test) Survey Instrument

Below we have described seven ideas about moral openness in the workplace. We have also written some sentences that might or might not describe a given workplace. For each of the sentences in the second section, please select the one of the seven ideas that it best matches.

[The following construct descriptions were given for eLab panelists to match survey items to]

Contention describes whether the members of a group believe that right and wrong are at stake in their decisions.

Participation measures how freely everyone can participate in decisions that affect them.

Agreed Closure refers to how much understanding has been reached before the conversation ends and a decision is made.

Commitment to Understanding describes how much people seek to reach a reasoned agreement about what is right, rather than win favors, use their power, or make deals.

Procedural Equity measures how often a moral issue is decided because one side lacks the time, will, or ability to argue their case, and not because their case is weak.

Logical Reasoning is about moral decisions being made by giving consistent reasons for a position, accepting criticism of those reasons from others, and criticizing others' reasons.

Moral Satisfaction measures whether people feel that the decisions made in their group are acceptable.

[The following items were randomized in the web survey application]

1. People in my work group believe that the ethical problems we face are important.
2. People in my work group ignore questions of right and wrong.
3. Ethical problems do not come up here.
4. People in my workplace are always sure what the ethical thing to do is.
5. People here are often confused about what the ethical thing to do is.
6. People here privately disagree about whether we make good ethical decisions.

7. People here have conflicting ideas about right and wrong in the workplace.
8. Not everyone shares the same beliefs about business ethics here.
9. The decisions we make here are morally controversial.
10. People here believe that right and wrong are at stake in our decisions.
11. Supervisors ignore some people's concerns.
12. People here are comfortable speaking up about moral concerns.
13. Everyone's concerns are taken seriously in moral conversations.
14. People here ask coworkers for advice about moral problems.
15. People here ask supervisors for advice about moral problems.
16. People here take responsibility for speaking up if they see an ethical problem.
17. It is often impossible here to include everyone in a decision that affects them.
18. People who raise moral questions here get ignored.
19. Some people's moral opinions matter less than others'.
20. People here avoid talking about ethical issues that concern them.
21. People here are careful who they talk with about moral problems.
22. Moral decision-making includes everyone who would be affected.
23. Discussions about morality often end before any conclusion is reached.
24. Decision-makers end conversations about ethics when they feel they have heard enough.
25. Discussions about ethics often end before all the arguments have been heard.
26. People here wait to make ethical decisions until they can reach agreement with others.
27. People here would agree that discussions about ethics here open more questions than they answer.

28. Decisions about ethics are made here when time runs out, whether or not agreement has been reached.
29. Most people here would agree that making a prompt decision is more important than reaching agreement.
30. Conversations about ethics focus on who is responsible for making a decision.
31. Moral decisions require complete agreement here.
32. Disagreements about ethics end here when someone in authority makes a decision.
33. Losing an argument about ethics hurts a person's reputation here.
34. Powerful people here usually get their way on questions of ethics.
35. Questioning someone's ethical decisions is a common way to discredit them here.
36. People here care about understanding each other's reasons for a decision.
37. People here care about reaching a reasonable agreement on questions of ethics.
38. Sometimes people here stretch the truth to win an argument about ethics.
39. People here deceive each other to win arguments about ethics.
40. People here trade favors to win support for their arguments.
41. Disagreements about ethics here often involve threats.
42. People here accept facts that do not support their position in a moral argument.
43. People here point out the weaknesses in their own moral arguments.
44. Caring about a moral problem isn't enough to get your way, you also have to convince people who don't care.
45. The best debaters dominate discussions about ethics.
46. Moral debates are decided by the people who have time to hear them out.
47. People here voice their opinions, even on problems that do not interest them.
48. Getting your way in moral conversations depends on waiting out the opposition.

49. People here make the time to participate in conversations about ethics.
50. Good talkers usually win moral arguments, even if others aren't sure they are convinced.
51. Moral debates are decided by the people who care enough to hear them out.
52. Moral decisions usually come down to who has more people on their side.
53. People here are expected to provide evidence to back up their claims.
54. People who discuss ethics are expected to provide reasons to justify their position.
55. People contradict themselves often when discussing ethics here.
56. People here are reluctant to contradict each other's ethical beliefs.
57. People who discuss ethics expect others to challenge the reasons they give for their position.
58. Comparing an unfamiliar idea with a familiar one is a common way to make a point here.
59. Moral arguments here often refer back to a few common examples.
60. Some people will not accept reasons for a moral decision they don't agree with, even if they can't say what is wrong with those reasons.
61. Criticizing a person can win a moral argument as easily as criticizing an idea.
62. It is sometimes hard to stay on-topic in moral discussions.
63. I believe that my group's moral decisions are fair.
64. I believe that my group's moral decisions take everyone's good into account.
65. I believe that my group's moral decisions are arbitrary.
66. I believe that my group's moral decisions are justified.
67. I believe that my group's moral decisions are dishonest.
68. My group's moral decisions make me feel proud.
69. My group's moral decisions make me feel guilty.
70. My group's moral decisions make me feel angry.

71. My group's moral decisions make me feel satisfied.
72. My group's moral decisions make me feel relieved.
73. My group makes good moral decisions.
74. My group makes respectable moral decisions.
75. My group makes bad moral decisions.
76. My group makes problematic moral decisions.
77. My group makes legitimate moral decisions.

APPENDIX J

Moral Openness in Organizations (Third Pre-Test) Survey Instrument

Below we have described six ideas about moral openness in the workplace. We have also written some sentences that might or might not describe a given workplace. For each of the sentences in the second section, please select the one of the six ideas that it best matches.

[The following construct descriptions were given for eLab panelists to match survey items to]

Contention describes whether the members of a group believe that right and wrong are at stake in their decisions.

Participation measures how freely everyone participates in decisions that affect them.

Closure refers to how much understanding has been reached before the conversation ends and a decision is made.

Power describes whether people decide ethical questions based on the power, popularity, threats, or favors that other people can offer.

Logic is about moral decisions being made by giving consistent reasons for a position, accepting criticism of those reasons from others, and criticizing others' reasons.

Moral Satisfaction measures whether people feel that the decisions made in their group are acceptable.

[The following items were randomized in the web survey application]

1. People in my work group believe that the ethical problems we face are important.
2. People in my work group ignore questions of right and wrong.
3. Ethical problems do not come up here.
4. People here are often confused about what the ethical thing to do is.
5. People here have conflicting ideas about right and wrong in the workplace.
6. Not everyone shares the same beliefs about business ethics here.
7. The decisions we make here are morally controversial.

8. People here believe that right and wrong are at stake in our decisions.
9. People here are comfortable speaking up about moral concerns.
10. People here ask coworkers for advice about moral problems.
11. People here ask supervisors for advice about moral problems.
12. People here take responsibility for speaking up if they see an ethical problem.
13. It is often impossible here to include everyone in a decision that affects them.
14. Some people's moral opinions matter more than others'.
15. People here avoid talking about ethical issues that concern them.
16. People here are careful who they talk with about moral problems.
17. Moral decision-making includes everyone who would be affected.
18. Moral debates are decided by the people who have time to hear them out.
19. People here voice their opinions, even on problems that do not interest them.
20. People here make the time to participate in conversations about ethics.
21. People who have trouble putting their thoughts into words get left out of conversations about ethics.
22. Discussions about morality often end before any conclusion is reached.
23. Decision-makers end conversations about ethics when they feel they have heard enough.
24. Discussions about ethics often end before all the arguments have been heard.
25. People here wait to make ethical decisions until they can reach agreement with others.
26. Decisions about ethics are made here when time runs out, whether or not agreement has been reached.
27. Most people here would agree that making a prompt decision is more important than reaching agreement.
28. Conversations about ethics focus on who is responsible for making a decision.

29. Moral decisions require complete agreement here.
30. Disagreements about ethics end here when someone in authority makes a decision.
31. One of the responsibilities of management here is to make a decision when people don't agree about ethics.
32. Powerful people here usually get their way on questions of ethics.
33. Questioning someone's ethical decisions is a common way to discredit them here.
34. People here care more about understanding each other's reasons for a decision than about power and politics.
35. Popular people here usually get their way on questions of ethics.
36. Sometimes people here stretch the truth to win an argument about ethics.
37. People here deceive each other to win arguments about ethics.
38. People here trade favors to win support for their arguments.
39. Disagreements about ethics here often involve threats.
40. People here are expected to provide evidence to back up their claims.
41. People who discuss ethics are expected to provide reasons to justify their position.
42. People contradict themselves often when discussing ethics here.
43. People who discuss ethics expect others to challenge the reasons they give for their position.
44. Comparing an unfamiliar idea with a familiar one is a common way to make a point here.
45. Moral arguments here often refer back to a few common examples.
46. Some people will not accept reasons for a moral decision they don't agree with, even if they can't say what is wrong with those reasons.
47. It is sometimes hard to stay on-topic in moral discussions.
48. Getting your way in moral conversations depends on waiting out the opposition.
49. Moral decisions usually come down to who has more people on their side.

50. People here point out the weaknesses in their own moral arguments.
51. People here accept facts that do not support their position in a moral argument.
52. I believe that my group's moral decisions are fair.
53. I believe that my group's moral decisions take everyone's good into account.
54. I believe that my group's moral decisions are arbitrary.
55. I believe that my group's moral decisions are justified.
56. I believe that my group's moral decisions are biased.
57. My group's moral decisions make me feel proud.
58. My group's moral decisions make me feel guilty.
59. My group's moral decisions make me feel angry.
60. My group's moral decisions make me feel satisfied.
61. My group's moral decisions make me feel relieved.
62. My group makes good moral decisions.
63. My group makes respectable moral decisions.
64. My group makes bad moral decisions.
65. My group makes unreasonable moral decisions.
66. My group makes legitimate moral decisions.

APPENDIX K

Survey Instrument for Study 3

Below we have written a series of questions about moral decision-making in your workplace. Please choose an answer from the list following each question. You may decline to answer any question, and you may quit the survey at any time.

[The following items were randomized in the web survey application.

Each question was followed with five Likert-type responses:

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]

[Contention]

1. People here are often confused about what the ethical thing to do is.
2. People here have conflicting ideas about right and wrong in the workplace.
3. Not everyone shares the same beliefs about business ethics here.
4. The decisions we make here are morally controversial.
5. People here believe that right and wrong are at stake in our decisions.

[Participation]

6. People here are comfortable speaking up about moral concerns.
7. People here ask coworkers for advice about moral problems.
8. People here ask supervisors for advice about moral problems.
9. People here take responsibility for speaking up if they see an ethical problem.
10. It is often impossible here to include everyone in a decision that affects them.
11. Moral decision-making includes everyone who would be affected.
12. People here voice their opinions, even on problems that do not interest them.
13. People here make the time to participate in conversations about ethics.

14. People who have trouble putting their thoughts into words get left out of conversations about ethics.

[Closure]

15. Discussions about morality often end before any conclusion is reached.

16. Discussions about ethics often end before all the arguments have been heard.

17. Decisions about ethics are made here when time runs out, whether or not agreement has been reached.

18. Most people here would agree that making a prompt decision is more important than reaching agreement.

[Power]

19. Powerful people here usually get their way on questions of ethics.

20. Questioning someone's ethical decisions is a common way to discredit them here.

21. Popular people here usually get their way on questions of ethics.

22. Sometimes people here stretch the truth to win an argument about ethics.

23. People here trade favors to win support for their arguments.

24. Disagreements about ethics here often involve threats.

[Logic]

25. People here are expected to provide evidence to back up their claims.

26. People who discuss ethics are expected to provide reasons to justify their position.

27. People who discuss ethics expect others to challenge the reasons they give for their position.

28. Comparing an unfamiliar idea with a familiar one is a common way to make a point here.

29. Moral arguments here often refer back to a few common examples.

30. People here point out the weaknesses in their own moral arguments.

[Moral Satisfaction]

31. I believe that my group's moral decisions are fair.
32. I believe that my group's moral decisions are justified.
33. My group's moral decisions make me feel proud.
34. My group's moral decisions make me feel satisfied.
35. My group's moral decisions make me feel relieved.
36. My group makes good moral decisions.
37. My group makes respectable moral decisions.
38. My group makes legitimate moral decisions.

APPENDIX L

Initial Staff Survey for Field Study

Please begin by helping us learn a little about you.

1. In what year were you born?

2. How many years have you worked for this organization?

3. Are you male or female?

Male Female

4. What is the last year of school that you completed?

Less than High School

Completed High School

Some College

Associate's Degree

Bachelor's Degree

Graduate Degree

5. What type of work do you do?

Laborer / Machine Operator

Clerical / Service

Sales / Marketing

Trades

Professional / Technical

Management

Below we have written a series of statements about moral decision-making in your workplace. For each statement, please tell us how much you agree or disagree by circling your answer.

6. People who have trouble putting their thoughts into words get left out of conversations about ethics.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

7. Discussions about morality often end before any conclusion is reached.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

8. Discussions about ethics often end before all the arguments have been heard.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

9. Decisions about ethics are made here when time runs out, whether or not agreement has been reached.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

10. Most people here would agree that making a prompt decision is more important than reaching agreement.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

11. Questioning someone's ethical decisions is a common way to discredit them here.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

12. Sometimes people here stretch the truth to win an argument about ethics.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

13. People here are expected to provide evidence to back up their claims.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

14. People who discuss ethics are expected to provide reasons to justify their position.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

15. People who discuss ethics expect others to challenge the reasons they give for their position.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

16. People around here are confident that they can do the right thing when faced with moral dilemmas.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

17. People I work with would feel they had to help a peer even if that person were not a very helpful person.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

18. People in my department feel it is better to assume responsibility for a mistake.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

19. No matter how much people around here are provoked, they are always responsible for whatever they do.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

20. Generally people in my department feel in control over the outcomes when making decisions that concern ethical issues.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

21. When necessary, people in my department take charge and do what is morally right.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

22. In my department people are willing to break the rules in order to advance in the company.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

23. Around here, power is more important than honesty.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

24. In my department authority is considered more important than fairness.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

25. Around here, achievement is valued more than commitment and loyalty.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

26. In my department personal success is more important than helping others.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

27. In my department people strive to obtain power and control even if it means compromising ethical values.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

28. Around here, people are willing to tell a lie if it means advancing in the company.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

29. In order to control scarce resources, people in my department are willing to compromise their ethical values somewhat.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

30. Our leader encourages work group members to express ideas / suggestions.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

31. Our leader listens to my work group's ideas and suggestions.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

32. Our leader uses my work group's suggestions to make decisions that affect us.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

33. Our leader gives all work group members a chance to voice their opinions.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

34. Our leader considers my work group's ideas when he / she disagrees with them.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

35. Our leader makes decisions that are based only on his / her own ideas.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

36. We honestly report what we perceive to each other.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

37. We demonstrate a great deal of mutual respect for each other.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

38. When discussing ethical questions, we attempt to integrate our interpretations without belittling our own opinions or another person's.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

39. The people in this department are trustworthy.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

APPENDIX M

Staff Followup Survey for Field Study

Please begin by helping us learn a little about you.

1. In what year were you born?

2. How many years have you worked for this organization?

3. Are you male or female?

Male Female

4. What is the last year of school that you completed?

Less than High School

Completed High School

Some College

Associate's Degree

Bachelor's Degree

Graduate Degree

5. What type of work do you do?

Laborer / Machine Operator

Clerical / Service

Sales / Marketing

Trades

Professional / Technical

Management

Below we have written a series of statements about moral decision-making in your workplace. For each statement, please tell us how much you agree or disagree by circling your answer.

1. I believe that my group's moral decisions are justified.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

2. My group's moral decisions make me feel proud.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

3. My group's moral decisions make me feel satisfied.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

4. My group's moral decisions make me feel relieved.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

APPENDIX N

Manager Survey for Field Study

Please begin by helping us learn a little about you.

1. In what year were you born?

2. How many years have you worked for this organization?

3. Are you male or female?

Male Female

4. What is the last year of school that you completed?

Less than High School
 Completed High School
 Some College
 Associate's Degree
 Bachelor's Degree
 Graduate Degree

Below we have written a series of statements about moral decision-making in your workplace. For each statement, please tell us how much you agree or disagree by circling your answer.

5. People who have trouble putting their thoughts into words get left out of conversations about ethics here.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

6. Discussions about morality here often end before any conclusion is reached.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

7. Discussions about ethics here often end before all the arguments have been heard.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

8. Decisions about ethics are made here when time runs out, whether or not agreement has been reached.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

9. Most people here would agree that making a prompt decision is more important than reaching agreement.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

10. Questioning someone's ethical decisions is a common way to discredit them here.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

11. Sometimes people here stretch the truth to win an argument about ethics.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

12. People here are expected to provide evidence to back up their claims.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

13. People who discuss ethics are expected to provide reasons to justify their position.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

14. People who discuss ethics expect others to challenge the reasons they give for their position.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

15. People around here are confident that they can do the right thing when faced with moral dilemmas.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

16. People I work with would feel they had to help a peer even if that person were not a very helpful person.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

17. People in my department feel it is better to assume responsibility for a mistake.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

18. No matter how much people around here are provoked, they are always responsible for whatever they do.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

19. Generally people in my department feel in control over the outcomes when making decisions that concern ethical issues.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

20. When necessary, people in my department take charge and do what is morally right.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

21. In my department people are willing to break the rules in order to advance in the company.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

22. Around here, power is more important than honesty.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

23. In my department authority is considered more important than fairness.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

24. Around here, achievement is valued more than commitment and loyalty.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

25. In my department personal success is more important than helping others.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

26. In my department people strive to obtain power and control even if it means compromising ethical values.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

27. Around here, people are willing to tell a lie if it means advancing in the company.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

28. In order to control scarce resources, people in my department are willing to compromise their ethical values somewhat.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

29. We honestly report what we perceive to each other.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

30. We demonstrate a great deal of mutual respect for each other.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

31. When discussing ethical questions, we attempt to integrate our interpretations without belittling our own opinions or another person's.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

32. The people in this department are trustworthy.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

33. Never tell anyone the real reason you did something unless it is useful to do so.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

34. The best way to handle people is to tell them what they want to hear.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

35. One should take action only when sure it is morally right.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

36. Most people are basically good and kind.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

37. It is safest to assume that all people have a vicious streak and that it will come out when they are given a chance.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

38. Honesty is the best policy in all cases.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

39. There is no excuse for lying to someone else.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

40. It is hard to get ahead without cutting corners here and there.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

41. All in all, it is better to be humble and honest than important and dishonest.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

42. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons that carry more weight.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

43. Most people who get ahead in the world lead clean, moral lives.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

44. Anyone who completely trusts anyone else is asking for trouble.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

45. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

46. Most men are brave.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

47. It is wise to flatter important people.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

48. It is possible to be good in all respects.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

49. Barnum was very wrong when he said that there's a sucker born every minute.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

50. Generally speaking, men won't work hard unless they're forced to do so.

Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree

APPENDIX O

Survey items for Respectful Interaction

1. We honestly report what we perceive to each other.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
2. We demonstrate a great deal of mutual respect for each other.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
3. When discussing important subjects, we attempt to integrate our interpretations without belittling our own opinions or anyone else's.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
4. The people in this group are trustworthy.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]

APPENDIX P

Survey Items for Participative Decision-Making

1. My manager encourages work group members to express ideas and / or suggestions.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
2. My manager listens to my work group's ideas and suggestions.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
3. My manager uses my work group's suggestions to make decisions that affect us.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
4. My manager gives all work group members a chance to voice their opinions.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
5. My manager considers my work group's ideas when he or she disagrees with them.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
6. My manager makes decisions that are based only on his or her own ideas.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]

APPENDIX Q

Survey Items for Machiavellianism

1. Never tell anyone the real reason you did something unless it is useful to do so.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
2. The best way to handle people is to tell them what they want to hear.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
3. One should take action only when sure it is morally right.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
4. Most people are basically good and kind.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
5. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
6. Honesty is the best policy in all cases.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
7. There is no excuse for lying to someone else.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
8. It is hard to get ahead without cutting corners here and there.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
9. All in all, it is better to be humble and honest than important and dishonest.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
10. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons that carry more weight.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
11. Most people who get ahead in the world lead clean, moral lives.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
12. Anyone who completely trusts anyone else is asking for trouble.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]

13. The biggest difference between most criminals and other people is that criminals are stupid enough to get caught.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
14. Most men are brave.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
15. It is wise to flatter important people.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
16. It is possible to be good in all respects.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
17. Barnum was very wrong when he said that there's a sucker born every minute.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
18. Generally speaking, men won't work hard unless they're forced to do so.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]

This scale was published in Studies in Machiavellianism, by Richard Christie & Florence L. Geis, on pages 17 and 18, Copyright Elsevier (1970).

APPENDIX R

Survey Items for Collective Moral Motivation

1. In my group, people are willing to break the rules in order to advance in the company.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
2. Around here, power is more important than honesty.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
3. In my group, authority is considered more important than fairness.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
4. Around here, achievement is valued more than commitment and loyalty.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
5. In my group, personal success is more important than helping others.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
6. In my group, people strive to obtain power and control even if it means compromising ethical values.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
7. Around here, people are willing to tell a lie if it means advancing in the company.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]
8. In order to get something valuable, people here are willing to compromise their ethical values somewhat.
[Strongly Disagree Disagree Not Sure Agree Strongly Agree]

APPENDIX S

Survey Items for Collective Moral Character

1. People around here are confident that they can do the right thing when faced with moral dilemmas.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]
2. People I work with would feel they had to help a peer even if that person were not a very helpful person.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]
3. People in my department feel it is better to assume responsibility for a mistake.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]
4. No matter how much people around here are provoked, they are always responsible for whatever they do.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]
5. Generally people in my department feel in control over the outcomes when making decisions that concern ethical issues.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]
6. When necessary, people in my department take charge and do what is morally right.
[Strongly Agree Agree Neither Agree Nor Disagree Disagree Strongly Disagree]

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