TRUST AND DECISION MAKING IN HOSPITALS

BY

CHRISTOPHER JOHN EVANS

A doctoral project submitted to the faculty of the Medical University of South Carolina in partial fulfillment of the requirements for the degree Doctor of Health Administration in the College of Health Professions

DEDICATION

Each one should use whatever gift he has received to serve others, faithfully administering God's grace in its various forms. If anyone speaks, he should do it with all the strength God provides, so that in all things God may be praised through Jesus Christ. To Him be the glory and the power for ever and ever. Amen.

1 Peter 4:10-11

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ACKNOWLEDGEMENTS

Regardless of the efforts required by doctoral training, the resulting award of the degree may be viewed only as the culmination of the time, talents, and treasures of many individuals. It would be foolish and selfish to believe that my efforts have overshadowed the contributions of many others who have worked to cram much knowledge into my head, in hopes that some small amount would be retained, and would manifest itself one day, as wisdom. It is these individuals who may share the glory or bask in the delight of the development of another soul.

Some individuals stand out for their ability to give their passion, some for their relentless attention to effectiveness, asking "so what?" in a way that synthesizes thoughts, and others for their perseverance in linking cognitions. I would like to thank Anne Osborne Kilpatrick, DPA for demonstrating that love and understanding combine in the service one provides; to lead, one must serve. Thank you, Anne. My dissertation committee members, Frances Wickham Lee, DBA, Eric R. Stone, Ph.D., and David M. Ward, Ph.D., all deserve credit for challenging me in their own ways. Fran, in the classroom and as a committee member you have helped me get to the root of issues. Invariably when I do, I come away better for it. Thank you for keeping this in front of me. Eric, your unselfish participation and sage advice to take on this psychology project have proven invaluable for me. Your influence has helped me focus on areas in which I have long desired to grow so that now I am better prepared to pursue new ventures. David, you would never shrink from precision throughout this process, and a large part of me thanks you for that. I would not have the same outlook on life or on research if it were not for your practical and incisive guidance. Thank you very much. I need further to

acknowledge Daniel J. Zaccaro, MS, biostatistician of tolerance extraordinaire, without whom work on this research would have been a lot less fun and infinitely more problematic. Thanks so much, Dan.

Lastly, I need to thank my wife, the lovely Dr. Lynne Wagenknecht, who put up with many things while I juggled being a doctoral student, spouse, father, organization consultant, and church president. You are a stunning example of human love made flesh, serving your Lord and Savior in humility and kindness, and putting up with me all the while.

Abstract of Doctoral Project Report Presented to the
Executive Doctoral Program in Health Administration & Leadership
Medical University of South Carolina
In Partial Fulfillment of the Requirements for the
Degree of Doctor of Health Administration

TRUST AND DECISION MAKING IN HOSPITALS

By

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This study investigated whether hospital chief executives exhibited trusting or distrusting behaviors with their accountants and auditors as a result of recently reported scandals involving major corporations and public accounting firms in the U.S. The study found that 51.2% of the 121 chief executives surveyed exhibited distrusting behavior. The study also examined perceptual issues of trustworthiness and trust orientation. Chief executives reported that the relative importance of three primary dimensions of trustworthiness were, in order, integrity, ability, and benevolence ($p<0.001$). No preference toward either interpersonal trust or system trust in routine organizational decision making was found ($p<0.001$). A preference was found for system trust when an organizational decision carried a personal, reputational risk to the chief executive ($p<0.001$). Lastly, this study provides insight into the concept of system trust, with particular focus on circumstances when an orientation toward interpersonal or system trust might occur.

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CHAPTER ONE

INTRODUCTION

This study examined issues of trust, trustworthiness, and executive decision making in hospital chief executives. It was designed as a practical application of theories of trust used in prior studies and papers to investigate new research questions and to corroborate findings of earlier studies of trust among students and employees. This study considered trusting and distrusting behavior in hospital chief executives, why trust is important to consider at the present time, and some ways in which chief executives conceptualize trust in others. The study also examined whether, when making organizational decisions, chief executives view trust more from an interpersonal or a system perspective.

The time is ripe for examining issues of trust in executive decision making. High profile business failures and accounting scandals uncovered at a number of institutions including Arthur Andersen, Enron, Tyco, and WorldCom have resulted in media frenzy, public outcry, Congressional hearings, and new laws. Recent actions, including the 2002 United States v. Arthur Andersen obstruction of justice action and the Enron and WorldCom bankruptcies, have raised concerns about trust within organizations and in professional advisors. United States President George W. Bush signed into law the Accounting Industry Reform Act on July 30, 2002, legislation intended to rein in corporate wrongdoers and toughen oversight of the beleaguered accounting industry ("Resisting blame," 2002). The American Institute of Certified Public Accountants

(2002) – AICPA - has recently dedicated a number of news items on their World Wide Web page related to internal controls, ethics, and misleading audits. The Journal of Accounting's April 2002 issue was dedicated to fraud deterrence as a stated response to the beating being taken by the public accounting industry. Concerns following in the wake of these recent accounting scandals have already been institutionalized in academic settings. A graduate level course, "Crisis in Accounting: Myth or Reality," will begin at the Rochester Institute of Technology's College of Business (AScribe Newswire, 2002). Such pervasive interest in addressing problems of trust is international in scope; reported scandals have not been limited to the United States.

To keep pace with changes in U.S. regulations, auditors in Japan are toughening rules on stock holdings and links to clients (McMillan, 2002). The August 2002 issue of Accountancy, the journal of the Institute of Chartered Accountants in England and Wales, included a special story on the fall-out in the United Kingdom. Their editor in chief, Chris Quick, and corresponding reporters indicated increasing interest in the issues of ethical practices, government oversight, and restoring trust following the scandals involving major U.S. corporations.

Corporate accounting scandals, while not new, most recently gained momentum in 1997 when Sunbeam restated earnings for 1996 and 1997 ("Corporate accounting scandals," 2002). Restating earnings became vogue, with Enron (restating earnings from 1997-2001) and Xerox (1997-2000) following suit. Further accounting inconsistencies were identified with Adelphia (restated earnings 1999-2001), Microstrategy (1997-1999), Peregrine (2000-2001), Rite Aid (1998-2000), and WorldCom (2001-2002). Nor was the shareholder-bilking strategy limited to restating earnings. Enron created a sophisticated

system of off-balance-sheet partnerships to conceal debts and losses. Global Crossing lost $40 billion in stock value through alleged ghost transactions. Tyco was charged with tax evasion and tampering of evidence. Accounting giant KPMG allowed Xerox to overstate its profits in its audited financial statements. ImClone and home stylist-cum market guru, Martha Stewart, have been under investigation for insider trading. Merrill Lynch was alleged to have misled investors with analysts' reports. Haliburton was involved in a shareholder suit regarding false and misleading financial statements, and Qwest Communications may have inflated revenue through statement postings of sales. Bloomburg.com, CBS Market Watch, and other financial sites on the World Wide Web are full of what seems to be the crisis of the week surrounding corporate integrity, practices, and ethics. This pervasive effect of economic pressure and greed has begun to impact the healthcare industry as well (McLaughlin, 2002).

The Allegheny Health, Education and Research Foundation (AHERF), a 14-hospital, Pittsburgh-based system, filed for bankruptcy protection in 1998 after its chief executive, Sherif Abdelhak, was fired by his board for financial wrongdoing. The AHERF bankruptcy was the first of its size in the healthcare industry. A former vice president of underwriting at United HealthCare, Michael Mooney, has been sentenced to prison on 17 counts of mail and securities fraud and money laundering (Modern Healthcare, 2002). Having been at the center of the AHERF and Enron scandals, the big five accounting firm, Arthur Andersen, LLP, has been hit the hardest and has recently closed its U.S. auditing practice. Some healthcare organizations have been defecting from Arthur Andersen, but many have remained loyal ("Loyal clients," 2002; "Seeking clarity," 2002). The slide continues as National Century Financial Enterprises (NCFE)

filed for Chapter 11 bankruptcy protection in what is being called "The Enron of the healthcare industry" (Taylor, 2002, p.6). While the root causes of NCFE's failure are yet unknown, it has sparked a series of at least six hospital bankruptcies that relied on NCFE for the collection and payment of their accounts. In related themes, white-collar crime, whistleblowing, and Medicare fraud remain as high as ever ("Bad sign," 2002). It appears that the time is ripe for a look at issues of trust and executive behavior.

Hospital and other business executives rely upon trust as well as other subjective and objective factors in making decisions (Boyd & Fulk, 1996; Boynton, Gales & Blackburn, 1993; Owen & Lambert, 1998; Schwenk, 1995). Most of the seminal scholarly work on trust dates back to the 1970s (Cook & Wall, 1980) with a number of important studies emanating from the mid- to late 1990s. Only one study thus far has made organization chief executives the primary research target (Gambetta, 1988b); most studies have been of managers generally or of students acting in supervisor-subordinate or judge-advisor (truster-trustee) roles (Cook & Wall, 1980). Several recent doctoral dissertations on trust have been published in the past several years, providing new and expanded knowledge in the field of trust research (Blevins, 2001; Kao, 1998; Stark, 2002; Williams, 2002). Blevins (2001) studied organizational trust between department faculty members and university leaders in academic institutions. Kao (1998) studied patient and physician trust relationships. Stark (2002) examined image theory in trust development on how closely trust decisions match with images or schema on how things should work. Williams (2002) investigated trust between boundary-spanning individuals, those professional relationships that cross organizational boundaries, such as the one between consultants and clients. Trust issues studied in the healthcare industry have been related

primarily to patient-physician relationships (Thom, Bloch & Segal, 1999; Thorne & Robinson, 1988; Thom & Campbell, 1997; Pearson & Raeke, 2000), patient-payer (Buchanan, 2000; Goold, 1998; Mechanic, 1996,1998) and physician-payer trust (Glazer & Gray, 1996; Gray, 1997; Rhodes & Strain, 2000).

Background and Need for the Study

Research in trust and trusting behavior has expanded in recent years (Dirks & Ferrin, 2002). However, an overall lack of empirical research using organization executives as the subject remains. Many studies validating instruments and constructs use students primarily, and, while several instruments have maintained validity when applied to the general population (Chun & Campbell, 1974; Rotter, 1967), more research using actual organization managers is needed (Dirks & Ferrin, 2002).

Hospital chief executives have found managing increasingly challenging due to dramatic changes in regulations, managed care, physician relationships, competition, decreasing reimbursement, continual shift from inpatient to outpatient care, and in sociological changes reflecting lifestyle issues of employees and physicians. These challenges affect managerial decision processes by adding complexity and uncertainty through new business, market, and sociological dynamics. This ever-changing health care environment causes stakeholders and clinical teams to depend on leaders to provide courage, trust, integrity, social skills, vision, a desire to make a difference, and passion (Byram, 2000). Trust is a component of the overall relationship between supervisor and subordinate (Mayer & Davis, 1999; Jeanquart-Barone, 1993; Gaines, 1980) and is significantly correlated with behavioral practices of organization leaders (Posner & Kouzes, 1988). Organizations value trust in employees because higher levels of trust

yield higher levels of performance, commitment, morale (Cummings & Bromiley, 1996; Deluga & Perry, 1994; Hart, 1988), improve communications, predictability, dependability, confidence, reduce friction and turnover (Mishra & Morrissey, 1990), lower transaction costs (Cummings & Bromiley, 1996; Ring & Van de Ven, 1994; Whitener, Brodt, Korsgaard & Werner, 1998), are instrumental in overcoming resistance to change (Mishra & Spreitzer, 1998), are linked to supportive supervisory behavior (Atwater, 1988; Gabarro, 1979), and are empirically linked to profits (Mayer & Davis, 1999). The presence of trust can also enable employees to reach their full potential (Jeanquart-Barone, 1993). These remain some of the reasons, along with others identified in the review of the extant literature, why it is important to consider how hospital chief executives trust others, and what components of trust may be at work.

This study also evaluated the specific responses of hospital chief executives regarding dimensions of trustworthiness, as conceptualized by Mayer, Davis and Schoorman (1995). Mayer et al. viewed trustworthiness as the interplay between the trustee's ability, benevolence, and integrity as perceived by the trustor. Mayer and Davis (1999) studied how managers and subordinates ranked these dimensions. This study asked the chief executives to rate and rank the importance of each of these dimensions within the context of their general organizational decision making. This study also explored whether hospital chief executives prefer to view trust through interpersonal relationships (interpersonal trust) or an impersonal referent (system trust). Each of these concepts, as well as issues surrounding organization leader decision making, is discussed in the review of the literature to provide a framework for understanding leaders' trusting motivation and behavior.

This study also considered the context of the current economic and social scandal reported in the public accounting industry and corporate governance as the situational perspective under which to measure trusting and distrusting behaviors. This recent series of events provided timely examination of the context of general and criticial decision making using a generalized trust scale (appropriate for examining one's underlying, learned response for new and novel situations, but also as the set of responses on which one tends to fall back, Zand, 1972). Lastly, this research provides a basis for looking at the issue of system trust. To date, there are no published or validated instruments that this researcher has been able to locate specifically measuring system trust.

Statement of Purpose

This study had one primary and two secondary aims. The primary aim was to identify if hospital chief executives reported trusting or distrusting behaviors with their accountants or auditors, given the recently reported wrongdoing of leading public corporations and financial services firms. A secondary aim was to provide an indication of which primary dimensions of trustworthiness (ability, benevolence, integrity) are most important to hospital chief executives in organizational decision making. The final aim was to provide an indication of whether hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making.

Research Questions

Research Question 1

Have hospital chief executives made changes in their financial operations as a result of the reported wrongdoings of public corporations and financial services firms?

Research Question 1 (a)

Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores?

Research Question 2

Given the willingness to trust, what primary dimensions of trustworthiness are most important to hospital chief executives in organizational decision making?

Research Question 3

Do hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making?

Contribution to the Body of Knowledge

Trust is a vital and necessary element in the lives of human beings. It is a social lubricant (Hart, 1988; Lewis & Weigert, 1985a), a means of reducing complexity in life (Luhmann, 1988), and as a social good, has the capacity to be both developed and extinguished between parties (Braun & Foddy, 1988; Kao, 1998). These issues are timely in our world generally and are significant for health care leaders in particular. By identifying trust issues that are of primary importance to hospital executives, researchers will have a deeper understanding of decision making in these organizations. Questions that could be considered based on the study data include 1) Have healthcare executives acted differently as a result of the reported scandals? 2) Do healthcare executives trust

differently based on high or low trust levels? 3) Are there differences in trusting behaviors based on age, gender, years of experience, or organization size? 4) What other observations may be made from the data? The results of this study provide insight into the use of an alternative instrument for organizations to consider the elements of trustworthiness in their industry compared to the invasive processes used by others. Responses on interpersonal versus system trust may provide researchers with inspiration to consider further investigation in these areas, particularly in pursuing inquiry into issues of system trust and how it affects organizational decision making. The answers to these research questions will contribute to the bodies of knowledge in the areas of trust, leadership, and organization science.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

This study examined issues of trust, trustworthiness, and executive decision making in hospital chief executives in North Carolina. The primary research question in this study concerned hospital executive decision behavior manifested by trusting and distrusting actions. Trust is necessarily situational. So the construct can be measured appropriately, the setting for the study's questions is in organizational decision making and related to either specific circumstances where decisions are made or to general decision making style. We must, however, first discuss the background and nature of trust and why it should be studied now before we can begin to see its role in decision making and its influence on hospital chief executives.

Most of the seminal work done on trust dates back to the 1970s (Cook & Wall, 1980), with a number of important studies emanating from the mid- to late 1990s. Trust is so pervasive in its influence in both daily personal life and in business relationships that it is not surprising that its prominence as a research topic is increasing (Dirks & Ferrin, 2002). Organization chief executives are rare as the primary research target (Gambetta, 1988a); most studies have been of managers generally, employees, or of students acting in supervisor-subordinate or judge-advisor (truster-trustee) roles (Cook & Wall, 1980). This hypothetical and fictitious relationship creates problems in accurately measuring the

construct (Mayer & Davis, 1999). Several recent doctoral dissertations on trust have been published in the past several years, providing new and expanded knowledge of this important field (Blevins, 2001, Kao, 1998; Stark, 2002; Williams, 2002). Among these issues that have considered the study of trust in organizations and with organization executives, this study aims to further the research in the areas of trust, trustworthiness, and organizational decision making.

Trust

Definitions

Many authors have lamented the "confusing potpourri" (Shapiro, 1987a, p. 652) of definitions, and have identified "a conceptual confusion" (Lewis & Weigert, 1985a, p. 975) surrounding trust (Hardin, 2001; Hosmer, 1995). Nevertheless, fairly consistent elements of the definition of trust can be identified. Trust is multidimensional in nature (Achterhof, 1998; Williams, 2002); it can be interpersonal, (Rotter, 1967), a behavior (Zand, 1972), a belief (Barber, 1983; Cummings & Bromiley, 1996; Rotter, 1967), an attitude (Kegan & Rubenstein, 1973), a confidence (Cohen, 1996), an enabler of risk (McAllister, 1995; Porter, Lawler & Hackman, 1975), organizational (Butler & Cantrell, 1984a; Cummings & Bromiley), situational (Johnson-George & Swap, 1982), dispositional, or system-based (McKnight & Chervany, 1996), and it is often related to accountability and ambiguity (Barber, 1983; Boyle & Bonacich, 1970; Boynton et al., 1993; Bridges & Shoeninger, 1977; Chun & Campbell, 1974; Deutsch, 1958; Duck & Pearlman 1985; Owen & Lambert, 1998; Schwenk, 1995). McKnight and Chervany (1996) reported that trust has most often been conceptualized as an expectancy or belief, and has been studied extensively in social sciences disciplines, in particular by

Golembiewski and McConkie (1975) and Kramer and Tyler (1996). Despite such extensive study, little consensus has developed on the meaning of trust in common usage (Couch & Jones, 1997; Kee & Knox, 1970; Taylor, 1989; Yamagishi & Yamagishi, 1986a). Granovetter (1985) discussed and described trust without defining it. As a result of such definitional vagueness, diverse scientific usage has developed to examine types of trust in the interdisciplinary research literature. This form of characterization is driven largely by empirical studies using trust in "specific, narrow ways" (McKnight & Chervany, 1996, p. 3).

Trust, as a noun, is defined by Webster's (1981) as: A) assured reliance on the character, ability, strength, or truth of someone or something; B) one in whom confidence is placed; or C) dependence on something future or contingent: hope. As a verb, the same source lists similar concepts defining trust as: to place confidence, to be confident, to rely on the truthfulness or accuracy of, and to hope or expect confidently. Many researchers have examined dictionary-based, common-use definitions of trust in efforts to refine their studies (Barber, 1983; Dobing, 1993; Fox, 1974; Giffen, 1967; Good, 1988; Lindskold, 1978). Others have delved more deeply into the subject of definitions and focused on the construct of trust.

Cook and Wall (1980) and Kee and Knox (1970) each identified, as a hindrance to research, the lack of differentiation among factors that contribute to trust, trust itself as a construct, and outcomes of trust. Mayer et al. (1995) reported that the need for trust arises only in a risky situation. They suggested that trusting behavior occurs when a person actually and willingly takes a risk, and Luhmann (1988) indicates "when one takes an action in preference to others in spite of the possibility of being disappointed by the

action of others, the situation is defined as one of trust" (p. 102). This concept parallels the definition by Gambetta (1988), Giffin (1967), and Becker (1996). In addition, trust is domain-specific (Zand, 1972). In other words, the action of trust depends upon what is at stake. Paraphrasing Mayer et al. (1995), one cannot ask, "Do I trust them, but do I trust them to do what?" McKnight et al. (1998) (along with Cook & Wall and Kee & Knox) also lament the definitional dilemma, choosing for their research to distill the extant literature on trust to further refine its meaning in order to examine the construct. Attempting to outline a framework for the study of the myriad conceptualizations of trust, Bigley and Pearce (1998) state more clearly: "Which trust and when?"(p. 406). Beginning, therefore, with a specific starting point, Mayer et al. (1995) summarized a definition of trust as the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party.

Trust as a Construct

McKnight et al. (1998) identified three main deficiencies in the current knowledge about trust. The trust literature is in a state of "construct confusion" (p. 473) due to the wide variety of definitions. Researchers have attempted to examine trust across and within constructs so that no single definition is universally applicable. McKnight et al. (1998) also state that too little is known about how trust forms, and on what elements trust is based. More recent studies have attempted to examine some of the bases of trust within specific constructs (Becker, 1996; Dirks & Ferrin, 2002; Mayer et al., 1995; Williams, 2002), and while considering the dimensions that comprise trust, it has not yet determined how much deficit in one or more dimensions must exist before trust is lost.

Studies on trust have considered the many dimensions of trust generally and in specific situations, yielding the common belief that trust is always situational (Becker, 1996; Chun & Campbell, 1974; Deutsch, 1958) and highly personal to the perceptions and predispositions of the truster (Becker; Chun & Campbell; Deluga, 1994; Deutsch, 1958, 1960; Duck & Pearlman 1985; Mayer et al., 1995). Some researchers have seen fit to examine trust considering its multiple dimensions and how they interrelate (Cash, Stack & Luna, 1975; Cummings & Bromiley, 1996; Dobing, 1993; Lewis & Weigert, 1985a,b; Luhmann, 1991; Zucker, 1986). McKnight et al. (1998) state, "studying a single narrow type of trust does not adequately capture the breadth of meaning assigned to the word trust in everyday usage. To be effective, scientists should start with, or be grounded in, common terms (such as "trust")"(p. 474). Kelley (1992) states that scientists should strive "to extract from [common-sense psychology sic] the essence of everyday terms that lend themselves to [scientific psychology sic] uses" (p. 11). To this end, a review of trust dynamics as a concept will prove helpful. That trust is always situational--that it is at times cognitive and at others affective--frames much of the literature and research on trust.

Affective state. Affective trust is trust that is based on attitudes, affects, emotions, or motivational structures that allow an individual to form a perspective (Becker, 1996; Luhmann, 1991; McKnight & Chervany, 1996). Distinct mental processes lead to decisions to trust affectively (Lewis & Weigert, 1985; McAllister, 1995). Affective bases consist of emotional bonds between individuals (Lewis & Weigert, 1985), in expectation of (Rotter, 1967) and by virtue of reciprocal sentiments (Rempel, Holmes & Zanna, 1985). Johnson-George and Swap (1982) identified, labeled, and reliably measured

dimensions of trust they termed "reliableness" and "emotional trust." Rempel et al. (1985) indicated that dependability and faith (defined as emotional security) were unique forms of trust. McAllister (1995) theorized the antecedents of affect-based trust to include motives of relationships between partners as personally chosen, serving legitimate needs, and of demonstrating interpersonal care and concern. Becker (1996) went further in his discourse on trust as noncognitive security about motives. He indicated that people trust in noncognitive (affective) ways independently of beliefs or expectations (cognition) of the trustworthiness of others. Examples cited include the attachments that abused persons can develop for their tormentors, the fervent serenity held by deeply religious people, and, related to governmental security, some aspects of system trust. Other examples include the emotional attachments people make toward others (e.g., friends) whereby one can remain trustful of someone who has proven to be untrustworthy. Becker (1996) cites the 1992 bombing of the World Trade Center in New York. He indicated that while many people were initially disturbed and outraged, they developed a deeper trust in government, as 'outsiders' were determined to have been the cause. People came to rely on the strength and security of the government to protect its people and seek justice. Despite the fact that some people exhibit affective trust as a means to deal with life, people base their decisions and decision criteria on a balance of cognitive and affective mechanisms, not on one or the other.

Cognitive state. Cognitive trust is fundamentally based on beliefs or expectations that one person has for another (Becker, 1996; Hwang & Burgers, 1997; McKnight et al., 1998). It is based on social expectancy theory, discussed prominently by Rotter (1967), and remains one of the principal perspectives from which to approach the study of trust

(Mayer et al., 1995). That researchers should focus on some cognitive aspect of a conceptualization is proper (Becker, 1996). Becker indicated that many accounts of cognitive trust conceptualize it as strategic choice about individual actions or dispositions to behave. He states that people make these choices by developing beliefs or expectations about the trustworthiness of others, which include concepts like credulity, reliance, and security. Cummings and Bromiley (1996) conceptualize trust as a matrix of dimensions of belief (keeps commitments, negotiates honestly, and avoids taking excessive advantage) and types of beliefs. Dobing (1993) considered willingness to depend (intention), trusting beliefs, and situation-specific behaviors. Mayer et al. viewed trust as a willingness to be vulnerable to another, but given a willingness to trust (willingness to trust has been seen as a circumstance separate from trust itself: the truster has decided to make the situational decision to trust which is distinct from the construct of trust itself (Mayer et al. 1995)). McAllister (1994) differentiated affective and cognitive states of interpersonal trust, finding trust at times in one, another, or both states. Mishra (1996) used competency, openness, reliability, and concern as the basis for his conceptualization. McKnight and Chervany (1996) used these and other conceptualizations to arrive at their summary of trust constructs, but identified clearly concerns between examining trust behaviors and beliefs.

Trusting behavior vs. trusting beliefs. Trusting behavior is often excluded from conceptual discussion because of the difficulty in distinguishing it from other concepts (McKnight et al., 1998; Mishra, 1996). In game theory research, trusting behavior may actually be a completely different mental construct from what may be intended by common usage of the term trusting behavior. It may in fact be measuring cooperation,

information sharing, or openness (Mishra, 1996). Deutsch (1958), Mayer et al. (1995), and Giffen (1967) conceptualized trust, in part, as reliance or dependence on another. Deutsch (1958) went further to state "risk taking and trusting behavior are...really different sides of the same coin" (p. 266). McKnight et al. argue that Deutsch's definition of two sides of the same coin is weak in that it relies on some behaviors to demonstrate trust, acknowledging that it would be difficult for scholars to agree on all the behaviors that lead to trust. Their preference is to distinguish behaviors from cognitive/emotional (affective) trust by treating them as behavioral manifestations of trust. Moreover, the examination of trust within a structured, laboratory setting, such as in some game theory experiments, may artificially create a situation where the construct cannot be measured as intended by the researcher (Mayer & Schoorman, 1992).

Trusting beliefs are based on cognition, i.e., beliefs and expectations about another (Cummings & Bromiley, 1996; Gabarro, 1978; Rotter, 1967), and on the truster's emotional security surrounding those beliefs (McKnight et al., 1998). Common usage suggests an example of when one person believes that another is trustworthy in a situation (a person-specific construct). Mayer and Davis (1999) warn, however, that researchers should not be overly constrained to assume that the referent is a human being. They indicated that there are times when a proper impersonal referent would be applicable to examining a construct of trust. Trustworthiness, discussed elsewhere in this review, helps form the core cognitive concept between a truster's intention to trust and their manifestations of trusting behaviors, which are often interpreted as trusting beliefs (McKnight et al., 1998).

Types of Trust

Several types of trust are discussed commonly in the literature and contain elements of the cognitive, affective, and behavioral manifestations of trust. McKnight and Chervany (1996) conceptualized trust by construct types, using three major categories of Impersonal/Structural, Dispositional, and Personal/Interpersonal. They described the three types as follows. Impersonal/Structural refers to trust that is based on social or institutional structures in the situation. This trust is not personal, and not based on the personal attributes of the referent party (see also Lewis & Weigert, 1985b). They indicated also that Impersonal/Structural refers to the institutional properties of the natural (Garfinkel, 1967) or social/organizational (Shapiro, 1987a) situation. Dispositional trust is based on the personality attributes of the truster, whether he or she has a general tendency to trust others across situations (Rotter, 1967, 1971), or has general faith in human nature (Rosenberg, 1957; Wrightsman, 1991). Personal means that one person trusts another specific person, persons, or things(s) in a specific situation. Interpersonal means that two or more people, or groups of people trust each other. The following is a summary of several types of trust that are pertinent to this research study.

Dispositional trust. Dispositional trust is a consistent tendency to trust across a broad spectrum of situations and persons (see Rotter, 1967, 1971 for a complete discussion). Erikson (1963) described dispositional trust as "a sense of basic trust, which is a pervasive attitude toward oneself and the world...an essential trustfulness of others as well as a fundamental sense of one's own trustworthiness" (p. 96). It is believed to influence the interpretation of the behavior of others (Becker, 1996; Kaplan, 1973; Rotter, 1971; Zand, 1972). Dispositional means cross-situational, and the literature

generally uses people as the referent object in dispostional trust (Jeffries, 2002; McKnight and Chervany, 1996; McKnight et al., 1998). Dispositional trust is thought to be less important than situation-based trust, trust that is based upon a specific circumstance (Dobing, 1993). Dispositional trust might be viewed as an individual's beliefs about the safety of picking up hitchikers generally, whereas situation-based trust might be viewed as an individual's beliefs about picking up a specific hitchiker based upon the appearance of the hitchiker, e.g., one who has a dirty, unkempt appearance versus one in business attire and briefcase stranded next to an overheating automobile. McKnight et al. (1998) cite Johnson-George and Swap (1982) who indicated that dispositional trust predicts behavior only when parties are new to each other in "highly ambiguous, novel, or unstructured situations, where one's generalized expectancy is all one can rely on" (p.1307). This view is also supported by Wrightsman (1991) and partially by Mullins and Cummings (1994). Lack of awareness of the trustee, however, is for Jeffries (2002) and Rotter (1967), the only time when dispositional trust is paramount; in other words, direct evidence of another's trustworthiness renders dispositional trust moot. Becker (1996) also suggested that dispositional trust is eliminated when we have "perfect cognitive control over our dispositions...[so that we become nothing more than *sic*] untethered rational actors" (p. 58). To the extent that situational circumstances affect a trusting response, dispositional trust becomes less important.

Interpersonal trust. Interpersonal trust is an expectancy held by an individual or group that the word, promise, verbal, or written statement of another individual or group can be relied upon (Garske, 1976; Rotter, 1967). It is conceptualized as one's generalized expectancy to rely on another specific person or specific group of persons. This specific

referent is the primary differentiating factory between dispositional trust and interpersonal trust. This expectancy is related to a feeling of relative security even though negative consquences are possible (Mayer et al., 1995; McKnight et al., 1998). Also, since it is rooted in personal beliefs and attitudes, it varies with the individual, and high and low trusters have been studied extensively, with patterns of behavior between these two groups found (Gurtman, 1992; Lewicki et al., 1998; Parks & Hulbert, 1995; Parks, Henager & Scamahorn, 1996; Rotter, 1967, 1971; Schlenker, Helm & Tedeschi, 1973; Wright & Tedeschi, 1975; Yamagishi, 1986a).

Interpersonal trust has been called a lubricant (Barber, 1983), an important social resource (Williams, 2002) that can faciliate cooperation, enable social interactions (Blau, 1964; Coleman, 1990; Zucker, 1986), make cooperative endeavors happen (Arrow, 1974; Deutsch, 1973; Gambetta, 1988a), is a central component in work relationships (Gambetta), and a key to positive interpersonal relationships in many settings (Fox, 1974; Hollon & Gemmill, 1977; Lewis & Weigert, 1985a). McAllister (1995) empirically discovered that interpersonal trust includes aspects of affect- and cognition-based trust. It is also a situation-specific concept (Zand, 1972: domain-specific), not a generalized response; it implies intention (willingness to trust) and recognizes the potential for consequences (McKnight et al., 1998) that one is powerless to control (Luhmann, 1991).

It is this potential for negative outcomes that others have identified as problematic in studying trust (Bonoma, 1976; Gambetta, 1988; Good, 1988; Luhmann, 1991; Mishra, 1996; Zand, 1972). Negative consequences can be conceptualized as risk (Coleman, 1990; Giffin, 1967; Johnson-George & Swap, 1982; Luhmann, 1991; Mayer et al., 1995; Riker, 1971; Scanzoni, 1979; Shapiro, 1987b; Swinth, 1967). Trust, therefore, becomes a

willingness to depend (Mayer et al.; McKnight et al., 1998) when one puts someone else in a situational position of power over them (McKnight et al., 1998). McKnight et al. (1998) argue also that this willingness to trust constitutes both a cognitive and affective series of processes, that a person feels secure (affective) with respect to his or her willingness (cognitive) to depend. Trust, however, is not only willingness to depend.

Riker (1967) distinguished willingness to depend and control of another. When one has control over another, one does not simply trust them since they can exert authority and/or power to effect an end, relying on coercion. Trust, therefore, might not exist when control does, yet cooperative behavior ensues (Van de Ven, 1989).

Garske (1976) found that generalized expectancies for trust (high dispositional or high interpersonal trust) were related to less intelligence and more concrete thinking. Earlier, he found that trust was associated with less personal construct complexity and that high trusters appeared group-dependent; high trusters were more comfortable with the togetherness of groups rather than as independent persons. He suggested that trust might be related to gullibility, though Rotter (1971) and Gurtman (1992) found otherwise.

System trust. System trust is the belief that proper impersonal structures are in place to enable one to anticipate a successful future endeavor (Lewis & Weigert, 1985a; Luhmann, 1991; McKnight et al., 1998; McKnight & Chervany, 1996; Shapiro, 1987b). Such impersonal structures can include safeguards such as regulations, guarantees, contracts, roles held by people, the effectiveness of social structures, such as professional and other organizations and governments, and generalized beliefs that all is well. These beliefs have been characterized as broad security in social structures that reduce

uncertainty based on the effectiveness of these structures for providing foundations for trusters (Luhmann; Lewis & Weigert, 1985a; Shapiro, 1987b). Zucker (1986) indicated that for many, personal trust became replaced by system trust when the massive immigration of people into the U.S. created greater heterogeneity. He argues that system trust became a necessary concomitant for peoples' well-being; it became necessary to trust in banks, courts, regulations, and professional associations to fill in for the absence of personal trust. System trust, however, remains related to a specific situation and context (McKnight et al., 1998).

System trust uses proper impersonal structures in the place of interpersonal (person to person) relationships (Lewis & Weigert, 1985a; Luhmann, 1991; Shapiro, 1987b). Personal characteristics are not considered (McKnight et al., 1998), though it includes a willingness to depend (rely or trust) the other (the other being an impersonal referent such as "the government," "a CPA," "an attorney," or "a company"). Impersonal structures include beliefs about normalness (Garfinkel, 1963), "customary" (Baier, 1986, p.245), or that "everything is in the proper order" (Lewis & Weigert, 1985a, p. 974). Baier (1986) argued that an expectation that a person will perform his or her normal, role-related duties is an example of system trust; "a presumption of a sort of trustworthiness" (p. 245-246) that the person will do what their standard job is. McKnight et al. (1998) stated that such social expectations create a shared understanding among members of a social system (organization, network, class of professional) that facilitates trusting beliefs. Although McKnight et al. (1998), referencing Baier (1986), suggested that system trust may operate through contracts, others have suggested that fear of sanctions

(due to contractual obligations) is not trust, but another construct entirely (Mayer & Davis, 1999).

Propensity to trust. Propensity to trust is a general willingness to trust others (Lewis & Weigert, 1985a; Mayer et al., 1995; Rotter, 1967, 1971). It influences how much trust one has for a trustee prior to data indicating trustworthiness. It differs from, though is related to, dispositional trust. Dispositional trust is a consistent tendency to trust across a broad spectrum of situations and persons (Rotter, 1967), whereas propensity to trust is situational (Rotter, 1967). Propensity to trust, as a measure of willingness, can be applied across different trust constructs (McKnight & Chervany, 1996; McKnight et al., 1998), including interpersonal trust and system trust. As such, generalized measures of trust such as the Rotter Interpersonal Trust Scale and the Yamagishi Trust Scale measure propensity to trust because they have specific referents, unlike scales that measure dispositional trust that assume nonspecific, "world-view" referents.

Situational decision to trust. Situational decision to trust is the extent to which one intends to depend on a non-specific other party *in a given situation* (McKnight & Chervany, 1996). It is related more to human decision processes than actually to trust (Becker, 1996). The decision to trust has been called a human "abstraction" (Becker, pp. 48-50); it is made based on cognitive processes where people "compute the risks of depending on you in situations of interest to me...." (p. 49). In clarifying that trust is always situation-specific, Mayer et al. (1995) suggested that the line of questioning is not 'Do I trust them, but do I trust them to do what?' Mayer and Davis (1999) conducted a field quasi-experiment to see if trustworthiness (conceptualized as the interplay between ability, benevolence, and integrity) mediated the relationship between a performance

appraisal system and trust. This prospective/retrospective experiment evaluated employees' decisions to trust management prior to and after the implementation of a new performance appraisal system. They found that trustworthiness, discussed in detail in later sections of this paper, significantly mediates the relationship. They suggested further that the relative importance of each of these three dimensional factors may vary by situation, citing that in an instance of a highly technical task, ability may be of prime importance; however, in the case of a politically-sensitive issue, integrity may be seen as most important. These findings differ somewhat from Butler and Cantrell (1984a) and Schindler and Thomas (1993) in similar research of the importance of dimensions of trustworthiness between supervisors and subordinates. Butler and Cantrell found, in order of importance, that integrity, competence, and consistency were more important than loyalty and openness for each organizational dyad group. Schindler and Thomas found that some individuals placed greater emphasis on some dimensions than others, and their rankings were nearly identical to Butler and Cantrell: integrity, competence, loyalty, consistency, and openness. They suggested reasons why a difference of the relative importance among the dimensions of trustworthiness might occur, but agree conceptually that the construct approach appears sound.

Trust Involving Organizations and Business Relationships

Organizational trust. Creed and Miles (1996) found that organization theory itself offered little on the discussion of trust. Organizational trust deals specifically with the degree of trust between units of an organization or between organizations (Cummings & Bromiley, 1996). It is a separate construct, though associated with variables like organizational commitment and can be embodied in confidence and support of one's

employer (Gilbert & Li-Ping Tang, 1998). Cummings and Bromiley conceptualized organizational trust as a matrix of dimensions of belief (keeps commitments, negotiates honestly, and avoids taking excessive advantage) and types of beliefs (affective state, cognitive state, and intended behavior). They stated that trust reduces transaction costs because workers have less real and mental documentation to process and can expend the time on productive effort. Blakeney (1986), Fairholm (1994), and Tyler and Kramer (1996) echo this sentiment. Blakeney indicated that trust in organizations is reflected by openness and accuracy (see also Butler, 1991, 1999). This organizational openness means that members are free to trust more frequently in organizational communications and that this freedom from worry means that employees can spend time more productively rather than in duplicative documentation and self-preserving political activities. In turn, trust reduces the amount of time spent in communications (internal business transactions). Blakeney's application of a transactional approach fits naturally with rational decision making (see also Becker, 1996), and builds upon filtering and framing concepts for communication (Baldwin & Meunier, 1999; Fontana, 1985; Schoorman, Mayer, Douglas, & Hetrick, 1994; Smith & Levin, 1996; Sniezek & Van Swol, 2001). In this case, filters function as the cognitive processes by which the truster assesses the situation and selects those elements that most closely correspond to what they believe. Framing organizational trust issues suggests that organizations can present a perspective that manipulates salience in order to influence the trustee's judgment. Butler (1999) believed that the effects of trust on managerial outcomes is unclear, citing Mayer et al. (1995) who indicated that one could indeed have cooperation without actual trust. Butler found in his experiment that the existence of trust between negotiating parties, and perhaps as a

framework for relationships within organizations, was necessary for information sharing and the development of a trusting environment. Trust must be established first to facilitate information exchange (Brockner, Siegel, Daly, Tyler & Martin, 1997; Brockner & Wiesenfeld, 1996; Clark & Payne, 1997). Cameron and Smart (1998) and Harvey (1989) found that trust is also a predictor of organizational effectiveness.

Costa (2002) found that trust was related to team performance in and across organizations. Using definitions similar to those used by Mayer et al. (1995) and Zand (1972), which are related, Costa focused on measuring behaviors, propensity to trust, trustworthiness, and team performance. Her study was similar in theory to Mayer et al., but with the addition of monitoring behaviors. She found dimensions of trustworthiness similar to Mayer et al., but importantly found that propensity to trust explained only a small amount of the total variance of trust within teams (10%). Similarly, others have found that trust building between teams and organization members is related to an array of values, attitudes, moods, and emotions (Bies & Tripp, 1996; Jones & George, 1998; Kasper-Fuehrer & Ashkanasy, 2001; Mayer & Schoorman, 1992; Mitchell, 1986; Williams, 2002).

Cummings and Bromiley (1996) have focused on observing and measuring trustworthy behavior in organizational interactions. In examining organizational trust, they defined it as follows:

> ... an individual's belief or a common belief among a group of individuals that another individual or group (a) makes good-faith efforts to behave in accordance with any commitments both explicit or implicit, (b) is honest in whatever

> negotiations preceded such commitments, and (c) does not take excessive advantage of another even when the opportunity is available (p. 303).

Their conceptualization of organizational trust rests on organizations that function using good faith, honest interactions among players with limited opportunism. They developed their Organizational Trust Inventory (OTI) explicitly seeking to evaluate the matrix relationship between the cognitive/affect/intended behavior against their dimensions of trustworthiness: keeps commitments, negotiates honestly, and avoids taking excessive advantage. The scale is valid and reliable and has been used in other studies (most notably Blevins, 2001) to examine issues of trust between organization units.

Supervisor-subordinate trust and leader-member exchange. Supervisor-subordinate trust in the workplace is complex, and many factors contribute to its establishment (Deluga, 1998, 1994; Gaines, 1980; Gilbert & Li-Ping Tang, 1998; Posner & Kouzes, 1988). Organizations value trust in employees because higher levels of trust yield higher levels of performance, commitment, and morale (Coopey, 1998; Cummings & Bromiley, 1996; Deluga & Perry, 1994; Hart, 1988); improve communications, predictability, dependability, and confidence; reduce friction and turnover (Mishra & Morrissey, 1990); lower transaction costs (Cummings & Bromiley, 1996; Ring & Van de Ven, 1994; Whitener et al., 1998); are instrumental in overcoming resistance to change (Mishra & Spreitzer, 1998); are linked to supportive supervisory behavior (Atwater, 1988; Gabarro, 1979); and are empirically linked to profits (Mayer & Davis, 1999). The presence of trust can also enable employees to reach their full potential (Jeanquart-Barone, 1993). Although organizations cherish high levels of trust, the disparity in trust

between supervisors and subordinates is progressively increasing (Jeanquart-Barone, 1993), and these trust disparities are often based on different premises (Gaines, 1980).

Trust is a component of the overall relationship between supervisor and subordinate (Boss, 1978; Jeanquart-Barone, 1993; Gaines, 1980; Mayer & Davis, 1999) and is significantly correlated with behavioral practices of organization leaders (Posner & Kouzes, 1988). In order to examine the establishment and levels of trust, it is imperative to examine the relationship that exists between supervisor and subordinate. It is clear that trust develops as relationships develop (Kee & Knox, 1970; Lewis & Weigert, 1985a,b; Luhmann, 1988). Leader-member exchange theory (LMX) proposes that supervisors develop varying social exchange relationships with subordinates (Deluga, 1994, 1998; Deluga & Perry, 1994; Gómez & Rosen, 2001). The exchanges range in quality with higher quality exchanges being characterized by trust, support, interpersonal attraction, loyalty, and mutual influence (Blau, 1964). Such exchanges benefit both the supervisor and the subordinate (Deluga, 1994; Dansereau, Graen & Haga, 1975; Dienesch & Liden, 1986; Graen & Scandura, 1987). The subordinate receives distinctive benefits, such as favorable performance appraisals, promotions, career development support, and interesting and satisfying assignments; the supervisor benefits from having a committed, competent, and diligent employee. Subordinates involved in such social exchanges are categorized as the in-group (Deluga, 1998; Sekhar & Anjaiah, 1995; Smith & Holmes, 1996). Employees engaged in low quality exchanges are classified as the out-group (Deluga, 1998; Deluga & Perry, 1994; Varma, Stroh & Schmitt, 2001), and such exchanges display much less reciprocal influence and support (Gómez & Rosen, 2001), and, therefore, lower levels of trust.

Factors beyond competence influence a supervisor's selection of the in-group and the out-group (Deluga, 1998; Deluga & Perry, 1994; Varma, et al., 2001). Biases based on gender, race, personality type, and numerous other features play strong roles in the social exchanges a supervisor chooses. The Similarity-Attraction Paradigm reported by Varma et al. suggests that individuals who share common characteristics have positive responses to one another and form positive relationships. This concept states that race and gender provide stimuli for stereotypical attribution or beliefs in reference to particular individuals. Gender and race attributions together have been reported as the most powerful characteristics in personal perception (Jeanquart-Barone, 1993), but they have not yet been linked empirically to trust (Bigley & Pearce, 1998). Lastly, recent business trends, particularly the 360-degree performance appraisal, have compelled supervisors to develop positive relationships to garner trust with subordinates (Kipnis, 1996; Wells & Kipnis, 2001).

Trust within the Healthcare Industry

Trust issues studied in the healthcare industry appear to be primarily in the categories of patient trust in physicians (Pearson & Raeke, 2000; Thom et al., 1999; Thom & Campbell, 1997; Thorne & Robinson, 1988), patient trust in payers (Buchanan, 2000; Goold, 1998; Mechanic, 1996,1998) and physician trust in payers (Glazer & Gray, 1996; Gray, 1997; Rhodes & Strain, 2000). Studies within the industry have focused on issues of trust erosion (Draper, 2001; Rhodes & Strain), interpersonal trust (Caterinicchio, 1979; Doescher, Saver, Franks & Fiscella, 2000), the nature of compassionate care (Fogarty, Curbow, Wingard, McDonnell & Somerfield, 1999), and healthcare financing and delivery dynamics affecting the doctor-patient relationship

(Kao, Green, Davis, Koplan & Cleary, 1998; Kao, Green, Zaslavasky, Koplan & Cleary, 1998; Mechanic, 1998).

Trust in organizations. Hall, Dugan, Zheng and Mishra (2001) examined trust in physicians and medical institutions. They recognized the "central role of trust "(p.613) noted by others (Barber, 1983; Cassel, 1986; Mechanic, 1996; Pellegrino, 1991; Parsons, 1951; Peabody, 1927). Pearson and Raeke (2000) indicated that trust has only recently been measured or analyzed systematically. The pressures of managed care (Buchanan, 2000; Goold, 1998; Gray, 1997; Hall et al., 2001; Kao et al., 1998; Mechanic, 1996,1998) and changing patient perceptions (Rogers, 1994) are among the causes that have increased attention to issues of trust in the healthcare industry. Patients and physicians are thinking increasingly about trust-related issues in the interrelationships they have in personal, professional, and business activities (Hall et al., 2001; Kao et al., 1998). Gray asked the question "can managed care organizations take on the mantle of trust that has traditionally belonged to physicians?"(p. 34). This interest acknowledges the quasi-business relationship that exists at the present time between patients, physicians, and insurance companies. The interrelationship between these three parties is likely to remain changed forever as the financing of health care services has moved firmly from the responsibility of the patient to that of the patient/employer/insurer in combination (Evans, 2000; Evans, Wilson & DePorter, 1997). Mechanic (1986) admonished managed care organizations (plans) to develop models of payment that fostered patient-physician trust. Goold noted that the plans themselves have a trust relationship with the patients due to their role in the financing of care. Others have also noted this relationship in both

organization-specific referents (Buchanan, 2000) as well as in relationships that include system trust (Gray, 1997; Hall et al., 2001; Mechanic, 1996; Rhodes & Strain, 2000).

Trust in organizations is part of a complex construct of cognitive beliefs and expectations, affective feelings, and attitudes in a matrix of dispositional, interpersonal, and system dimensions (McKnight & Chervany, 1996), though some focus primarily on the affective side (Hall et al, 2001), adopting the position that trust is, foremost, an attitude (some have interpreted attitude as an affect within a tripartite classification: attitude manifests itself through affective feelings about attributes of a referent, through cognitive beliefs toward a category in which the referent falls, and through a behavioral component related to affective feelings about the referent, such as in the referent's group membership (Breckler, 1984)). Hall et al., Mechanic (1996), and others (Buchanan, 2000; Gray, 1997; Novak, 1987; Rhodes & Strain, 2000) all attest to the socialization norms that suggest elements of system trust where patients trust the medical institution or the profession of physicians as well as interpersonally. The interest in these areas of trust in institutions and organizations seems to be generating more interest from trust scholars, but there yet remains a great need for further thought and research (Hall et al., 2001).

Interpersonal trust in health services. One area of the trust relationship that is particularly important in the healthcare industry is the relationship between trust and vulnerability. Hall et al. (2001) observed that healthcare trust arises, in part, from patients' need for physicians, with the level of need influencing the level of trust potential. Indeed, they emphasize that researchers "overlook the fact that trust originates from the fundamental psychological attributes of seeking care in a state of anxiety, rather than from variable physician characteristics or patient personalities" (p. 632). Sherlock

(1986) said patients often want to trust in caregivers "desperately" (p. 3), that they have a corresponding need to be healed (see also Mechanic & Meyer, 2000). He makes allusion to elements of interpersonal trust generally, but also to system trust. This area of vulnerability is central to the construct of trust; without vulnerability there is no need for trust (Barber, 1983; Hosmer, 1995; Rotter, 1967; Williams, 2001; Zand, 1972). As such, patients view trust significantly from an interpersonal construct (Caterinnicchio, 1979; Doescher et al., 2000; Fogarty et al., 1999; Mechanic & Meyer, 2000; Sherlock).

Hall et al. (2001) defined trust as an attitude, although recognizing explicitly that it differs from engaging in trusting behavior (see also Mayer et al., 1995; Uslaner, 2002). Hall et al. cite Hardin (1996) reinforcing that distinguishing the objective manifestation (behavior) from the subjective attitude is necessary for conceptual clarity and for empirical precision. From such an attitudinal perspective, Hall et al. conceptualize trust in physicians by concurrently considering trustworthiness in the dimensions of fidelity, competence, honesty, confidentiality, and global trust. Considering the synthesizing work of Mayer et al. and McKnight and Chervany (1996) (see these authors for a complete discussion on the synthesizing of elements of trust), one can see the overlap in dimensions. Fidelity and honesty are embodied in benevolence, confidentiality in integrity, competence is synonymous with ability, and global trust comprises all other "holistic" elements, what Hall et al. refer to as "the soul of trust" (Hall et al., 2001, p. 623).

Scales used to measure trust in the healthcare industry include trust in physicians (Kao, Green & Davis et al., 1998; Safran et al., 1998), trust in health insurers (Zheng, Hall, Dugan, Kidd & Levine, 2002), and trust in hospitals/the medical system (LaVeist,

Nickerson & Bowie, 2000). Other studies have examined whether levels of generalized trust in the healthcare industry are declining, remaining constant, or improving. Hall et al. (2001) reported that the general consensus of the studies of trust in healthcare report that trust between patients and physicians remains strong despite the myriad changes that have occurred in delivery and financing. They argue further that this is evidence that "the foundations of trust in physicians are more rooted in fundamental aspects of the treatment relationship than in shifting social and institutional frameworks"(pp. 626-627). Thom et al. (1999) evaluated attempts to increase patients' trust in their physicians through workshop interventions with inconclusive results. Others have discussed similarly the impact of trust in reciprocal caregiving relationships in both non-physician (Lynn-McHale & Deatrick, 2000) and physician providers (Thorne & Robinson, 1988; Wilson, Morse & Penrod, 1998).

In one of the more focused studies in healthcare, Schindler and Thomas (1993) studied the importance of the dimensions of trustworthiness, discussed briefly above, using supervisors and managerial level employees of a geriatric healthcare provider firm. Making the most interesting of industry specific observations, they noted that the caring nature of the industry might affect the situational variable under which trust might be considered. They suggested that this highly specialized group of workers might espouse attitudes and values generally that differ from workers in other industries.

Trustworthiness

Trustworthiness has been conceptualized as the degree to which the truster considers the trustee's perceived ability, benevolence, and integrity and of the truster's propensity to trust (Mayer et al., 1995). Trustworthiness is therefore, not trust, but the

truster's perception of the trustee. Trustworthiness is a measure of the perceived trust-related characteristics of the referent trustee (Luhmann, 1988). An individual makes an evaluation (trusts) based upon his willingness to be vulnerable either generally (e.g., dispositional trust) or situationally (e.g., interpersonal trust, system trust). The evaluation itself is the act of trusting; the subject of the evaluation is the perceived trustworthiness of a trustee, and the outcome of the truster's evaluation is a degree of trustworthiness of the trustee. The nuances of this definition seem to further the definitional dilemma on the study of trust, generally. As indicated earlier in this chapter, little consensus has developed on the meaning of trust and far less appears in the extant literature on trustworthiness. This appears to be the primary reason why the subject of trust is studied in narrow, specific ways, while trustworthiness, as a characteristic of the trustee, has been studied somewhat more broadly. For these reasons, some aspects of trust must be discussed when discussing trustworthiness.

Hardin (1996) observed that the trust literature hardly mentions trustworthiness. To restate Giffen's comment (1967) on Mark Twain's observation about the weather, everybody knows about trustworthiness, but few people have studied it. Deutsch (1958) added his thoughts in general by stating that "anything that can be trusted, is 'trustworthy'" (p.268). Deutsch indicated that the truster exhibits trusting behavior when he or she assesses positive or negative motivational consequences through measuring (performing mental processes) whether trust is fulfilled. His conceptualization was primarily a rational (cognitive) model where parties calculated benefits based on risk, yet he recognized that an individual's orientation to decision-making influences the specific processes in action. Deutsch concluded that persons were likely to trust another when the

truster felt the trustee had nothing to gain from untrustworthy behavior and if the truster believes he could exert some control over the trustee. The aspect of control may not fit the conceptualizations of others regarding trust (i.e., does trust actually exist if control exists?) (Becker, 1996). Luhmann (1988) asserted that when one makes an assessment of trustworthiness, it is largely as a mechnism for humans to manage complexity. Hardin challenged Luhmann by suggesting that an individual's assessment of trustworthiness was less rational in its origins. However, the same general theories regarding trust also tend to hold for trustworthiness, and the debate over a cognitive, affective, or matrix (a construct composed of the interplay between multiple elements such as affect, behavior, and cognition) concept exists among many scholars.

Hall et al. (2001), who conceptualized trust as an attitude, indicated that trustworthiness does not always correspond with trust. In other words, people can misplace trust (i.e., people can trust those who should not be trusted). Mayer et al. (1995) asked of trustworthiness in organizations, "how low can some of the three factors [ability, benevolence and integrity] be before the employee would not trust the manager?" (p. 722). Becker (1996) believed it is natural to think of assessesing trustworthiness as a cognitive matter as "we should always try to connect it to good estimates of others' trustworthiness" (p. 47). McAllister (1995) hypothesized that managers' cognition-based trust in peers (a reflection of trustworthiness) would be greater specifically when peers had high levels of reliable role performance, when the parties had cultural-ethnic similarity (as in Varma, et. Al., 2001 – Similarity Attraction Paradigm), and when they had strong professional credentials, none of which were supported. Trust was greater, however, when managers interacted frequently and when individuals engaged in

organizational citizenship behaviors (OCB – see Organ, 1990 for a complete discussion). Such OCBs include providing personally-chosen, not role prescribed, actions that serve legitimate needs and demonstrate interpersonal care for others (McAllister, 1995; Organ, 1990). McAllister's findings indicated generally the dual nature of antecedents of trustworthiness (affective and cognitive) but also specifically, that higher levels of cognition-based trust influenced trustworthiness to a greater extent than affect-based trust. This would support Becker's position on a stronger mental model association (a rational model focus) with the cognitive over the affective. Perhaps most important from McAllister's research was that theory-based predictions of cognition-based trust (reliable role performance, professional credentials, and social-ethnic similarity) were not supported. Others found that issues of integrity, competence, consistency, loyalty and openness were related to trustworthiness (Butler & Cantrell, 1984a). Numerous others (Gabarro, 1978; Holmes & Rempel, 1989; Lewicki et al., 1998) have considered how trusters determine trustworthiness, how referents develop trustworthiness, and in what ways trust occurs.

Fells (1993) argued that trustworthiness is assessed, in part, through first impressions or observable behavior. These observations affect the cognitive processes and feelings about the actions of the potential trustee. Rotter and Stein (1971) demonstrated that people discriminate in their trust by the profession of the trustee, with physicians and clergymen rating high in trust and politicians and used car salesmen rating low. In the absence of observations leading one to question trustworthiness, Deutsch (1958) reported that it is desirable to suspend belief that the other person has suspicious motives. Luhmann (1988) suggested there are strong incentives to begin with trusting

another. Jones and George (1998) reported that such suspension of belief (that parties cannot be trusted) comes naturally in the absence of incongruous evidence of values to the contrary. This suggests that parties often give the benefit of the doubt to others in new relationships (Cook & Wall, 1980; Jeffries, 2002; McKnight et al. 1998) and has been demonstrated empirically by Berg, Dickhaut and McCabe (1995), Butler (1999), and Kramer (1994). In these cases, and when other situation factors like system trust are not salient, argue McKnight et al., dispositional trust plays a strong role in the adoption of trustworthiness (Butler & Cantrell, 1997; Butler, Cantrell & Flick, 1999; Rotter, 1967; Lewis & Weigert, 1985a; Luhmann, 1998).

Rotter (1980) found that people who trust more are less likely to lie, possibly less likely to cheat and steal, and more likely to give others a second chance and respect the rights of others. Rotter did not find evidence of gullibility on behalf of high trusters, and Gurtman (1992) concurs that gullibility, what Rotter called naiveté or "foolish trust" (Rotter, p. 1), may well be related to some other trait or need. Deutsch (1960) found in the laboratory that persons who are trusting and trustworthy expect the same from others. Suspicious and untrustworthy persons also expect the same from others. This finding has been found also in Prisoner's Dilemma situations (Boyle & Bonacich, 1970) using hypothetical decision processes. Mayer and Davis (1999) and Davis, Schoorman, Mayer and Tan (2000) warn that such situations can yield misleading results since they are not actual decision processes that people normally use. They advocate a balance between the control and rigor of a laboratory experiment and a field experiment. Similar studies have attempted to use this procedure to examine trust, trustworthy behaviors and beliefs (Butler, 1991; Butler and Cantrell, 1984a,b).

Distrust

Distrust is a construct not often studied directly, but thought generally to be the opposite of trust. It has been conceptualized as confident negative expectations regarding another's conduct (Lewicki et al., 1998), as the opposite of their conceptualization of trust (a view held also by Rotter, 1967). Kramer (1994, 1999) and Lewicki et al. each viewed distrust as the reciprocal of trust, but through separate though linked dimensions, not exactly the opposite ends of a continuum, similar to the view of Gurtman (1992). Gurtman suggested a continuum approach to distrust, but more fittingly within a circumplex analysis, a matrix construct composed of the interplay between multiple elements including affect, behavior, and cognition. He conceptualized certain behaviors and attitudes (arrogance, calculativeness, cold-heartedness, vindictiveness) having an interactive relationship, based primarily from his social psychological perspective. He suggested an interpersonal circumplex, indicating that individuals perceive through a combination of elements of affect, behavior, and cognition to help view distrust compared to other, more trusting attributes. Lewicki et al. also integrated trust and distrust into distinctive constructs or alternative social realities as a means of explaining the interaction of behaviors and attitudes and their behavioral manifestations. Figure 1 shows this matrix of trust and fear conceptualized into separate constructs by high and low trust and fear.

Figure 1

Integrating Trust and Distrust: Alternative Social Realities

High Trust Characterized by Hope Faith Confidence Assurance Initiative	**High-value congruence** **Interdependence promoted** **Opportunities pursued** **New initiatives**	**Trust but verify** **Relationships highly segmented and bounded** **Opportunities pursued and down-side risks/vulnerabilities continually monitored**
Low Trust Characterized by No hope No faith No confidence Passivity Hesitance	**Casual acquaintances** **Limited interdependence** **Bounded, arms-length transactions** **Professional courtesy**	**Undesirable eventualities expected and feared** **Harmful motives assumed** **Interdependence managed** **Preemption; best defense is a good offense** **Paranoia**
	Low Distrust Characterized by No fear Absence of skepticism Absence of cynicism Low monitoring No vigilance	**High Distrust** Characterized by Fear Skepticism Cynicism Wariness and watchfulness Vigilance

Note. From "Trust and distrust: New relationships and realities" by R.J. Lewicki, D.J. McAllister and R.J. Bies, 1998, *Academy of Management Review, 23* (3), p. 445. Copyright 1998 by Academy of Management. Reproduced with permission of Academy of Management in the format Dissertation via Copyright Clearance Center.

Using the explanation of Lewicki et al. (1998), trust is the mechanism by which risks associated with social complexity are transcended. Distrust, reflecting potential harm from the other, is manifested in social constraints that represent practical responses to perceived threats. Govier (1993) grouped a variety of concepts, suggesting a continuum in calling distrust "a lack of confidence in the other, a concern that the other may act so as to harm one, that he does not care about one's welfare or intends to act harmfully, or is hostile" (p. 240). Personality researchers see trust and distrust as polar opposites (e.g., Rotter, 1967); a behavioral-decision orientation views the concept as one of rational choice (Arrow, 1974; Becker, 1996; Coleman, 1990); and social scientists see simultaneous and transitory trust and distrust (Lewicki & Bunker, 1995; Lewicki et al.). While this wide range of potential influences leaves room for multiple theories on distrust, much of the specific literature on distrust and suspicion centers on more generalized beliefs or feelings of unease as an influence of perceived trustworthiness.

Distrust has been proposed as having distinct dimensions (Barber, 1983; Deutsch, 1973; Hall et al., 2001; Luhmann, 1979). Rational distrust has been characterized as "a generalized expectancy or belief regarding the lack of trustworthiness of particular individuals, groups, or institutions that is predicated on a specific history of interaction with them" (Kramer, 1994, p. 200). Robinson and Rousseau (1994) indicated that rational distrust can occur in routine behaviors as well as in violations of psychological contracts in promises that were committed, but not upheld, by one party.

Kramer (1994) indicated that irrational distrust has been characterized as "an exaggerated propensity towards distrust, which can arise even in the absence of specific

experiences that justify or warrant it" (p. 200). Kramer agreed with Deutsch (1973) that irrational trust is presumptive. Presumptive distrust is related to paranoid cognitions (Kramer, 1994). Hall et al. (2001) noted three possible meanings of distrust. The first is a low level or the absence of trust, capturing the concept of "agnosticism" (p. 618). Secondly, distrust is seen as a polar opposite of trust (e.g., Rotter, 1967), and lastly, as in the views of Bigley and Pearce (1998) and Lewicki et al. (1998), as a complement to trust, where one can be both trusting and distrusting: "trust but verify" (Hall et al, 2001, p. 619).

Kramer (1994) and others (Deutsch, 1958, 1960; Fox, 1974; Govier, 1992; Sitkin & Roth, 1993) have thought that distrust and suspicion are linked, each with common elements. Fein and Hilton (1994) called suspicion a psychological state where the perceivers "actively entertain multiple, possibly rival, hypotheses about the motives or genuineness of a person's behavior" (p. 168). Fein and Hilton suggested that situational cues might cause suspicion in the perceiver. Their research supports the idea that suspicion ilicits careful, considered processing of information rather than a rush to judgment. This research suggests further that many people use such considered processing in an evaluation of trustworthiness. Deutsch (1958) indicated that trust involves "motivational relevance" (p. 265); it must be important enough to the perceiver to be a concern. He indicated:

> Thus an individual may be said to be suspicious of the occurrence of an event if the disconfirmation of the expectation of the event's occurrence is preferred to its confirmation and if the expectation of its occurrence leads to behavior which is intended to reduce its negative motivational consequences (p. 267).

Kramer (1994) noted that social categorization of persons in groups (e.g., accountants) creates both positive and negative perceptions in perceivers based on social contextual information about those groups, and Pfeffer (1997) reminds us that such institutions play powerful socializing roles on society. Trust in political leaders and public confidence in private organizations and public institutions is low (Barber, 1983; Kramer & Isen, 1994; Luhmann, 1979; Sitkin & Roth, 1993). Events in organizations involving the loss of trust continue in the U.S. (Burgan, 2002; "Corporate accounting scandals," 2002) and abroad (Elangovan & Shapiro, 1998; McMillan, 2002).

Kramer (1994) indicated that Zimmer (1972) found that individuals making judgments about institutional trustworthiness tend to "overgeneralize from vivid, highly salient events involving institutions and their leaders" (p. 598). Zimmer suggested that people see these institutional leaders as reference points for the trustworthiness of society or institutions in general. To the extent that institutional trust-influencing events are framed in sensationalism, this directly affects the public's distrust in institutions (Cappella & Jamison, 1997).

Slovic (1993) and others (Butler & Cantrell, 1986, 1994; Deutsch, 1958; Rotter, 1967; Wrightsman, 1991) have indicated that cognitive factors influence trust building and trust destroying. Slovic found that trust destroying events had a significantly greater impact on trustworthiness than trust building events, demonstrating the fragility of trust. Others (Gambetta, 1988; Hardin, 2002; Kramer, 1996) have supported the notion that trust building and trust destroying events affect people differently. These studies support the notion that high and low trusters, and high and low status individuals (job status differentials), respond in different ways to events or actions testing trust. Hardin found,

for example, that low socioeconomic status individuals trust organization management more than higher status individuals when the organization is experiencing tough economic challenges.

Kramer (1994) commented also that studies on distrust have generally been "acontextual" (p. 222), that they have not considered the impact of organizational structures and processes. While he laments this history, others have begun to examine the topic in this context (Granovetter, 1985; Shapiro, 1987a; Sitkin & Roth, 1993). Notably, Kramer suggested that members in organizations may not be testing reality sufficiently, that paranoid actors (members / employees) mindfully structure situations that are consistent with their presumptive (paranoid) perspectives and, hence, self-fulfill their prophecy about the trustworthy actions of others. Furthermore, the use of legalistic procedures to mitigate organizational distrust often results in greater levels of distrust among members (Kramer; Sitkin & Bies, 1993).

Events Precipitating This Study

Lewicki et al. (1998) set the stage for the interaction of trust scholarship and modern global conditions, even before the reported scandals of corporate wrongdoing began in 2000. They said "...we see that the challenges of the modern global marketplace center on the simultaneous management of trust and distrust in a hostile environment in which individuals may be just as inclined to distrust as they are to trust" (p. 439). Robinson (1996) noted that with trends in globalization, restructuring, and downsizing, psychological contracts are playing greater roles in employment relationships.

High profile business failures and accounting scandals have resulted in media frenzy, public outcry, Congressional hearings, and new laws. President Bush signed into

law the Accounting Industry Reform Act on July 30, 2002, legislation intended to rein in corporate wrongdoers and toughen oversight of the beleaguered accounting industry ("Resisting blame," 2002). The AICPA has recently dedicated a number of news items on their World Wide Web page (www.aicpa.org) related to internal controls, ethics, and misleading audits. The Journal of Accounting's April 2002 issue was dedicated to fraud deterrence as a stated response to the beating being taken by the public accounting industry. Neither have these scandals been limited to the United States. Auditors in Japan are preparing toughened rules on stock holdings and links to clients to keep pace with changes in U.S. regulations (McMillan, 2002). The August 2002 issue of Accountancy, the journal of the Institute of Chartered Accountants in England and Wales, was dedicated to the fall-out in the United Kingdom as a result of happenings in the U.S.

Corporate accounting scandals began most recently to gain prominence in 1997 and became a worldwide concern with the Enron tragedy in 2001 (Elkind & McLean, 2002). A current listing includes newcomers and well known names: Xerox, Adelphia, Microstrategy, Peregrine, Rite Aid drug stores, WorldCom communications, Global Crossing, Tyco, KPMG, ImClone, Merrill Lynch, Haliburton, and Qwest Communications. Bloomburg.com, CBS Market Watch, and other financial sites on the World Wide Web are full of what seems to be the crisis of the week surrounding corporate integrity, practices, and ethics. It is beyond the scope of this review to consider the depth, breadth, and underlying reasons for this recent outbreak in corporate wrongdoing. What is evident is that events of this type, involving reputable organizations, institutions, and professions, have affected society in deep and pervasive ways (Chaney & Philipich, 2002; Cohan, 2002; Dawkins, 2002; Gordon, 2002; Gwynne,

2002; Kahn, 2002). Healthcare organizations are beginning to feel this effect of economic pressures and greed (McLaughlin, 2002).

Healthcare providers and systems face strong competitive and business pressures (Beith & Goldreich, 2000; Cochrane, 1999; Coddington, Moore & Clarke, 1999; Curtright, Stolp-Smith & Edell, 2000; Eisenstat & Dixon, 2000; Greisler & Stupak, 1999; Griffith, 2000). Healthcare has evolved into a highly competitive industry and healthcare providers have little competitive experience compared to other industries (Zuckerman, 2000). Langabeer (1998) indicated that for the first time in recent history, teaching hospitals are now exposed to a competitive market whereas smaller hospitals have been competitive for many years, a belief echoed also by Cochrane. Strategic planning and capital management have become important to health care providers (Beith & Goldreich, 2000; Cochrane, 1999; Eisenstat & Dixon, 2000; Federa & Miller 1992; Royer, 2000) and future financial viability is becoming an underlying concern (Beith & Goldreich, 2000; Cochrane, 1999; Grossman, 2000; Lawry, 1999; Press, 2000; Zuckerman, 2000).

The Allegheny Health, Education and Research Foundation (AHERF) filed for bankruptcy protection in 1998 after its chief executive, Sherif Abdelhak, was fired by his board for financial wrongdoing. The AHERF bankruptcy was the first of its size in the healthcare industry and others continue (Modern Healthcare, 2002). The big five accounting firm, Arthur Andersen, LLP, has been hit the hardest, having been at the center of the AHERF and Enron scandals, and has recently closed its U.S. auditing practice. The slide continues as National Century Financial Enterprises (NCFE) filed for Chapter 11 bankruptcy protection in what is being called "The Enron of the healthcare industry" (Taylor, 2002, p. 6). In related themes, white-collar crime, whistleblowing, and

Medicare fraud remain as high as ever ("Bad sign," 2002). The American Hospital Association (AHA) is debating whether its board members should be allowed to hold board seats on for-profit boards (Galloro, 2002). Galloro reported that the impact of these and similar events has sparked a national debate over corporate integrity, a view also supported by Burgan (2002).

The Harvard School of Public Health recently held a symposium entitled "The Public's Health: A Matter of Trust" (Harvard School of Public Health, 2002), questioning whether anyone can be trusted anymore. That Harvard is sponsoring this leadership summit on trust is a "sign of the times" (McLaughlin, 2002, p. 16). The American College of Healthcare Executives offers a continuing education program based on trust (Livbove & Russo, 1997). All of these issues point to the relevance of research in healthcare organizations and with chief executives a valuable focus of research. Strong situational evidence abounds to suggest that trust and much of the underlying constructs that have been conceptualized are particularly relevant now.

Summary

This study examined issues of trust, trustworthiness, and executive decision making in hospital chief executives in North and South Carolina. This study aims to further the research in the areas of trust, trustworthiness, and organizational decision making. The literature has shown that generalized trust (which may at times be dispositional trust or interpersonal trust) is a valuable baseline to consider how a truster approaches the mental process of trusting (Erikson, 1968; Rotter 1967, 1971, 1980; Zand, 1972), and is believed to influence the interpretation of the behavior of others (Becker, 1996; Kaplan, 1973; Rotter, 1971; Zand, 1972). Generalized trust is a key mechanism

used in new and novel situations when [generalized trust] is all one has to fall back on (McKnight & Chervany, 1996; Rotter, 1967, 1971), and manifests itself when one has less than complete prior knowledge from which to form more rational trusting opinions (Becker, 1996). For these reasons, the proposed research considered measuring generalized trust as an appropriate way to compare with other measures of dimensions of trustworthiness and orientation to interpersonal versus system trust to discern information about trusting behaviors.

The recent reports of corporate wrongdoing are a means of defining a specific set of circumstances under which trusting behaviors are studied in this research study. The literature has demonstrated that it is reasonable to conceptualize distrust as confident negative expectations regarding another's conduct (Lewicki et al., 1998), and related to intentions (including manifestations of trusting behavior) that are inversely proportional to intentions of trust. Deutsch (1958), Kramer (1994), and Govier (1992) support this perspective. Govier included that distrust could be "a lack of confidence in the other" (p. 240). Deutsch indicated that evidence of suspicion or distrust may cause such distrusting behaviors. He indicated that suspicion is, in effect, evidenced "if the expectation of its occurrence [the untoward outcome in the perception of the truster] leads to behavior which is intended to reduce its negative motivational consequences" (p. 267). It seems reasonable then to consider that such an action could be conceptualized as harboring suspicion or distrust. The literature demonstrates further that the situational nature of the research question must be established in order to measure the construct meaningfully. This study has taken the position that a distrusting behavior will be exemplified when a chief executive reports that he or she initiated an action of a change in operations as a

result of the publicity of corporate wrongdoings in order to clarify how the difference between trusting and distrusting behavior is evaluated.

Mayer and Davis (1999) evaluated the relative importance of the dimensions of trustworthiness, finding in their study that ability was more important than integrity, which was more important than benevolence. Butler and Cantrell (1984a) found that integrity, competence, and consistency were more important than loyalty and openness. Schindler and Thomas (1993) found that some individuals placed greater emphasis on some dimensions than others, and their rankings were nearly identical: integrity, competence, loyalty, consistency, and openness. Numerous reasons might exist to explain various rankings, yet the approach to the construct remains a common thread. Assessing the beliefs of healthcare chief executives in general organizational decision making, as a secondary focus of this research, is an extension of the aforementioned earlier studies and may provide new evidence that further study is indicated.

No validated instrument to study aspects of system trust has yet been identified in the leading peer reviewed journals in psychology, social psychology part of psychology, or in the fields of decision or management sciences. This study, therefore, explores the issue of system trust in healthcare chief executives. The impetus for the inclusion of system trust is related strongly to the types of decisions made by organization chief executives, and their increasing need for expert outside opinions. The ever-evolving complexity in the healthcare industry requires niche experts, well-trained and knowledgeable in their areas of specialty. Hospital chief executives rely more and more upon such individuals and professional service organizations. The decision to rely upon (trust) another external to the chief executive's control is often, at the outset, a difficult

one. The current climate of corporate integrity failures makes any decision to use an outside expert take on significant gravity.

CHAPTER THREE

METHODOLOGY

Purpose and Significance of the Study

This study examined issues of trust and executive decision making in hospital chief executives. It applied how other researchers have conceptualized trust to investigate new research questions and to corroborate findings of earlier studies done with students and employees in the general population. The study used a validated instrument that has been used to measure generalized trust in other studies and new, unvalidated measures to examine trustworthiness and system trust. This study also used the recent series of reported corporate wrongdoing during the last two years as a situational means to examine decision behavior of hospital executives. This study considered both healthcare/executive management decision making and the psychological constructs of trust and trust/distrust behavior. The emphases for pursuing this study at the present time were: to continue the trend of trust research; to meet the need for empirical research using organization executives as the subjects; to provide corroborating evidence of the antecedents and relative importance of dimensions of trustworthiness found by Mayer and Davis (1999); and to examine trust within the context of current economic and social scandals reported in the public accounting industry and corporate governance. This research also provides a basis for looking at the relative importance of dimensions of

trustworthiness (the trustee's ability, benevolence, and integrity) and the issue of system trust.

Definitions

The following definitions of terms are used in this study.

Chief Executive – the person designated by the hospital governing authority as the party with responsibility for the operation and management of the organization. Titles typically include administrator, chief executive officer, executive director, and president.

Distrust – confident negative expectations regarding another's conduct. The reciprocal of trust, through separate but linked dimensions (not opposite ends of a continuum) often conceptualized by behaviors opposite those of trusting behaviors (see Lewicki et al., 1998 for a full discussion).

Dispositional Trust – a consistent tendency to trust across a broad spectrum of situations and persons.

Hospital – an organization that provides general acute, psychiatric, rehabilitation, or specialty inpatient care as defined by the American Hospital Association.

Interpersonal Trust – an expectancy held by an individual or group that the word, promise, verbal, or written statement of another individual or group can be relied upon (Rotter, 1967). It is conceptualized as one's *generalized expectancy* to rely on another.

Propensity to Trust – a general willingness to trust others in a specific situation (Mayer et al., 1995). It influences how much trust one has for a trustee prior to the availability of data on that party. Generalized measures of trust, such as the Rotter Interpersonal Trust Scale and the Yamagishi Trust Scale, measure propensity to trust.

Situational Decision to Trust – the extent to which one intends to depend on a non-specific other party in a given situation (McKnight & Chervany, 1996).

System Trust – the extent to which one believes that proper impersonal structures are in place enabling one to anticipate a successful future endeavor (Lewis & Weigert, 1985a; Luhmann, 1991; McKnight & Chervany, 1996; Shapiro, 1985b).

Trust – the willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the truster, irrespective of the ability to monitor or control that other party (Mayer et al., 1995).

Trustworthiness –the degree to which the truster evaluates the trustee's perceived ability, benevolence, and integrity and of the truster's propensity to trust in a specific situation (Mayer et al., 1995).

Research Questions and Hypotheses

Research Question 1: Have hospital chief executives made changes in their financial operations as a result of the reported wrongdoings of public corporations and financial services firms?

Hypothesis 1: More than 50% of the chief executives report that they have made changes in their financial operations as a result of public reports of corporate wrongdoing.

Rationale: Research Question 1 was conceived based upon the considerable global publicity that has occurred due to the reported and factual wrongdoings of public corporations and leading financial services firms. Major public companies have taken actions that may be characterized using terms such as greedy, illegal, improper, self-serving, and untrustworthy, as discussed previously in the review of the literature.

Leading financial services firms, such as Arthur Andersen, LLP, KPMG, and Merrill Lynch, have been implicated in the perpetration of these trust-influencing activities. Much of corporate America has been affected by sweeping governmental changes, such as the Sarbanes-Oxley Act, designed to effect control over abuses in corporate finance. Hypothesis 1 was based on the premise that the reported wrongdoings have influenced organizations to such a degree that chief executives have instituted safeguards for their organizations in the form of new operating policies or changes in accountants or auditors. This hypothesis used self-reported behaviors taken by the respondents about actions they personally initiated. Any action regarding a change in operations, policy, or professional advisor has been characterized as a distrusting behavior since it represents confident negative expectations about another's conduct. The responses to Question 4 (trusting vs. distrusting behavior) that are of primary concern are items E, F, and G., shown below, which require recollection on whether certain actions were taken by the respondent in response to the publicity of corporate wrongdoings (i.e., *Did they personally*):

E) Initiate any operating-level policies that address these issues? (Yes, No)

F) Initiate any board-level policies that address these issues? (Yes, No)

G) Initiate a change of your accountants or auditors? (Yes, No)

The preceding items in Question 4 were asked for two reasons: to familiarize (warm-up) the respondents to the survey question and; to gain additional information about the situation, including contacts made by external accountants/auditors and internal and external discussions on the subject.

Research Question 1(a): Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores?

Hypothesis 1(a): Chief executives who score high in trust are less likely to make changes in their financial operations than are chief executives who score low in trust.

Rationale: Research Question 1(a) was designed to evaluate the effect of high trust versus low trust on the action of making a change in financial operations. The literature clearly shows that high trust individuals exhibit behaviors that are different from low trust individuals. Instruments designed for specific research questions have generally measured a truster's level of trust, and validated scales have been shown to measure specific constructs through the application of a variety of statistical tests. The Yamagishi Trust Scale was used to measure trust level of respondents because it is a validated, short form scale that better suits evaluating busy executives than the 40-item Rotter scale. Support for this hypothesis may lead to interesting questions on the strength of trust in human decision processes.

Research Question 2: Given the willingness to trust, what primary dimensions of trustworthiness are most important to hospital chief executives in organizational decision making?

Hypothesis 2: Chief executives report that, given the willingness to trust, ability is more important than integrity, and integrity is more important than benevolence.

Rationale: Research Question 2 applies the construct of dimensions of trustworthiness to healthcare chief executives. Others have shown that these dimensions are more or less important in different circumstances. This question considers how hospital chief executives felt as a group about the relative importance of dimensions of trustworthiness. The hierarchy of important dimensions anticipated in Hypothesis 2 is based on the

findings from Mayer and Davis, 1999 who found that ability was more important than integrity, which was more important than benevolence.

It is also significant that hospitals now face challenges due to economic and market forces which have driven many organizations into bankruptcy. Hospital profit margins from operations and from overall activity remain critically low. Ability may well be the most important trait for hospital chief executives to consider when they rely on someone else. Integrity was chosen as the second most important dimension, though it is expected to be quite close in ranking to ability. Integrity may be considered a foundation of one's character and would presumably be ranked highly.

Research Question 3: Do hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making?

Hypothesis 3: Chief executives tend toward interpersonal trust over system trust when making organization decisions

Rationale: Research Question 3 provided an opportunity to evaluate responses around the referents of interpersonal and system trust. The reasons for including this question were twofold. Knowing whether organization decision makers have an orientation toward working with people or with companies would be valuable for those who work with organization executives. Secondly, there appears to be no instrument that has examined issues of interpersonal versus system trust, and no significant discussion of how the decision processes of trust are oriented from the personal to the impersonal. This question provides a ready opportunity to examine interpersonal versus system trust orientations.

Research Question 3 was tested by Hypothesis 3, based upon the situational decision structured in Question 7 -- trust in routine organizational decision making. The

focus was on the truster's reliance on another, which created the situational decision to trust. Since reliance is related to vulnerability, the basis of the definition of trust used in this study, these survey questions (7 and 8) frame the issue clearly for the truster to consider.

Study Population

The unit of analysis and sampling frame were chief executives who are members of the North Carolina Hospital Association (NCHA) and the South Carolina Hospital Association (SCHA). The sampling unit was a nonprobability sample of responses from hospital chief executives who responded to the survey instrument. The frame and unit of analysis comprised 226 hospital chief executives from all general acute care, psychiatric, rehabilitation, and specialty hospitals.

Research Design

The primary study focus was whether chief executives in the study hospitals have exhibited trusting or distrusting behaviors relative to the recent reports of corporate wrongdoing in the media. This focus was operationalized by examining whether chief executives made changes in their operations (behavior) as a result of the reported wrongdoings. A secondary study focus explored the relative importance of dimensions of trustworthiness – the ability, benevolence, and integrity of the trustee – as perceived by hospital chief executives during routine organizational decision making. Finally, an orientation toward interpersonal trust or system trust was examined.

Instrument

The instrument used three questions to establish demographics (gender, organization size, and years of experience as a chief executive in a health care organization providing inpatient medical care – see Appendix 1, Questions 1-3). The study incorporated a validated scale, the Yamagishi Trust Scale, used by its author (Yamagishi, 1986a, 1986b, 1988a, 1988b) and others (Parks, et al., 1996; Parks & Hulbert, 1995) to examine generalized trust in high and low trusters. The Yamagishi scale is included in this study's instrument as Questions 9 - 13. The five-question Yamagishi Trust Scale was developed through a factor analysis of over 60 items, and its use by researchers is thought to be an appropriate alternative to the 40-question Rotter Interpersonal Trust Scale.

Trusting/distrusting behaviors were measured by Question 4. Although the question had not been validated per se, it is a straightforward question soliciting responses on behaviors taken or initiated by the respondent. Face validity was demonstrated by the wording and structure of the question and response choices. Construct validity was assumed since the questions are dichotomous responses regarding behaviors taken personally by the respondent. Reliability of the measure was also expected to be high, since the precipitating event of corporate wrongdoing has been publicized highly by the media, and the action of remembering key decisions should have been fresh in the minds of the respondents at the time of the survey.

The relative importance of dimensions of trustworthiness was operationalized by two measures, one rating in Question 5 and one forced ranking in Question 6. These questions have not been validated, though Mayer and Davis (1999) and Schindler and

Thomas (1993) used the same conceptual model to measure these same dimensions among employees and managers. Hypothesis 2 has been based on the findings from Mayer and Davis' study, and the results of this study should prove interesting in comparison. The rating scale of relative importance used in the questions allowed for examining nuances and strength of responses.

System trust was measured in Questions 7 and 8, again utilizing an unvalidated scale to examine the strength of the executive responses when choosing an orientation toward interpersonal or system trust. Question 7 considered routine organizational decision making, and Question 8 considered decision making under a more personally volatile circumstance. It should be reiterated that no known scale to measure system trust has been identified in the literature. These questions will provide a useful starting point to consider the issue within the context of the overall study.

Instrumentation, Validity, and Reliability

The instrument was designed to be completed quickly in an effort to improve the response rate. The survey questions and their related context statements were chosen from the literature based on validated survey instruments and theories in the field of trust. The surveys were mailed to the chief executives at their hospital offices along with a letter of endorsement from a well-known hospital CEO from North Carolina (for NC hospital executives) and a cover letter from the SCHA President (for SC hospital executives). The instruments for North Carolina hospitals were printed on a different color paper than those sent to South Carolina hospitals to facilitate coding. A self-addressed, stamped (first class) return envelope was enclosed. A self-addressed, stamped postcard was included for CEOs in NC to return their email address if they wanted to

receive a summary of the study. SC CEOs were informed that they would receive a summary via email from SCHA. One week after the survey was mailed, a fax was sent to the CEOs in NC and an email was sent by the SCHA to the SC CEOs thanking and reminding them to participate in the survey.

External Validity

The outcome should be generalizable to the population of hospital chief executives in North Carolina and South Carolina, and perhaps also to other hospital chief executives across the United States.

Construct Validity

The construct validity for this study is related primarily to the reporting of trusting or distrusting behaviors of hospital chief executives in the situation considered. The self-reported responses to the questions are considered to have both face and construct validity, due to the direct phrasing of the questions and limited opportunities for misunderstanding or poor recollection. Each of the actions measured in Question 4 were 1) significant enough that the respondent would remember if they took such an action, and 2) clear enough not to be misinterpreted.

The questions on trustworthiness (Questions 5 and 6) were derived from research by Mayer et al. (1995). In a similar manner, these two questions: 1) set the context of the situation under which to consider trust; 2) establish the willingness to trust (by stating that it is a circumstance when they *need to rely* on another and; 3) are developed according to terms used within a well-researched construct (Mayer et al., 1995). The questions used in this study, using two rating scales, were felt to reasonably reflect the

conceptualization of trustworthiness by Mayer et al. and are, therefore, assumed to have reasonable construct validity.

The questions on orientation toward interpersonal or system trust (Questions 7 and 8) were based on the research and conceptualizations of other researchers published in the literature on the nature of the referent for interpersonal trust (a person) and system trust (impersonal referent). Since this researcher has only been able to locate conceptual discussions on system trust, the response that represents system trust has been worded to reflect such a construct.

Content Validity

Content validity considers that each response category used for each dimension considered is representative of the literature and is consistent with the intent of the other validated survey instruments considered. The Yamagishi Trust Scale has been shown to appropriately reflect the content of generalized trust. The questions on trustworthiness (Questions 5 and 6) were derived from Mayer et al. (1995). The response wording was crafted from Luhmann (1991), Lewis and Weigert (1985a), McKnight and Chervany (1996), and Shapiro (1985b).

Data Collection

Respondents were asked to complete the survey and forward their responses via a self-addressed, stamped return envelope. As an incentive to participate, respondents were told that they would receive a summary report on the final study. The survey contained no space for i information dentifying the respondents. The raw survey data collected was extracted into an Excel spreadsheet for conversion to comma separated (CSV) format and uploading into SAS®.

Power Analysis

It was anticipated that responses would be received from 90 of the 226 CEOs in the sampling frame. Employing an alpha error rate of 5%, it was assumed that an exact approximation would adequately represent a binomial response (i.e., percentage changing operations follows a binomial distribution; however, with the sample size anticipated, it can be approximated as a normal distribution). As a result, in the example above, the point estimate would be described with exact 95% confidence intervals. The half-width of the confidence intervals, assuming the parameters above n=90, would be approximately 10%. With 90 respondents, a response rate of 61% or higher indicating that they have made changes would be required in order to affirm the hypothesis that more than 50% of the CEOs did, in fact make changes in their financial operations (a 95% confidence interval ranges from 40% - 60%). If a greater number of CEOs responded to the survey, a smaller half-width to these confidence intervals would be observed. For example, with a sample size of 150 respondents a response rate of 59% would be consistent with the hypothesis (CI range 42% - 58%).

Data Analysis

Survey responses were examined in aggregate and stratified by gender, organization size, chief executive years of experience, and trust level. The following general model was conceptualized for analyzing the survey data.

1. Administer survey to hospital chief executives.
2. Follow-up via fax or email after one week to increase response rate.
3. Extract relevant data elements, variable labels, and variable format values into EXCEL, then into a SAS® database.

4. Examine and consider data accuracy, data editing, and data recoding.
5. Prepare descriptive summaries of all variables.
6. Develop basic descriptive statistics relevant to questions.
7. Develop statistical analyses related to research questions.
8. Analyze survey results.
9. Prepare preliminary report on findings.
10. Prepare final analyses.
11. Prepare discussion and study limitations.

Once data were put into SAS® format, descriptive summaries of data elements and by subgroups (e.g. low versus high trust) were performed for reporting in basic descriptive tables. The specific analyses were conceptualized as follows.

Research Question 1: Have hospital chief executives made changes in their financial operations as a result of the reported wrongdoings of public corporations and financial services firms?

> *Hypothesis 1: More than 50% of the chief executives will report that they have made changes in their financial operations as a result of public reports of corporate wrongdoing.*

This hypothesis would be evaluated with confidence intervals around a point estimate of the proportion. The proportion of chief executives making changes to their financial operations as a result of reported wrongdoings would be assessed by summing the number of YES responses to survey Questions 4E, 4F, and 4G only. If any of these were YES, that respondent would be considered a YES response. Responses to other elements in Question 4 would be interesting but not indicative of taking a distrusting action. The

proportion that has made the indicated changes in practice would be estimated with a point estimate and a 95% confidence interval using a normal approximation to the binomial distribution.

Research Question 1(a): Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores?

> *Hypothesis 1(a): Chief executives who score high in trust are less likely to make changes in their financial operations than are chief executives who score low in trust.*

The null hypothesis to be tested for Hypothesis 1(a) was that the proportion of those with high versus low trust scores reporting changes would be identical. This hypothesis would be evaluated with a Fisher's Exact Test and/or a logistic modeling approach if adjustment for covariates were indicated due to potentially confounding variables (e.g., years of CEO experience). Also, as in Hypothesis 1, 95% confidence intervals would be calculated for each subgroup (e.g., low versus high trust). The Yamagishi Trust Scale has been validated previously and will serve as its own stand-alone measurement of trust level. Yamagishi (1986b) and others (Parks et al., 1996; Parks & Hulbert, 1995) have dichotomized subjects by taking a median split. This study planned to consider this methodology to dichotomize high versus low trusters if the trust scores appeared naturally dichotomous. In the event that the trust scores appeared continuous, appropriate modeling techniques will be used to capture the power existing in the dataset.

Research Question 2: Given the willingness to trust, what primary dimensions of trustworthiness are most important to hospital chief executives in organizational decision making?

Hypothesis 2: Chief executives report that given the willingness to trust, ability is more important than integrity, and integrity is more important than benevolence.

The null hypothesis to be evaluated with Hypothesis 2 is whether the ability, benevolence, and integrity mean scores (0-10 scale) are equivalent. This would be addressed with a simple repeated measures analysis using responses from Question 5 of the instrument (Question 6 would not be used to test the hypothesis due to the possibility that there might not be sufficient statistical power to determine the relative positions of the responses). Given that the scores will be collected from individuals and that they will be *a priori* correlated, the repeated measures analysis would address the correlated nature of the data while testing for differences in the mean scores (i.e. H_0: $\mu_1 = \mu_2 = \mu_3$). If any differences existed with an omnibus test for "dimension" effect, pairwise differences will be tested for differences in scores.

Research Question 3: Do hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making?

Hypothesis 3: Chief executives tend toward interpersonal trust over system trust when making organization decisions.

This hypothesis will be evaluated using Question 7 by a one sample t-test measuring the difference between the proportion reporting an orientation to interpersonal trust and the scale midpoint. The null hypothesis to be evaluated is that the chief executives will tend to value interpersonal trust equally with system trust. That is, the proportion of those tending to value one or the other will be equal. Response selections of 1, 2, or 3 represented an orientation toward a personal referent, and was considered an orientation toward interpersonal trust. Response selections of 4, 5, or 6 represented an orientation

toward an impersonal referent and was considered an orientation toward system trust. The scale midpoint among the selection choices equals 3.5. A one sample t-test testing for a difference between the sample mean and the scale midpoint was determined to reflect whether the chief executives responding had an orientation toward either the interpersonal or system trust referents.

The four hypotheses outlined above will be addressed with the appropriate modeling strategies including, but not limited to: Fisher's Exact Test; log-linear or generalized logit modeling when more in depth analyses of nominal response data are needed; and logistic modeling where appropriate. All analyses will be conducted using the SAS® statistical package.

Human Subjects Research

This research was designed to fit Exempt Human Studies Research, Category 2. The study uses standard protective survey procedures in observations of public behavior in that: 1) information is recorded in such a manner that human subjects cannot be identified, directly or through identifiers linked to the subjects and; 2) no disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Protection of Confidentiality

As indicated in the research plan, individual, raw survey data remains anonymous, though responses were tracked generally via postmarks. Upon receipt of the return envelope, the postmark was noted for tracking purposes, the survey form placed among all other completed surveys from the respective state, and the envelope destroyed. The

principal investigator saw only the collated and coded individual survey results and was not be able to identify the chief executive respondent.

Limitations

All studies are subject to a variety of limitations that can affect the interpretation and generalizability of the findings. Demand characteristics, tacit knowledge, and single method data gathering are among the primary concerns in this study.

Demand characteristics are a phenomenon where the experimental subjects learn the purpose of the research and modify their responses in efforts to become "good subjects," trying to provide the "right" answers (Jackson, 1967; Orne, 1962). The study design has attempted to mitigate this concern, though the potential for such a response exists for some of the survey questions, due primarily to the nature of a short survey. Subjects may discern the nature of the study from a limited number of questions. The primary research emphasis, whether chief executives exhibit trusting or distrusting behaviors, is not likely to be affected by demand characteristics. This may be evidenced by the neutral phrasing of the question, the types of behaviors indicated in the question (discussed with finance department, discussed with board, etc.), and with the focus on behaviors taken, not on cognitive or affective structures and processes. It is also debatable whether the phenomenon of demand characteristic can be completely eliminated from the experimental process (Stark, 2002). Other researchers have not found fault with using shorter surveys to measure experimental concepts where transparency might create demand characteristics. Chun and Campbell (1974) developed a 12 question short form of the Rotter Interpersonal Trust Scale (Rotter, 1967) from the original 40 items (25 content and 15 filler items), which retains nearly the same level of

robustness as the original. They concluded that the short form is indeed appropriate for use when the longer form would not be convenient to use, and that the results remain statistically significant. This might support the conclusion that demand characteristics can either be mitigated effectively or may be less important than others have suggested. Yamagishi (1986a) developed the short form scale that was used in this study with the five items retaining appropriate construct validity and reliability. Others (Parks et al., 1996; Parks & Hulbert, 1995) have used the Yamagishi Trust Scale without finding concern for results that might be affected negatively due to demand characteristics. Lastly, Butler and Cantrell (1984a) and Mayer (1999) used forms of inquiry that were arguably transparent to the subjects, clearly focusing on their measurement of trust. This finding is valuable because it supports, along with the instruments by Chun and Campbell and Yamagishi, that a direct form of inquiry can yield valid results. The validity of results achieved by Chun and Campbell and Yamagishi does not negate the existence of demand characteristics, but that their scales correlate with their comparative full scales seems to suggest that they are not negatively influenced by demand characteristics.

Tacit knowledge is a threat to validity where subjects respond to the experiment based on some level of general understanding they have about the area of research. In cases where a research instrument allows such underlying, embodied knowledge to affect the decision process in the research question(s), validity is affected. This study was concerned with the generalized perspective (e.g., generalized trust) for several of its research questions. One question in the survey, Question 7, created a scenario and then sought the respondents' generalized responses. Some tacit knowledge behaves as normal dispositions (Barbiero, 2003), though it is possible that some of the survey questions may

be influenced negatively by these underlying influences (e.g., beliefs or cognitions about accountants, welfare, etc.). Creating a robust instrument around the primary and secondary research foci to deal cleanly with the variety of threats to validity was deemed to be beyond the scope of this initial, exploratory study. Upon consideration of the issues surrounding tacit knowledge and its threat to validity, it was felt tacit knowledge was probably not a significant concern in this study.

Single method data gathering was also a concern for this study. Using only one method of data gathering subjects the results to common method variance. Podsakoff and Organ (1986) suggested that the relationship among variables being measured could be influenced by their common association with the survey method and not related to the underlying construct being measured. Practical issues regarding the survey of busy individuals, the size and geographic distribution of the sampling frame, and the cost involved to implement other methods of data collection were considered. It was felt that a single method survey research model would provide sufficient data for the scope of this study.

This study considered several validity limitations due to lack of probability sampling, sample size, number of questions measuring the construct, and word-phrase bias. Survey research is often considered the best method to describe characteristics of a large population (Shi, 1997). This survey utilized a nonprobability sample of chief executives from a population of 226 hospitals. The results may be limited if the sample size is not sufficient to represent the group being sampled. In addition, self-administered surveys impart some lack of control that the researcher must consider. It was felt that the only practical way to obtain survey responses from a sufficient number of busy

individuals was to use a format that was readily available to them: a brief survey that was short and easy to complete. This consideration is of importance in considering the results of items examining trustworthiness (2 items) and interpersonal versus system trust (2 items). Trustworthiness has been examined in multiple contexts (Mayer et al., 1995; Butler & Cantrell, 1984a, 1984b), and the results of this survey might provide corroborating evidence of construct validity. System trust does not appear to have been measured in the reported literature and, therefore, construct validity issues might exist. Word-phrase bias might exist also in the instrument questions. The measurement of trusting/distrusting behaviors, Question 4, appeared to have sufficient face validity for describing the behaviors undertaken by the respondent and should probably have appropriate construct validity, indicating that word-phrase bias is negligible. Questions 5 and 6 (trustworthiness) were taken primarily from construct conceptualizations by Mayer et al., and lay terms suggested by others (Hosmer, 1996; McKnight & Chervany, 1996). Questions 7 and 8 (interpersonal vs. system trust) were taken conceptually from other sources (Rotter, 1967; Lewis & Weigert, 1985a; Luhmann, 1988; McKnight & Chervany). The overall generalizability of findings is also a limitation of many studies. A small sample could make generalizability a concern. In the event that a large sample was obtained (e.g. 90% of the 226 chief executives), the findings would be more suggestive of the population as a whole. The use of the NCHA and SCHA as the sampling population may also mean that the generalizability of the results to other populations (e.g., hospital chief executives in the United States) may not be made. This may be due to actual or perceived differences in training or perspectives of southern hospital chief

executives as a group, influence and penetration of managed care and contracting relationships, or other geographic or social factors.

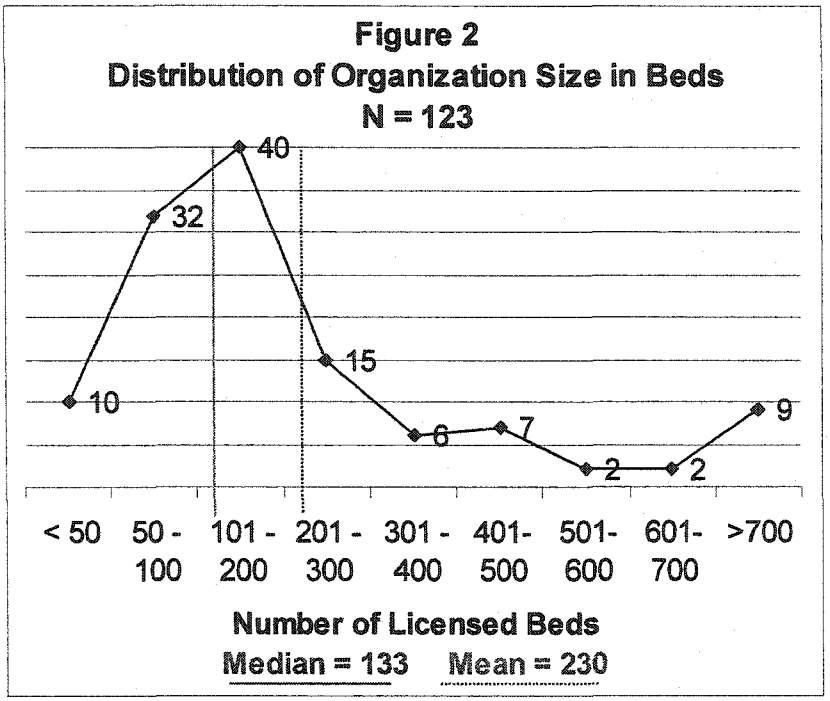
Lastly, the measurement of system trust suffers from the challenge of dealing with "unmeasured variables" (Anderson & Williams, 1992; James, Mulaik & Brett, 1982). This relates to the core challenge of measuring the construct of system trust and controlling for threats to validity and reliability. Unmeasured variables can include a host of cognitive and affective contextual factors that negatively influence the measurement of the construct. Typical processes for assuring the validity and reliability of a measure, and for minimizing unmeasured variables, could include structural equation modeling or factor analyses. Engaging these processes was determined to be beyond the scope of this research. The lack of research in this area alone serves as a valid reason for further inquiry into system trust.

CHAPTER FOUR

RESULTS

The survey instrument was mailed on March 4, 2003, and collection was closed on April 1, 2003, after a total of 123 chief executives (54.4%) responded to the survey. By State, 57.3% of the 136 hospital executives in North Carolina responded and 50% of the 90 in South Carolina responded. There was no evidence for a difference in response rates according to state by Fisher's Exact Test ($p=0.34$). The respondents were predominantly experienced males, managing hospitals with an average of 230 beds with mean (SD) trust scores of 17.3 (2.2). The distribution of respondents by organization size (Figure 2) was skewed considerably to the right, given the median number of beds of 133 as compared to the mean number of beds of 230. This pattern was sufficiently bimodal in distribution on either side of the median (with a significant clustering of hospitals well below the median) as to suggest that analyses taking a median split would be an appropriate methodology to examine any influences based on organization size. The complete descriptive summary of findings appears in Appendix 3.

Most chief executives provided responses for all questions. One respondent reported that her hospital was part of a larger system and that the decision to make changes in their financial operations was made at that level, not by her; she was excluded from Research Questions 1 and 1(a) since she did not make the decision that was part of



the associated research hypotheses. Another respondent did not answer one part of the survey (Question 4, item G) and his other responses in Question 4 were excluded since it could not be certain whether he initiated distrusting actions or not. Similarly, a few respondents did not respond to some items correctly (e.g., Question 6, forced ranking on first, second, and third was reported as: "All are important" or "All three are #1 for me"). The overall n for each of the hypotheses therefore, is not consistently all 123 survey respondents. Table 1 highlights key characteristics of the responses received.

Subgroup analyses based on state, gender, years of experience, organization size, and trust score were considered for influencing factors, and are discussed below under each hypothesis.

Table 1

Demographic Summary of Responses of Selected Variables

Variable	Total n (%)
Total responses	123 (54.4)
North Carolina responses	78 (63.4)
South Carolina responses	45 (36.6)
Male	106 (86.2)
Female	17 (13.8)
Years of experience – mean (SD)	13.8 (8.8)
Years of experience - median	13
Years of experience	
≤ 10 Years	51 (41.5)
11-20 Years	50 (40.7)
>21 Years	22 (17.8)
Organization size – mean (SD)	230 (244)
Organization size – median	133
Organization size	
<100 beds	38 (30.9)
100-200 beds	44 (35.8)
201-400 beds	21 (17.1)
>400 beds	20 (16.2)
Overall trust score – mean (SD)	17.3 (2.2)
Overall trust score – median	17.43
Response to reported wrongdoings – n (%) of CEOs who:	
Received unsolicited response	49 (40.2)
Discussed with CFO/finance dept.	92 (75.4)
Discussed with accountants/auditors	62 (50.8)
Discussed with governing board	85 (69.7)
Trust/distrust decision summary – n (%) of CEOs who personally:	
Initiated operating-level policies	47 (38.5)
Initiated board-level policies	36 (29.5)
Changed accountants/auditors	23 (19)

Research Question 1 Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores?: A total of 121 responses had complete data for examining changes in operations (Research Questions 1 and 1(a)). Executives from 62 organizations indicated that they had made changes in their financial operations as a result of reported wrongdoings of public corporations and financial services firms. This yielded a point estimate of 51.2% making changes in operations (exact binomial confidence interval: 42.0, 60.4). Hypothesis 1 was that more than 50% of the chief executives would report that they made changes in their financial operations as a result of public reports of corporate wrongdoing. Since the 95% confidence interval includes 50%, there is no strong evidence that the true proportion is different than 50% and therefore, Hypothesis 1 is rejected. The 51.2% point estimate is, however, a considerable percentage of chief executives who made changes. It is important to note also that executives who made changes typically made more than one change in their organizations. Among chief executives who made changes, 75.8% made them by establishing operating level policies and procedures, 58.1% made changes at the board policy level, and 37.1% changed their accountants or auditors (Tables 2 and 3 – note also that these sum to > 100%, because > 1 of these choices is possible for each respondent). A total of 22 executives (35.5%) initiated both operating- and board-level policies, three (4.8%) initiated operating policies and changed their accountants/auditors, one (1.6%) initiated board policy and changed accountant/auditor, and 10 (16.1%) initiated all three changes. In addition, changes made according to state were marginally significant (Fisher's Exact Test p=0.093), with executives from North Carolina more likely to make changes than those from South Carolina (Table 2).

Most chief executives (n=91, 75.2%) discussed the issue with their chief financial officer and/or finance department (CFO), though only 56 (61.5%) of the chief executives went on to make changes. It is noteworthy also that only six chief executives who did not speak with their CFOs went on to make the changes. Further discussion on these issues of making changes is presented below and discussed in Chapter 5.

Table 2

Selected Categorical Variables by Changes Made Dichotomy

	Changes Made		
	NO	YES	Total
Variable	n (%)	n (%)	n (%)
All respondents	59 (48.8)	62 (51.2)	121 (100)
State – North Carolina	33 (42.9)	44 (57.1)	77 (63.6)
State – South Carolina	26 (59.1)	18 (40.9)	44 (36.4)
Q1: Gender – Male	51 (48.6)	54 (51.4)	105 (86.8)
Q1: Gender - Female	8 (50)	8 (50)	16 (13.2)
Initiated operating policies – Yes	0 (0)	47 (75.8)	47 (38.8)
Initiated operating policies – No	59 (100)	15 (24.2)	74 (61.2)
Initiated board policies – Yes	0 (0)	36 (58.1)	36 (29.8)
Initiated board policies – No	59 (100)	26 (41.9)	85 (70.2)
Changed accountants – Yes	0 (0)	23 (37.1)	23 (19)
Changed accountants – No	59 (100)	39 (62.9)	98 (81)

Table 3

Selected Categorical Variables by Changes Made Dichotomy Mean (SD) Scores

	Years of Experience	Organization Size in Beds	Overall Trust Score
All respondents	13.8 (8.8)	230.7 (244.5)	17.3 (2.2)
Made changes – Yes	14.0 (8.5)	267.1 (292)	17.3 (1.9)
Made changes – No	13.5 (9.2)	192.4 (176.6)	17.4 (2.4)

Research Question 1(a) Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores?: Research Question 1(a) considered the influence of trust score as a predictor in making organizational changes (trusting versus distrusting decisions). The mean (SD) trust score for respondents who made changes was 17.3 (1.9) and for those who did not, the mean (SD) trust score was 17.4 (2.4). Survey Question 11 in the Yamagishi Trust Scale was reverse-scored. The distribution of trust scores from the Yamagishi Trust Scale appeared generally continuous rather than naturally dichotomous (Figure 3), and for this reason, trust score was modeled as a continuous variable rather than by dichotomizing respondents into high and low trust groups. Earlier studies using the Yamagishi Trust Scale (Yamagishi, 1986a, 1986b, 1988a, 1988b; Parks et al, 1996; Parks & Hulbert, 1995) have used the high-low trust dichotomization, though none of the studies reported the mean or median trust levels found. The overall mean (SD) trust level found in this study was 17.43 (2.16) and the median was 17.

Figure 3
Distribution of Trust Scores N = 123

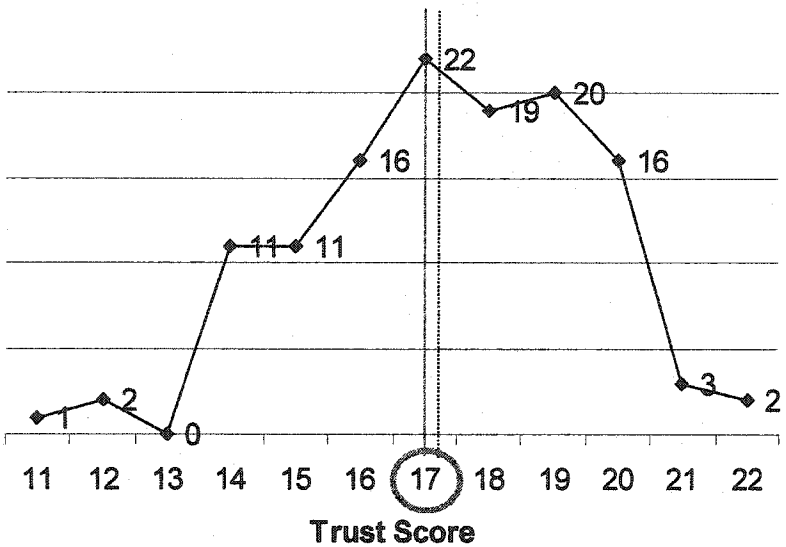


Table 4 indicates the Pearson Correlation Coefficients for interaction effects (see also Appendix 2 for survey response codes).

Table 4
Pearson Correlation Coefficients

	Made Changes	State	Gender	Organization Size	Experience
State	**-0.15623**				
p-value	0.0870				
No. Observations	121				
Gender	**-0.00968**	**-0.01074**			
p-value	0.9161	0.9062			
No. Observations	121	123			
Org. size	**0.02380**	**-0.03542**	**-0.17472**		
p-value	0.7956	0.6974	0.0533		
No. Observations	121	123	123		
Experience	**0.09074**	**-0.11198**	**-0.25588**	**0.00769**	
p-value	0.3223	0.2175	0.0043	0.9322	
No. Observations	121	123	123	125	
Trust score	**-0.01902**	**-0.03418**	**0.06770**	**0.07158**	**-0.05905**
p-value	0.8359	0.7074	0.4569	0.4314	0.5165
No. Observations	121	123	123	123	123

Notes

1) Each cell includes 1) the coefficient; 2) the p-value testing H0: Rho=0; 3) Number of observations used for each Pearson Correlation Coefficient

2) Rho=0 is used as the unknown population correlation coefficient being tested

3) NC=0, SC=1; Male=0, Female=1; Organization size, Experience, Trust Score: >Median=0, <Median=1

The effect of trust score and its interaction with covariates were analyzed through logistic modeling and odds ratios, as seen in Table 5. Using changes made as the outcome and trust score as the predictor variable, the Odds Ratio describes the effect of trust score on the probability of making changes overall, and stratified by covariates of gender, experience, organization size, and state. An odds ratio of one indicates no influence of the variable; a ratio greater than one indicates that the higher the trust score, the greater the

probability of making changes; a ratio less than one, that the higher the trust score, the lesser the probability of making changes.

The following interaction effects were noteworthy.

Trust score by gender (interaction p=0.076): The effect of trust score on whether changes are made differed between males and females. Among females, a higher trust score is suggestive by inference of a greater likelihood of making changes. It should be noted that the female sample size for Research Questions 1 and 1(a) is only 16 individuals. Among males, the higher the trust score, the lower the likelihood of making changes, though this finding is not significant (p=0.399). The data suggest a slight indication, with the caveat on female sample size, that males and females differ in how trust influences decision making.

Trust score by experience (interaction p=0.083): The effect of trust score on whether changes are made differed by experience level. Experience level moderated or changed the effect of trust score on whether people made changes, but trust score had no significant effect on whether executives made changes for each strata of experience (p>0.1).

Trust score by organization size (interaction p=0.021): The effect of trust score on whether changes are made differed by organization size in number of beds overall. Among smaller organizations there is a trend toward a higher trust score predicting greater likelihood of changes (p=0.114), while among organizations greater than the median size the opposite effect is observed, i.e., higher trust scores indicate a lower likelihood of making changes (p=0.092).

Other descriptive findings on interaction effects include that executives from North Carolina tended to make changes more than executives from South Carolina (p=0.087), males tended to operate organizations of larger size (p=0.053), and males tended to have more years of experience than females (p=0.0043).

Table 5

Logistic Model using Changes Made as Outcome and Trust Score as Predictor

Outcome	Predictor	Subgroup	Odds Ratio	95% Confidence Interval – Odds Ratio	Trust Score Main Effect p-value
Made Changes	Trust score	All respondents	0.982	0.832, 1.160	0.834
Made Changes	Trust score	Males (n=105) Only	0.926	0.774, 1.107	0.399
		Females (n=16) Only	1.700	0.890, 3.244	0.108
Made Changes	Trust score	Years experience < Median (n=60) Only	1.191	0.905, 1.569	0.213
		Years experience ≥ Median (n=61) Only	0.870	0.696, 1.088	0.222
Made Changes	Trust score	Beds < Median (n=58) Only	1.238	0.950, 1.615	0.114
		Beds ≥ Median (n=63) Only	0.812	0.638, 1.034	0.092
Made Changes	Trust score	State=NC	0.934	0.749, 1.165	0.547
		State=SC	1.046	0.803, 1.364	0.737

These marginal associations summarized above and shown in Table 5 are seen when stratifying this model by gender and hospital size, with females exhibiting a slightly positive association (Odds ratio=1.7, p=0.108) and respondents with larger hospitals exhibiting a slightly negative association (Odds ratio=0.812, p=0.092). These associations may be interpreted as follows: higher trust scores in females would tend to predict a greater likelihood of changing operations; higher trust scores in CEOs with larger hospitals (> median value for number of beds) predict a lower likelihood of making changes in operations. The individual relationships are not significant, but there are marginal trends that indicate differences between the subgroups in the association between trust and making changes. Higher order interaction effects were tested (e.g. trust score by gender by experience) and were all found to be non-significant (p>0.1).

Since the associations between trust score and making changes seem to trend in opposite directions for males versus females, examining the effect of trust score adjusted for gender is not appropriate. Logistic models were fit for all respondents (n=121) as well as separately for males and females using "changes made" as the dependent variable and the following predictor variables: trust score, organization size (beds), years of experience of the respondent, state, and gender. Trust score was not a significant predictor of changes for all respondents and for males. A trend was observed in females but did not achieve statistical significance (p=0.108), indicating that higher trust scores in females were predictive of greater probability of changes. None of the other variables were predictive of changes, either in all respondents or in gender stratified models. In summary, therefore, there was no evidence overall for an association between changes in operations and trust score (Odds ratio=0.982, p=0.834) and, therefore, Hypothesis 1(a),

that chief executives who score high in trust are less likely to make changes in their financial operations than are chief executives who score low in trust, is rejected.

Research Question 2 Given the willingness to trust, what primary dimensions of trustworthiness are most important to hospital chief executives in organizational decision making?: Survey Questions 5 and 6 addressed the importance of the dimensions of trustworthiness. It was felt that a simple forced ranking (Question 6) would not have the power of more continuous data (captured in Question 5), and for this reason, Question 5 was used to test Hypothesis 2. Question 6 was analyzed as it might prove as an interesting comparison to the results of Question 5. Table 6 provides a descriptive summary of the responses from Question 6. Respondents reported the following order of importance: Integrity>Ability>Benevolence, 43 (37.1%); Integrity>Benevolence>Ability, 23 (19.8%); Ability>Integrity>Benevolence, 37 (31.9%); Ability>Benevolence>Integrity, 6 (5.2%); Benevolence>Ability>Integrity, 4 (3.4%) and lastly; Benevolence>Integrity>Ability, 3 (2.6%).

Table 6
Relative Importance of Dimensions of Trustworthiness in Question 6

Variable	Value	North Carolina n (%)	South Carolina n (%)	Total n (%)
Q6A: Relative importance ABILITY	1	30 (41.1)	13 (30.2)	43 (37.1)
Q6A: Relative importance ABILITY	2	29 (39.7)	18 (41.9)	47 (40.5)
Q6A: Relative importance ABILITY	3	14 (19.2)	12 (27.9)	26 (22.4)
Q6B: Relative importance BENEVOLENCE	1	6 (8.2)	1 (2.3)	7 (6)
Q6B: Relative importance BENEVOLENCE	2	16 (21.9)	13 (30.2)	29 (25)
Q6B: Relative importance BENEVOLENCE	3	51 (69.9)	29 (67.4)	80 (69)
Q6I: Relative importance INTEGRITY	1	37 (50.7)	29 (67.4)	66 (56.9)
Q6I: Relative importance INTEGRITY	2	28 (38.4)	12 (27.9)	40 (34.5)
Q6I: Relative importance INTEGRITY	3	8 (11)	2 (4.7)	10 (8.6)

Repeated measures analyses were employed to investigate the degree to which one or more dimensions of trustworthiness (Ability, Benevolence, Integrity using Question 5 of the survey instrument) were deemed more important than the other two. Interaction tests were employed to assess the moderating influence of covariates (i.e., gender, experience, organization size) on the effect of dimensions of trustworthiness. None of the interaction tests for dimension by covariate were significant at the $\alpha=0.1$ level (all p-values > 0.50). Sample means (SEM – standard error of the mean) for the three scores were calculated using repeated measures models (three measures obtained on each respondent) with the p-value reflecting the degree to which the three measures differ among themselves (see Table 7). The overall means for Ability, Benevolence, and Integrity were, respectively, 9.5, 9.1, 9.9, ($p<0.001$), suggesting that respondents placed more value on integrity than either ability or benevolence. Pairwise comparisons revealed that all three measures were significantly different from each other (all $p<0.001$). This finding persisted across subgroups of years of experience, organization size, and among men. It is possible that insufficient statistical power exists to ascertain a clear difference between the dimensions of trustworthiness in the small subgroup of women, though the trend was in the same direction as in males.

Table 7

Repeated Measures Analyses of Reported Dimensions of Trustworthiness

Subgroup	Model	Ability Mean (SD)	Benevolence Mean (SD)	Integrity Mean (SD)	p-value
All respondents	Raw means	9.5 (0.9)	9.1 (1.4)	9.9 (0.4)	< 0.001
		Mean (SE)	Mean (SE)	Mean (SE)	
All respondents	Rep meas. means	9.5 (0.08)	9.1 (0.13)	9.9 (0.04)	< 0.001
Males (n= 106)	Rep meas. means	9.5 (0.09)	9.0 (0.14)	9.9 (0.04)	< 0.001
Females (n= 17)	Rep meas. means	9.5 (0.21)	9.1 (0.41)	9.7 (0.15)	0.077
Years experience < Median (n=62)	Rep meas. means	9.6 (0.12)	9.3 (0.16)	9.9 (0.03)	< 0.001
Years experience ≥ Median (n=61)	Rep meas. means	9.4 (0.11)	8.9 (0.20)	9.8 (0.06)	< 0.001
Beds < median (n=60)	Rep meas. means	9.5 (0.11)	9.1 (0.19)	9.9 (0.05)	< 0.001
Beds ≥ median (n=63)	Rep meas. means	9.5 (0.12)	9.0 (0.17)	9.9 (0.05)	< 0.001

A series of repeated measures models were fit by adding one covariate at a time and examining the differences in reported trustworthiness dimensions for each model to assess differences in dimension of trustworthiness after adjustment for gender, experience, and organization size. Adjustment for the three covariates had no effect on the differences in trustworthiness score dimensions ($p<0.001$). This trend remained after stratifying by gender, years of experience, and organization size. Hypothesis 2, that chief executives report that given the willingness to trust, ability is more important than integrity, and integrity is more important than benevolence, is therefore, rejected. Instead, the trend suggests that integrity is most important and benevolence is least important.

Research Question 3 Do hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making?: Survey Question 7 was used to evaluate this hypothesis as it considers general or routine decision making. This question used a rating scale (1-6) with scores of 1-3 representing an orientation toward a personal referent and scores of 4-6 representing a system (impersonal) referent. Table 8 provides the results of Questions 7 and 8 by all respondents.

Table 8

Descriptive Summary of Interpersonal v. System Trust Orientation – All Respondents

	Question 7 Routine Circumstance			Question 8 Personally Volatile Circumstance		
Response	**Frequency**	**(%)**	**Cumulative %**	**Frequency**	**%**	**Cumulative %**
Definitely Prefer Interpersonal	15	13.8%	13.8%	12	11.0%	11.0%
Generally Prefer Interpersonal	32	29.4%	43.2%	13	11.9%	22.9%
Probably Prefer Interpersonal	13	11.9%	55.1%	11	10.1%	33.0%
Probably Prefer System	8	7.3%	62.4%	16	14.7%	47.7%
Generally Prefer System	25	22.9%	85.3%	28	25.7%	73.4%
Definitely Prefer System	16	14.7%	100%	29	26.6%	100%

The raw responses from Question 7 indicated that 55.1% of all respondents reported an orientation toward interpersonal trust. A repeated measure modeling indicated a mean score (SEM) of 3.4 (0.2), and using an omnibus test for "dimension"

effect, pairwise differences in scores was shown ($p<0.001$). The sample mean score of 3.4 was compared to the scale midpoint of 3.5 using a one sample t-test test. The results were not significant ($p=0.564$) and therefore, Hypothesis 3 was not accepted.

Question 8 examined whether an orientation toward interpersonal or system trust existed in a personally volatile situation, and was considered using the same methodology. The sample mean score on Question 8 of 4.12 was compared to the scale midpoint of 3.5 using a one sample t-test test. The result was found to be significant ($p<0.001$). This finding indicates that executives' trust orientations tend more strongly toward system trust in a personally volatile circumstance. Lastly, interpersonal versus system trust orientation was also examined for interactions of gender, experience, and organization size. None of these factors were significant: gender interaction ($p=0.701$), experience interaction ($p=0.270$), and organization size interaction ($p=0.408$).

The following chapter contains further discussion on elements, interpretations, and applications of this study.

CHAPTER FIVE

DISCUSSION

Research Questions

Research Question 1

Have hospital chief executives made changes in their financial operations as a result of the reported wrongdoings of public corporations and financial services firms? The data suggest that many hospital chief executives have indeed made changes in their financial operations. This conclusion is supported by the 51.2% of the chief executives surveyed reporting that they made changes. The hypothesis that more than 50% of the chief executives would have made changes was not supported (95% CI 42.0, 60.4). Despite this finding, it is remarkable that so many chief executives report that they made changes as a direct result of the reported wrongdoings, and yet the reasons behind this finding are less clear. The large number of chief executives who reported that they made changes in their financial operations *as a result of the reported wrongdoings* seems to provide evidence that the chief executives have significant expectations that they and/or their organizations are concerned about their accountants and auditors generally. Lewicki et al. (1998), whose definition of distrust is used in this study, might interpret this finding to mean that *these chief executives have confident negative expectations about their accountants or auditors*. Tetlock (1985) suggested that when accountability to others is a concern, decision makers would tend to favor tougher positions, presuming that their

constituents prefer a tougher standard in their decision maker (did chief executives make changes in order to appear proactive in the face of the reported wrongdoings?). It is, therefore, not unexpected that a strong reaction of distrusting behavior (51.2%) is seen at the same time others have chosen not to exhibit the same behavior. Recalling that Lewicki et al. posited that simultaneous trust and distrust exist, some executives may have harbored concerns about their external accountants/auditors but did not take steps to demonstrate these concerns by making changes. Relationships are multiplex however, and trusting decisions, particularly interpersonal trusting decisions, have a myriad of influences. These multiple inputs suggest only that it is difficult to identify the reasons behind the decision, not the decision itself.

Less than one-half of the chief executives received an unsolicited response from their accountants or auditors regarding the reported wrongdoings. Demonstrating concern for their clients could be interpreted as an act of benevolence, which has been recognized as an aspect of building trust (Mayer et al., 1995; Mishra, 1996; Whitener et al, 1998; Williams, 2002), though Williams notes that little attention has been focused on interpersonal strategies for demonstrating benevolence. Outreach efforts by accounting firms to counteract the perception of wrongdoing can be seen as an act of reaching out with integrity to provide information about the trustee's benevolence. It is a reasonable assumption that the unsolicited response and/or the verbal discussion with the accountant or auditor was designed to ease the concerns of the chief executive proactively regarding corporate integrity, which is consistent with Mayer et al., Mishra, Whitener et al., and Williams, and suggests also the effect of promise credibility on trust (Schlenker et al., 1973).

It is interesting also to note that a strong majority (72.9%) of chief executives who did not receive such a response did not make changes. Over one-half of the executives that made changes received the unsolicited notice. It is possible that the notification by the accountant or auditor raised awareness enough to lead to a consideration to make changes, though this is merely speculative. Deutsch's (1958) reference to "motivational relevance" (p. 265) and Fein and Hilton's (1994) suggestion that situational cues might cause suspicion in the perceiver may be at work. Other findings regarding discussion of the reported wrongdoings shed equally interesting information.

Most chief executives discussed the issue with their chief financial officer and/or finance department. This might suggest that few chief executives would make this significant policy decision in isolation from their professional finance colleagues. The reasons for this could be many, including the relationship between the chief executive officer and the CFO, the relative stature of the individuals, recent or planned turnover of one or both positions, or other factors. Roughly one-half of the chief executives discussed the reported wrongdoings with their accountant or auditor during the course of business, and most of these eventually made changes in operations. Only two-thirds of the chief executives initiated discussion with their governing boards, though it is possible that the issue was raised for discussion from within a given board itself. It would be surprising to learn that any governing boards of U.S. hospitals did not discuss these issues. These discussions do not appear to suggest a pattern or course of action, though further detailed inquiry might yield information about the dynamics of organizational communications in the decision making process.

The triggering actions suggesting distrust were operationalized by the chief executive personally initiating any operating- or board-level policy that addressed the issues of corporate wrongdoing, or by initiating a change in accountants or auditors *as a result of the reported wrongdoings*. The assumption made, from the phrasing of the survey question, is that the decision to monitor (see also Jeanquart-Barone, 1993) or the reflection of potential harm (see also Lewicki et al., 1998) from not initiating the change, is manifest distrust. Govier (1994) saw distrust, in part, as "a lack of confidence in the other" (p. 240), and Kramer (1994) noted that social categorization of persons in groups (e.g., accountants) creates both positive and negative perceptions in perceivers based on social contextual information about those groups. Classifying the making of operational- or board-level changes as distrust remains consistent with these perspectives.

In the examination of whether chief executives made decisions that suggest distrust, none of the categories of triggering actions suggest, in and of themselves, any clear reasons for the behavior. The widespread media coverage of the reported wrongdoings led only about half of the chief executives to decide not to trust their accountant or auditor via termination or the establishment of formal policies to safeguard their organizations. Most chief executives did not change their accountants or auditors, though a startling 19% did. Neither North Carolina nor South Carolina have metropolitan areas on par with the major cities in the U.S., and therefore it is likely that the market and penetration of accounting firms may be quite different from other areas of the country. This study did not estimate the market presence of national, regional, and local accounting firms to determine potential reasons behind the 19% change in accountants

and auditors. There could be a number of factors that triggered these changes, though speculating based on the data collected is difficult.

In considering other factors, state correlated weakly (p=.087) with making organizational changes (Table 4), with executives from North Carolina more likely to make changes. No other variable (gender, experience, trust score) was significant regarding making changes.

Lastly and generally, it is not probable that a larger sample would provide significantly different findings from this study. The sample size of 121 chief executives is statistically large enough to approximate a normal distribution in the population of hospital chief executives, and therefore, sample size does not appear to be a reason why the chief executives in this study would differ significantly from that of the general population of hospital chief executives in the United States unless there exist significant regional differences.

Research Question 1 (a)

Are there significant differences in the proportion of chief executives who change financial operations by high or low trust scores? There was no overall evidence that trust level played a role in the decision to trust or distrust regarding the reported corporate wrongdoings. Marginal associations between trust level and trusting or distrusting behaviors were seen among chief executives who are women, or who are from the larger hospitals. It is surprising that women had a slightly positive relationship between trust and decision making in this study. Higher trusting women were more likely to make changes (exhibit distrusting behavior) than lower trusting women. This finding is marginal and is not significant, with only 16 women in the sample, suggesting that the

finding may be random. Chief executives from larger hospitals (the subgroup of all hospitals greater than 132 beds, n=63) had a marginal negative relationship between trust and distrusting behavior: the greater the trust level, the less likely they were to make distrusting decisions. This marginal finding was in the direction of the study hypothesis, though with a p-value of 0.092, the finding was not significant.

Research Question 2

Given the willingness to trust, what primary dimensions of trustworthiness are most important to hospital chief executives in organizational decision making? It was hypothesized that chief executives would indicate that ability was more important than integrity, which would, in turn, be more important than benevolence. This hypothesis was chosen to corroborate findings from other studies (Mayer & Davis, 1999) using other methodologies among employees and supervisors in the manufacturing industry. Each of the studies examining dimensions of trustworthiness cited previously (Butler & Cantrell, 1984a; Mayer & Davis, 1999; Schindler & Thomas, 1993) suggested that situational variables could influence the order of importance of the dimensions of trustworthiness and, indeed, the finding in this study that integrity was more highly valued than ability was not surprising. Gabarro (1978) found from interviewing executives that integrity was more highly valued than competence. Gabarro found also that the relative importance of dimensions of trustworthiness was based on the relative positions of the truster and the trustee and, hence, can create a challenge or introduce an unintended bias in measurement across a broad construct. Benevolence was found to be the third valued dimension of trustworthiness. The methodology of repeated measures used in this study found that the dimensions do differ from one another in relative importance ($p<0.001$) and remained

different from one another after stratifying by gender, years of experience, and organization size. That this study's finding does not corroborate the findings of Mayer and Davis may be related also to the nature of the industry. This study did however find results similar to that of Butler and Cantrell, and Schindler and Thomas.

The healthcare industry has been thought to have dimensions sufficiently different from other industries that they might not be comparable across all situations. Schindler and Thomas (1993) noted that the caring nature of the industry might affect the situational variable under which trust might be considered, yet their study still showed competence (ability) to be of greater importance than integrity. Numerous other studies (Caterinnicchio, 1979; Doescher et al., 2000; Hall et al., 2001; Mechanic & Meyer, 2000; Sherlock, 1986) have referred to idiosyncrasies of the healthcare industry. It is well known that the not-for-profit business world often has organizational missions and motivations that are different from for-profit businesses. If this were truly the case, then it would not be unusual to find that hospitals differ materially from for-profit industries due to the strong socialization norms surrounding the missions of not-for-profit hospitals. Furthermore, it would not be unusual to find that for-profit hospitals behave like not-for-profit hospitals in many dimensions, even in many aspects of operational decision making, though the underlying profit motives may be different.

This study's finding of the relative importance of integrity, ability, and benevolence is an interesting observation on the personal values of hospital chief executives; in particular, integrity was found to be the most valued dimension of trustworthiness. Professional values have long been a staple mantra of hospital associations and of industry professional associations. All the major healthcare executive

professional associations, including the American College of Healthcare Executives, The American Hospital Association, Healthcare Financial Management Association, Medical Group Management Association, the American Medical Group Association, and the Healthcare Information and Management Systems Society support continued development of professional and executive values in their corporate documents, membership ethics statements, continuing education venues, and public statements. It would be interesting to consider the relative importance of the dimensions of trustworthiness among a variety of industries to discern elements of influence among them and these dimensions affect on human decision processes. In addition, an alternative study design might identify if the order of the questions in the instrument might affect the reported importance of dimensions of trustworthiness.

The instrument presented the topic of Question 4, trusting/distrusting behaviors, before querying respondents on the dimensions of trustworthiness. This might have created an unintended bias towards valuing integrity over ability, either through a demand characteristic influence as an underlying "known" or as a conscious choice to make the respondent appear to value integrity. Chief executives may also want to be seen as valuing integrity, whether influenced socially by the profession or for another intentional reason, and so consciously respond erroneously. Further consideration of the instrument and study design should be considered .

Research Question 3

Do hospital chief executives have an orientation toward interpersonal or system trust in organizational decision making? Hypothesis 3, that chief executives prefer an interpersonal relationship in general organization decision making, was not supported.

The study used a rating scale to capture individuals who reported a preference for an interpersonal relationship versus an impersonal, system trust orientation. The instrument question was not validated and therefore, some caution must be applied in interpreting the findings. It is clear, however, that the face validity demonstrated by the response indicating interpersonal trust should reasonably allow for its association with a personal referent. The response choice for the system trust referent should have similar validity.

The survey's Question 8 queried the respondents' orientation toward an interpersonal versus a system referent under a circumstance of greater personal risk or volatility. The question was worded such that the actual decision situation was of relative importance; each respondent would interpret it as an important decision from his or her own perspective. The findings were significant ($p<0.001$) that respondents preferred a relationship of system trust in this situation. If an individual's career might be influenced negatively due to the need to rely upon another, the decision is one of significant gravity for most people. Scott and Bruce (1985) indicated that decision making styles are learned and habitual, with "a habit-based propensity to react in a certain way in a specific decision context" (p. 820). Tetlock (1985) reminded us that the impact of accountability *raises the stakes* from an individual's perspective with elements of rationality (decision heuristics) affecting the decision maker to select a less damaging position (see also Elsbach & Elofson, 2000). This is not unexpected; humans often, and perhaps even generally, approach decisions from a position of self-interest. Tetlock indicated also that when individuals are accountable to others, they are concerned with the outcome in general as a self-preservation concern, but also with how the outcomes are perceived and evaluated by those to whom they are accountable. These concerns are specific to the

situation of accountability and how the truster/decision maker is linked to the audience to whom they are responsible (Kramer et al., 1993). Scott and Bruce suggested further that decision situations involving higher personal stakes might favor a more rational (deliberate and logical) approach. Lastly, though anecdotally, this author has experienced that hospital chief executives will sometimes choose to use a national professional services firm for engagements of great magnitude or political sensitivity.

Another interesting aspect of the examination of interpersonal versus system trust deals with perceived dependence between the truster and trustee. In the case of an interpersonal relationship, it is possible, and perhaps likely, that the relationship is one of reciprocal interdependence. Such relationships require trust because one party cannot always monitor the activities of the other party. In the case of a client and professional advisor, the relationship is crucial to any ongoing stream of business the advisor hopes to receive from the client. Deeper quasi-personal/professional relationships often develop among these dyads whereby trust becomes a major enabling factor between the parties. This might not be the case with system trust in certain contexts.

System trust referents are impersonal structures based on the existence of normalcy, routineness, and security as influencing or even predictive elements of decision processes (McKnight & Chervany, 1996). System trust is evident in many contexts (U.S. government, banking, airline safety, and until recently, the professional integrity of public accounting industry) and causes people to render judgments based on their perceptions of this security. The overwhelming response of 51.2% of chief executives making changes in their financial operations is probably indicative of a breach of system trust. When a truster considers a trustee in a specific matter, they evaluate the

matter situationally given a myriad of inputs. The example of the personally-volatile situation used in this study seems to suggest what Williams (2002) referred to as the truster's perspective of deep dependence with the trustee, even if the trustee is a system. The potential for negative consequences on the part of the truster become great in these situations and trigger a unique set of concerns upon which the truster bases his or her judgment. In addition, self esteem threats might be perceived by the truster because of the potential for a negative outcome related to the work of the trustee.

Discussion

The study was somewhat exploratory in nature for a number of reasons. The study is the first of its kind considering healthcare executives as the focus of study on trust in a unique situation. The widespread global concern on corporate ethics is a significant development in the last several decades, one that has the potential for vast social significance. Examining issues of trust and executive decision making becomes, therefore, timely and valuable for scholarly investigation. The following discussion expands on additional issues of consideration in this study.

It is possible that the underlying mental processes of human decision making are an overriding factor in the findings of this study. Business executives develop beliefs and feelings about how business is conducted and how people interact in the business world. Chief executives in healthcare organizations are businesspersons experienced in relationships with coworkers and subordinates and with business people external to their organizations (i.e., Hospital chief executives are not recent college graduates without significant prior work experience.). As these executives are not in the early stages of their careers, with the naiveté and inexperience of youth, they have learned responses to

situations that have influenced their beliefs and feelings about interpersonal and impersonal business relationships, what social learning theorists would call expectancies (Rotter, 1980). That these strong experiential and environmental factors have socialized them about, for example, the history and role of accountants and auditors and about productive interpersonal business relationships, the dimensions of trustworthiness might be more of a "hard-wired" process rather than one affected by a circumstance, such as a publicized breakdown in corporate integrity. If this is the case, then a very different set of issues exists. Interestingly, none of the research reviewed in the course of this study discussed these issues relating to trust.

Perception deals with beliefs, feelings, and motivational structures (Atchison & Bujak, 2001). As Williams (2002) put it, integrity requires that those trusted adhere to the same principles as the truster. Indeed, she suggested that individuals spontaneously associate integrity with trust, a position supported by Bies and Tripp (1996). Trust is developmental (Jones & George, 1998) and it relates to perceptions the truster has for the trustee according to values the trustor believes to be important (Mayer et al., 1995). These individual perceptions derive from a broad range of influences (Erikson, 1963) and change as we grow (Misztal, 1996). Assessment of the trusting intent of accountants and auditors, the relative importance of the dimensions of trustworthiness, and interpersonal versus system trust orientations must be seen as influenced by the background and development of the truster, and also as highly situational. As discussed earlier, a person *needing to trust* someone with highly technical tasks, such as mathematics, statistics, or surgery, might value ability as paramount. In such a case, an individual in need might cognitively judge competence, but affective trust in the forms of confidence and security

is highly influential. McKnight and Chervany (1996) indicated that affective feelings are difficult to separate from one another, and combine with beliefs to yield an overall trusting intention. In another situation, one requiring political sensitivity, for example, integrity might easily be seen as the dimension of greatest importance. In a similar vein, the respondents' reporting of interpersonal versus system trust orientation can be seen to be influenced both developmentally and situationally.

Limitations

All studies are subject to a variety of limitations that can affect the interpretation and generalizability of the findings, as indicated in Chapter Three. Demand characteristics, tacit knowledge, and single method data gathering have been addressed previously, yet there are other limitations that should be considered in interpreting the findings of this study.

The study examined issues of trust and decision making in hospitals and provides further exploration and additional information on examining trust with organization executives. It has used survey research as the method for collecting data from a large and dispersed population. Despite several known limitations in using survey research (e.g., misinterpretation of questions, inaccurate recall, purposeful misrepresentation of the facts, or reactive data gathering rather thaninteractive inquiry), this method of data gathering was thought to be the most appropriate balance of time and money and, hence, became the method of practical choice. Survey research has other limitations as well. The limited contact between the researcher and the research subjects via introductory letters and the research instrument does not allow the researcher to develop a strong and thorough knowledge of the research setting (Shi, 1997). Self-reported responses can

create challenges in data collection and interpretation. Despite this general feature of surveys, it should be noted that there were a limited number of instances where respondents did not complete a question due to misunderstanding instructions. Several respondents (n=4) did not report a ranking of the relative importance of the dimensions of trustworthiness (two respondents indicated that they were all equally important). Others (n=7) did not complete Questions 7 and 8 correctly; these respondents made a dichotomous choice of A (interpersonal trust orientation) or B (system trust orientation) rather than choose a rating scale response between the two orientations. This was not considered to be significant in either case (n=7), but does point to an opportunity to improve the wording and/or design of the instrument.

The sample was not a probability sample; data were collected only from hospitals in North Carolina and South Carolina, and the study is meant only to infer population characteristics of this population. The sample size may not be sufficient to make generalizations about the behavior or beliefs of healthcare executives in other areas of the U.S. or of healthcare executives in general. The sample attained (54.4%) was not ideal given the small number in the population (N=226). A somewhat greater rate of return might have been gained through more persistent follow-up for non-responders, though the proportion of those surveyed that responded is strong for survey research in general. The study breadth provided for a broader look at its research questions than studies that have been performed within one organization, sharing common corporate structures and cultural influences. The study subjects were chief executives only. It is possible that other operating officers, such as chief financial officers or operational vice presidents, have different perspectives (beliefs and feelings) on the relationship between the external

financial advisor and the hospital than those held generally by chief executive officers. A study that considered trust and decision making among executives outside of the healthcare industry would provide a useful comparison. Such a study that examines potential differences in perspective might prove valuable to discern how trust and decision making relate.

The use of a behavioral manifestation as a definition of trust and distrust is one other area of concern in this study. McKnight and Chervany (1996) acknowledged that behavioral manifestations are not trust itself. This study has taken the position that a subject exhibits *de facto* distrusting behavior when they *personally initiated* an operating or board level policy or a change in accountants/auditors. This position is supported in the definition of distrust used in this study, though some may disagree with using a behavioral manifestation (the decision choice made) as definitional to trust or distrust. It is valuable to recognize this potential for the influence of factors and mental processes other than trust as contributing to the position of trust or distrust as exhibited by a behavioral action. These factors and processes would be considered "unmeasured variables" as described by Anderson and Williams (1992) and James et al. (1982). Two methods to control for these factors could include using a longitudinal study design or an alternative method of questioning and statistical analysis. One factor that relates to this is the assumption that no recent other condition experienced by the respondents might have biased their responses inordinately.

Another area of challenge in psychometrics concerns the form of inquiry using dimensions of trustworthiness and of interpersonal versus system trust orientation. Chapter Three discussed the bases upon which the instrument questions were developed;

however, it would be remiss not to reiterate that a more robust examination of how the questions measure the construct should be pursued. A true comparison of findings regarding the relative importance of the dimensions of trustworthiness between this study and others would require that the instruments used in each study were indeed measuring the same construct and elements. Only through such comparisons can one truly affirm that the two forms of inquiry yield the same results.

Lastly, this study uses a shortened form of inquiry based on the conceptual process created by Mayer et al. (1995), and, while it provides information for researchers to consider, it lacks documented precision and reliability. However, since the data show interaction effects, some reliability of the instrument used is suggested. Despite this limitation, highly valuable information can be determined through survey research. Other researchers have considered alternative approaches to pure survey research, such as the field quasi-experiment of Mayer and Davis (1999). It is approaches like this that can effectively blend the rigor and control of a laboratory with the real life of the field.

Applications for Future Research

Future research could improve the focus of the dimensions of trustworthiness, examining its antecedents and situational variables. Knowing generalized or dispositional trustworthiness dimensions may be valuable, but knowing the antecedents of trustworthiness under various situations would be of greater utility. It is noteworthy that Mayer and Davis (1999) expected to find the relative importance of dimensions of trustworthiness similar to that found by Butler and Cantrell (1984a) and Schindler and Thomas (1993) (integrity > ability > benevolence), yet they did not. It may also be valuable to consider a more rigorous approach to validating the survey questions used in

this study to measure the dimensions of trustworthiness. The attractiveness of a reliable and valid short form measuring the construct could extend the reach of organization scientists into areas where time- and resource-consuming methods are prohibitive.

Additional research into many areas of system trust is clearly indicated. The overall dearth of research in this area, the lack of a standardized instrument, and the impact of understanding the construct as it applies to organization science are compelling reasons for future research.

Future research should continue to involve organization managers and leaders. Butler and Cantrell (1984a) echo this approach, suggesting that managers probably perceive trust and distrust differently from students, who seem to emphasize ability. Numerous others (most notably Mayer & Davis, 1999) caution that too much laboratory research is sterile and based upon potentially flawed methodologies due to the artificial nature of the decision process they imbue. This focus could also shed valuable information on how trust and trustworthiness is viewed in different industries.

Further research using the Similarity Attraction Paradigm (Varma, et al; 2001) could consider the effect of similarity on initial trust beliefs. This area of study could consider how individuals of a particular background, such as finance professionals, clinical professionals, or physician executives view trust and decision making compared to individuals with similar backgrounds in different organizational settings.

Habitual decision making style (e.g., a preference to use large professional service firms) could be examined to determine the impact of reputation and damage to reputation as well as multiple other issues that impact how organizations obtain professional assistance from outside their organizations.

Summary

This exploratory study considered trust and human decision processes. The study answered the call of researchers by using organization personnel (hospital chief executives) as the subjects of research in real life circumstances. The study's primary focus was to examine whether hospital chief executives exhibited trusting or distrusting behavior in the form of initiating operational decisions as a result of the widely reported scandals involving major corporate and public accounting firms in the U.S. The study found via a self-administered survey that 51.2% of the 121 chief executives surveyed exhibited distrusting behavior. Two secondary foci of the study examined perceptual issues of trustworthiness and trust orientation using a simple, unvalidated instrument. Chief executives reported that the relative importance of three primary dimensions of trustworthiness were, in order, integrity, ability, and benevolence ($p<0.001$). Executives reported also that they had no general predisposition (orientation) toward trusting an individual (interpersonal trust referent) or a professional service firm (system trust referent) when assistance was needed for general organizational decision making. Executives did report a preference for trusting a professional service firm (system trust) when a decision carried a personal, reputational risk to the chief executive. Each of these findings was significant ($p<0.001$). Lastly, this study provides some basis for examining issues of system trust as well as circumstances when an orientation between interpersonal and system trust might occur.

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Appendix 1

Survey Instrument

Hospital Chief Executive Survey

MUSC
MEDICAL UNIVERSITY OF SOUTH CAROLINA

This survey will take approximately 3 minutes to complete and will be completely anonymous.

1. Please indicate your gender:_____ Male _____ Female

2. Please indicate the number of years of experience you have as a chief executive in a health care organization that provides inpatient medical care: _____

3. Please indicate the number of licensed beds in your current hospital or health system: _____

4. It has been reported in the news that numerous instances of corporate wrongdoings have occurred recently (Arthur Andersen/Enron, WorldCom, Tyco, etc.) Some people in organizations made changes as a result of these actions and others did not. ***As a result of these activities, did you personally:***

		(circle one)	
A)	Receive an unsolicited, written response about these issues from your external accountants or auditors?	Yes	No
B)	Initiate discussion of these concerns with your CFO or finance department?	Yes	No
C)	Initiate discussion of these concerns with your external accountants or auditors? .	Yes	No
D)	Initiate one or more governing board discussions and/or educational sessions on these issues?	Yes	No
E)	Initiate any operating-level policies that address these issues?	Yes	No
F)	Initiate any board-level policies that address these issues?	Yes	No
G)	Initiate a change of your accountants or auditors?	Yes	No

5. In a circumstance when you know you need to rely on someone else's judgment, opinion, or the results of their work to help you make a decision for your organization, please rate how important each of the following items are on a scale of 1 (not important at all) to 10 (extremely important):

____ **Ability** – they are competent and able to do what is asked of them.

____ **Benevolence** – they will do what is right, are loyal, not manipulative, and will not act opportunistically.

____ **Integrity** – they have sound and moral principles.

6. Related to the previous question above, please rank the following items 1st, 2nd, or 3rd in terms of their relative importance to you:

____ **Ability** – they are competent and able to do what is asked of them.

____ **Benevolence** – they will do what is right, are loyal, not manipulative, and will not act opportunistically.

____ **Integrity** – they have sound and moral principles.

Please go to next page ▶

Appendix 1, continued

Survey Instrument

7. When you need to go outside your organization for advice, most of the time you rely on:

   A) A knowledgeable person you know because you can have a one on one working relationship with them.

   B) A professional advisory firm because working with a company gives you the safeguards of their reputation, commitment, and professionalism to support your decision.

   (Please circle one response using the following scale)

1	2	3	4	5	6
Definitely Prefer A	Generally Prefer A	Probably Prefer A	Probably Prefer B	Generally Prefer B	Definitely Prefer B

8. You are evaluating a business decision for your organization. It is not a career-threatening decision, but your Board of Directors will not look favorably upon an error in judgment in this matter, and your reputation would suffer. If you found that you had to rely on key information from outside of your organization, you would probably rely on:

   A) A knowledgeable person you know because you can have a one on one working relationship with them.

   B) A professional advisory firm because working with a company gives you the safeguards of their reputation, commitment, and professionalism to support your decision.

   (Please circle one response using the following scale)

1	2	3	4	5	6
Definitely Prefer A	Generally Prefer A	Probably Prefer A	Probably Prefer B	Generally Prefer B	Definitely Prefer B

Please circle one response for each of the following five questions.

9. Most people will tell a lie when they can benefit by doing so.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

10. Those devoted to unselfish causes are often exploited by others.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

11. Some people do not cooperate because they pursue only their short-term self-interest. Thus, things that can be done well if people cooperate often fail because of these people.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

12. More people are basically honest.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

13. There will be more people who will not work if the social security system is developed further.

1	2	3	4	5
Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree

Thank you for your participation. Please return the completed survey using the enclosed postage-paid envelope.

Appendix 2

Survey Response Codes and Scoring for Extracted Data

State	North Carolina: 0; South Carolina: 1
Question 1	Gender: Male = 0; Female = 1
Question 2	Years of experience: Numeric beginning at 0
Question 3	Number of beds: Numeric beginning at 0
Question 4	Trust/Distrust, 7 items: Q4A through Q4G: Yes = 0; No = 1
Question 5	Trustworthiness rating scale for ABILITY, BENEVOLENCE, and INTEGRITY: Numeric ranging from 1-10
Question 6	Trustworthiness ranking scale for ABILITY, BENEVOLENCE, and INTEGRITY: Numeric ranging from 1 - 3
Question 7	Interpersonal v. System Trust: Numeric 1-6
Question 8	Interpersonal v. System Trust: Numeric 1-6
Questions 9 – 13	Yamagishi Trust Scale: Numeric 1-5. Question 12 is reverse scored. The higher the total score, the higher the level of generalized trust.

Appendix 3
Descriptive Responses by Categorical Variables and by State

Variable	Value	North Carolina n (%)	South Carolina n (%)	Total n (%)
State	NC=0	-	-	78 (63.4)
State	SC=1	-	-	45 (36.6)
Q1: Gender	Male=0	67 (85.9)	39 (86.7)	106 (86.2)
Q1: Gender	Female=1	11 (14.1)	6 (13.3)	17 (13.8)
Q2: Years of Experience	<5	10 (12.8)	11 (24.4)	21 (17.1)
	5-10	21 (26.9)	9 (20)	30 (24.4)
	11-15	15 (19.2)	12 (26.7)	27 (22)
	16-20	17 (21.8)	6 (13.3)	23 (18.7)
	21-25	3 (3.8)	1 (2.2)	4 (3.3)
	26-30	10 (12.8)	4 (8.9)	14 (11.4)
	>30	2 (2.6)	2 (4.4)	4 (3.3)
Q3: Organization Size	<100	20 (25.6)	18 (40)	38 (30.9)
	100-200	35 (44.9)	9 (20)	44 (35.8)
	201-300	6 (7.7)	9 (20)	15 (12.2)
	301-400	5 (6.4)	1 (2.2)	6 (4.9)
	>400	12 (15.4)	8 (17.8)	20 (16.3)
Q4A: Received unsolicited response	YES	33 (42.3)	16 (36.4)	49 (40.2)
Q4A: Received unsolicited response	NO	45 (57.7)	28 (63.6)	73 (59.8)
Q4B: Discussed with CFO/finance dept.	YES	59 (76.6)	33 (73.3)	92 (75.4)
Q4B: Discussed with CFO/finance dept.	NO	18 (23.4)	12 (26.7)	30 (24.6)
Q4C: Discussed with accountants	YES	40 (51.9)	22 (48.9)	62 (50.8)
Q4C: Discussed with accountants	NO	37 (48.1)	23 (51.1)	60 (49.2)
Q4D: Discussed with governing board	YES	52 (67.5)	33 (73.3)	85 (69.7)
Q4D: Discussed with governing board	NO	25 (32.5)	12 (26.7)	37 (30.3)
Q4E: Initiated operating-level policies	YES	30 (39)	17 (37.8)	47 (38.5)
Q4E: Initiated operating-level policies	NO	47 (61)	28 (62.2)	75 (61.5)
Q4F: Initiated board-level policies	YES	26 (33.8)	10 (22.2)	36 (29.5)
Q4F: Initiated board-level policies	NO	51 (66.2)	35 (77.8)	86 (70.5)
Q4G: Changed accountants/auditors	YES	20 (26)	3 (6.8)	23 (19)
Q4G: Changed accountants/auditors	NO	57 (74)	41 (93.2)	98 (81)

Appendix 3, continued
Descriptive Responses by Categorical Variables and by State

Variable	Value	North Carolina n (%)	South Carolina n (%)	Total n (%)
Q5A: How important ABILITY	5	1 (1.3)	0 (0)	1 (0.8)
Q5A: How important ABILITY	7	2 (2.6)	0 (0)	2 (1.7)
Q5A: How important ABILITY	8	10 (13)	8 (18.2)	18 (14.9)
Q5A: How important ABILITY	9	6 (7.8)	5 (11.4)	11 (9.1)
Q5A: How important ABILITY	10	58 (75.3)	31 (70.5)	89 (73.6)
Q5B: How important BENEVOLENCE	3	1 (1.3)	0 (0)	1 (0.8)
Q5B: How important BENEVOLENCE	5	3 (3.9)	1 (2.3)	4 (3.3)
Q5B: How important BENEVOLENCE	6	2 (2.6)	1 (2.3)	3 (2.5)
Q5B: How important BENEVOLENCE	7	3 (3.9)	3 (6.8)	6 (5)
Q5B: How important BENEVOLENCE	8	13 (16.9)	8 (18.2)	21 (17.4)
Q5B: How important BENEVOLENCE	9	10 (13)	5 (11.4)	15 (12.4)
Q5B: How important BENEVOLENCE	10	45 (58.4)	26 (59.1)	71 (58.7)
Q5I: How important INTEGRITY	8	2 (2.6)	1 (2.3)	3 (2.5)
Q5I: How important INTEGRITY	9	7 (9.1)	2 (4.5)	9 (7.4)
Q5I: How important INTEGRITY	10	68 (88.3)	41 (93.2)	109 (90.1)
Q6A: Relative importance ABILITY	1	30 (41.1)	13 (30.2)	43 (37.1)
Q6A: Relative importance ABILITY	2	29 (39.7)	18 (41.9)	47 (40.5)
Q6A: Relative importance ABILITY	3	14 (19.2)	12 (27.9)	26 (22.4)
Q6B: Relative importance BENEVOLENCE	1	6 (8.2)	1 (2.3)	7 (6)
Q6B: Relative importance BENEVOLENCE	2	16 (21.9)	13 (30.2)	29 (25)
Q6B: Relative importance BENEVOLENCE	3	51 (69.9)	29 (67.4)	80 (69)
Q6I: Relative importance INTEGRITY	1	37 (50.7)	29 (67.4)	66 (56.9)
Q6I: Relative importance INTEGRITY	2	28 (38.4)	12 (27.9)	40 (34.5)
Q6I: Relative importance INTEGRITY	3	8 (11)	2 (4.7)	10 (8.6)
Q7: Definitely prefer interpersonal trust	1	12 (17.6)	3 (7.3)	15 (13.8)
Q7: Generally prefer interpersonal trust	2	21 (30.9)	11 (26.8)	32 (29.4)
Q7: Probably prefer Interpersonal trust	3	5 (7.4)	8 (19.)	13 (11.9)
Q7: Probably prefer system trust	4	7 (10.3)	1 (2.4)	8 (7.3)
Q7: Generally prefer system trust	5	15 (22.1)	10 (24.4)	25 (22.9)
Q7: Definitely prefer system trust	6	8 (11.8)	8 (19.5)	16 (14.7)
Q8: Definitely prefer interpersonal trust	1	7 (8.6)	5 (12.2)	12 (9.8)
Q8: Generally prefer interpersonal trust	2	9 (11.1)	4 (9.8)	13 (10.7)
Q8: Probably prefer Interpersonal trust	3	5 (6.2)	6 (14.6)	11 (9)
Q8: Probably prefer system trust	4	26 (32.1)	3 (7.3)	29 (23.8)
Q8: Generally prefer system trust	5	17 (21)	11 (26.8)	28 (23)
Q8: Definitely prefer system trust	6	17 (21)	12 (29.3)	29 (23.8)

Appendix 3, continued
Descriptive Responses by Categorical Variables and by State

Variable	Value	North Carolina n (%)	South Carolina n (%)	Total n (%)
Q9: Most people tell lies – Strongly agree (SA)	1	1 (1.3)	0 (0)	1 (0.8)
Q9: Most people tell lies – Agree (A)	2	7 (9)	3 (6.7)	10 (8.1)
Q9: Most people tell lies – Neither (N)	3	12 (15.4)	8 (17.8)	20 (16.3)
Q9: Most people tell lies – Disagree (D)	4	51 (65.4)	31 (68.9)	80 (66.7)
Q9: Most people tell lies – Strongly disagree (SD)	5	7 (9)	3 (6.7)	10 (8.1)
Q10: Unselfish causes exploited – SA	1	1 (1.1)	1 (2.2)	2 (1.5)
Q10: Unselfish causes exploited – A	2	20 (22.7)	11 (24.4)	31 (23.3)
Q10: Unselfish causes exploited – N	3	15 (17)	6 (13.3)	21 (15.8)
Q10: Unselfish causes exploited – D	4	49 (55.7)	27 (60)	76 (57.1)
Q10: Unselfish causes exploited – SD	5	3 (3.4)	0 (0)	3 (2.3)
Q11: People pursue short-term self-interest – SA	1	1 (1.3)	3 (6.7)	4 (3.3)
Q11: People pursue short-term self-interest – A	2	34 (43.6)	20 (44.4)	54 43.9)
Q11: People pursue short-term self-interest – N	3	16 (20.5)	11 (24.4)	27 (22)
Q11: People pursue short-term self-interest – D	4	27 (34.6)	9 (20)	36 (29.3)
Q11: People pursue short-term self-interest - SD	5	0 (0)	2 (4.4)	2 (1.6)
Q12: More people basically honest – SA	1	10 (12.8)	5 (11.1)	15 (12.2)
Q12: More people basically honest – A	2	58 (74.4)	35 (77.8)	93 (75.6)
Q12: More people basically honest – N	3	5 (6.4)	2 (4.4)	7 (5.7)
Q12: More people basically honest – D	4	2 (2.6)	2 (4.4)	4 (3.3)
Q12: More people basically honest – SD	5	3 (3.8)	1 (2.2)	4 (3.3)
Q13: More not working is SS developed – SA	1	0 (0)	0 (0)	0 (0)
Q13: More not working is SS developed – A	2	10 (12.8)	3 (6.7)	13 (10.6)
Q13: More not working is SS developed – N	3	34 (43.6)	17 (37.8)	51 (41.5)
Q13: More not working is SS developed – D	4	31 (39.7)	22 (48.9)	53 (43.1)
Q13: More not working is SS developed – SD	5	3 (3.8)	3 (6.7)	6 (4.9)