UNIVERSITY OF OKLAHOMA

GRADUATE COLLEGE

THE DISTORTION OF UPWARD COMMUNICATION IN MILITARY ORGANIZATIONS

A DISSERTATION

SUBMITTED TO THE GRADUATE FACULTY

in partial fulfillment of the requirements for the

Degree of

DOCTOR OF PHILOSOPHY

By

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Norman, Oklahoma
2011

THE DISTORTION OF UPWARD COMMUNICATION IN MILITARY ORGANIZATIONS

A DISSERTATION APPROVED FOR THE GRADUATE COLLEGE

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Acknowledgments

This dissertation would not have been possible without the extraordinary support and encouragement of my wife, Cynthia, and children, Hannah, Peter, and Jack.

I would like to thank my committee chair, Dr. Joe Rodgers, for his leadership, support, and patience during the entire odyssey. He always provided outstanding insight and focus in bringing the project to fruition, but more important, provided superb mentorship during this academic adventure.

Thanks to my parents, Douglas and Mary Strauss, and to my sisters, Elizabeth and Catherine, who always believed in me and provided encouragement.

I would also like to thank my other committee members, Drs. Nina Barbee, Kelly Damphousse, Richard Little and Susan Sharp for their time, efforts, and encouragement, as well as Drs. Tom Boyd and Trent Gabert, whose support and wise counsel were invaluable. I would also like to thank all members of Cohort IV, whose energy, comradeship, and senses of humor made the project not only attainable but highly entertaining.

I would like to acknowledge and thank all those whose assistance and support were invaluable in the project, including, but not limited to, Dr. Paul Romanski, Dr. Scott Borderud, Dr. Kathleen Schulin, the Army Management Staff College, and all members of Cohort IV.

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Abstract

This study explores the relationship between subordinates' inclination to distort negative upward organizational communication and four personality variables. The study used a postulated Upward Organizational Communication Distortion Index to measure the propensity of the study participants to distort upward organizational communication, then tested four personality variables—(1) Quality of Superior-subordinate Relationship using Leader-Member Exchange Theory, (2) Locus of Control, (3) Need for Cognition, and (4) Tolerance of Ambiguity—measured during the same survey session, to ascertain whether any correlated with the theoretical propensity to distort negative upward organizational communication. The study population was Department of the Army senior civilian employees assumed to be pursuing careers as civilian employees within the Department of the Army. Although no conclusive evidence was found that linked any of the four independent variables, weak correlations between some of the independent variables and two of the dependent variable subscales were established that suggest further investigation.

Chapter 1

Introduction

"They utter lies to each other; with flattering lips and double heart they speak".
Psalm 12:2 (New Revised Standard Version)

The distortion of upward communication in organizations can inhibit the free flow of valuable feedback to decision makers and leaders at all organizational levels. The availability and quality of information provided from below is a vital resource for leaders to assess performance and determine appropriate strategies (Athanassiades, 1974; Ivancevich, Donnelly, & Gibson, 1989; Dozier & Miceli, 1985). This communication includes the transmission of negative information, i.e., "bad news". However, the upward transmission of negative information in organizations is often impeded, which degrades the quality and quantity of information that supervisors would otherwise use in decision making. The distortion of upward communication—deliberate or unintentional—can have a detrimental effect on decision making quality (Roberts and O'Reilley, 1974a). It is very important for organizational effectiveness that information flow is of high-quality (Glauser, 1984, p. 613; Roberto, 2005, p. 15).

Military organizations, like any organization, require timely and accurate information between all organizational levels in order to plan, monitor performance, and communicate feedback. Effective organizational communication—in all directions—is essential; one of its primary functions is that of problem-solving and decision-making (Naher, 1997; Yingling, 2007). If upward communication is distorted, access to timely and accurate information may be compromised, and decision-making quality is

correspondingly degraded. Understanding how distortion functions can provide insights into organizational effectiveness.

As Aylwin-Foster (2005) reported in his observations of American officers working in a U.S. headquarters in Baghdad:

> The U.S. Army's laudable and emphatic 'can-do' approach to operations paradoxically encouraged another trait, which has been described elsewhere as damaging optimism. Self-belief and resilient optimism are recognized necessities for successful command, and all professional forces strive for a strong can-do ethos. However, *it is unhelpful if it discourages junior commanders from reporting unwelcome news up the chain of command* [emphasis added]…Most commanders were unfailingly positive, including in briefings and feedback to superior commanders, but there were occasions when their optimism may have served to mislead those trying to gauge progress. In briefings to superiors, intentions and targets could easily become misconstrued as predictions and in turn develop an apparent, but unjustified and misleading degree of certainty. Force commanders and political masters need to know the true state of affairs if they are to reach timely decisions….(p. 7)

Military officers and civilian employees, perhaps as much as any other profession, are faced with the occasional profound moral challenge, sometimes committing subordinates to situations of extreme mortal danger. Clifford (2007) discussed the options that an officer has should he or she be faced with a task or mission that puts him or her at odds with one's ethical beliefs. An officer's options are (1) to perform the assigned task with minimal moral discomfort or (2) do likewise with substantial moral discomfort. A third option is to perform the duty only by compromising his or her moral standards in a major way. A fourth option occurs when the order, task, or mission is clearly illegal, and the officer must refuse to obey. Clifford (2007) discussed the choices an officer has with the third option, and some form of dissent is usually indicated, either through requests for reassignment, resignation, or retirement. He mentioned that careerism is a major characteristic of military life today, often to the detriment of providing honest feedback up the chain of command.

The open and unimpeded upward flow of information, positive and negative, is vital in any organization. But it is of particular importance to a military organization, all the more so when that organization is preparing for or engaged in combat. The U.S. Army, like most hierarchal organizations, exhibits characteristics of bureaucratic entities (Galvin, 1989, p. 8; Bureaucracy, 2003; Huntington, 1957; Weber, 1996; Snider and Watkins, 2002; Tullock, 2005a). Such organizations are described by Tullock (2005b) as those "whose output is not evaluated in the market" (p. 280). An army is most certainly only evaluated by its performance on the battlefield or by its deterrent value, the results of which can be problematic at best or mere wishful thinking at worst. Without the incentive to earn a profit, the underlying motives for effective organizational performance reside elsewhere. However, bureaucratic authority and professional authority, present in any bureaucratic organization, are often at odds (Blau, 1968, p. 456), as the expertise that is the hallmark of professionalism elicits qualitatively different motives and incentives to follow.

Planning for operations in Iraq was the responsibility of the United States Central Command. Internal communications in this headquarters during the pre-invasion period (2002 and early 2003) is described by Ricks (2006) as being negatively constrained by a poor command climate:

> He [General Tommy Franks, Commanding General, U.S. Central Command] ran an extremely unhappy headquarters. He tended to berate subordinates, frequently shouting and cursing at them. Morale was poor, and people were tired, having worked nonstop since 9/11…Franks' abusive style tended to *distort the information that flowed upward to him*. [emphasis added] I am convinced that much of the information that came out of Central Command is unreliable because he demands it instantly, so people pull it out of their hats. It's all SWAGs [scientific wild-assed guesses] Also, *everything has to be good news stuff* [emphasis added]…You would find out you can't tell the truth. (p. 33)

Contrast this with an observation from General of the Army Omar Bradley (1981), who wrote,

> If you happen to be detailed to a staff, try to be a good staff officer and, if possible, avoid being a 'Yes' man. I would suggest to all commanders that they inform the members of their staffs that anyone who does not disagree once in a while with what is about to be done, is of limited value and perhaps should be shifted to some other place where he might occasionally have an idea. (p. 4)

Although the behavior depicted in the CENTCOM Headquarters may describe the leadership style of General Franks, it does not address personality attributes of his subordinates. Those personality traits are the variables of interest in the present study.

Organizations cannot exist in perfect harmony; indeed, some conflict will normally be present. Kassing (1998) noted that organizational health and harmony are not one and the same. A healthy organization is one that grows and learns. It is one that is responsive to environmental changes, and is agile enough to take advantage of new opportunities as well as anticipate and react to threats. Maintaining open and honest lines of communication is part of a healthy organization's core processes.

The central purpose of this research is to examine subordinates' organizational communication distortion behaviors in a framework of four variables through the investigation of how these variables relate to the distortion of upward negative (i.e., "bad news") communication in organizational settings. This goal will be achieved by measuring the focal relationships as correlations between the personality variables and the propensity to distort upward communication, as well as correlations among the four variables themselves. An effort will be made to identify whether any of the variables, either alone or in combination, can provide insight into a personality tendency to distort upward communication.

The four independent variables to be tested are the Quality of Superior-subordinate Relationship using Leader-member Exchange (LMX) Theory, Locus of Control, Need for Cognition, and Tolerance of Ambiguity. An understanding of how these variables may or may not interact with the inclination (or disinclination) to distort upward organizational communication may illuminate some of the personality traits that animate the specific upward communication behaviors of the small, highly specialized population of Army civilian employees. These behaviors are believed to be related to selection outcomes such as, promotion, increased responsibility, and opportunities for advanced training.

The present study explores some the motivating variables that may contribute to employees' organizational upward communication distortion behaviors. The insights gained may be worthwhile and could very well increase understanding of the entire organizational decision-making process, and can potentially allow distortion to be understood, mitigated, or factored into those decisions. The target population is interesting because the Army civilian workforce is a vital component in the organizational composition of the American military establishment. Army civilians are involved in nearly all non-combat functions of the service. Indeed, many long-term decisions—e.g., the design of new doctrinal, organizational, training, and matériel systems—are the direct beneficiaries of civilian input. The quality of the superior-subordinate relationship (LMX) and the three personality variables may very well play a significant role in the way organizational upward communication is packaged. The superior-subordinate relationship and the three personality traits that may correlate with the propensity to distort is the focus of the present study.

Chapter 2

Literature Review

> One error into which Princes, unless very prudent or very fortunate in their choice of friends, are apt to fall, is of so great importance that I must not pass it over. I mean in respect of flatterers. These abound in Courts, because men take such pleasure in their own concerns, and so deceive themselves with regard to them, that they can hardly escape this plague; while even in the effort to escape it there is risk of their incurring contempt.
> For there is no way to guard against flattery but by letting it be seen that you take no offense in hearing the truth: but when everyone is free to tell you the truth respect falls short. Wherefore a prudent Prince should follow a middle course, by choosing certain discreet men from among his subjects, and allowing them alone free leave to speak their minds on any matter on which he asks their opinion, and on none other.
>
> (Machiavelli, *The Prince*, XXIII, published online 2001)

The present study focuses on negative upward organizational communication distortion, a sub-category of the general domain of communication. Representative of the many definitions of communication range from the simple, such as the definitions in Ivancevich, Donnelly, & Gibson (1989), "*Communication* is defined as *the transmission of mutual understanding through the use of symbols*" (p. 330) (Italics in the original) or Lussier & Achua (2007), "Communication is the process of conveying information and meaning…", to the complex, as in Griffin's (2006) multifaceted definition of communication as "Seven traditions in the field of communication theory" (p. 21). These traditions, or categories, are the socio-psychological, cybernetic, rhetorical, semiotic, socio-cultural, critical, and phenomenological tradition (p. 33).

Organizational Communication

The sub-field of organizational communication is described by Greenbaum (1974) as consisting "of various message sending and receiving phenomena affecting formal

social units in which individuals work toward common goals" (p. 740). He defines organizational communication as a three-part system comprised of purpose, operational procedures, and structure:

> The purpose of organizational communication is to facilitate the achievement of organizational goals. The operational procedures involve the utilization of functional communication networks related to organizational goals; the adoption of communication policies appropriate to communication network objectives; and the implementation of such policies through suitable communication activities. The structural elements include (a) the organization unit, (b) functional communication networks, (c) communication policies, and (d) communication activities. (p. 740)

Bacharach and Aiken (1977) studied how organizational communication is affected by structural determinants such as size, shape, decentralization, routinization, and boundary spanning on the frequency of communication patterns of department heads and subordinates. However, they left the question of individual personality variables alone.

Baker (2002) described a two-perspective model in which one view sees organizational communication as one dimension of the organization and the other as the "underlying basis of the organization itself" (p. 2). Reina and Reina (2006) asserted that trust, more specifically, communication trust, is the basis for all organizational communication, and that its lack often results in "…decreased risk-taking and collaboration, breakdowns in information sharing, decreased performance…" (p. 34).

Upward Organizational Communication

Effective upward organizational communication is essential to the successful performance of any organization, as numerous commentators have observed (Bolton, Brunnermeier, and Veldkamp, 2010; Ivancevich, Donnelly, and Gibson, 1989; Weik and Ashford, 2001, among others).

Traditional definitions of upward organizational communication include Schermerhorn's (2000):

> The flow of messages from lower to higher levels is *upward communication*… [emphasis in original] it serves several purposes. Upward communication keeps higher levels informed about what lower level workers are doing, what their problems are, what suggestions they have for improvements, and how they feel about the organization and their jobs. (p. 344)

In addition, Robbins (2005) noted:

> Upward communication flows to a higher level in the…organization. It's used to provide feedback to higher-ups, inform them of progress toward goals, and relay current problems. Upward communication keeps managers aware of how employees feel about their jobs, coworkers, and the organization in general. Managers also rely on upward communication for ideas on how things can be improved. (p. 139)

The organizational leadership advice literature is replete with suggestions that subordinates keep their superiors informed: "Keep the boss informed of what is going on in the [organization]…as you advance in rank and responsibility, people will be less inclined to talk to you…what you hear…may be heavily filtered" (Meilinger, 1996, p. 157) and "…Effective followers…insightful, candid and fearless, they can keep their leaders and colleagues honest and informed" (Kelley, 1996, p. 141). Drucker (1974) asserted that the traditional view of organizational communication—that is, downward communication—is misplaced, and that real communication, that which is perceived by the receiver, must begin with upward communication, because without it, the superior is only able to "utter". (p. 490)

Baker (2002) observed that "…less is known about upward communication…" and that "…one consistent finding is that employee satisfaction with upward communication tends to be lower than their satisfaction with downward communication" (p. 9). She categorized reasons for poor upward communication into two broad

classifications, employee-based and management-based. Much upward organizational communication is found to be "rather ineffective", according to Frank (1985, p. 47).

Without the feedback from lower to higher organizational levels, the long-term prospects for continued success become problematic. As McClelland (1988) observed, "Upward communication supports participative management and employee contributions to the organizational goals" (p. 124).

Upward Organizational Communication Distortion

Athanassiades (1973) defined distortion of upward communication as "…what is, and what is not, communicated up the hierarchic ladder…" (p. 207). According to Hubbel, Chory-Assad, and Medved (2005), it is also intentional (p. 171). McClelland (1988) identified as hindrances to effective upward communication fear of reprisal, filters, and time. These factors can be seen as being characteristic of the employee as a level of analysis rather than as from the perspective of specific personality traits of the individual employee. Fulk and Mani (1986) defined the Roberts and O'Reilley (1974) analysis of organizational communication distortion as comprising several components:

> "*Gatekeeping*…when not all information which has been received is passed upward. *Summarization* involves changing the emphasis given to various parts of the message. *Withholding* of useful information from supervisors is a third distortive process. General *distortion* involves actively changing the nature of the information transmitted. (p. 484)

Dansereau and Markham (1987) described how certain moderating variables can affect the inclination of subordinates to distort upward communication. Some of these variables are "superior and subordinate characteristics (mobility aspirations, security needs, and gender), message factors (message importance, relevance, content, favorableness to superior/subordinate), relational issues (trust, influence), and

organizational variables (organizational structure, technology, and climate)" (pp. 345-346).

Rosen and Tesser (1970) introduced a term for the reluctance to transmit negative information in any direction, i.e., upwards, downwards, or laterally. They call it the MUM effect, for "keeping Mum about Undesirable Messages to the recipient." One key provision of the MUM effect is the "inferred attitudes of an anticipated audience," namely, how the sender expects the recipient of the message to react (p. 254). The Mum effect has been further researched since its introduction by Tesser & Rosen (1972); Tesser, Rosen, & Batchelor (1972); and Tesser, & Rosen (1975).

Grice (1989) described four maxims regarding conversational expectations as quantity, quality, relevance, and manner of information. These maxims form the foundation of his "theory of conversational implicature". Quantity refers to the amount of truthful information present in a message; quality refers to the manipulation of message content; manner refers to the clearness of the message; and relevance refers to the significance of the message, including that only message content germane to the matter at hand be communicated.

McCornack (1992) proposed Information Manipulation Theory (IMT) to explain *how* deceptive messages are developed. IMT describes various ways messages are created. The primary assertion of IMT is that "…messages that are commonly thought of as deceptive derive from covert violations of the conversational maxims" (p. 5) but IMT does not explain *why* an individual might be so disposed. Hubbel et. al. (2005) developed a new approach for researching organizational deception by integrating McCornack's

(1992) IMT with Grice's (1989) maxims. They identify three perspectives of organizational deception: information distortion, strategic ambiguity, and lies.

Grover (1993) proposed a model that focuses on role conflict and the stress on the individual subordinate that role conflict, that is, internal discord created by differences in role expectations, experiences. He asserted that lying to a superior is a way to alleviate this internal conflict.

Mobility aspiration is a characteristic that has been studied by several researchers, and the findings have been mixed, with some finding a positive relationship between the inclination to distort upward organizational communication and others a negative relationship, and still others, no relationship at all (Bessarabova, 2005, pp. 1-2; Bass, 1990). In one early study, Cohen (1958) found a positive relationship between upward mobility aspirations and upward communication distortion behavior, as did Read (1962). Mellinger (1956) found that in individual who lacks trust in the recipient of a communication will be more likely to distort his or her personal attitudes (p. 309). Chow, Hwang, and Liao (2000) tested organizational incentive mechanisms to decrease communication misrepresentation, but their results were inconclusive.

Smith and Keil (2001) developed a model to explain the reluctance to transmit negative organizational information upwards in the software development industry. They explored whether a number of factors would influence an individual's inclination to "whistle-blow". This study was limited to professionals in the software development industry, and the specific research question derived from an unusually high incidence of software development issues, problems, and challenges encountered during software development projects that were not reported to top-level organizational executives.

Interestingly, one of the personality variables they proposed that may contribute to the personal responsibility to report negative information is Locus of Control, employed in the present study as an independent variable. They asserted that a person with a strong internal Locus of Control will be more inclined to report negative information.

The inclination to distort upward communication and the tendency to engage in organizational dissent are similar. Kassing (1998) defined dissent as a complex process involving alienation from the organization and the expression of contrary attitudes or opinions about the organization. He distinguished dissent from voice and whistle-blowing, the former being an overall level of subordinate communication behaviors that is neither positive nor negative and includes complaints as well as endorsement messages. The latter involves making one's negative or contradictory attitudes public based on the perceived requirement that the issue is of such overriding importance that silence cannot be maintained (p. 184).

Whistle-blowing is defined by Near and Miceli (1985) as:

> …current or former organization members or persons under the control of the organization, who lack authority to prevent or stop the organization's wrongdoing, whether or not they choose to remain anonymous in blowing the whistle and whether or not they occupy organizational roles which officially prescribed whistle-blowing activity when wrongdoing is observed. (pp. 2-3)

The tendency to distort upward communication may have a variety of causes ranging from supervisors who actively discourage dissent-type behavior or who create the perception that dissent behavior will not be tolerated (Reed, 2004; Reed, 2010) to cultural characteristics of the organization. Redding (1985) describes an event in which a speaker illustrated how corporate recruiters under his supervision would continuously seek out prospective employees who would "fit in." Although this desire involves hiring

employees who are a good match for the company, it can also carry with it the implicit consequence of avoiding the hiring personnel who might be inclined to dissent.

Kassing and Armstrong (2002) discussed the existence of an event that sets off the expression of dissent, or a trigger. They also described the way individuals who express dissent may do so to different audiences, namely, superiors, peers, or outside parties (family members or friends). They provided a typology of dissent-triggering events which range from employee treatment, organizational change, decision making, inefficiency, role/responsibility, resources, ethics, performance evaluation, and preventing harm (p. 44). These items are not a continuum, rather, they are categories of triggering events.

In the final analysis, subordinates tend to be reluctant to transmit negative information to their superiors. As Weick and Ashford (2001) describe this reluctance, "…[I]t is hard to bring any news to the top of an organization, especially hierarchical ones. Individuals' concerns regarding their image (no one wants to look bad by bringing what might be bad news to the top) and the communication problems inherent in multiple layers (where each sender reinterprets the message slightly and delays its transmission somewhat) make communication upward difficult" (p. 714). The *how* of this reluctance has been addressed as well as some of the motivations. But in relation to individual personality attributes, there has been very little research.

Quality of Superior-Subordinate Relationship (Leader-Member Exchange)

Considerable research has been published on Leader-Member Exchange Theory (LMX). According to Yukl (2006), LMX filled a void in the current theory and research on leadership behavior, which "did not consider how much leaders vary their behavior

with different subordinates". Leader-member exchange (LMX) theory posits a dichotomy in the leader-follower relationships, viz., an "in-group" and an "out-group". According to Northhouse (2004), Leader-member Exchange Theory was first proposed in the mid-1970s by Dansereau, Graen, and Haga. Further, he describes the two groups as "those that were based on expanded and negotiated role responsibilities (extra-roles), which were called the *in-group*, and those that were based on the formal employment contract (defined roles), which were called the *out-group*" (p. 148). The central process in LMX, and the focus of later studies, is the exchange between leaders and subordinates that are the basis for "Leadership-making" (p. 151).

Dansereau, Graen, and Haga (1975, p. 76) refer to high-quality relationships as "leadership relationships" and those of low quality as "supervision relationships," and this differentiation is the result of negotiation. The quality of the superior-subordinate relationship may well have a significant bearing on the tendency to distort upward communication.

Graen and Uhl-Bien (1995) provided an overview of the LMX theory development, providing a taxonomy of leadership approaches and how LMX theory relates to the larger taxonomy. They describe the stages of LMX theory development as: the "Validation of Differentiation within work units (VDL); LMX; Leadership-making; and Team-making competence Network" (p. 226). Afterward, Schriesheim, Castro, & Cogliser, 1999), while recognizing the contributions of LMX to the understanding of leadership, called for further improvement in the theorization of the concept (p. 102).

If the quality of the superior-subordinate relationship is assumed to be a significant variable in determining upward communication distortion behaviors, then

there should be a measurable difference between the two in observed behaviors. Thus, the problem arises concerning how much correspondence is there, if any, between group (in- or out-) and the degree to which a member engages in organizational upward communication distortion behaviors.

In-group members may modify their upward communication distortion behaviors in order to suppress feelings of opposition or disagreement whereas out-group members may tend to be more willing to express or provide undistorted messages upward. This process leads to the first hypothesis:

H_1: Group membership (In-group) will correlate positively with the propensity to distort organizational upward communication. In other words, participants reporting a higher quality supervisor-subordinate relationship will have a greater propensity to distort upward organizational communication.

Locus of Control

Locus of Control, or more formally,

> "Internal versus external control of reinforcement…refers to the degree to which persons expect that a reinforcement or an outcome of their behavior is contingent on their own behavior or personal characteristics versus the degree to which persons expect that the reinforcement or outcome is a function of chance, luck, or fate, is under the control of powerful others, or is simply unpredictable. (Rotter, 1990, p. 489)

Originally proposed and developed by Rotter (1971, 1989), an internal locus of control means that one believes that one has control over what happens, and an external Locus of Control means that one feels that forces outside of oneself determine the outcomes in one's life. Locus of Control has been useful in the prediction of behavior (Finch, Spirito, Kendall, & Mikuka, 1981) as well as in social and clinical psychology (Lefcourt, 1982, p. 32). Rotter (1975) pointed our several issues with the variable such as

problems associated with conceptualization or measurement of individual differences (pp. 59-62).

Locus of Control has also been found useful in various therapies where lifestyle changes are indicated, such as weight-loss and smoking cessation programs (Craig, Franklin, & Andrews, 1984). It is believed that patients who accept responsibility for their own well-being (internal Locus of Control) may be more resistant to relapse after treatment than those who feel their fate is controlled by others (external Locus of Control). There may be a relationship with the propensity to distort organizational upward communication. This may be because the individual with an external Locus of Control feels empowered to manipulate his or her own communication in an instrumental fashion, whereas an individual with an internal Locus of Control may feel that it is useless to try to spin upward communication to his or her own advantage.

As Taylor (2010) observed, "Individuals guided by a more internal locus of control have increased persuasive ability in interaction…, are driven by their own sense of accomplishment, tend to be more achievement and relationship driven…and perceive communication to be more satisfactory due to his or her sense of command over the situation" (p.448). Moreover, as Wang, Bowling, and Eschleman (2010) point out, "Locus of control may influence interpersonal relationships at work via effects on one's behavior in social situations. Specifically, internals generally possess better social skills, are more considerate of others, and are more effective at influencing people than externals" (p. 762). An external Locus of Control may therefore be inclined to be less inclined than one with an internal Locus of Control to transmit negative information to his or her superior.

This leads to the second hypothesis:

H_2: Locus of Control will correlate positively with the propensity to distort organizational upward communication. This means that on the continuum from internal to external Locus of Control, the more toward the external end one moves, the more participants will exhibit a greater propensity to distort upward organizational communication.

Need for Cognition

Developed by Cohen, Stotland, and Wolfe (1955) the Need for Cognition refers to a person's preference to use cognitive approaches to problem solving as well as enjoyment of cognitive processes (Cacioppo, Petty, and Kao, 1984), that is, "…the tendency for an individual to engage in and enjoy thinking" (Cacioppo and Petty, 1982, p. 116). Individual Need for Cognition varies widely and has been the subject of numerous studies (Cacioppo, Petty, Feinstein, & Jarvis, 1996). It is expected that an individual officer's Need for Cognition will be related to his or her propensity to engage in dissent behaviors. If a person's Need for Cognition is relatively high, there may be a greater inclination to distort upward organizational communication. This may be because the individual's desire to use cognition in problem solving may drive the need to bring problems to closure and resolution, and, failing that, dissonance may result.

This leads to the third hypothesis:

H_3: Need for Cognition will correlate positively with the propensity to distort organizational upward communication. In other words, participants who reveal a higher Need for Cognition will also exhibit a greater propensity to distort upward organizational communication. This is based on the recognition, as noted by Carnevale, Inbar, and

Lerner (2011) that those high in Need for Cognition "…engage in and enjoy effortful cognitive activities" and "engage in cognitively challenging activities without external motivation, whereas those low in NC prefer to engage in cognitive tasks only when they have a good reason to do so. Those low in NC are more likely to rely on simple cues and stereotypes when making judgments, whereas those high in NC are more likely to fully consider all relevant information" (p. 274) as well as Dickhaeuser & Reinhard (2006, p. 491) and Cacioppo & Petty (1982).

Tolerance of Ambiguity

Originating through the research of Frenkel-Brunswik (1949), Tolerance of Ambiguity refers to the degree to which a person can accept uncertainty in his or her world view, or "How a person psychologically copes with ambiguous in formation…" (Norton, 1975, p. 607). Budner (1962) defines Intolerance of Ambiguity as "the tendency to perceive (i.e., interpret) ambiguous situations a sources of 'threat'…" and "…tolerance of ambiguity as 'the tendency to perceive ambiguous situations as desirable'" (p. 29). Furnham and Ribchester (2005) state that "ambiguity tolerance…refers to the way an individual (or group) perceives and processes information about ambiguous situations or stimuli when confronted by an array of unfamiliar, complex, or incongruent clues" (p. 179).

How an individual deals with uncertainty may correlate with an inclination to dissent, in that dissent behaviors may be suppressed by an aversion to vagueness, or, failing a cause and effect relationship, be related in some way. Those who see the world in black and white may feel less inclined to distort, particularly if they are inclined to authoritarianism. This leads to the fourth hypothesis:

H_4: Tolerance of Ambiguity will correlate negatively with the propensity to distort organizational upward communication. In other words, participants who reveal a higher Tolerance of Ambiguity will be more willing to express uncomfortable information than someone with a lower Tolerance of Ambiguity. As Frenkel-Brunswik (1949) originally observed, the cognitive pattern of dichotomization, or the division of perception into two distinct groups leads to the acceptance of assumptions that may or (may not) be accurate (p. 119); an individual who feels comfortable with more uncertainty ("shades of gray") may very well feel just as comfortable withholding "bad news" if it serves his or her self-interest. Bors, Gruman, & Shukla (2010) noted this pattern of inflexibility and dichotomization as well (p. 240).

Table 1

Independent Variables and Measurements

IV	Quality of Superior-Subordinate Relationship	Locus of Control	Need for Cognition	Tolerance of Ambiguity
MEASURE	LMX-7	Locus of Control of Behavior Scale (Craig, Franklin, and Andrews, 1984)	Need for Cognition Scale (Cacioppo, Petty, and Kao, 1984)	Surviving Intolerance of (Ambiguity Items Kirton, 1981)

Chapter 3

Method

"Whoever rebukes a person will afterward find more favor than one who flatters with the tongue". Proverbs 28:23 (New Revised Standard Version)

This chapter describes the research question; research design; the dependent and independent variables; dependent and independent variable measures; demographic characteristics of the study participants; how the appropriate sample size was determined; and the desired power ascertained.

Research Question

The overall research question is whether certain personality variables affect a subordinate's inclination to distort upward organizational communication with his or her immediate supervisor. There exists a vast number of potential personality variables that could be tested; the present study necessarily limits the number to four in order to facilitate the research and validate the method. Specifically, do these personality variables affect the individual's willingness to transmit negative organizational information to the supervisor? Do some or all of the variables indicate the likelihood and/or willingness to giving the boss "bad news"?

The personality variables selected for the present study are (1) Quality of the Superior-subordinate Relationship, (2) Locus of Control, (3) Need for Cognition, and (4) Tolerance of Ambiguity. The dependent variable is a construct called the Upward Organizational Communication Distortion Index. It was measured by using a modified version of Athanassiades' (1973) method. It is predicted that as these variables increase (with the quality of the superior-subordinate relationship corresponding to an increase for

the LMX variable), the propensity to distort upward organizational communication will increase. The exception was Tolerance of Ambiguity which is predicted to correlate negatively with the propensity to distort organizational upward communication.

Research Design and Instrumentation

The present study is based on an exploratory correlational design using data collected by means of a survey questionnaire (Gall, Gall, & Borg, 2007, p. 335) or a "relational" study (Trochim and Donnelley, 2008, p. 5). Survey participants completed an anonymous written survey instrument in a single session. One dependent variable and three dependent variable subscales were measured, and four independent variables were also measured. Then dependent variable and independent variable relationships were assessed by measuring strength of correlations. All data were collected using the instrument shown in Appendix A, which was composed of four sections and included items used to measure the several constructs defined above. The survey was administered using paper copies. The instrument was intended to be completed in one session, lasting 15-20 minutes. Respondents were asked to work their way through the survey from start to finish and not go back and check or change previous answers. Consent, gender, ethnicity, birth month, and year, branch of service (if applicable) and rank/grade/pay band were requested. The survey was piloted using 6 pilot subjects (who were colleagues of the author) before actual use, in order to validate time required and efficacy. No mention of deception or lying was made.

A total of five existing survey instruments were combined into the instrument employed in this study. Handley's (2004) *Insight Inventory* was used to establish the dependent variable "Upward Organizational Communication Distortion Index." For

purposes of the present study and to simplify the writing of data analysis software programs, the dependent variable is referred to as "DIFTOT" (derived from the difference between the scores of the two iterations of Handley's (2004) *Insight Inventory).*

Dependent Variable

Athanassiades (1973) studied the upward communication distortion phenomenon as a form of subordinate behavior by applying motivation theory to two groups, one from an "autonomous" organization (with an "authority structure [that] allows its members a considerable degree of authority and responsibility for defining and implementing goals, standards, and performance criteria"), in this case a university faculty, and the other from a "heteronomous" organization (one …"whose members are closely subordinated to their superiors; where members are controlled by an elaborate system of rules and regulations which allow little room for individual initiative and responsibility"), the latter comprised of non-supervisory personnel from a southern police force (p. 212). Athanassiades (1973) determined his distortion of upward communication index by administering Gordon's *Personal Profile* and *Personal Inventory* Scales twice. During the first iteration the respondent was assured that his or her responses would be totally anonymous. The second time the respondents were informed that their responses would be transmitted to their supervisors. The index of upward communication distortion was therefore the difference between the scores from the two iterations (p. 214).

Dependent Variable Measures

In the present study, a modified version of Athanassiades (1973) method was defined, using Handley's (2004) *Insight Inventory* as the means to establish an Upward

Organizational Communication Distortion Index. This method established the baseline measure against which the four independent variables were compared and was reached through the double administration of Handley's (2004) *Insight Inventory.* The 32 descriptive terms shown in Table 2 appeared twice during administration of the survey instrument. During the first iteration (Section 1), at the beginning of the survey, participants self-rated on each term, using a five-point Likert-type scale (1 = low value for the attribute and 5 = high value for the attribute). Significantly, participants were instructed to respond as if their answers were totally anonymous. The two iterations were separated: the first at the beginning and the second was the penultimate section (Section 3) of the survey. For the second administration, participants were instructed to respond as if their answers would be reported to their supervisors. The second iteration contained the same 32 terms, but this time the terms were presented in a randomly different order. The second iteration was scored using the same five-point Likert-type scale. To calculate the Upward Organizational Communication Distortion Index the individual items for the two iterations were summed and the absolute values of each individual difference recorded. For purposes of data analysis, the Upward Organizational Communication Distortion Index is indicated by the shorthand term "DIFTOT" (after the difference between both iterations—Sections 1 & 3 of the survey instrument—of the 32-item distortion index of the survey instrument). The extent to which a respondent engages or does not engage in upward organizational communication distortion behaviors was then analyzed against four other variables to discover whether there is a significant correlation with the four other traits of interest.

Table 2

Handley's (2004) Insight Inventory (DIFTOT) Descriptors

Accurate (DIFUNC[a])	Detailed (DIFUNC[a])	High-spirited	Perfectionist (DIFUNC[a])
Animated	Domineering (DIFDISR[c])	Intense	Restrained
Charming (DIFATT[b])	Easygoing	Laid-back (DIFDISR[c])	Serene (DIFATT[b])
Competitive (DIFDISR[c])	Enthusiastic (DIFATT[b])	Life of the party (DIFDISR[c])	Strong-willed
Convincing	Even-tempered (DIFATT[b])	Mild	Structured (DIFUNC[a])
Daring	Exacting	Organized (DIFUNC[a])	Systematic (DIFUNC[a])
Decisive (DIFUNC[a])	Forceful	Particular	Talkative (DIFDISR[c])
Demanding (DIFDISR[c])	Good mixer (DIFATT[b])	Patient (DIFATT[b])	Tolerant (DIFATT[b])

[a]Job Performance and Functionality Subscale (DIFUNC). [b] Work Attitude and Personal Trait Subscale (DIFATT). [c]Disruptive or Potential Work Problem Behavior Subscale (DIFDISR).

Dependent Variable Subscales

Handley's (2004) *Insight Inventory* produced the overall dependent variable (DIFTOT). Three other subscales consisting of terms from the 32-item Insight Inventory were created on a functional basis.

Job performance and functionality. The first subscale of the dependent variable concerns traits that can be considered desirable for functioning well in a workplace. The seven relevant traits listed in Table 2 were selected that appear in Table 3 below. To determine the difference between the anonymous iteration (Section 1 of the survey instrument) and the reported iteration of the instrument (Section 3), the two sections' scores composed of only the seven items were totaled. For purposes of data analysis, the Job Performance and Functionality difference is indicated by the shorthand term "DIFUNC".

Table 3

Job Performance and Functionality (DIFUNC) Descriptors

Decisive	Accurate	Structured	Perfectionist
Detailed	Organized	Systematic	

Work attitude and personal traits. The second subscale of the dependent variable describes traits that reflect desirable personality traits. The seven relevant traits from Table 2 were selected that appear in Table 4 below. To determine the difference between the anonymous iteration (Section 1 of the survey instrument) and the reported iteration of the instrument (Section 3), the two sections' scores that comprised by only the seven items were totaled. For purposes of data analysis, the Work Attitude and Personal Traits difference is indicated by the shorthand term "DIFATT".

Table 4

Work Attitude and Personal Trait (DIFATT) Descriptors

Enthusiastic	Serene	Charming	Tolerant
Good Mixer	Patient	Even-tempered	

Disruptive or potential work problem behavior. The third subscale of the dependent variable describes aggressive, disruptive, or potential work problem behaviors. Six relevant traits were selected from Table 2 that appear in Table 5 below. To determine the difference between the anonymous iteration (Section 1 of the survey instrument) and the reported iteration of the instrument (Section 3), the two sections' scores that comprised by only the six items were totaled. For purposes of data analysis, the

Disruptive or Potential Work Problem Behavior difference is indicated by the shorthand term "DIFDISR".

Table 5

Disruptive or Potential Work Problem Behavior (DIFDISR) Descriptors

Competitive	Life-of-the-Party	Laid-back	Demanding
Talkative	Domineering		

Predictions of the relationships between the independent variables and these sub-variables are shown in Table 6. An overall conceptual scheme is presented in Figure 1.

Table 6

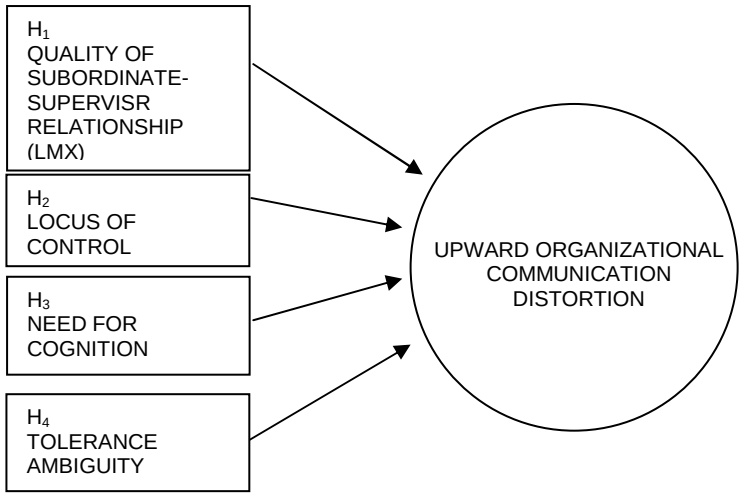
Predictions of Correlations Between IV's and DV/Subscales (+/-)

	LMX[a]	LC[b]	NC[c]	TA[d]
DIFTOT[e]	+	+	+	-
DIFUNC[f]	+	+	+	-
DIFATT[g]	+	+	+	-
DIFDISR[h]	+	+	+	-

[a]Leader-Member Exchange Group Membership. [b]Locus of Control. [c]Need for Cognition. [d]Tolerance of Ambiguity. [e]Total Distortion Index. [f]Difference in functional job characteristics. [g]Difference in personality attributes. [h]Difference in potentially disruptive behaviors.

Figure 1

Conceptual Full Model



Independent Variable Measures

Participants were asked to respond to questions administered to define an additional four scales. The independent variables were measured using the 7-item LMX-7 Leader-member Exchange Questionnaire; the 8-Item Need for Cognition Scale (Cacioppo, Petty, and Kao, 1984); a 17-item Locus of Control Scale (Craig, Franklin, and Andrews, 1984), and Kirton's (1981) 18-item Surviving Intolerance of Ambiguity Items scale. The four instruments used to obtain the independent variable measures were combined into one section (Section 2; see Appendix A). They were consecutively numbered and were not identified or associated with the personality variable they measured. In all, there were a total of 129 items answered by survey participants.

A short, fourth, section consisting of five questions followed. This section was designed to serve as an internal validity check on the technique used to ascertain the Index of Distortion of Upward Communication. The Validity Check was intended to measure the degree of internal validity of the theoretical index of upward organizational communication distortion construct. In general, the five items in the Validity Check portion of the instrument were intended to ascertain how the respondent feels about communicating with his or her superiors and about how he or she feels about distorting that communication.

Quality of superior-subordinate relationship. Leader-member exchange (LMX) theory was employed to assess the respondents' perspective of the quality of his or her relationship with their respective supervisor. Leader-member exchange group membership was determined by the seven-item LMX-7 instrument. A five-point Likert

scale was used (1 = low quality relationship or "out-group" and 5 = high quality relationship or "in-group") to score each item.

Locus of Control. Participants completed the 17-item Locus of Control of Behavior scale (Craig, et al., 1984). Participants scoring high demonstrate a high degree of external Locus of Control. A five-point Likert scale was used to capture responses on each item (1 = Internal Locus of Control and 5 = External Locus of Control with intermediate scores expressing levels increasing from internal toward external values).

Need for Cognition. Participants completed the 18-item Need for Cognition Scale (Cacioppo, Petty, and Kao, 1984).A five-point Likert scale was used to capture responses on each item (1 = low Need for Cognition and 5 = high Need for Cognition).

Tolerance of Ambiguity. Participants were asked to complete Kirten's (1981) 18-item Intolerance of Ambiguity instrument. A five-point Likert scale was employed for each item (1 = low Tolerance of Ambiguity and 5 = high Tolerance of Ambiguity).

Participant/Subject Characteristics

The population of interest for the present study was United States Department of the Army mid- and senior-grade civilian employees in the grade of GS-12 through GS-15 (or Pay Bands 2 and 3 under the National Security Personnel System). Students attending courses at the College are assumed to have long-term career interests in the Department of the Army, as course attendance is voluntary but at the same time required for upward mobility in the Department. Less-senior employees (below GS-12) are assumed not to have achieved the length of service or the degree of acculturation that higher-graded employees may have. As described on the College's Website (United States Army, 2010), this course:

> …is designed for Army Civilians to prepare them for increasing responsibilities to exercise direct and indirect supervision. Students enhance their leadership abilities and develop skills to manage human and financial resources, displaying flexibility and resilience with a focus on the mission. This course is a combination of [distance learning]…and 3 weeks of resident instruction.

All students in a given class (normally 40-60 students) were asked to participate in this survey. Three classes were necessary to achieve the desired sample size. Classes are run approximately once per month and are three weeks (for the Intermediate Course) or four weeks (for the Advanced Course) in duration. The minimum number of study participants was determined to be 120. Permission to recruit students as study participants was obtained from the Commandant, Army Management Staff College.

Despite being advised that participation in the survey was purely voluntary, none of the students declined to participate in the survey, although several did decline to answer some of the demographic data questions: Four participants did not provide gender data.

Recruitment

Study participants were recruited at the Army Management Staff College, Fort Belvoir, Virginia, during July and August 2010. Participants were United States Department of the Army mid- and senior-grade civilian employees in the grade of GS-12 through 15 (or Pay Bands 2 and 3 attending the Civilian Education System Intermediate Course). All students in Classes 10-8, 10-9, and 10-10 were asked to participate in this survey. Two classes were necessary to achieve the desired sample size. Permission to recruit students as study participants was obtained from the Commandant, Army Management Staff College. No students declined to participate in the survey.

Participant Flow

Administration of the survey was entered on the class schedule made available at the beginning of the course and participants were verbally informed of the study by their primary faculty. On the scheduled day (always within the first two days of the three-week long course), the researcher was present at the scheduled time, was introduced by the primary faculty member, and proceeded with the survey.

A sample of 145 Army Civilian employees, mean age 42.71 years (*SD* = 9.43, range from 26 to 62), participated in the study. Sixty-two of the participants were women, and 79 were men (four declined to self-identify gender). Age statistics and other demographic patterns are summarized in Tables 7-9.

Table 7

Respondents' Age as a Percentage of the Sample (Raw Data in Parentheses)

Age	Overall (n = 145)		Males (n = 79)		Females (n = 62)	
20-29	12.41	(18)	15.19	(12)	9.68	(6)
30-39	22.07	(32)	20.25	(16)	25.81	(16)
40-49	38.62	(56)	40.51	(32)	38.71	(24)
50-59	21.38	(31)	21.52	(17)	20.97	(13)
60-69	2.07	(3)	2.53	(2)	0.00	0

Note. Some individual participants declined to provide demographic data, i.e., the overall sample size was n = 145, however, four participant did not provide responses for gender (2.7% of the sample). Other demographic variables have similar differences.

Table 8

Respondents' Ethnic Self-Identity as a Percentage of the Sample (Raw Data in Parentheses)

Self-Identity	Overall (n = 145)		Males (n = 79)		Females (n = 62)	
African-American	24.83	(36)	17.72	(14)	30.65	(19)
American Indian	2.07	(3)	3.80	(3)	0.00	(0)
Asian/Pacific Islander	8.97	(13)	11.39	(9)	4.84	(3)
Caucasian	55.17	(80)	58.23	(46)	54.84	(34)
Hispanic	6.21	(9)	7.59	(6)	4.84	(3)

Note. Some individual participants declined to provide demographic data, i.e., the overall sample size was n = 145, however, four participant did not provide responses for gender (2.7% of the sample). Other demographic variables have similar differences.

Table 9

Respondents' Prior Military Service as a Percentage of the Sample (Raw Data in Parentheses)

Characteristic	Overall (n = 145)		Males (n = 79)		Females (n = 62)	
Military Veteran	51.72	(75)	53.16	(42)	40.32	(25)
Service						
Army	42.07	(61)	48.10	(38)	33.87	(21)
Air Force	4.83	(7)	5.06	(4)	3.23	(2)
Navy	3.45	(5)	3.80	(3)	3.23	(2)
Marines	1.38	(2)	1.27	(1)	1.61	(1)
Coast Guard	0.69	(1)	1.27	(1)	0.00	(0)
Military Retiree	25.52	(37)	31.65	(25)	16.13	(10)
Rank at Separation or Retirement						
E3	0.69	(1)	0.00	(0)	1.61	(1)
E4	4.83	(7)	3.80	(3)	4.84	(3)
E5	8.28	(12)	10.13	(8)	6.45	(4)
E6	6.21	(9)	7.59	(6)	4.84	(3)
E7	11.03	(16)	13.92	(11)	6.45	(4)
E8	3.45	(5)	5.06	(4)	1.61	(1)
E9	2.07	(3)	2.53	(2)	1.61	(1)
O2	0.69	(1)	1.27	(1)	0.00	(0)
O3	2.76	(4)	2.53	(2)	3.23	(2)
O4	4.14	(6)	6.33	(5)	1.61	(1)
O5	0.69	(1)	0.00	(0)	1.61	(1)
W2	0.69	(1)	0.00		0.00	(0)
W3	0.00	(0)	0.00	(0)	0.00	(0)
W4	0.69	(1)	1.27	(1)	0.00	(0)

Note. Some individual participants declined to provide demographic data, i.e., the overall sample size was n = 145, however, four participant did not provide responses for gender (2.7% of the sample). Other demographic variables have similar differences.

Sample Size and Power

Through consultation with the committee chair, a power analysis was performed. This study employed a medium effect size of 0.25 to 0.3 (Cohen, 1988). The significance level was set at $\alpha = .05$. It was desired that the probability of this experiment yielding statistically significant results, given that there is a true effect, (which is the definition of power, see Cohen, 1988, p. 1) should be set at $1 - \beta = .85$. In order to achieve this, the desired sample size was calculated to be N = 120. This is derived from Cohen's (1988, p. 86) table, which reports the power of a t-test to test a null hypothesis of zero correlation in the population. Later, Cohen (1988), for purposes of multiple regression and

correlation analysis, defines a medium effect size index as $f^2 = .15$ (p. 413). In this case, the power table (p. 420) yields a power value of $\beta = .94$, where $n = 120$; $\alpha = .05$; $u = 4$ (the number of independent variables); and $\lambda = 115$ (from $\lambda = N\text{-}u\text{-}1$), known as the "non-centrality parameter" (p. 414).

Once the data were collected, each independent variable was totaled separately, producing raw scores for the four independent variables. Descriptive statistics for all variables were calculated. These included ranges, means, variance, standard deviations. Descriptive statistics were calculated separately for males and females and for grade/pay band. Correlations were computed. Following, a regression analysis using the SAS statistical software package was performed (see Maxwell & Delaney, 2004, for analytic details). Issues treated in this regression analysis include predictability of the IV's, as well as the effect of intercorrelations among the IV's on the pattern of results.

Chapter 4

Results

"O that men's ears should be to counsel deaf but not to flattery!"
Shakespeare, *The Life of Timon of Athens*, (Apemantus at I, ii)

Overview

The present study examined four personality variables to ascertain whether they have a relationship to an index of upward organizational communication distortion. Three subscales (DIFUNC, DIFATT, and DIFDISR) were also derived from the dependent variable (DIFTOT) and analyzed to ascertain whether there were correlations between the variables and narrower expressions of the dependent variable DIFTOT. This chapter describes the various analyses that were performed on the data.

Reliability of the Instrument Components for Independent Variables

Reliability of the components of the survey instrument for the Independent Variables (LMX-7, Need for Cognition Scale, Locus of Control Scale, and the Surviving Intolerance of Ambiguity Scale) was conducted using Cronbach's alpha. The greatest reliability was the LMX-7 instrument with a Cronbach's alpha of 0.91, considered to be very high. The lowest was the Need for Cognition Scale with Cronbach's alpha = 0.54, considered to be low reliability. Locus of Control and SIAC were of acceptable reliability. Results are shown in Table 10.

Table 10

Instrument Scale Reliabilities (Cronbach's alpha)

Scale	Reliability	No. of Items
LMX-7	0.91	7
Need for Cognition Scale	0.54	8
Locus of Control Scale	0.86	17
Surviving Intolerance of Ambiguity Scale	0.77	18

Descriptive Statistics and Data Analysis

Descriptive statistics for the independent variables (LMX, LC, NC, and TA) appear below. Results for the overall data set are presented first, followed by descriptive statistics based on gender, pay grade, and veteran status.

Raw data results. Results for the individual survey items are displayed in Appendix B. The maximum, minimum, variance, and standard deviation are included for the four Independent Variables: Quality of Superior-Subordinate Relationship (measured by the LMX-7), Locus of Control, Need for Cognition, and Tolerance of Ambiguity. All participants completed all items in the survey instrument; there were no missing data.

Descriptive statistics for overall data. Descriptive statistics for the overall data set are displayed below.

Table 11

Descriptive Statistics for Independent Variables (Overall Data)

Statistic	LMX[a]	LC[b]	NC[c]	TA[d]
No. of obs.	145	145	145	145
Minimum	10	35	37	13
Maximum	35	67	83	77
1st Quartile	20	46	57	52
Median	26	49	63	57
3rd Quartile	30	52	68	62
Mean	24.93	48.67	62.88	56.90
Variance (n-1)	36.43	25.24	80.20	65.32
Standard deviation (n-1)	6.04	5.02	8.96	8.08

[a] Quality of Superior-Subordinate Relationship (LMX). [b]Locus of Control. [c]Need for Cognition. [d]Tolerance of Ambiguity.

Graphic representation for the distributions of the independent variables Quality of Superior-subordinate Relationship (measured by the LMX-7), Locus of Control (LC), Need for Cognition (NC), and Tolerance of Ambiguity (TA) appear in the following box plots in Figure 2. Included in Table 12 are the means, medians, maximums, minimums,

and upper and lower quartiles for the dependent variables.

Figure 2

Independent Variables (LMX, LC, NC, TA)

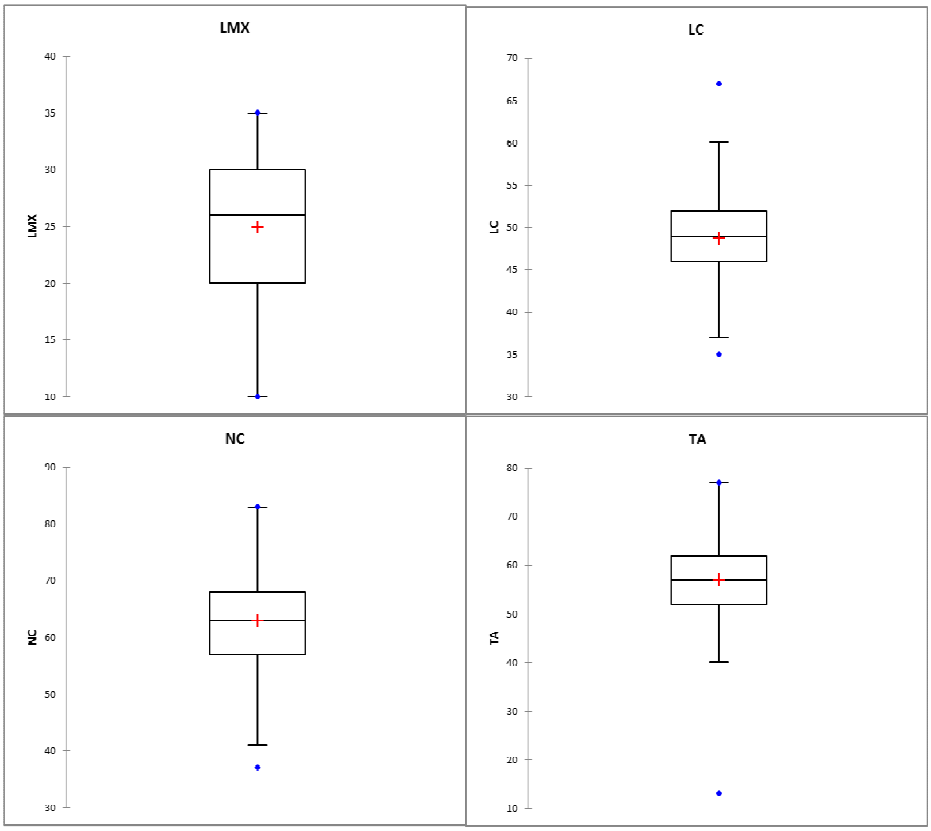


Table 12

Descriptive Statistics for Dependent Subscales and Validity Check

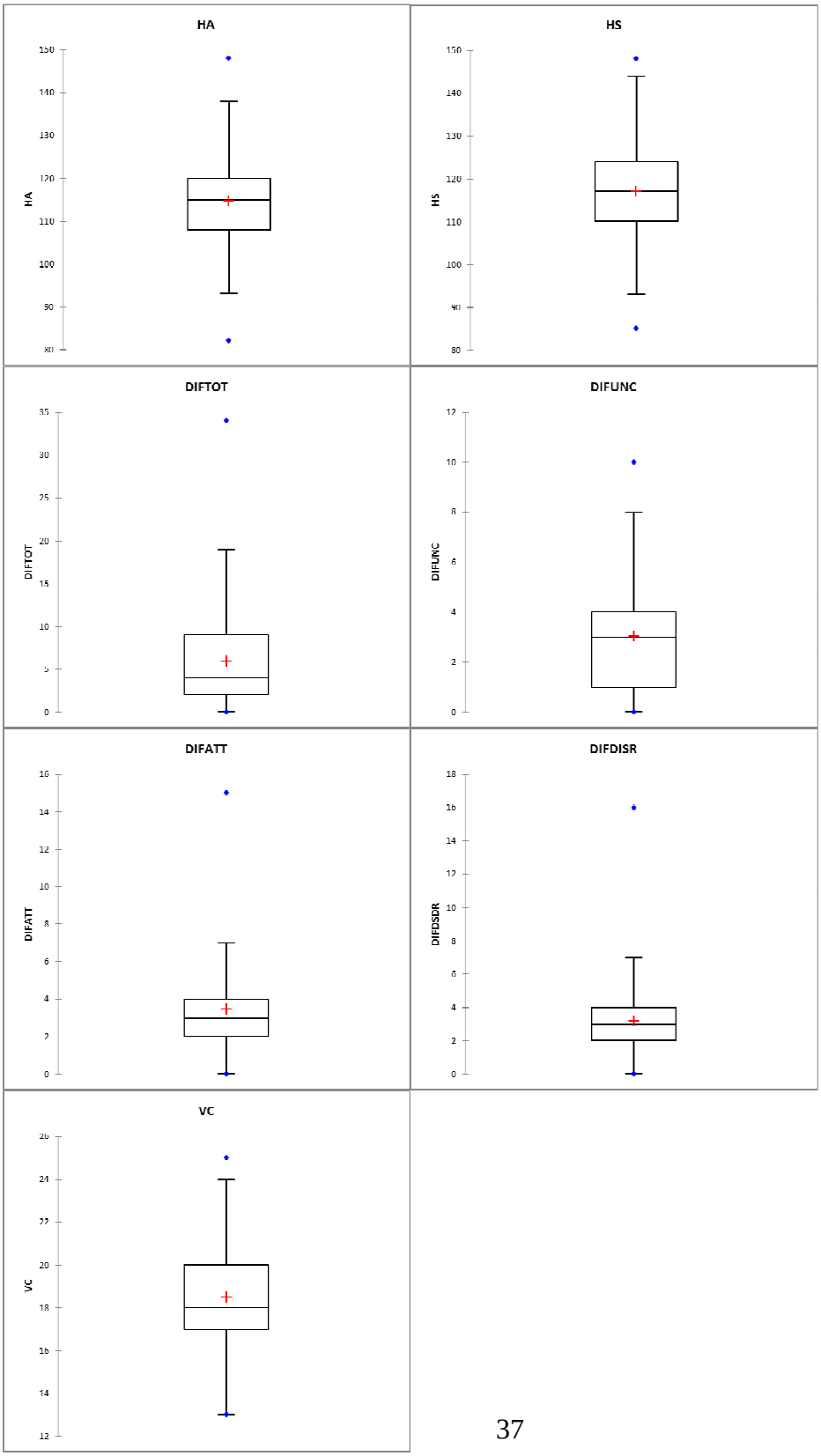
Statistic	HA[a]	HS[b]	DIFTOT[c]	DIFUNC[d]	DIFATT[e]	DIFDISR[f]	VC[g]
No. of obs.	145	145	145	145	145	145	145
Minimum	82	85	0	0	0	0	13
Maximum	148	148	34	10	15	16	25
1st Quartile	108	110	2	1	2	2	17
Median	115	117	4	3	3	3	18
3rd Quartile	120	124	9	4	4	4	20
Mean	114.79	117.17	5.96	3.02	3.43	3.17	18.48
Variance (n-1)	100.06	115.81	35.87	5.24	6.12	5.32	6.13
Std. dev.(n-1)	10.00	10.76	5.99	2.29	2.47	2.31	2.48

[a]Handley's Insight Inventory administered anonymously. [b]Handley's Insight Inventory administered as if results were reported to supervisor. [c]Total Distortion Index. [d]Difference in functional job characteristics. [e]Difference in personality attributes. [f]Difference in potentially disruptive behaviors. [g]Validity check.

Graphic representation for the dependent variables Index of Upward Organizational Communication Distortion (DIFTOT); the subscales for positive job-related behaviors (DIFUNC), attitude-related characteristics (DIFATT), and behaviors or attitudes that would be disruptive in the workplace (DIFDISR), and the validity check appear in the following box plots in Figure 3. Additionally, the preliminary scores from which DIFTOT were calculated, the raw scores from the two administrations of Handley's Personality Profile (HA and HS), are included.

Figure 3

Box Plots for Dependent Variables



Correlation Matrix (All Variables)

Correlations between all variables, independent and dependent, are displayed in Table 13. None of the independent variables, LMX, LC, NC, or TA, reveal significant correlations with respect to DIFTOT at the .05 level for a one-tailed test at df = 143. However, Tolerance of Ambiguity (TA) displays significance with respect to the subscale DIFATT. Tolerance of Ambiguity (TA) and Locus of Control (LC) display significance with respect to the subscale DIFATT and DIFDISR. However, as there are 24 correlations in this table between the IVs and DVs, we expect around one on average to be significant by chance. Thus, the three bolded correlations are interpreted only cautiously.

It will be noted that the dependent variable DIFTOT and the subscales DIFUNC, DIFATT, and DIFDISR correlate significantly with the measure SH. As previously described, this measure is the second part of the procedure used to establish the Upward Organizational Communication Distortion Index. SH is Handley's (2004) *Insight Inventory* answered by the survey participants as if the results were to be reported to the participants' respective supervisors. SH correlates significantly with DIFTOT, DIFUNC, DIFATT, and DIFDISR, but AH, Handley's Insight Inventory answered by survey participants as if their answers would remain anonymous, does not correlate significantly with any. DIFTOT is the difference between AH and SH, and indicates the degree to which an individual is inclined or disinclined to distort negative information to his or her superior. Why SH should correlate significantly with DIFTOT and not AH is an interesting question that may merit further investigation, but is beyond the scope of the present study.

Table 13

Correlations Between All Variables

	AH[a]	SH[b]	LMX[c]	LC[d]	NC[e]	TA[f]	DIFTOT[g]	DIFUNC[h]	DIFATT[i]	DIFDISR[j]	VC[k]
AH											
SH	0.69										
LMX	0.08	0.04									
LC	0.10	0.08	-0.04								
NC	0.24	0.16	0.00	0.05							
TA	0.26	0.24	-0.02	0.33	-0.07						
DIFTOT	0.05	0.40	-0.10	0.06	-0.08	0.11					
DIFUNC	0.12	0.23	0.10*	0.05	0.10	0.02	0.51				
DIFATT	0.08	0.28	0.13	-0.02	0.03	**0.14**	0.44	0.41			
DIFDISR	0.11	0.25	0.07	**0.15**	0.10	**0.18**	0.41	0.31	0.43		
VC	0.06	0.11	0.08	-0.06	0.22	0.00	-0.09	-0.01	-0.03	0.02	

Note. Pearson's *r* of interest are the correlations between the 4 independent variables (QSSR (LMX), LC, NC, & TA) and the dependent variable DIFTOT and the 3 sup-dependent variables (DIFUNC, DIFATT, & DIFDISR). Only 3 of the correlations, shown in bold text, exceed the level of significance for a one-tailed test.
[a]Handley's Insight Inventory administered anonymously. [b]Handley's Insight Inventory administered as if results were reported to supervisor. [c]Leader-Member Exchange Group Membership. [d]Locus of Control. [e]Need for Cognition. [f]Tolerance of Ambiguity. [g]Total Distortion Index. [h]Difference in functional job characteristics. [i]Difference in personality attributes. [j]Difference in potentially disruptive behaviors.
*$p < .05$. The level of significance for a one-tailed test at DF = 143 is 0.14.

As LC and TA each correlate positively and significantly with respect to DIFDISR, it is interesting to note that the absolute value of these two independent variables correlate with each other approximately 5 times more than the next lower correlation between any of the independent variables (0.33 vs. -0.07). The subscale DIFDISR correlates significantly with the LC and TA, but DIFTOT does not.

Principal Components Analysis

A principal components analysis (PCA) was performed on the independent variables and yielded the results displayed in the following tables. LC and TA load (correlate) on Factor 1; NC loads on Factor 2; QSSR (LMX) loads on Factor 3; and LC loads on Factor 4. A principal component analysis seeks to identify latent factors which may reflect patterns in the variables by measuring how much overlapping variance exists

between a large number of independent variables, as measured by the correlations (see Table 13 above). A model can then be developed and tested that would use the identified underlying factors. In this case, however (with only four independent variables), each independent variable loads on a different factor; thus, consolidation of any of the independent variables is precluded. However, as TA loads most highly on the first factor, both TA and LC can be used to define the first factor, and the fourth can be eliminated.

Table 14

Eigenvalues for Latent Variable Underlying the Independent Variables (PCA)

	F1	F2	F3	F4
Eigenvalue	1.32	1.01	0.99	0.65
Variability (%)	33.16	25.54	24.84	16.47
Cumulative %	33.16	58.69	83.53	100.00

Table 15

Factor Loadings of Independent Variables (PCA)

	F1	F2	F3	F4
LMX	-0.15	-0.21	0.96	-0.03
LC	0.80	0.18	0.11	-0.55
NC	-0.05	0.96	0.21	0.19
TA	0.81	-0.16	0.09	0.56

Factor Analysis

In addition to the principal components analysis performed above, a factor analysis was performed that yielded similar results (Rummel, 1970). Summary statistics for the factor analysis appear in the following table. The factor analysis was performed on the independent variables and yielded the results displayed in the following tables. LC and TA load (correlate) on Factor 1; NC loads on Factor 2; QSSR (LMX) loads on Factor

3; and LC loads on Factor 4. Like a PCA, factor analysis seeks to identify latent factors which may reflect patterns in the variables by measuring how much overlapping variance between a large number of independent variables. In this case (with only four), each independent variable loads on a different factor; thus, consolidation of any of the independent variables is precluded

Table 16

Eigenvalues Yielded by Factor Analysis

	F1	F2	F3	F4
Eigenvalue	1.32	1.01	0.99	0.65
Variability (%)	33.16	25.54	24.84	16.47
Cumulative %	33.16	58.69	83.53	100.00

Figure 4 below graphically depicts how the variability present underlying each factor accumulates to the sum of total variability.

Figure 4

Scree Plot of Eigenvalues versus Factors

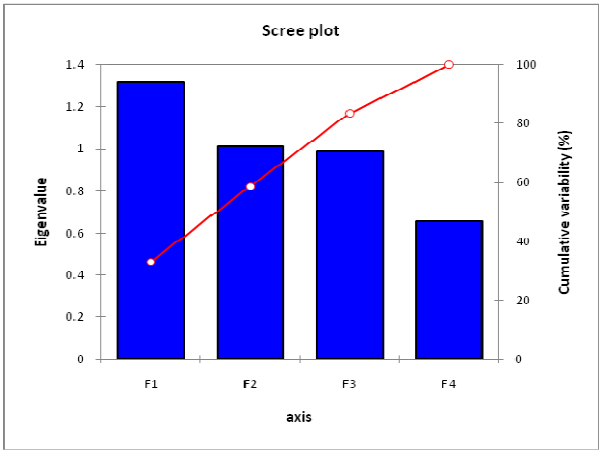


Table 17

Factor Loadings Pre-rotation

	F1	F2	F3	F4
LMX (QSSR)	-0.13	-0.21	0.97	-0.04
LC	0.70	0.18	0.11	-0.68
NC	-0.04	0.95	0.21	0.24
TA	0.70	-0.16	0.09	0.69

Table 18

Factor Analysis Loadings Post-rotation

IV	F1	F2	F3	F4
QSSR (LMX)	-0.15	-0.21	0.96	-0.03
LC	0.80	0.18	0.11	-0.55
NC	-0.05	0.96	0.21	0.19
TA	0.81	-0.16	0.09	0.56

Figure 5 below depicts how all the independent variables load on Factors 1 and 2. These two factors comprise 58.69% of the total variability. QSSR (LMX) loads comparatively little on these two factors (as evidenced by the relatively shorter vector emanating from the origin in the figure. QSSR (LMX) loads on Factor 1 by -0.15 and Factor 2 by -0.21.

Figure 5

Loadings of All Independent Variables on Factors 1 and 2

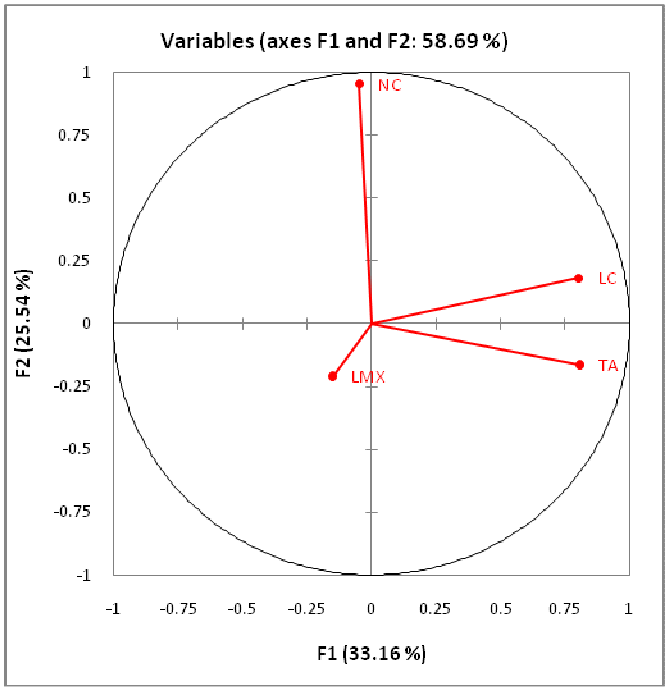


Table 19

Contribution of the Independent Variables

	F1	F2	F3	F4
QSSR (LMX)	1.73	4.32	93.81	0.13
LC	48.77	3.24	1.17	46.82
NC	0.17	89.82	4.27	5.74
TA	49.32	2.62	0.75	47.32

Table 20

Correlations of the Independent Variables with Factors

	F1	F2	F3	F4
LMX	0.02	0.04	**0.93**	0.00
LC	**0.65**	0.03	0.01	0.31
NC	0.00	**0.92**	0.04	0.04
TA	**0.65**	0.03	0.01	0.31

Note. Values in bold correspond for each variable to the factor for which the squared cosine is the largest

Comparison of PCA and Factor Analysis Results

Factor loadings in both the foregoing principal components and factor analyses yielded exactly the same results for all independent variables versus all four factors. This may be due to the low number (four) of independent variables to begin with. Had there been more, say, 10 or more, the likelihood is that there would have been increased overlap in variability and thus fewer factors than independent variables. As it stands, the current study retains all of the original independent variables.

Regression Analyses

A regression analysis for the dependent variable DIFTOT predicted from all independent variables was performed. Then, the analysis was repeated dropping the least useful independent variable. This process was repeated, each time dropping the next least useful independent variable. Additionally, regression analyses were performed on the subscales DIFUNC, DIFATT, and DIFDISR predicted from all independent variables. Lastly, regression analyses were performed on the subscale DIFATT predicted from the independent variable TA and DIFDISR predicted from to LC and TA. In both cases, these independent variables displayed significant correlations as illustrated above, using a significance threshold for a one-tailed test of significance, and, as such, were selected for further analysis by regression.

Regression Analysis: DIFTOT predicted from LMX, LC, NC, TA. The regression equation for the full model is:

DIFTOT = 5.91 - 9.96 LMX + 4.45 LC – 0.05 NC + 6.47 TA

Table 21

Full Model Parameters

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	5.91	6.72	0.88	0.38	-7.37	19.19
LMX	-0.10	0.08	-1.20	0.23	-0.26	0.06
LC	0.04	0.11	0.42	0.67	-0.16	0.25
NC	-0.05	0.06	-0.94	0.35	-0.16	0.06
TA	0.06	0.07	0.99	0.33	-0.07	0.19

None of the parameters are significant within this model, where $p < 0.05$. Therefore, in the next section, the least useful variable, LC, were eliminated and the model refit. This procedure was repeated until no variables remained.

Figure 6

Standardized Coefficients for DIFTOT predicted from Independent Variables

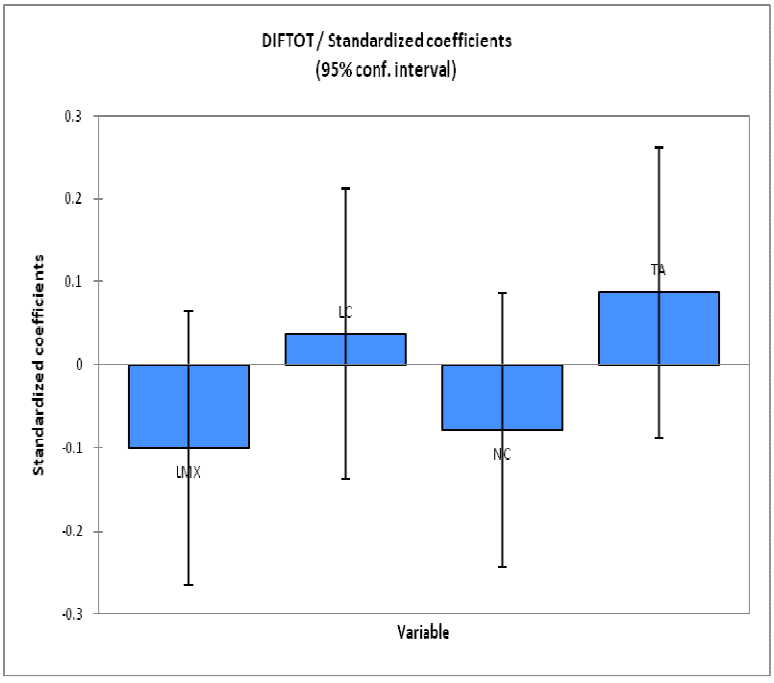


Table 22

ANOVA Table of the Regression Analysis of DIFTOT predicted from LMX, LC, NC, TA

	DF	SS	MS	F	*p*
Regression	4	148.22	37.06	1.03	0.39
Residual Error	140	5017.53	35.84		
Total	144	5165.75			

Note. Computed against model Y = Mean (Y).

Regression Analysis: DIFTOT predicted from LMX, NC, and TA.

Eliminating the least useful independent variable, LC, yields the regression equation:

DIFTOT = 7.49 - 0.10 LMX - 0.05 NC + 0.07 TA

Table 23

Model Parameters (LMX, NC, and TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	7.49	5.58	1.34	0.18	-3.54	18.51
LMX	- 0.10	0.08	- 1.22	0.22	-0.26	0.06
NC	- 0.05	0.06	- 0.91	0.36	-0.16	0.06
TA	0.07	0.06	1.19	0.24	-0.05	0.20

Figure 7

Standardized Coefficients for DIFTOT predicted from LMX, NC, and TA

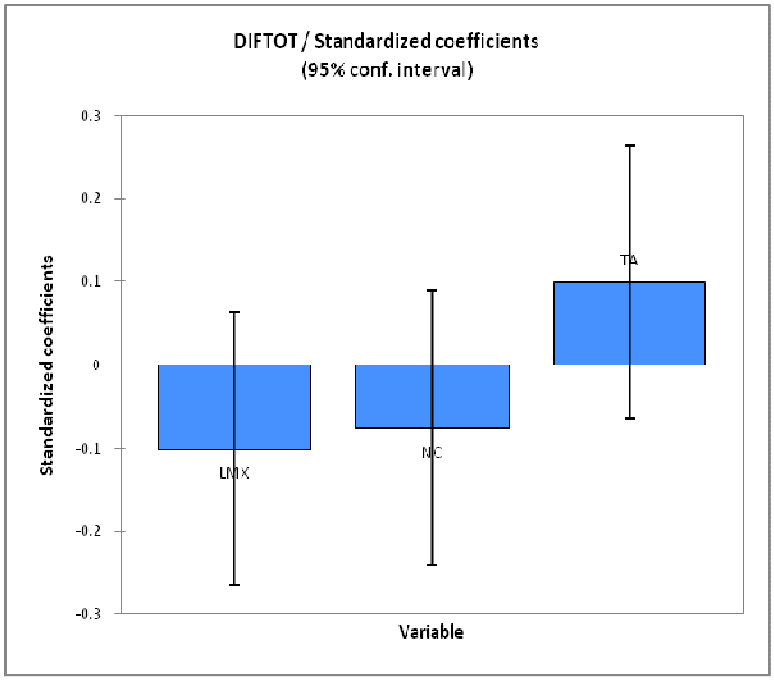


Table 24

ANOVA Table of the Regression Analysis of DIFTOT predicted from LMX, NC, and TA

Source	DF	SS	MS	F	Pr > F
Regression	3	141.80	47.27	1.33	0.27
Residual Error	141	5023.95	35.63		
Corrected Total	144	5165.75			

Note. Computed against model Y=Mean(Y)

Regression Analysis: DIFTOT predicted from LMX and TA. Eliminating the least useful independent variable, NC, yields the regression equation:

DIFTOT = 4.06 - 0.10 LMX + 0.08 TA

Table 25

Model Parameters (LMX and TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	4.06	4.13	0.98	0.33	0.51	6.78
LMX	- 0.10	0.08	- 1.22	0.22	-0.10	0.02
TA	0.08	0.06	1.26	0.21	-0.04	0.05

Figure 8

Standardized Coefficients for DIFTOT predicted from LMX and TA

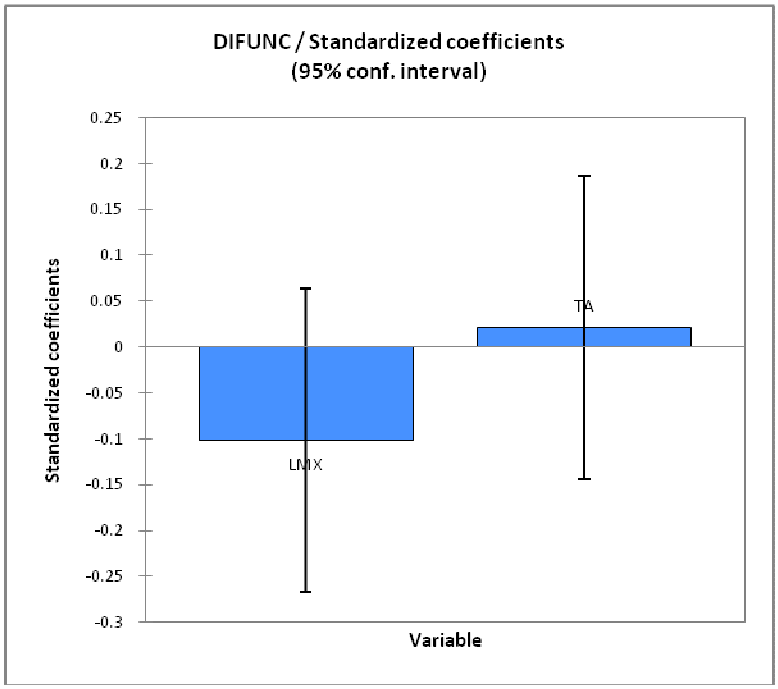


Table 26

ANOVA Table of the Regression Analysis of DIFTOT predicted from LMX and TA

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	2	8.17	4.08	0.78	0.46
Error	142	746.77	5.26		
Corrected Total	144	754.94			

Note. Computed against model Y=Mean(Y)

Regression Analysis: DIFTOT predicted from TA. Eliminating the least useful independent variable, LMX, yields the regression equation:

DIFTOT = 1.46 + 0.08 TA

Table 27

Model Parameters (TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	1.46	3.54	0.41	0.68	-5.544	8.455
TA	0.08	0.06	1.28	0.20	-0.043	0.201

Figure 9

Standardized Coefficients for DIFTOT predicted from TA

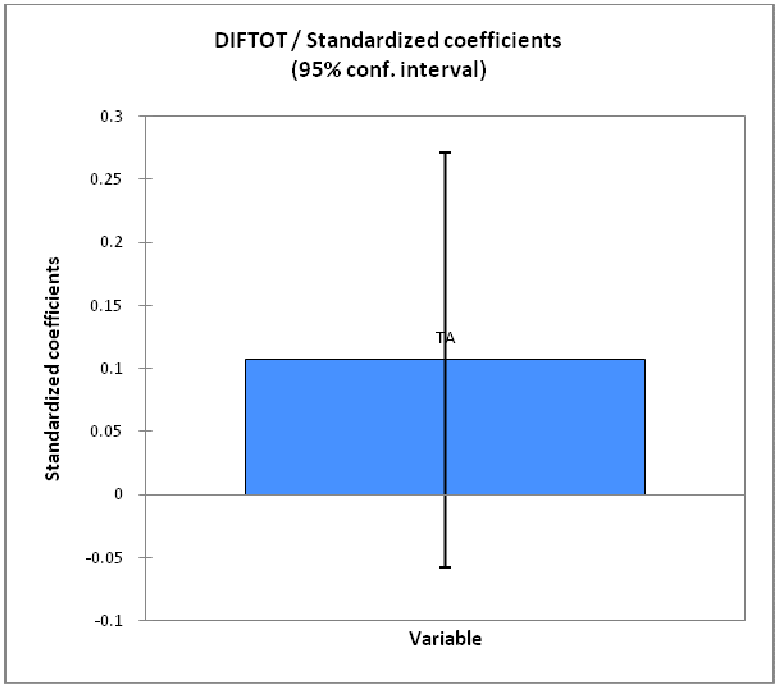


Table 28

ANOVA Table of the Regression Analysis of DIFTOT predicted from TA

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	1	58.91	58.91	1.65	0.20
Error	143	5106.84	35.71		
Corrected Total	144	5165.75			

Note. Computed against model Y=Mean(Y)

Regression Analysis: DIFUNC predicted from LMX, LC, NC, TA. The regression equation for the sub-dependent variable DFUNC predicted from all independent variables is:

DIFUNC = 4.52 - 0.04 LMX + 0.02 LC - 0.03 NC - 0.00 TA

Table 29

Model Parameters (LMX, LC, NC, and TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	4.52	2.57	1.75	0.08	-0.57	9.61
LMX	-0.04	0.03	-1.20	0.23	-0.10	0.03
LC	0.02	0.04	0.61	0.55	-0.06	0.10
NC	-0.03	0.02	-1.25	0.21	-0.07	0.02
TA	-0.00	0.03	-0.04	0.97	-0.05	0.05

Figure 10

Standardized Coefficients for DIFUNC predicted from Independent Variables

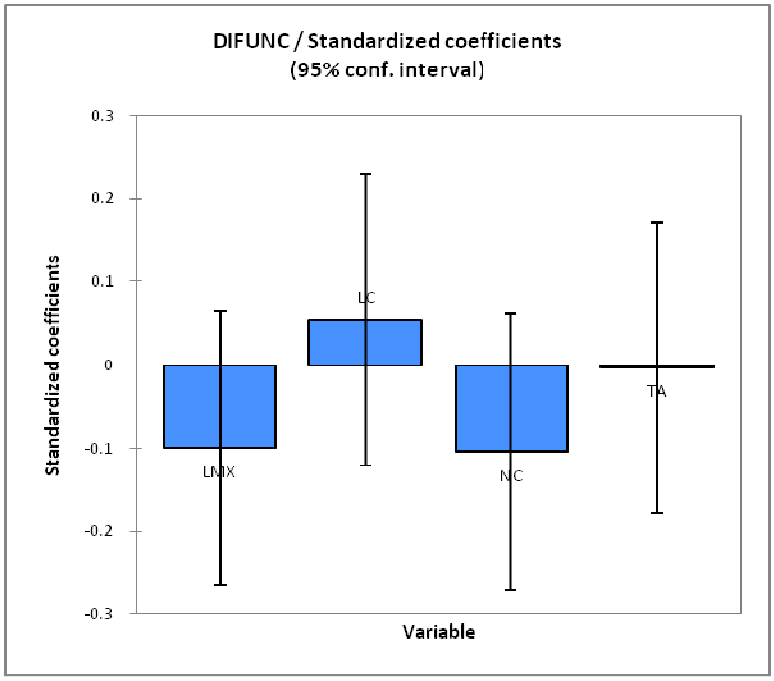


Table 30

ANOVA Table of the Regression Analysis of DIFUNC predicted from LMX, LC, NC, TA

	DF	SS	MS	F	*p*
Regression	4	17.76	4.44	0.84	0.50
Residual Error	140	737.17	5.27		
Total	144	754.94			

Note. Computed against model Y = Mean (Y).

Regression Analysis: DIFATT predicted from LMX, LC, NC, and TA. The regression equation for the sub-dependent variable DIFATT versus all independent variables is:

DIFATT = 3.08 - 0.05 LMX - 0.04 LC + 0.01 NC + 0.05 TA

Table 31

Model Parameters (LMX, LC, NC, and TA

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	3.08	2.75	1.12	0.27	-2.36	8.52
LMX	-0.05	0.03	-1.61	0.11	-0.12	0.01
LC	-0.04	0.04	-0.97	0.33	-0.13	0.04
NC	0.01	0.02	0.55	0.58	-0.03	0.06
TA	0.05	0.03	1.93	0.06	0.00	0.11

Figure 11

Standardized Coefficients for DIFATT Predicted from Independent Variables

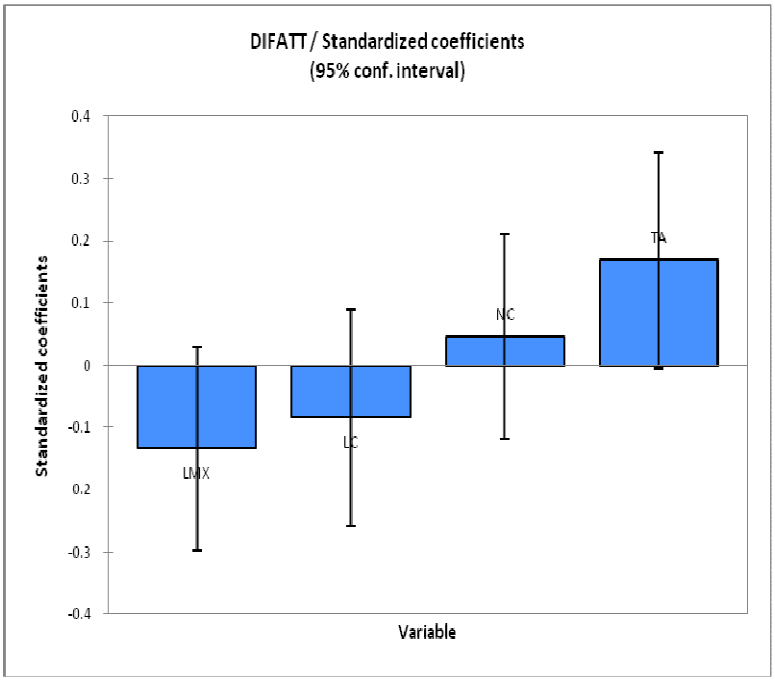


Table 32

ANOVA of the Regression Analysis of DIFATT Predicted from LMX, LC, NC, TA

	DF	SS	MS	F	*p*
Regression	4	39.67	9.92	1.65	0.17
Residual Error	140	841.82	6.01		
Total	144	881.49			

Note. Computed against model Y = Mean (Y).

Regression Analysis: DIFDISR predicted LMX, LC, NC, and TA. The regression equation for the sub-dependent variable DIFDIFDISR predicted from all independent variables is:

DIFDISR = -2.51 - 0.02 LMX + 0.04 LC + 0.03 NC + 0.04 TA

Table 33

Model Parameters (LMX, LC, NC, and TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	-2.51	2.55	-0.98	0.33	-0.22	0.10
LMX	-0.02	0.03	-0.72	0.47	-0.08	0.26
LC	0.04	0.04	1.02	0.31	-0.06	0.27
NC	0.03	0.02	1.30	0.20	-0.02	0.33
TA	0.04	0.02	1.77	0.08	-0.22	0.10

Figure 12

Standardized Coefficients for DIFDISR versus Independent Variables

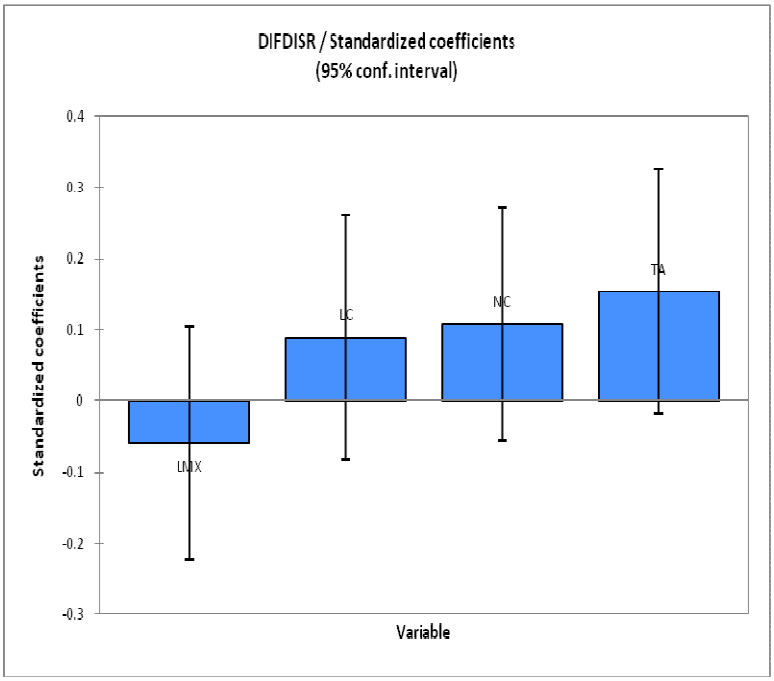


Table 34

ANOVA Table of the Regression Analysis of DIFDISR predicted from LMX, LC, NC, TA

	DF	SS	MS	F	P
Regression	4	42.19	10.55	2.04	0.09
Residual Error	140	723.84	5.17		
Total	144	766.03			

Note. Computed against model Y = Mean (Y).

Regression Analysis: DIFATT predicted from TA. The regression equation for the sub-dependent variable DIFATT versus the independent variable TA is:

DIFATT = 0.96 + 0.04 TA

Table 35

Model Parameters (TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	0.96	1.46	0.66	0.51	-1.92	3.84
TA	0.04	0.08	1.71	0.09	-0.02	0.31

Figure 13

Standardized Coefficients for DIFATT predicted from TA

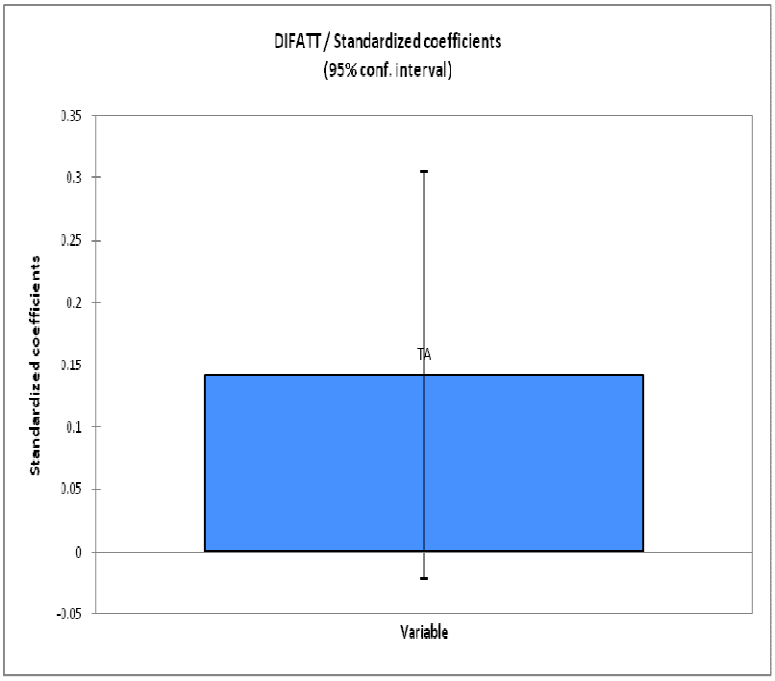


Table 36

ANOVA of the Regression Analysis of DIFATT predicted from TA

	DF	SS	MS	F	*p*
Regression	1	17.65	17.65	2.92	0.09
Residual Error	143	17.65	6.04		
Total	144	17.65			

Note. Computed against model Y = Mean (Y).

Regression Analysis: DIFDISR predicted from LC and TA. The regression equation for the subscale DIFDISR versus the independent variables LC and TA is:

DIFDISR = - 1.42 + 0.05 LC + 0.04 TA

Table 37

Model Parameters (DIFDISR vs. LC and TA)

Predictor	Coefficient	Standard Error	Pr > |t|	*p*	Lower bound (95%)	Upper bound (95%)
Intercept	-1.42	2.01	-0.71	0.48	-5.39	2.55
LC	0.05	0.04	1.15	0.25	-0.03	0.13
TA	0.04	0.03	1.67	0.10	-0.01	0.09

Note. This was a one-directional test; only TA show significance.

Figure 14

Standardized Coefficients for DIFDISR versus LC and TA

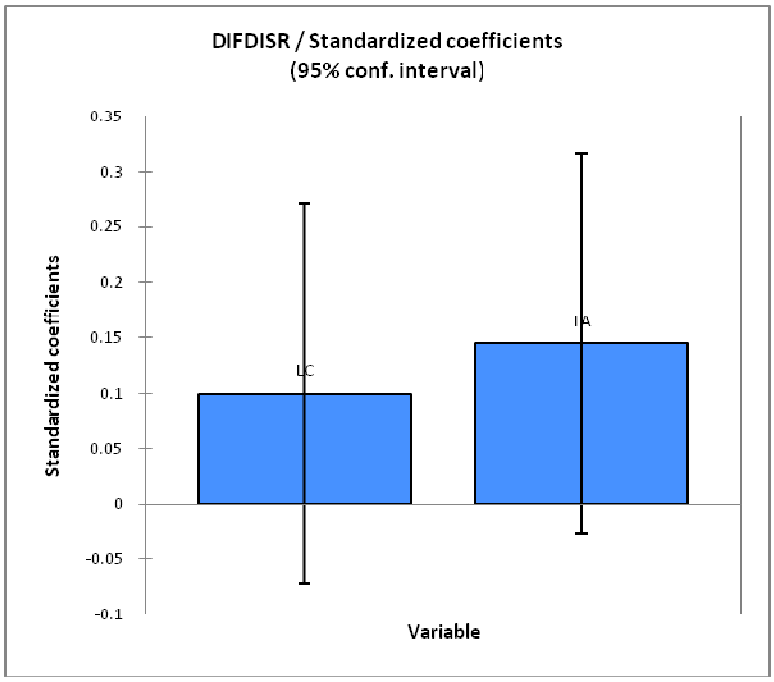


Table 38

ANOVA Table of the Regression Analysis of DIFDISR predicted from LC and TA

	DF	SS	MS	F	*p*
Regression	2	30.80	15.40	2.97	0.05
Residual Error	142	735.23	5.18		
Total	144	766.03			

Note. Computed against model Y = Mean (Y).

Summary

This chapter presented the raw data; summary statistics; principal components analysis, factor analysis, correlation analysis, and linear regression analyses performed on the data. The only relationships of significance were the correlations (Pearson's *r*) between the independent variable TA and the dependent sub-variable DIFATT and the independent variables LC and TA and the dependent sub-variable DIFDISR.

Chapter 5

Discussion

Here we arrived, and down there in the ditch
I saw a people plunged in excrement
As if it had been dumped from men's latrines…
And he, smacking his squash, replied to me,
"Down here I am sunk by the flatteries
That my tongue never tired of repeating."

Dante, *Inferno*, Canto XVIII, 110-125

Overview

The purpose of the present study was to examine subordinates' organizational communication distortion behaviors with respect to their immediate supervisors and to explore the potential role of specific personality variables that may affect the inclination of individuals to report negative organizational information to their immediate supervisor. This was accomplished within a framework of four variables through the investigation of how these variables relate to the distortion of upward negative (i.e., "bad news") communication in organizational settings, and measure the relationship as correlations between the variables and the propensity to distort upward communication, as well as correlations among the four variables themselves. An effort was be made to identify whether any of the variables, either alone or in combination, would provide insight into a personality tendency to distort upward communication.

In Chapter 4, data from the survey instrument were described and subjected to two analyses: correlation and regression. Data were summarized and graphically depicted. In this chapter, the original hypotheses are assessed in order to evaluate the accuracy of the predictions of H_1 through H_4. Likewise, the dependent variable subscales are evaluated in the same fashion as regards their original predictions.

The results of the present study did not support the original hypotheses that there is a significant relationship between the four specific personality variables and an individual's inclination or disinclination to distort negative upward organizational communication. However, correlational significance was found between two of the dependent variable subscales and two of the personality subscales.

Evaluation of Original Hypotheses

The four original hypotheses are assessed in the following section. None of the four displayed significance either through correlation or regression analysis. However, two of the four dependent variable subscales (DIFATT and DIFDISR) did display significance and will be addressed at the end of the section.

H_1. The hypothesis that group membership (In-group) was positively correlated with the propensity to distort organizational upward communication was not supported at $p < .05$. The level of significance for a one-tailed test at DF = 143 is 0.14. Regression analysis in the full model additionally confirmed that the quality of the supervisor-subordinate relationship did not demonstrate a significant relationship ($\beta = -0.10$, $p = .23$), and is thus not supported.

H_2. The hypothesis that Locus of Control will correlate positively with the propensity to distort organizational upward communication was not supported at $p < .05$. The level of significance for a one-tailed test at DF = 143 is 0.14. Regression analysis in the full model additionally confirmed that the quality of the supervisor-subordinate relationship did not demonstrate a significant relationship ($\beta = 0.04$, $p = .67$), and is thus not supported. However, analysis of the subscale DIFDISR revealed significance for Locus of Control, consistent with Taylor (2010) and Wang, Bowling, and Eschleman

(2010), who observed that those with external Locus of Control may be less inclined than one with an internal Locus of Control to transmit negative information to his or her superior.

H_3. The hypothesis that Need for Cognition will correlate positively with the propensity to distort organizational upward communication was not supported at $p < .05$. The level of significance for a one-tailed test at DF = 143 is 0.14. Regression analysis in the full model additionally confirmed that the quality of the supervisor-subordinate relationship did not demonstrate a significant relationship ($\beta = 0.05$, $p = .35$), and is thus not supported. This may be due to the characteristics of the study population, the particular instrument used to operationalize this variable, or random error. In any case, earlier research by Cohen, Stotland, and Wolfe (1955), Cacioppo and Petty (1982), Carnevale, Inbar, and Lerner (2011), and others is inconclusive as to why Need for Cognition might or might not contribute to a disposition to distort.

H_4. The hypothesis that Tolerance of Ambiguity will correlate negatively with the propensity to distort organizational upward communication was not supported at $p < .05$. The level of significance for a one-tailed test at DF = 143 is 0.14. Regression analysis in the full model additionally confirmed that the quality of the supervisor-subordinate relationship did not demonstrate a significant relationship ($\beta = 0.06$, $p = .99$), and is thus not supported. However, the prediction that Tolerance of Ambiguity would negatively correlate with the subscales DIFATT and DIFTOT was significant and is consistent with the earlier research of Frenkel-Brunswik (1949) and Bors, Gruman, & Shukla (2010).

DIFFATT predicted from TA. DIFFATT was predicted to correlate negatively with TA. This did not happen; not only was the correlation positive, it was, in fact, 0.14,

which was equal or greater to the level of significance for a one-tailed test at DF = 143 of 0.14. Regression analysis, however, revealed that the relationship was nonsignificant with $\beta = 0.04$, $p = .09$.

DIFDISR predicted from LC and TA. DIFDISR was predicted to correlate positively with LC and negatively with TA. While the former correlation turned out to be correct, the latter correlation, DIFDISR, was displayed significance, but in a positive direction. Regression analysis of the model DIFDISR predicted from LC and TA showed neither of the two terms to be significant, with LC ($\beta = 0.05$, $p = .25$) and TA ($\beta = 0.04$, $p = .10$.

The result whereby significance was found in two of the subscales and not in the entire 32-item *Insight Inventory* suggests the need for further refinement of the operationalization of the dependent variable. Another instrument, or combination of instruments, or the employment of qualitative methods may provide a more precise and useful index of upward communication distortion.

Threats to Validity

The present study is exploratory correlational research. The validity of the constructs and inferences must be addressed in order to assess the usefulness and value of the methodology and results of the study.

Maxwell and Delaney (2004) describe four different types of validity: statistical conclusion, internal, construct, and external. Each of these categories expresses "essentially truth or correctness, a correspondence between a proposition describing how things work in the world and how they really work" (Maxwell and Delaney, 2003, p. 23). Thus, anything that casts doubt on any of the propositions, assumptions, or inferences

made during the research must be addressed and recognized. In this section, threats to the various categories of validity are addressed.

Statistical Conclusion validity. Statistical Conclusion validity in the present study refers to whether the original statistical inferences were strong enough to establish a relationship between the variables of interest. Insofar as three of the dependent (including the dependent variable subscales) variable-independent variable pairs showed statistically significant correlations for a one-tailed test at $df = 143$, $p < .05$, at least those inferences reached about the statistical significance did, in fact, establish significant relationships. Further, the a priori power analyses showed that the sample sizes were of sufficient size to identify real effects with high probability.

Internal Validity. Whereas statistical conclusion validity addresses the existence of a relationship between variables, internal validity addresses whether or not that relationship is causal. Maxwell and Delaney (2004, p. 28) describe six threats to internal validity: selection bias, attrition, testing, regression, maturation, and history. In accordance with Maxwell and Delaney (2004, p. 26), the independent variables QSSR, LC, NC, and TA are not "*true independent variable*[s]" (emphasis in the original), because the researcher did not independently determine treatment levels for the independent variables; these were determined through administration of the survey instrument. There were no discrete levels of any of the independent variables. As regards the six threats mentioned, the sample was taken from one population (no selection bias), and all study participants completed the survey in one session (no attrition, testing, regression, maturation, or history biases) (p. 28). The presence of one or more moderator variables may affect the correlational relationships; as described by Baron and Kenny

(1986) moderator variables are those that affect "…the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable" (p. 1174). The identification of variables that moderate between the independent variables, dependent variables and dependent variable subscales is beyond the scope of the present study and is an area of potential further investigation.

In order to evaluate internal validity in the present study, a short, 5-item section at the end of the instrument, designated "Validity Check" (VC) was employed. It was designed to serve as a check on the technique used to ascertain the Index of Distortion of Upward Communication and to measure the degree of internal validity of the theoretical index of upward organizational communication distortion construct. Specifically, the five items were intended to ascertain how the respondent feels about communicating with his or her superiors and about how he or she feels about distorting that communication. The results of this measurement were inconclusive. Although there was a negative correlation (-.09) between VC and DIFTOT, it was not enough to support the internal validity of the DIFTOT construct. It is believed that the low level of correlation is due to the nature of the instrument items, namely, a reasonable person normally would not admit to withholding negative organizational information from his or her supervisor, even if he or she were inclined to do so. Clearly, another method would need to be designed to ascertain how well the method used in the present study operationalized the inclination to distort negative upward organizational information.

One potential approach that could address the issue of the social desirability of the responses and improve the assessment of internal validity would be to employ a scenario-based methodology wherein the respondent would be presented with short cases of

negative behavior and the respondent would provide feedback on his or her permissibility of that behavior. This would change the demand characteristics of the available responses remove the individual from the process, and minimize the injecting the self into the scenario. Presumably, keeping the exchange in the third person would yield more useful responses.

Construct Validity. Construct validity, according to Maxwell and Delaney (2004) "…pertains to both causes and effect…Can I generalize from this one set of operations to a referent construct?" (p. 28). The constructs used as independent variables in the present study. Apart from the use of the LMX-7 instrument, there are other instruments available that operationalize the independent variables selected for the present study, Locus of Control, Need for Cognition, and Tolerance of Ambiguity. It is with the dependent variable, the postulated Upward Organizational Communication Distortion Index, that there may be some of what Maxwell and Delaney (2004) refer to as "mono-operation bias" or "using only a single dependent variable to assess a psychological construct…" (p. 29). This was potentially mitigated through the use of the three dependent variable subscales, DIFUNC, DIFATT, and DIFDISR.

External Validity. External validity refers to whether or how much the conclusions, inferences, or findings of a study can be generalized "…across populations, or settings, or time…" (Maxwell and Delaney, 2004, p. 30). As the present study used study participants who can be considered a "convenience sample", generalizing beyond the relatively narrow population of senior Department of the Army civilian employees who are motivated enough to attend training at the Army Management Staff College is

problematic. However, as this is an exploratory correlational study, questions about external validity can be used to guide future research design into this topic.

Contributions of the Present Study

The present study proposed the existence of a relationship between four specific personality variables and a notional capacity to distort negative upward organizational communication. While there has been some research into this phenomenon, research of specific personality traits and characteristics has been lacking; by exploring possible links between specific aspects of personality, new avenues of inquiry may be opened. There are myriad personality variables; it is unknown to what extent any of them correlate with the upward organizational communication styles of organizational members.

Limitations of the Present Study

Army civilian employees were employed as survey participants for this study. This use of a convenience sample was necessitated by the predicted challenge of obtaining permission to use commissioned Army officers. This would have been more in accordance with Aylwin-Foster's (2005) observations of American Army officers' reluctance to transmit upward negative organizational information to their superiors. Nevertheless, a "convenience sample" of Department of the Army civilian employees can be assumed to approximate a similar sample of mid-grade or senior commissioned Army officers.

The use of Athanassiades' (1973) technique to determine an individual's inclination to distort upward negative organizational information to their superiors may be only one method available to operationalize this variable. The use of interviews or

other qualitative methods could possibly broaden the understanding and usefulness of the inclination to distort as well as provide further insight of alternative influencing factors.

Conclusions and Future Prospects

Understanding the factors that contribute to the degradation of upward organizational communication is essential to the understanding of organizational performance. Without considering the role of the individual personality, a picture of organizational communication will be incomplete.

The four independent variables considered—Quality of Superior-subordinate Relationship (as measured by the LMX-7), Locus of Control, Need for Cognition, and Tolerance of Ambiguity—are only a few of the possible candidates for further investigation. For example, Machiavellianism, or the amoral employment of calculation and deceit in general relations with others, might offer fertile ground for further research (Christie, 1970).

Narcissism, or an out-sized sense of self-importance, offers another example of personality characteristic that may be related to the inclination to distort upward organizational negative information (Emmons, 1987). The narcissistic personality may be related in an inclination to distort upward organizational communication.

Mobility aspirations, or "the desire to excel in accordance with standards of excellence" (Turner, 1970, p. 147), are another avenue for further investigation, as Hubbell (2000) points out conflicting results from several earlier studies (Athanassiades 1973, 1974; Read 1962; Gaines, 1980).

Organizational climate, defined by Schein (1992) as "the feeling that is conveyed in a group by the physical layout and the way in which members of the organization

interact with each other, with customers, or with outsiders" (p. 9), will offer yet another dimension for further investigation, as amplified by Smith and Keil (2003), "Many of our organizations exhibit cultures in which 'bad news gets you killed.'…such environments, which establish an unspoken norm against bad news reporting, can have an adverse impact on an individual's assessment of his or her obligation to report negative information…" (p. 89).

The present study used Department of the Army civilian employees as study participants. Further research in this area could include active duty officers, combat arms-only officers, company-grade (lieutenants and captains) officers, field grade (major through colonel), and so on. Of these, field grade majors, lieutenant colonels, and colonels would be particularly helpful for investigation of the hypotheses in this study. As previously stated, it is assumed that by the time an officer reaches these ranks, he or she can be assumed to have decided to make the military a career. Company grade officers (lieutenants and captains) may or may not be inclined to serve beyond their minimum required terms of service. An Army officer is expected to be promoted or leave the service (the so-called "up or out" policy).

A population of particular interest would be that of Army officers in the grade of major (O-4) who are studying at the Command and General Staff College. These officers will move on to assignments on battalion and brigade staffs; one of the most critical of which is that of operations officer (S-3). This is a critical assignment for an officer, as performance as an operations officer will be a significant factor in whether the officer will be selected for promotion. Moreover, the operations officer position is one of intense activity and high stress; officers normally serve in this position for one year or less.

Investigating this population might yield interesting insights into one of the most critical relationships in any military organization, that between the commander and his or her operations officer.

Kassing (1998) noted that organizational health is not the same as organizational accord (p. 221). Any successful organization must be environmentally adaptable and agile enough to respond to threats and opportunities as well as take advantage of strengths and correct weaknesses. A hypothetical organization that has perfect accord and consensus simply cannot survive because it would be unable to react to or accommodate possible different points of view regarding any hypothetical issue. If consensus is the paramount organizational value, and every member of the hypothetical organization puts accord and consensus above all other considerations, then the possibility of honest disagreement over policy issues—including negative upward organizational communication—becomes problematic.

The free and unfettered transmission of information up, down, and laterally, within an organization is essential to the organization's long- and short-term well-being. While many may prefer to have "everyone just get along", a state of perfect concord is probably neither possible nor desirable. Leaders and managers would be well-served to understand why some subordinates may be inclined to distort the "bad news" they send up the chain or be overly optimistic in their interactions with their superiors.

An organization is a system, and as such, must pay heed to its feedback loop. Negative information is a necessary part of that feedback, and military organizations, by virtue of their very nature, need the feedback that negative information provides. No less a figure than Secretary of Defense Robert Gates recognizes the hierarchical nature of the

military and the seemingly paradoxical necessity for open and honest communication from subordinates to superiors:

> In the military…there is a focus on teamwork, consensus-building, and collaboration. Yet make no mistake, the time will come when a leader in today's military must stand alone and make a difficult, unpopular decision, or challenge the opinion of superiors and tell them that they cannot get the job done with the time and the resources available—a difficult charge in an organization built on a 'can-do' ethos like America's Army; or a time when a member of the military will know that what superiors are telling the Congress or the American people is inaccurate. These are the moments when an officer's entire career may be at risk. What will they do? These are difficult questions that require serious thought over the course or any officer's career. There are no easy answers. (Gates, 2008, p. 13)

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Appendix A

Survey Instrument

UPWARD COMMUNICATION SURVEY

Your responses on this survey are anonymous. Do not write your name anywhere on this survey. There are no serial numbers or coding to identify the respondent; no one will have any knowledge if how you responded to any question.

The purpose of this research is to understand better how subordinates communicate with their superiors.

Participation is strictly voluntary. You may choose not to participate for any reason.

ADMINISTRATIVE INFORMATION

PLEASE CIRCLE YOUR ANSWER OR COMPLETE OR WRITE IN AS APPROPRIATE.

1. Gender: Male Female

2. Year of Birth _____

3. Race or Ethnicity:

African-American American Indian Asian/Pacific Islander

Caucasian Hispanic

4. Military Veteran? Yes No

5. If yes, service:

Army Navy Air Force Marines Coast Guard

6. Military Retiree? Yes No

7. Rank at separation or retirement _____

SECTION I

BELOW IS A LIST OF TERMS THAT DESCRIBE PERSONALITY TRAITS. FOR EACH TERM, PLEASE CIRCLE THE RESPONSE THAT YOU BELIEVE BEST DESCRIBES YOU. ***PLEASE ANSWER AS IF YOU WERE DESCRIBING YOURSELF IN THE WORKPLACE.*** YOUR RESPONSES WILL BE TOTALLY ANONYMOUS.

1. **DECISIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. **ENTHUSIASTIC**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. **RESTRAINED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. **PARTICULAR**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. **INTENSE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

6. **DETAILED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

7. **GOOD MIXER**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

8. **SERENE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

9. **ACCURATE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

10. **COMPETITIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

11. **ANIMATED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

12. **ORGANIZED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

13. **HIGH-SPIRITED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

14. **EXACTING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

15. **PATIENT**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

16. **TALKATIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

17. **EASYGOING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

18. **FORCEFUL**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

19. **STRUCTURED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

20. **LIFE-OF-THE-PARTY**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

21. **MILD**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

22. **DOMINEERING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

23. **SYSTEMATIC**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

24. **CHARMING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

25. **EVEN-TEMPERED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

26. **STRONG-WILLED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

27. **PERFECTIONIST**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

28. **CONVINCING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

29. **LAID-BACK**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

30. **DEMANDING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

31. **TOLERANT**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

32. **DARING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

SECTION II

INSTRUCTIONS: FOR EACH OF THE ITEMS, INDICATE THE DEGREE TO WHICH YOU THINK THE ITEM IS TRUE FOR YOU BY CIRCLING ONE OF THE RESPONSES THAT APPEAR BELOW THE ITEM.

1. Do you know where you stand with your leader…do you usually know how satisfied your leader is with what you do?

Rarely	Occasionally	Sometimes	Fairly often	Very often
1	2	3	4	5

2. How well does your leader understand your job problems and needs?

Not a bit	A little	A fair amount	Quite a bit	A great deal
1	2	3	4	5

3. How well does your leader recognize your potential?

Not at all	A little	Moderately	Mostly	Fully
1	2	3	4	5

4. Regardless of how much formal authority he or she has built into his or her position, what are the chances that your leader would use his or her power to help you solve problems in your work?

None	Small	Moderate	High	Very high
1	2	3	4	5

5. Again, regardless of the amount of formal authority your leader has, what are the chances that he or she would "bail you out" at his or her expense?

None	Small	Moderate	High	Very high
1	2	3	4	5

6. I have enough confidence in my leader that I would defend and justify his or her decision if he or she were not present to do so.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

7. How would you characterize your working relationship with your leader?

Extremely ineffective	Worse than average	Average	Better than average	Extremely effective
1	2	3	4	5

8. I can anticipate difficulties and take action to avoid them.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

9. A great deal of what happens to me is probably just a matter of chance

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

10. Everyone knows that luck or chance determines one's future.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

11. I can control my problem(s) only if I have outside support.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

12. When I make plans, I am almost certain that I can make them work.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

13. My problem(s) will dominate me all my life.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

14. My mistakes and problems are my responsibility to deal with.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

15 Becoming a success is a matter of hard work, luck has little or nothing to do with it.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

16. My life is controlled by outside actions and events.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

17. People are victims of circumstance beyond their control.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

18. To continually manage my problems I need professional help.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

19. When I am under stress, the tightness in my muscles is due to things outside my control.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

20. I believe a person can really be the master of his fate.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

21. It is impossible to control my irregular and fast breathing when I am having difficulties.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

22. I understand why my problem(s) varies so much from one occasion to the next.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

23. I am confident of being able to deal successfully with future problems.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

24. In my case maintaining control over my problems is due mostly to luck.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

25. I would prefer complex to simple problems.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

26. I like to have the responsibility of handling a situation that requires a lot of thinking.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

27. Thinking is not my idea of fun.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

28. I would rather do something that requires little thought than something that is sure to challenge my thinking abilities.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

29. I try to anticipate and avoid situations where there is likely chance I will have to think in depth about something

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

30. I find satisfaction in deliberating hard and for long hours.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

31. I only think as hard as I have to.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

32. I prefer to think about small, daily projects to long-term ones.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

33. I like tasks that require little thought once I've learned them.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

34. The idea of relying on thought to make my way to the top appeals to me.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

35. I really enjoy a task that involves coming up with new solutions to problems.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

36. Learning new ways to think doesn't excite me very much.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

37. I prefer my life to be filled with puzzles that I must solve.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

38. The notion of thinking abstractly is appealing to me.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

39. I would prefer a task that is intellectual, difficult, and important to one that is somewhat important but does not require much thought.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

40. I feel relief rather than satisfaction after completing a task that required a lot of mental effort.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

41. It's enough for me that something gets the job done; I don't care how or why it works.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

42. I usually end up deliberating about issues even when they do not affect me personally.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

43. There's a right way and a wrong way to do almost everything.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

44. Practically every problem has a solution.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

45. I have always felt that there is a clear solution between right and wrong.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

46. Nothing gets accomplished in this world unless you stick to the basic rules.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

47. If I were a doctor, I would prefer the uncertainties of a psychiatrist to the clear and definite work of someone like a surgeon of x-ray specialist.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

48. Vague and impressionistic pictures really have little appeal to me.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

49. Before an examination, I feel much less anxious if I know how many questions there will be.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

50. The best part of working a jigsaw puzzle is putting in that last piece.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

51. I don't like to work on a problem unless there is a possibility of coming out with a clear-cut and unambiguous answer.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

52. I like to fool around with new ideas, even if they turn out later to be a total waste of time.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

53. Perfect balance is the essence of all good composition.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

54. An expert who doesn't come up with a definite answer probably doesn't know too much.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

55. There is really no such thing as a problem that can't be solved.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

56. A good job is one where what is to be done and how it is to be done are always clear.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

57. In the long run it is possible to get more done by tackling small, simple problems rather than large and complicated ones.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

58. What we are used to is always preferable to what is unfamiliar.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

59. A person who leads an even, regular life in which few surprises or unexpected happenings arise, really has a lot to be grateful for.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

60. I like parties where I know most of the people more than ones where all or most of the people are complete strangers.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

SECTION III

BELOW IS A LIST OF TERMS SIMILAR TO THOSE WHICH YOU ANSWERED AT THE BEGINNING OF THIS SURVEY. AS BEFORE, PLEASE CIRCLE THE RESPONSE THAT YOU BELIEVE BEST DESCRIBES YOU, AS IF YOU WERE DESCRIBING YOURSELF IN THE WORKPLACE. THIS TIME HOWEVER, PLEASE RESPOND ***AS IF YOUR RESPONSES WERE TO BE REPORTED TO YOUR SUPERVISOR***. IN ACTUALITY, YOUR ANSWERS WILL BE TOTALLY ANONYMOUS; WE ARE SIMPLY LOOKING FOR HOW YOU WOULD ANSWER IF YOU KNEW YOUR RESPONSES WERE TO BE REVEALED TO YOUR BOSS.

1. **COMPETITIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

2. **TALKATIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

3. **PATIENT**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

4. **ACCURATE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. **DEMANDING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

6. **SERENE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

7. **ANIMATED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

8. **PERFECTIONIST**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

9. **DOMINEERING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

10. **EASYGOING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

11. **HIGH-SPIRITED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

12. **STRUCTURED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

13. **FORCEFUL**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

14. **MILD**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

15. **SYSTEMATIC**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

16. **CONVINCING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

17. **GOOD MIXER**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

18. **STRONG-WILLED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

19. **EXACTING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

20. **ENTHUSIASTIC**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

21. **EVEN-TEMPERED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

22. **DECISIVE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

23. **DETAILED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

24. **TOLERANT**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

25. **INTENSE**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

26. **LIFE-OF-THE-PARTY**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

27. **DARING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

28. **RESTRAINED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

29. **PARTICULAR**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

30. **CHARMING**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

31. **LAID-BACK**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

32. **ORGANIZED**

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

SECTION IV

INSTRUCTIONS: FOR EACH OF THE ITEMS, INDICATE THE DEGREE TO WHICH YOU THINK THE ITEM IS TRUE FOR YOU BY CIRCLING ONE OF THE RESPONSES THAT APPEAR BELOW THE ITEM.

1. How likely are you to give your supervisor bad news?

Very Unlikely	Unlikely	Neither	Likely	Very likely
1	2	3	4	5

2. How willing are you to improve negative information as it goes to your supervisor?

Very Unlikely	Unlikely	Neither	Likely	Very likely
1	2	3	4	5

3. How important is it that your supervisor is aware of performance-related problems or capabilities internal to your work unit?

Very unimportant	Unimportant	Neither	Important	Very important
1	2	3	4	5

4. It is always mandatory to present one's supervisor with all information, including negative information, even when the probability exists of adverse or negative consequences.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

5. It is permissible to cast in a favorable light negative information to be provided to a supervisor.

Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Appendix B

Independent Variables Raw Data

Independent Variables Raw Data

Item Number	Variable	*n*	Minimum	Maximum	Mean	Std. Dev.
2-1	QSSR[a]	145	1	5	3.70	1.13
2-2	QSSR	145	1	5	3.28	1.12
2-3	QSSR	145	1	5	3.74	1.05
2-4	QSSR	145	1	5	3.72	1.09
2-5	QSSR	145	1	5	2.93	1.14
2-6	QSSR	145	1	5	3.81	1.02
2-7	QSSR	145	1	5	3.73	0.99
2-8	LC	145	1	5	4.02	0.74
2-9	LC	145	1	5	2.40	0.97
2-10	LC	145	1	5	2.07	0.96
2-11	LC	145	1	5	2.26	0.89
2-12	LC	145	2	5	4.00	0.66
2-13	LC	145	1	4	1.83	0.78
2-14	LC	145	1	5	4.03	0.88
2-15	LC	145	1	5	3.65	1.01
2-16	LC	145	1	4	2.30	0.92
2-17	LC	145	1	5	2.45	0.98
2-18	LC	145	1	4	1.87	0.73
2-19	LC	145	1	5	2.50	1.01
2-20	LC	145	1	5	3.96	0.87
2-21	LC	145	1	5	2.01	0.84
2-22	LC	145	1	5	3.45	0.81
2-23	LC	145	2	5	4.16	0.65
2-24	LC	145	1	4	1.77	0.62
2-25	NC	145	1	5	3.06	1.03
2-26	NC	145	1	5	3.63	0.94
2-27	NC	145	1	5	3.84	0.86
2-28	NC	145	1	5	3.76	0.92
2-29	NC	145	2	5	3.93	0.78
2-30	NC	145	1	5	2.90	0.91
2-31	NC	145	1	5	3.21	1.02
2-32	NC	145	1	5	3.41	0.92
2-33	NC	145	1	5	3.32	0.97
2-34	NC	145	1	5	3.73	0.80
2-35	NC	145	2	5	4.17	0.65
2-36	NC	145	2	5	3.88	0.82
2-37	NC	145	1	5	3.21	0.95
2-38	NC	145	2	5	3.42	0.84
2-39	NC	145	1	5	3.50	0.94
2-40	NC	145	1	5	3.08	1.02
2-41	NC	145	1	5	3.57	0.10
2-42	NC	145	1	5	3.26	0.10
2-43	TA	145	1	5	3.54	1.07
2-44	TA	145	1	5	4.00	0.91

Independent Variables Raw Data (continued)

Item Number	Variable	*n*	Minimum	Maximum	Mean	Std. Dev.
2-45	TA	145	1	5	3.52	1.07
2-46	TA	145	1	5	2.94	1.06
2-47	TA	145	1	5	2.56	1.06
2-48	TA	145	1	5	3.30	1.01
2-49	TA	145	1	5	3.01	1.03
2-50	TA	145	1	5	3.41	1.06
2-51	TA	145	1	5	3.08	0.87
2-52	TA	145	1	5	3.26	0.97
2-53	TA	145	1	5	3.38	0.93
2-54	TA	145	1	5	2.30	0.79
2-55	TA	145	1	5	3.17	1.10
2-56	TA	145	1	5	2.86	0.97
2-57	TA	145	1	5	3.03	0.89
2-58	TA	145	1	5	3.25	0.97
2-59	TA	145	1	5	3.09	0.99
2-60	TA	145	2	5	3.55	0.96

[a]Quality of Superior-Subordinate Relationship (LMX). [b]Locus of Control. [c]Need for Cognition. [d]Tolerance of Ambiguity.

Appendix C

Survey Participant Information Sheet

701-A-5

INFORMATION SHEET FOR CONSENT TO PARTICIPATE IN A RESEARCH STUDY

My name is William Strauss, and I am a professor of Installation Management in the Command Programs Directorate at the Army Management Staff College and a doctoral candidate at the University of the Oklahoma. I am requesting that you volunteer to participate in a research study titled Upward Communication in Military Organizations. You were selected as a possible participant because of your status as a status as a Department of the Army Civilian Employee who is demonstrating through attendance at the Army Management Staff College a desire to become more professionally develop and prepare for assignments of increasing complexity and responsibility. Please read this information sheet and contact me to ask any questions that you may have before agreeing to take part in this study.

Purpose of the Research Study: The purpose of this study is to understand better how subordinates communicate with their superiors. Several qualities will be measured to see whether there is any relationship those traits and how those subordinates communicate with their supervisors.

Procedures: If you agree to be in this study, you will be asked to do the following: Answer all of the questions in the survey in the order they are asked. Please do not go back once you have completed a section.

Risks and Benefits of Being in the Study: There is minimal risk involved in this study. There are no benefits to participation.

Compensation: You will not be compensated for your time and participation in this study.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not result in penalty or loss of benefits to which you are otherwise entitled. If you decide to participate, you are free not to answer any question or discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled.

Length of Participation: It should take approximately 15 minutes to complete all of the questions

Confidentiality: The records of this study will be kept private and your supervisor will not have access to your responses. In published reports, there will be no information included that will make it possible to identify you as a research participant. Research records will be stored securely. All copies of this survey and consolidated data will be stored in a locked container during data analysis and destroyed upon completion of the project. Only approved researchers will have access to the records.

Contacts and Questions: If you have concerns or complaints about the research, the researcher conducting this study can be contacted at (703) 805-4729. The faculty advisor is Dr. Joe Rodgers, telephone (405) 325-4591, email jrodgers@psychology.ou.edu. In the event of a research-related injury, contact the researcher. You are encouraged to contact the researcher if you have any questions. If you have any questions about your rights as a research participant or questions, concerns, or complaints about the research and wish to talk to someone other than the individuals on the research team, or if you cannot reach the research team, you may contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at (405) 325-8110 or irb@ou.edu.

Please keep this information sheet for your records. By completing and returning this questionnaire, I am agreeing to participate in this study.

Revised 3/5/2007

Appendix D

Army Management Staff College

Commandant Approval Memorandum

REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
ARMY MANAGEMENT STAFF COLLEGE
5500 21ST STREET, SUITE 3502-4
FORT BELVOIR, VIRGINIA 22060-5934

ATZL-SWM-OC

29 April 2010

MEMORANDUM FOR Commandant, Army Management Staff College, 5500 21st Street, Suite 3101-1, Fort Belvoir, VA 22060-5934

SUBJECT: Request for Approval to Survey Intermediate Course Students

1. For DECISION.

2. PURPOSE: To gain Commandant, AMSC, approval to administer an organizational communication survey to Army Management Staff College (AMSC) Intermediate Course students in support of my doctoral dissertation research.

3. RECOMMENDATION: That the Commandant approves the request to study Intermediate Course students.

APPROVED V SLR DISAPPROVED_____

4. BACKGROUND AND DISCUSSION.

a. As a doctoral candidate in the Organizational Leadership program at the University of Oklahoma, I am requesting approval to conduct a survey using Intermediate Course students as participants in order to collect dissertation research data. The general research question is whether four specific personality variables correlate with a hypothesized propensity or inclination to distort negative upward organizational communication. Specific information regarding how the dependent variable, "Index of Distortion of Upward Communication", will be determined; how the four independent variables (Subordinate-Supervisor Relationship, Locus of Control, Need for Cognition, and Tolerance of Ambiguity) will be measured; and how the data will be analyzed is contained in the attached prospectus.

b. Participation in the survey will be strictly voluntary and anonymous; student identities will not be recorded nor retained. The survey instrument will be administered using paper copies. The survey instrument was piloted and the result reveal that approximately 12-15 minutes will be required for completion. The number of survey respondents is calculated to be 120, based on a power analysis that will yield a medium effect size of .25 to .3. The significance level is set at α=.05. It is anticipated that 2-3 Intermediate Course classes will be necessary to achieve the desired number of respondents. Prior coordination with the Army Research Institute (ARI) indicated that approval of a non-electronic, non-online survey is resides with the Commandant, AMSC (Enclosure 2).

5. IMPACTS.

a. Personnel. A total of 120 Intermediate Course students would be asked to participate. Approximately 20 minutes of student time would be required: Administrative instructions and actual completion of instrument. Scheduling of instrument administration would be coordinated with the Director, Intermediate Course, to minimize interference with normal academic operations.

b. Equipment. None.

c. Funding. None

6. COORDINATION.

Dir., Command Programs	~~CONCUR/NONCONCUR~~		CMT____	DATE 7 May 10
Dir., Intermediate Course	~~CONCUR~~/NONCONCUR	RPM	CMT____	DATE 6 May 10
Dean of Academics	CONCUR/NONCONCUR		CMT____	DATE____
Deputy Commandant	~~CONCUR~~/NONCONCUR	STW	CMT____	DATE 10 May 10

7. Point of Contact (POC) is the undersigned, telephone (703) 805-4729 or email william.strauss@us.army.mil.

WILLIAM D. STRAUSS
Professor of Installation Management

Encls.
1. Prospectus
2. ARI Email

Appendix E

IRB Approval Letter

The University of Oklahoma
OFFICE FOR HUMAN RESEARCH PARTICIPANT PROTECTION

IRB Number: 13051
Category: 2
Approval Date: June 25, 2010

June 30, 2010

William Strauss
Advanced Programs
P O Box 334
Fort Belvoir, VA 22060

Dear Mr. Strauss:

RE: Distortion Of Upward Communication In Military Organizations

On behalf of the Institutional Review Board (IRB), I have reviewed the above-referenced research project and determined that it meets the criteria in 45 CFR 46, as amended, for exemption from IRB review. You may proceed with the research as proposed. Please note that any changes in the protocol will need to be submitted to the IRB for review as changes could affect this determination of exempt status. Also note that you should notify the IRB office when this project is completed, so we can remove it from our files.

If you have any questions or need additional information, please do not hesitate to call the IRB office at (405) 325-8110 or send an email to irb@ou.edu.

Cordially,

Aimee Franklin, Ph. D
Vice Chair, Institutional Review Board

Ltr_Prot_Fappv_X

660 Parrington Oval, Suite 316, Norman, Oklahoma 73019-3085 PHONE: (405) 325-8110 FAX:(405) 325-2373