THE CORRELATION BETWEEN CRITICAL THINKING, EMOTIONAL

INTELLIGENCE, AND CONFLICT MANAGEMENT MODES OF FINANCIAL

SERVICES MANAGERS

By

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March 2009

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ABSTRACT

The rapid expansion of technology along with the globalization of the economy has resulted in a changeable workplace with increasing levels of emotion and conflict. Handling conflict, anger, and violence on the job has become a new survival skill for leaders in all fields (Ramsey, 2004). Conflict management is an important concern for organizations and the successful management of workplace conflict can determine the strength and long-term success of an organization. This quantitative, correlational study examined the relationship between critical thinking, emotional intelligence, and conflict management modes. The research instruments included the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT), the Watson-Glaser Critical Thinking Assessment (WGCTA), and the Thomas-Kilmann Conflict Mode Instrument (TKI). The research participants included 50 managers actively employed in a financial services organization. Study findings revealed a significant relationship between emotional intelligence and conflict management modes. Specifically, the study revealed a significant relationship between the MSCEIT competency of managing emotions and the TKI collaboration and avoidance conflict modes.

DEDICATION

To the memory of my mother Muriel Walling. This journey would not have been possible without her. Her dedication, tenacity, and resolve set a very high standard to aspire. She is dearly missed and in our prayers every day. To my sister Dawn Gottlich, who encouraged me to pursue this journey, even when I had my doubts. To my sister Priscilla Griffith, for her encouragement and support. To my Aunt Pauline Walling, her genuine, unwavering support, faith, and confidence in me continues to inspire. Finally, to Mitch, my best friend and loyal companion.

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CHAPTER 1: INTRODUCTION

The Information Age coupled with global economic expansion has presented organizational leaders with a rapidly changing landscape and monumental challenges. A critical component of this changeable environment is the proliferation of conflict and the required competencies of managers to manage it. Conflict in the workplace is widespread and managers spend 25-60% of their time and energy dealing with anger and conflict (Fiore, 2005). Competencies and style preferences that may enhance the effectiveness of conflict management are multi-faceted. While early studies in the 1930's suggested the link between intelligence and effective leadership, only recently have researchers begun to apply broader and more inclusive notions of intelligence to leadership competence (Chan, 2007).

Emotional intelligence and critical thinking are both constructs that potentially make up the core competencies of an effective manager (Watkins, 2004). Maccoby (2004) contends that today's leaders need brains and personality to be effective. Intellectual abilities and emotional-based attributes determine how well leaders learn and exercise competencies. Exploring the relationship between the cognitive and affective in the context of conflict management will shed light on these critical competencies. The reason for this research study was to better understand how thinking and feeling impact conflict management with the goal of advancing the development of these competencies and improving the overall vigor of organizations.

Conflict management is an important concern for organizations and the successful management of workplace conflict can determine the strength and long-term success of an organization. The background of the problem is explored in the following section with

the problem and purpose statements to follow. A quantitative research study was conducted to establish if a correlation exists between emotional intelligence and conflict management modes, critical thinking and conflict management modes, and a combined correlation between critical thinking, emotional intelligence and conflict management modes in organizational leadership.

Background of the Problem

Interpersonal workplace conflict, aggression, and anger are prevalent in today's organizational environments. Unchecked conflict contributes to a hostile working environment and negatively affects the financial and human capital resources of organizations across many industries. This conflict presents organizations with a considerable challenge in developing and adjusting the core competencies of managers to lead in this dynamic environment. The evolving demographics of the workforce continue to challenge managers and require advanced competencies including flexibility and innovation (Bagshaw & Bagshaw, 1999).

Mayer and Salovey (1997) define emotional intelligence as the capacity to examine and explore one's own and other's feelings, to differentiate and discrimination among these feelings, as well as use this information to direct thinking and behavior. This definition continues to be refined and the concept of emotional intelligence debated. Elder (1997) defined emotional intelligence as the extent to which a person effectively applies sound judgment and reasoning to situations and circumstances in the process of shaping an emotional response to specific situations. Emotional intelligence involves the relationship between thinking and feeling with critical thinking providing that crucial link

between intelligence and emotion (Elder, 1997). Managing conflict requires the practical application of a unique blend of intelligence and emotion.

Many researchers site the importance of meta-cognition or being aware of and modifying thinking processes as they are used. Watkins (2004) highlights the importance of understanding thinking processes, as well, as how thinking and feeling are connected. While there has been substantial research on emotional intelligence and critical thinking, limited studies have dealt with the impact these skills have on conflict management.

In order to appreciate the connection between thinking and feeling, understanding how emotions operate and how these emotions relate to other operations in the mind is critical. The human mind is comprised of three basic functions that include thoughts, feelings, and desires (Elder, 1997). Thoughts, feelings, and desires although distinct, operate in a dynamic relationship, continually influencing one another (Elder, 1997). The cognitive or thinking component, which includes actions such as analyzing, comparing, assuming, inferring, questioning, and evaluating, is the key to the other two functions (Elder, 1997). Changing thoughts, feelings, or desires requires thinking (Elder, 1997). If thinking determines the quality of emotions, then critical thinking is the crucial link between cognition and emotions in the emotionally intelligent person (Elder, 1997). Therefore, any meaningful examination of emotional intelligence should also include critical thinking.

The success of individual employees, teams and entire organizations depends on their ability to effectively, manage workplace conflict (Tjosvold, 1998). Unmanaged conflict in the workplace, which is inherently emotional since it involves perceptions of threats to individual and group goals, can have a destructive and negative impact on

individual and organizational performance. Some researchers have contended that performance may increase with low to moderate levels of conflict (De Dreu & Beersma, 2005). Conversely, at higher levels of conflict, strain and mistrust prohibits focus and overall effectiveness (De Dreu & Beersma, 2005). Conflict is inherently emotional because it involves perception of threats to individual or group goals. Given the emotional nature of conflict, one would expect that individuals with higher levels of emotional intelligence would resolve conflict more productively (Jordan & Troth, 2004). While Goleman (1995) has made dramatic claims for the importance of emotional intelligence, little empirical evidence exists to support these claims (Ashkanasy & Daus, 2002).

Most of the existing research on emotional intelligence has studied the construct as an independent concept. Few studies have incorporated emotional intelligence and critical thinking. The critical relationship between the cognitive and emotional functions of the brain, seem especially relevant as it relates to the management of conflict. Exploring both the cognitive and emotional functions of the brain and the impact on the conflict mode used could provide organizations with critical information in order to develop robust strategies to deal with conflict more effectively.

<div align="center">Statement of the Problem</div>

Bagshaw (1998) contends that unmanaged conflict in the workplace negatively affects the financial and human capital resources of an organization. These direct and indirect costs include turnover, decreased productivity, absenteeism, dysfunctional stress, retribution, manager and executive time waste, and legal costs. Low morale, intense conflict, and stressors all limit organizational performance (Bagshaw, 1998).

"Unmanaged conflict is the largest reducible cost in organizations today, and the least recognized" (Dana Mediation Institute, 2008, p.1).

Through this quantitative study, the correlation between emotional intelligence, critical thinking skills, and the conflict management modes of financial services managers was explored. This research project provides organizational leaders with an enhanced understanding of the required competencies in order to increase the effectiveness of conflict management. Three existing inventory tools were used in this competency assessment.

Purpose of the Study

The purpose of this research study was to examine the link between critical thinking, emotional intelligence, and the conflict management mode employed by financial services managers. The research method was quantitative and the design was correlational. The research study instruments included the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) to assess emotional intelligence, the Watson-Glaser Critical Thinking Inventory to assess critical thinking, and Thomas-Killmann's Conflict Mode Instrument to assess conflict management modes.

This research study explored the relationship between the cognitive and affective competencies of managers and their preferences in terms of managing conflict. The independent variables in this research study were the emotional intelligence and critical thinking responses. The dependent variables were the conflict management-mode preferences. This research study assessed randomly selected financial services managers from two different sites of one financial service organization located in Massachusetts. This research study assessed emotional intelligence and critical thinking competencies

and their impact on conflict management, focusing on the manager population. Ethical research protocol was followed including the assurance of confidentiality, and the appropriate administration of informed consent.

Significance of the Study

Contemporary organizations spread across all industries are challenged to find ways to cope with the rapid change. Conflict has become an integral part of the inner workings of organizations including leadership, organizational strategy, joint ventures, learning and organizational development, and quality service. This proliferation of change has resulted in increased conflict and anger in the workplace. Managing conflict is central to understanding the practice of organizations (Tjosvold, 1991). Conflict is costly in many ways and threatens the fitness of organizations today. Unmanaged conflict can lead to diminished team cohesiveness and productivity (Bacal, 2004).

Research indicates that emotion, when properly managed, can drive trust, loyalty, and commitment, leading to greater productivity, innovation, and achievement for individuals, work teams, and organizations (Cooper, 1997). Effective conflict management can cause people and organizations to grow, innovate, and improve (Bacal, 2004). Likewise, critical thinking has been a debated research topic since John Dewey's important works of the 1930's. Elder (1997) believes a crucial link exists between critical thinking and emotional intelligence. Elder (1997) stated "Critical thinking provides us with the mental tools needed to explicitly understand how reasoning works and how these tools can be used to take command of what we think, feel, desire, and do" (p. 42).

Leadership is a holistic construct that is complex and involves the alignment of body, spirit and mind, the affective domain, and reasoning. In the context of conflict

management, to enhance understanding, further research should include both thinking and feeling concepts. The significance of this research study was to provide leaders and organizations with additional insight into the interconnection between emotional intelligence, critical thinking skills, and conflict management. This knowledge will help organizational leaders formulate robust developmental strategies to improve the cognitive agility of their managers to defuse conflict, resulting in more effective resource utilization. This information is critically important to the development of recruitment, training, and management development programs.

Management development, educational practices, and approaches must constantly evolve and grow with the goal of developing leaders who can effectively lead based upon the required competencies of the current organizational landscape. Technological advancement, rapid change, and the global aspect of business demand new competencies of today's managers. These new competencies include the ability to deal with anger and conflict in the workplace (Myers & Larson, 2005). Traditional leadership training often advocates agenda-driven progress, swift movement, and learning how to effectively override, and even stifle disagreements (Cooper, 1997).

This research study explored the constructs of thinking and feeling, and assess how they translate into the practice of conflict management. This critical link between thinking and feeling may hold the key to understanding how managers handle conflict. This is significant for organizations due to the significant cost associated with unmanaged conflict. Unmanaged conflict can weaken the financial health and fitness of organizations (Dana, 2001). Conflict results in wasted time, reduced decision quality, loss of skilled employees, restructuring, thefts, property damage, decreased motivation, lost work time,

and health costs (Dana, 2001). The ability to resolve differences between employees is an increasingly important competency as organizational hierarchies become flatter and interdependent (Dana, 2001). Managed properly, conflict can be production and positive for organizations.

The results of this research study provide management development educators and corporate trainers with critical information to assess existing leadership curriculum and to advance these programs with the goal of producing leaders with core competencies that are likely to result in effective conflict management in the workplace. Leadership teams that effectively handle conflict will positively affect the bottom line of organizations and provide a solid foundation for advancing core business strategies.

Nature of the Study

This quantitative correlational study examined the potential relationship between emotional intelligence, critical thinking of managers, and their conflict management mode preferences. Quantitative research involves the researcher deciding what to study, asking specific narrow questions, collecting numeric data from participants, analyzing numbers using statistical measurements, and conducting inquiry in an unbiased, objective manner (Creswell, 2005). In quantitative research design, the emphasis is on collecting and analyzing data that measures distinct attributes of individuals, and focuses on the procedures of comparing groups or relating factors about these individuals or groups (Creswell, 2005).

Correlational research designs involve the researcher using correlational statistical metrics to describe and measure the degree of association between two or more variables. The researchers do not attempt to manipulate the variables; rather they relate two or more

variables (Creswell, 2005). In this research study, the relationship between emotional intelligence, critical thinking, and conflict management modes was explored. Multiple regressions were used to examine the combined relationship between multiple independent variables with a single dependent variable (Creswell, 2005). The basic concept of correlational research is to compare participants in a group on two or more characteristics using instruments that measure the variables that should assist in proving validity and reliability. Typically, one variable is measured on each instrument (Creswell, 2005). In this research study, the multiple independent variables were emotional intelligence and critical thinking with conflict management mode as the single dependent variable.

Emotional intelligence, critical thinking, and conflict handling modes were measured with accepted research tools. Emotional intelligence was measured with the Mayer, Salovey, and Caruso, Emotional Intelligence Test (MSCEIT). The MSCEIT is a test that assesses a person's ability on each of the four branches of emotional intelligence; perceiving emotions, facilitating thought, understanding emotions, and managing emotions (Mayer, Caruso, & Salovey, 1999). The test generates scores for each of the branches as well as a composite score (Salovey & Grewal, 2005). Critical thinking attributes were assessed using the Watson-Glaser Critical Thinking Inventory. The Watson-Glaser Critical Thinking Appraisal is a tool designed to measure critical thinking skills and asks participants to evaluate readings that include problems, arguments, and statements (Watson & Glaser, 1980). The Thomas-Kilmann's Conflict Mode Instrument was used to assess manager's conflict handling modes. The five modes include competing, avoiding, compromising, collaborating, and accommodating styles (Thomas

& Kilmann, 2007). The target population for the random sampling in this research study were 50 randomly selected financial services managers.

Quantitative research design is uniquely suited to the completion of the research goals of this research study by providing a process in which the emphasis is on collecting and analyzing data that measures the distinct attributes of individuals. Creswell (2005) suggests using quantitative correlational research when a researcher seeks to relate two or more variables to see if they influence each other. Correlation is a statistical test that determines the tendency or pattern of two or more variables or sets of data to vary consistently. Explanatory research is a correlational design in which the researcher is interested in the extent to which two or more variables co-vary (Creswell, 2005). Once collected, these measures were used to explore and compare to determine the relating factors about the individuals and groups. The critical thinking and emotional intelligence attributes of the managers were assessed and analyzed. This research study attempted to determine the relationship between these specific attributes and the conflict management modes employed by the managers.

<center>Research Questions</center>

Emotional intelligence and critical thinking are constructs that have had significant research attention and focus. Both constructs are inherently linked, and associated as key elements of cognitive and emotional functions within the brain. This complex interconnection between thinking and feeling may hold the key to understanding the competencies that drive leadership behavior in conflict situations. The proliferation of conflict in the workplace places greater demands upon managers and threatens the future of organizations.

The research questions that follow were used to examine and test for significant relationships between emotional intelligence, critical thinking, and conflict management modes. The combined influences of both emotional intelligence and critical thinking on financial services manager's preferences in terms of handling conflict were also explored.

The Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) provides an overall emotional intelligence score, based on four ability and task scores (Mayer, Salovey, & Caruso, 2002). The ability scores include perceiving, using, understanding, and managing emotions (Mayer et al., 2002). "The eight task scores include faces, pictures, sensations, facilitating, changes, blends, emotional management, and emotional relationships" (Mayer et al., p. 19). The Watson-Glaser Critical Thinking Appraisal (WGCTA) provides a single critical thinking score based on five critical thinking areas including inference, recognition of assumptions, deduction, interpretation, and the evaluation of arguments (Watson & Glaser, 1980). The Thomas-Kilmann Conflict Mode Instrument (TKI) provides scores for each of the five conflict handling modes including "competing, accommodating, avoiding, collaborating, and compromising" (Thomas & Kilmann, 2007, p. 8). The following research questions were examined:

1. Is there a statistically significant relationship between critical thinking and conflict mode preferences?

2. Is there a statistically significant relationship between emotional intelligence and conflict mode preferences?

3. Is there a combined statistically significant relationship between critical thinking, emotional intelligence and conflict mode preferences?

Hypotheses

The previous research questions provided the foundation for the development of the following hypotheses for this quantitative study:

H_0: There is no statistically significant relationship between critical thinking, emotional intelligence and conflict management modes.

The null hypothesis theorizes that statistically, there is no relationship between critical thinking, emotional intelligence and conflict management modes.

H_{1a}: There is a statistically significant relationship between critical thinking and conflict mode preferences.

H_{1b}: There is a statistically significant relationship between emotional intelligence and conflict mode preferences.

H_{1c}: There is a combined statistically significant relationship between critical thinking, emotional intelligence and conflict mode preferences.

The alternative hypothesis theorizes that statistically, there is a relationship between critical thinking, emotional intelligence and conflict management modes.

Theoretical Framework

Leadership theory and management development is a product of the environment as well as history. Historical events have shaped leadership theory and training. Leadership theory is a response to the challenges throughout history. The Industrial Revolution and now the Information Age represent two monumental movements resulting in radical societal change. This change and the challenges faced directed the focus, course, and scope of management theory, practice, and development. Faced with complex problems, management theorists aimed to solve problems. The scientific management theorists found ways to make

work more efficient and productive. The behavioral theorists focused on humanizing the workplace. Gunn (1995) considers management thought in three distinct waves. The first wave is pre-industrial, second the Industrial Revolution, and third the Information Age (Gunn, 1995). Considering this, waves two and three involved reaction-based thought. Theorists were reacting to monumental shifts in society. While the ancient thinkers faced many challenges, in many ways, the thought emanating from ancient times, could be considered more proactive. The focus was on discovering truths rather than responding to any urgent need or problem.

The Information Age has presented us with an ever-changing landscape and monumental challenges. Reaction to these challenges has included management theories such as transformational and servant leadership. Leadership is moving toward a collective nature, in which collaboration and relationships are now center stage. The proliferation of technology requires managers to be technically savvy, and at the same time able to function in a working environment of dynamic change and diversity.

This new environment has resulted in a workplace wrought with conflict, anger, and violence. Conflict management has become a daily reality for managers and a source of heightened concern for organizations as conflict related costs soar from turnover, decreased productivity, absenteeism, stress, and legal costs (Bagshaw, 1998). Organizations, leadership theorists, and management development professionals are searching for answers.

The independent variables were critical thinking and emotional intelligence and the dependent variable was the mode of handling conflict. Emotional intelligence and critical thinking are emerging cognitive and emotion-based constructs that can potentially advance conflict management competencies. While there has been a significant amount of research-based inquiry into emotional intelligence and critical thinking, research has failed to link

either construct to performance directly. Furthermore, limited studies have considered either construct in the context of conflict management. Exploring both constructs together in the same research study along with the individual and combined relationship to conflict management may provide valuable insight. Exploring the critical link and relationship between emotional intelligence and critical thinking to conflict management modes provides organizational leaders with valuable information. This information will result in the development of leaders with the core competencies that enhance the likelihood of success in the conflict management arena. Developing leaders who effectively cope with emotions and manage conflict in the workplace will likely determine the future long-term success and viability of organizations.

<div align="center">Definition of Terms</div>

This section includes key terms referenced throughout the dissertation. These key definitions are provided to enhance the reader's understanding and familiarity with important concepts within the research study. The following definitions are germane and pertinent to the research study:

Competency: The combination of understanding, talents, abilities, and specific qualities that are inherent in individuals (Chan, 2007).

Correlational Research: Involves the researcher using correlational statistical metrics to describe and measure the degree of association between two or more variables. The researchers do not attempt to manipulate the variables; rather they relate two or more variables (Creswell, 2005).

Critical Thinking: The cognitive process of conceptualizing, assimilating, applying, analyzing, synthesizing, and evaluating information obtained through

observation, experience, reflection, and reasoning that serves as a compass to belief and action (Paul & Elder, 2002).

Conflict Management Mode: Conflict style and behavior preferences that reflect strategic, rather than tactical intentions implemented when managing conflict in the workplace (Thomas, 1992).

Emotional Intelligence: The ability to monitor personal as well as the feelings of others, discriminating among them, using this knowledge to guide thinking and behavior (Mayer & Salovey, 1997).

Multiple Regression: A statistical test used to examine and determine the combined relationship between multiple independent variables with a single dependent variable (Creswell, 2005).

Quantitative Research Design: This research design consists of collecting and analyzing data that measures distinct attributes of individuals. The focus is on the procedures of comparing groups or relating factors about individuals or groups (Creswell, 2005).

<div align="center">Assumptions</div>

Several assumptions were inherent in the research process. Assumptions included that participants would trust the confidentiality related to the completion of the surveys, would respond honestly and complete surveys in a responsible manner, and would be presently working in a management position. Each participant was provided with the details related to confidentiality and personally administered all assessments. Additionally, managers currently working in a management position were identified in a file from the Human Resources Department.

Limitations

Limitations included that the validity of the research results were dependent upon the reliability of the research instruments. Other limitations included potentially inconsistent administering of the assessments, bias, and the potential for research subjects to drop out of the research study due to workload. This research study focused on the exploration of the relationships between variables. There may also have been other unidentified variables, which contributed to the results.

Delimitations

The scope of the research was limited to managers in one financial service organization in the northeastern United States. The research study surveyed managers at one financial services organization. Delimitations include that results may have been impacted by corporate culture and may not be generalized across industries or across financial services organizations in other geographical locations.

Summary

Rapid technological advances and economic globalization have resulted in dynamic organizational environments wrought with fundamental and overwhelming change. This dynamic change has resulted in the proliferation of workplace conflict, anger, and violence. This change burdened environment demands more advanced competencies from leaders. "Managing and handling anger and conflict in the workplace has become a new survival skill for leaders in all fields" (Ramsey, 2004, p. 8). While managers are struggling to survive, organizational costs directly and indirectly related to conflict have dramatically increased, threatening the future of organizations. Dana Mediation Institute (2008) reports that costs related to unmanaged conflict are one of the

largest reducible costs in organizations today. Organizations are searching for strategies to develop and recruit leaders with the required competencies to excel in this changeable, diverse, and emotional environment.

Emotional intelligence and critical thinking are emerging constructs in the leadership field. Salovey and Mayer (1990) describe emotional intelligence as a set of competencies and skill sets relevant to the precise appraisal and expression of emotion in oneself and others and successful regulation of emotion in oneself and others. Ennis (1987) described critical thinking "as the reasonable, reflective thinking that focuses on deciding what to believe or do" (p. 10). Emotional intelligence and critical thinking represent affective and cognitive brain functions. This critical link between thinking and feeling may hold the key to understanding how managers handle conflict. The following chapter reviews the literature on emotional intelligence, critical thinking, and conflict management.

Chapter 1 provided an overview of the background and problem facing organizational leaders in the area of conflict management brought about by rapid change and technological expansion. Managing in this dynamic and changeable environment requires new and advanced competencies. This quantitative, correlational study examined the relationship between critical thinking, emotional intelligence competencies, and conflict handling modes. The literature review provides an overview of the scholarly contributions relative to this research topic.

CHAPTER 2: REVIEW OF THE LITERATURE

The global, networked economy is forcing a new dynamic, broader definition of leadership. Pulley and Sessa (2001) describe this new leadership model as a complex challenge characterized by competencies including individual and community, top-down and grass roots, details and vision, flexible, and steady. This new leadership model will require organizations to face challenges together and to view leadership as something in which everyone participates. Leadership will require new and advanced competencies with an added urgency of being able to form and re-form relationships that span time and distance (Pulley, McCarthy, & Taylor, 2000). Globalization, technology, and socio-political changes require resilient and flexible leaders who are emotionally intelligent and able to absorb complex change in order to inspire others to move forward with momentum to achieve success (Reid, 2008). These new challenges of leadership, brought on by a global economy, diversity, and the technological expansion, will require leaders to learn, think, act, and lead differently.

One result of this explosion of change in society is the prevalence of conflict, anger, and violence in the workplace. Handling conflict, anger, and violence on the job has become a new survival skill for leaders in all fields (Ramsey, 2004). Conflict manifests itself as a difference among two or more persons or groups characterized by tension, stress, divergence, or emotion, where bonding is broken or lacking (Kohlrieser, 2007). Conflict has become the lifeblood of organizations with managers spending approximately 24% of their time managing conflict (Kohlrieser, 2007). Unmanaged conflict in the workplace results in significant direct and indirect costs, prompting organizations to strategize to recruit, hire, and develop managers who can effectively

manage in this conflict-laden environment. Conflict produces mutual destruction and despair, but can also result in honest exchanges and common ground.

Conflict has the potential to inspire and at the same time to damage organizations. Unmanaged conflict can sap the financial health and fitness of organizations (Dana, 2001). Conflict can result in wasted time, reduced decision quality, loss of skilled employees, restructuring, thefts, property damage, decreased motivation, lost work time, and health costs (Dana, 2001). Managers serve on the frontline and function within the conflict landscape. The ability to resolve differences between employees is an increasingly important competency as organizational hierarchies become flatter and interdependent (Dana, 2001). Managed properly, conflict can be production and positive for organizations. Conflict can be directed and managed in a way that causes both people and organizations to grow, innovate, and improve (Bacal, 2004).

Managing conflict is central to understanding organizational practices (Tjosvold, 1998). The reasons and causes for workplace conflict vary widely. Leaders must be aware that dealing with conflict at work means addressing the root cause of the conflict within the work group, rather than assuming conflict is an individual problem associated with one's personality (Booth & Mann, 2005). Organizational leaders must ensure adequate investment and attention paid to sound organizational practices and support systems.

Creative thinking and emotional intelligence are two leadership competencies that may aid organizations in understanding the practice of managing conflict. Managers in this new environment are required to make decisions under intense uncertainty and stress, requiring advanced leadership skills in both the emotional and cognitive areas. The

purpose of this quantitative correlational study was to explore and examine the potential relationship between a leader's critical thinking and emotional intelligence competencies and their preferred mode of conflict management.

This literature review is limited to germinal works for each individual variable and to recent studies that relate to the variables. The independent variables were critical thinking and emotional intelligence. The dependent variables were the conflict management modes. The literature review focused on related brain research, specifically the cognitive and emotional aspects of the brain. Finally, the review also focused on studies relating to the exploration of the relationships among these variables.

<div align="center">Documentation</div>

The literature review is limited to the germinal research of each variable and to recent works that focus on the relationship among the variables. The independent variables are critical thinking and emotional intelligence and the dependent variable is the mode of handling conflict. The search protocol for this literature review relied on Thomas Gale PowerSearch for major article databases and Proquest for dissertations and theses. The article search was limited to peer-reviewed articles. The review of major article databases, returned 1038 and 203 respectively for keywords critical thinking and emotional intelligence; 640 for conflict management; 25 for critical thinking and leadership: 34 for emotional intelligence and leadership; 3 for critical thinking and conflict management; 7 for emotional intelligence and conflict management. Since 2000, there were 397 doctoral dissertations and theses on emotional intelligence, 299 on critical thinking, and 127 on conflict management. There were three dissertations on critical thinking and emotional intelligence, two on emotional intelligence and conflict

management, and none on critical thinking and conflict management. This literature review did not return any dissertations or theses on critical thinking, emotional intelligence, and the relationship to conflict handling modes.

The research included in the reference section includes 111 references, with 44 references or 40% within five years. This is lower than the recommended 85% due to the nature of this research study. This research study involved emotional intelligence, critical thinking, and leadership topics, which have an abundance of theorists, scholars, seminal research, and peer-reviewed articles prior to 2004. Further increasing the percentage of works within 5 years would diminish the quality and integrity of the research.

<div align="center">Literature Review</div>

The construct of leadership is evolving in the midst of a changeable and dynamic landscape. According to Chan (2007), leadership can no longer be viewed exclusively as traits or behaviors, but rather a highly conceptualized construct that emerges through the complex interaction and dealings of leaders, followers, in various situations. Researchers have long explored the relationship between intelligence and leadership. Lao Tzu (600 BC) believed that the source of true leaders emanated from within. While research has generally confirmed that intelligence plays an important role in leadership, questions remain regarding the relationship between intelligence and leadership effectiveness (Chan, 2007).

In recent years, researchers have begun to explore broader conceptualizations of intelligence (Chan, 2007). The construct of emotional intelligence has advanced the notion that intelligence is more than mental abilities (Chan, 2007). Many believe that the construct of emotional intelligence could provide new insight, understanding, and

enlightenment into the competencies of leadership (Chan, 2007). Sternberg (2003) contended that conventional definitions of intelligence focused too heavily on analytical aspects. This advanced definition of intelligence included practical aptitude, creative aptitude, and analytical abilities. This broader definition of intelligence that includes both cognitive and emotional aspects may hold the key to understanding the competencies of a successful leader in this new changing environment, ripe with conflict and uncertainty. Emotions are critically important functions of human behavior such as preparing for action, aiding cognition, and communications (Shaffer & Shaffer, 2005). Such an integral component of human behavior cannot be overlooked in the context of leadership.

The element of change and uncertainty in society and organizations today is driving this new leadership construct. The business environment is volatile and leaders must deal with rapid change. Environmental turbulence and increased interdependence creates dilemmas and paradoxes within organizations (Novelli & Taylor, 1993). Such rapid change requires managers who are creative and innovative problem solvers. Dealing with uncertainty requires moving beyond what has been done in the past. This change has also resulted in a workplace with more emotion and conflict. This changeable, emotional environment requires new leadership competencies. Leadership research has indicated limited success in correlating conventional intelligence and leadership effectiveness (Chan, 2007). Practical abilities in applying analytical and creative competencies to manage in this new organizational environment may be more important than innate talents.

The purpose of reviewing the germinal works on critical thinking, emotional intelligence, and conflict management modes is to find commonalities that may indicate

potential relationships among the variables. Literature directly related to the independent and dependent variables were examined as well as the relationship between critical thinking, emotional intelligence, and leadership. Research relating to brain research was reviewed as it relates to the cognitive and emotional aspects of thinking. The literature review also includes studies and research relating to the relationship among the variables.

<center>Independent Variables: Critical Thinking and Emotional Intelligence</center>

The independent variables in this research study were critical thinking and emotional intelligence. The literature review focused on germinal research for each variable and the potential relationships to each other.

Critical Thinking

The origin of critical thinking can be traced back to Socrates, Plato, and Aristotle over 2000 years ago (Paul & Elder, 2002). Some other notable contributions include the works of Chaucer, Francis Bacon, Pascal, Freud, Descartes, Robert Boyle, Max Weber, William Graham Sumner, and John Dewey. This rich history and tradition illuminates the absolute truth, power, and necessity of critical thinking in everyday life. In this context, critical thinking has never been more important. The accelerating change and complexity of our society requires new thinking models. According to Paul and Elder (2002), "The problems we face now, and will increasingly face, require a radically different way of thinking, thinking that is more complex, more adaptable, and more sensitive to divergent points of view" (p. 1).

"Critical thinking is a mode of thinking in which the thinker improves and advances his or her thinking by purposely taking charge of the cognitive structures inherent in thinking and imposing intellectual standards upon them" (Paul & Elder,

2002). Ennis (1987) described the elements of critical thinking as focusing in belief and action, making statements in terms of things that people do or should do, including criteria to help evaluate results, including both dispositions and abilities, and organized in such a way to form the basis for thinking across curriculum.

Paul and Elder (2002) describe critical thinking as providing the tools of the mind people need to think well through any and everything that requires thought. "Critical thinking adds a second layer of thinking to ordinary thinking. The second layer analyzes and assesses over ordinary thinking" (p. 14). Critical thinking enables people to enter into various situations and assess the logic of whatever is happening (Elder, 1997). Critical thinking enables people to formulate sound beliefs and judgments, providing a basis for a rational and reasonable emotional life (Elder, 1997).

Watson and Glaser (1980) view critical thinking as a composite of attitudes, knowledge, and skills. This composite view includes attitudes of inquiry that involve the ability to recognize the existence of problems and an acceptance of the general need for evidence in support of what is asserted to be true. Knowledge of the nature of valid inferences, abstractions, and generalizations are also important. Finally, skills in employing and applying these attitudes and knowledge are required (Watson & Glaser 1980).

The Watson-Glaser Critical Thinking Appraisal (1980) seeks to measure these composites in the areas of inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments. Inference is the ability to discriminate among degrees of truth or falsity of inferences drawn from given data. Recognition of assumptions is the ability to recognize unstated assumptions or presuppositions in given

assertions. Deduction is the ability to determine whether certain conclusions necessarily follow from information in given statements or premises. Interpretation is the ability to weigh evidence and decide if generalizations or conclusions based on the given data are warranted. Evaluation of arguments is the ability to distinguish between arguments that are strong and relevant and those that are weak or irrelevant (Watson & Glaser, 1980).

Dressel and Mayhew (1954) contend that critical thinking includes the ability to define a problem, to select pertinent information for the resolution of a problem, recognize stated and unstated assumptions, formulate and select relevant information, draw valid conclusions and judge valid conclusions, as well as the validity of inferences (Dressel & Mayhew, 1954). Paul and Elder (2002) also support the importance of assumptions in the critical thinking process. Assessing skills of reasoning involves assessing the ability to recognize and articulate assumptions according to relevant standards.

Researchers have also made connections between ethical behavior and critical thinking. Dabrowski, Kohlberg, and Perry are three theorists that made connections between ethical behavior and the highest level of thinking (Kienzler, 2001). They each created human development models that demonstrate the progression to higher levels of thinking. At the heart of this progression is the process of inner conflict. Through the process of critical thinking, people develop by questioning values and examining multiple choices and alternatives (Kienzler, 2001). Paul and Elder (2002) also contend that critical thinkers think in an ethically responsive manner. Critical thinkers are willing to listen to arguments they do not necessarily hold. Critical thinkers also are willing to change their views when faced with better reasoning (Paul & Elder, 2002).

Critical thinking has also been the subject of debate in the educational arena, both at the K-12 and college levels. Educational leaders are exploring curriculum designs and alternative teaching practices in order to integrate innovative ways to incorporate critical thinking into the curriculum. Business schools are reevaluating curriculum in order to stay relevant to the needs of businesses to employ people with knowledge and skills related to areas of global competitiveness, entrepreneurship, business ethics, diversity, and team building (Das, 1994). Business schools are focused on developing managers to meet the needs of the future. A critical element of this goal is to develop critical thinkers. Critical thinking and learning are inseparable and both of these constructs are required concurrently for effective leadership processes (Novelli & Taylor, 1993).

Critical Thinking and Leadership

The link between leadership and intelligence has long been the subject of researchers. In the 1930's studies suggested, that intelligence contributed to leadership. Recent studies have suggested the relationship between intelligence and leadership is ambiguous, recognizing the importance of the situation and context (Chan, 2007). Chan (2007) reported findings from a research study of Chinese students in Hong Kong. This research study revealed a limited relationship between leadership effectiveness and conventional intelligence and analytical abilities (Chan, 2007). These findings concluded that practical abilities in applying analytical and resourceful talents to specific situations could be even more important in predicting leadership effectiveness (Chan, 2007).

Rapid change has resulted in a profound increase in the pace of the business environment that leaders face today. This rapid pace has resulted in a propensity for leaders to make rash decisions by focusing on the short-term. Per Menkes (2006), critical

thought and inquiry is often seen as an impediment, when in reality it must be acknowledged as a catalyst of effective action. As a cognitive construct, critical thinking is linked to leadership through the decision making process. Critical thinking in business involves skillfully working out the best possible solution by identifying and using all available information that has value for that purpose and resisting immaterial or unreliable considerations (Menkes, 2006). Critical thinking is a form of intelligence; an organic, adaptive, ever-evolving set of cognitive skills applied in the business arena (Menkes, 2006). Per Mangieri (2008), the ability to think critically and creatively is a skill regularly exhibited by all outstanding leaders. According to Tucker (2007), critical thinking skills are valuable to leaders and result in the ability to persuade and influence followers.

Skillful decision-making requires skillful thinking. In order to become critical thinkers, people must become intimate observers of the manner in which they construct their own intimate world (Paul & Elder, 2002). In the decision-making process, Paul (1993) notes that critical thinking helps people sympathetically encounter the perspectives of others and not judge another person's perspective until genuine understanding is achieved. Meta-cognition is an essential aspect of critical thinking and involves the process of being aware of and modifying our thinking processes as we use them (Watkins, 2004). "This is a key component to our ability to identify and strengthen those aspects of our thinking that serve us well, and to modify those that don't." (p. 44). Further research is required to enhance our understanding regarding the connection between critical thinking and leadership. Critical thinking represents a unique opportunity for gaining insight on how leaders make decisions and how the application of critical

thought can enhance this process. The critical thinking competencies employed by leaders include probing, proving, asking the right questions, and anticipating problems; these are the specific cognitive skills that make up critical thinking and enhance the decision making process (Menkes, 2006).

Per Paul and Elder (2002), critical thinking when applied to decision making enhances the rationality of decisions by elevating the pattern of decision making to the level of conscious and deliberate choice. Skillful decision-making requires critical thinking. Decision-making can be improved by reflecting critically on the nature and role of decisions, systematically adopting strategies that enhance the reasonability of decision-making, and by comparing our global philosophy with the facts, and seeking to find contradictions and inconsistencies. This results in a more comprehensive view of the direction and quality of our lives (Paul & Elder, 2002). In this sense, critical thinking may hold the key to improving decision-making competencies and enhancing leadership effectiveness.

Emotional Intelligence

Salovey and Mayer (1990) proposed the first formal definition of emotional intelligence. They defined emotional intelligence as "the ability to monitor one's own and others' feelings, to discriminate among them, and to use this information to guide one's thinking and action" (p. 189). Mayer and Salovey (1997) broke emotional intelligence down to four abilities including perceiving, using, understanding, and managing emotions. Mayer, Caruso, and Salovey (2000) considered emotional intelligence a set of interrelated skills that allow people to process emotionally relevant information effectively and accurately. Salovey and Mayer's (1990) theory of emotional intelligence

provides a framework for exploring the individual differences in abilities related to processing emotional information. Caruso and Salovey (2004) contend that emotions are important and relevant to our everyday lives. They also indicate that emotions are paid little attention in formal education and that in general; people are woefully inadequate when it comes to understanding and dealing with them (p. 24).

While Salovey and Mayer (1990) were the first researchers to introduce the theory of emotional intelligence, Goleman (1995) is responsible for popularizing the construct. Goleman (1995) translated the previous research and data on emotional intelligence into lay terms and presented a simple, exciting, and attractive concept. Goleman (1995) identified 13 main components of emotional intelligence including "self-awareness, personal decision making, managing feelings, handling stress, empathy, communications, self-disclosure, insight, self-acceptance, personal responsibility, assertiveness, group dynamics, and conflict resolution" (p. 303). Emotional intelligence was initially considered a component of the multi-varied intelligence construct. Goleman (1995) considered emotional intelligence a competency in its' own right and one that could be learned. According to Goleman (1995), unlike IQ, emotional intelligence can be improved throughout life. While purely cognitive capacities remain relatively fixed, emotional competence is learned at any point in life and cultivated (p. 240).

Goleman (1998) reported that as IQ scores rise in the United Stated, emotional intelligence has declined. This disturbing trend suggests a future workplace where most workers are deficient in emotional intelligence. Goleman (1998) presents a case that emotional intelligence matters more than IQ in determining who excels at any job. Goleman lays out a plan to apply the concept of emotional intelligence to the workforce.

Goleman has been criticized for his out of date research (Cross, 2001) and for questionable conclusions (Elder, 1996). Despite this criticism, Goleman is credited and recognized for raising the awareness of emotional intelligence and the importance emotions plays in our lives.

Goleman (1998), Caruso and Salovey (2004), believe that emotional intelligence can be learned and cultivated. According to Caruso and Salovey (2004), emotional intelligence as measured by the MSCEIT is higher among middle-aged adults than among young adults. Likewise, Goleman (2005) contends that all emotional competencies can be cultivated with the right practice. Goleman (1995) believes that unlike cognitive capacities such as IQ, emotional intelligence can be improved throughout life. The question remains, that while emotional intelligence seems to enhance with age, can emotional intelligence be taught, or does it improve as a result of maturity.

Emotional Intelligence and Leadership

The dynamic and changeable landscape has resulted in business environments in which emotion plays an increasing powerful role. Leadership is a process of building social relationships where the leader's ability to influence the behavior and actions of their followers strongly influence performance and achievement (Humphrey, 2002). Leadership is inherently an emotional process, in which leaders distinguish follower's emotional stages, attempt to induce emotions in followers and manage follower's emotional states (Humphrey, 2002). Many research studies have confirmed the important role that emotion plays in leadership (Service & Fekula, 2008). Evidence supports the notion that intelligence alone will not determine success and that emotion plays a critical role in organizational performance and success (Suliman & Al-Shaikh, 2007). The ability

of leaders to influence the emotional work climate can strongly influence performance and achievement (Humphrey, 2002). Research indicates that emotions, when properly managed, can drive trust, loyalty, commitment, productivity gains, innovations, and accomplishments of individuals, teams, and organizations (Cooper, 1997). A research study by Kerr, Garvin, Heaton, and Boyle (2006) concluded that emotional intelligence is a key determinant of effective leadership. Likewise, Rosete and Ciarrochi (2005) concluded an existing link between emotional intelligence and leadership effectiveness.

Pinos, Twigg, Parayitam, and Olson (2006) contend that a link exists between emotional intelligence and transformational leadership. Transformational leaders are individuals who increase interest among followers in order to generate increased confidence, creating and fostering an environment in order to accomplish goals (Gardner & Stough, 2002). Research studies by Barling, Slater, and Kelloway (2003) as well as Gardner and Stough (2002) concluded that a strong relationship exists between emotional intelligence and the transformational leadership style. Pool and Cotton (2004) concluded that high levels of emotional intelligence facilitates individuals having a closer understanding of people and their surroundings. This link between emotional intelligence and transformational leadership behaviors sets the stage for further research in understanding the link between emotional intelligence and leadership.

Personal competence and social competence are two components of emotional intelligence that refer to the ability to understand one's own feelings, strengths, weaknesses, and the ability to manage those negative feelings effectively (Lubit, 2004). These abilities to contain anger and anxiety result in clear thinking in upsetting situations and are crucial to effective decision-making (Lubit, 2004). Leaders find that when they

pay attention to emotions they save time, expand opportunities, and focus energy more effectively for enhanced results (Lubit, 2004). Emotional intelligence can help heal mistrust, foster empathy, and innovation (Lubit, 2004). Emotional intelligence also puts leaders in touch with their intuition, leadership capacity, and ability to build, maintain, and foster trusting relationships (Cooper, 1997). Staying in touch with inner voices can help leaders develop a sense of knowing beyond their thoughts to transform performance (Cooper, 1997). Emotional intelligence competencies, enhances a leader's perception of self and others in order to achieve performance goals (Pinos, Twigg, Parayitam, & Olson, 2006).

Mayer and Salovey (1997) developed the model of emotional intelligence to address the growing need for a framework to organize the study of individual differences in abilities to manage emotions. The framework included four branches of emotional intelligence including perceiving, using, understanding, and managing emotions (Mayer & Salovey, 1997). Salovey, Bedell, Detweiler, and Mayer (1999) found that individuals rating high in the ability to perceive accurately, understand, recognize, and appraise others' emotions were better able to respond and react to changes in their social environments and build supportive networks. While research has confirmed the importance of emotional intelligence, little empirical evidence exists to support a link between emotional intelligence and leadership effectiveness (Ashkanasy & Daus, 2002).

Goleman (1998) made the distinction between emotional intelligence and emotional competence. Goleman (1998) wrote that "emotional intelligence determines our potential for learning the practical skills that are based on the elements of self-awareness, drive, motivation, self-regulation, compassion, and adeptness in relationships"

(p. 24). Emotional competence is a learned ability and indicates how much of that potential translates into on-the-job capabilities (Goleman, 1998). Goleman (1998) contended that being high in emotional intelligence does not ensure a person will learn the emotional competencies that are required to function effectively at work. This contention may have some validity especially related to research in the organizational setting. Further research is required to explore the potential link between emotional intelligence competencies and leadership effectiveness. Goleman's (1995) claim that emotional intelligence can be learned has provided organizational leaders with hope for the future. Developing and reinforcing emotional intelligence competencies in the workplace may hold the key to enhanced leadership, resulting in the productive management of conflict.

Kouzes and Posner (2002) define the core principles of leadership as modeling how people want others to act on their values, inspiring a shared vision, challenging the usual processes for getting things done by exploring opportunities to innovate, enabling others to act by fostering collaboration and sharing power, and encouraging the heart by recognizing the contributions of others. Caruso and Salovey (2004) contend that accomplishing these goals requires emotional intelligence competencies. Leadership is an emotional process in which leaders recognize follower's emotional states, attempt to evoke emotion in followers, and seek to manage followers' emotional states (Humphrey, (2002). Emotional intelligence may be a catalyst for articulating vision, developing, and nurturing constructive relationships with organizational members (Ashkanasy & Daus, 2002).

According to Diggins (2004), the best managers need to possess emotional intelligence in order to be effective decision-makers. Managers with strong emotional intelligence make decisions that are based on a combination of self-management and relationship skills. They are also cognizant of how their behavior impacts others in the organization. Per Diggins (2004), emotional intelligence plays a greater role than traditional intelligence in determining a leader's success. Abraham (1999) hypothesized that participants with higher levels of emotional intelligence tend to demonstrate higher levels of management performance. Other researchers such as George (2000) showed how specific components of emotional intelligence such as empathy are important traits that contribute to effective leadership. Empathy is the cornerstone of understanding and helping others develop meaningful relationships with subordinates. These social skills inherent in emotional intelligence are critical for management, teamwork, conflict resolution, and collaboration (Abraham, 2004).

<div align="center">Dependent Variable: Conflict Management Mode</div>

Conflict Management

Rapid organizational change and the globalization of businesses have resulted in an alarming increase of emotion in the workplace. This emotion often takes the form of conflict. Conflict is a phenomenon that pervades the organizational environment. Managers spend 24% of their workday time managing conflict (Guttman, 2004). Beneath the apparent calm surface of organizational life, an undertow of dysfunctional conflict exists and threatens the entire operation. Neglecting this aspect of leadership is more dangerous than ever before, given the global and wired for speed organization where

unresolved conflict has the potential to escalate and permeate the business (Guttman, 2004).

The traditional view of conflict represents a dysfunctional process and a breakdown in the organizational control systems (Pondy, 1992). The contemporary view of conflict represents a positive force in organizations if managed properly (Callanan, Benzing, & Perri, 2006). As a positive force, conflict can help maintain a level of stimulation and contribute to innovation (Miles, 1980). Properly managed conflict can contribute to improved decision-making practices (Amason, 1996). The key is how organizations and their leaders deal with conflict. Unmanaged conflict can result in mutual destruction and despair (Tjosvold, 1996). In terms of conflict, the stakes are high for organizations and understanding the principles of effective conflict management is an urgent priority.

Managing conflict is difficult because it arouses such primitive emotions (Bagshaw, 1998). People feel threatened and "the urge to fight expresses itself as hostility, the urge for flight as withdrawal, neither of which is useful in the modern organizational context" (Bagshaw, 1998, p. 206). Properly managed conflict can be productive and a creative force for the business, individual, and work-team (Bagshaw, 1998). As a positive force, conflict can help maintain an optimal level of stimulation and activation among organizational members and contribute to creativity and innovation (Callanan, Benzing, & Perry, 2006). Conversely, unmanaged conflict can lead to divisiveness and contention. Effective leaders recognize the sustaining presence of conflict in the today's workplace underlying the course of decision-making, communication, interaction, and relationships (Porter-O'Grady, 2004). The challenge is

for leaders to recognize conflict and deal with it (Porter-O'Grady, 2004). By being aware of their responses to conflict, leaders create the context for organizational behavior and effective processes (Porter-O'Grady, 2004). Callanan, Benzing, and Perri (2006) contend that leaders are able to read contextual factors and social cues within a conflict situation and select the most appropriate conflict-handling mode. Leaders must recognize that their behaviors in the presence of conflict, sets the tone for how the organization approaches conflict situations (Porter-O'Grady, 2004).

Several existing models serve as frameworks for research on interpersonal conflict. The Organizational Conflict Inventory (Rahim, 1983) and the Conflict Mode Instrument (Thomas & Kilmann, 2007) are the most well known and widely accepted instruments (Callanan et al., 2006). Thomas (1992) offers a model presenting four primary stages including frustration/awareness, conceptualization, behavior, and outcome. The Thomas-Kilmann Conflict Mode Instrument is the most widely used and recognized tool to assess an individual's behavior in conflict situations (Thomas & Kilmann, 1977). Individual behavior is described along the dimensions of assertiveness and cooperation in five conflict-handling modes including competing, collaborating, compromising, avoiding, and accommodating (Thomas & Killman, 2007). The competing style occurs when a leader stresses their position without considering opposing points of view. This is a highly assertive style with minimal cooperativeness. The collaborating style occurs when the concern is to satisfy both sides. This style is highly assertive and highly cooperative. The compromising style involves finding the middle ground by foregoing individual concerns and committing to other's concerns. This style is moderately assertive and moderately cooperative. The avoiding style occurs

when the leader does not satisfy individual concerns or the concerns of others. This style in low assertiveness and low cooperativeness and is considered decision-making by default. The accommodating style involves the leader foregoing individual concerns in order to satisfy the concerns or others. This style is low assertiveness and high cooperativeness (Thomas & Kilmann, 1978).

Conflict Management and Leadership

Developing manager's conflict resolution skills is the defining step in a much broader consideration of conflict resolution as an organizational process (Porter & O'Grady, 2004). Myers and Larson (2005) believe that conflict management is a learned social skill set and that many college students entering the workforce face ambiguous and challenging conflict situations. Managers today must demonstrate aptitude at social as well as technical skills (Myers & Larson, 2005). The global business environment forces organizations to check unmanaged conflict in order to limit the impact to organizational decisions (Muir, 2004). Exploring leader competencies that contribute to enhanced conflict management practices is an area of intense interest to organizational leaders. Identifying the essential skills and competencies of effectively managing conflict is complicated. Conflict can occur at different levels and in different situations.

Given today's global aspect of business organizations and the speed of doing business, conflict and anger are more prevalent than ever and neglecting this aspect of leadership can drag down an entire organization (Guttman, 2004). Conflict is multi-faceted and can be overt or hidden. Overt conflict occurs when two parties openly disagree. Hidden conflict is a submerged disagreement. This type of conflict shows itself indirectly through lack of cooperation, productivity, absenteeism, turnover, and poor

quality (Guttman, 2004). Handling anger and conflict in the workplace has become a new critical survival skills for managers in all fields (Ramsey, 2004). According to Allcorn (1994), leadership style may contribute to the level of conflict in organizations. The author contends the existence of a psychological aspect of leadership and that these processes may be responsible for irrational decisions leading to anger among subordinates (Alcorn, 1994). Per Tjosvold (1991), managing conflict is central to understanding the practice of organizations. Tjosvold (1991) suggested that conflict researchers increase the focus on conflict in the context of leadership instead of treating conflict as independent.

While significant research has been devoted to correlating the critical thinking and emotional intelligence constructs with leadership effectiveness, little research has focused on linking critical thinking and emotional intelligence with conflict management. Levinson (2008) reports that leaders who are skilled in handling relationships can resolve conflicts and disagreements more effectively. Emotional awareness and accurate self-assessment may help leaders manage uncontrolled emotion (Abraham, 2004). However, little empirical evidence exists regarding the role of emotional intelligence in achieving better performance during conflict resolution (Jordan & Troth, 2004).

According to Bramen (1998), encouraging adults to think critically is the first step in improving conflict resolution skills. The author declares that through critical reflection one achieves perspective transformation. Identifying and challenging assumptions is a key component to conflict management (Bramen, 1998). Given that critical thinking is key in the decision-making process, it may also be key in managing through differences.

Paul and Elder (2002) describe the goal of decision making as deciding between sets of alternatives that are most in keeping with the welfare of the ourselves and others.

The ability to manage differences and conflict in the workplace is an increasingly important competency, as organizational hierarchies become flatter, which results in employees becoming more interdependent (Dana, 2001). The ability to navigate through conflict situations within an organization is critical to success. Organizations are increasingly diverse which results in interdependencies and greater potential for disagreements (Kohlriser, 2007). A key tactic for managing conflict is to manage our focus in the mind's eye. The mind's eye is the way we view a situation and determines how we will act or react. This inner dialogue is a fundamental tool to create a positive or negative result in managing conflict (Kohlriser, 2007). This cognitive process involves strategic intentions that result in certain behaviors when dealing with conflict.

Conflict Management Modes

Research has determined that individuals faced with conflict choose conflict-handling strategies. Individuals read contextual factors and social cues within a conflict episode to select the most situationally appropriate conflict-handling response (Callanan et al., 2006). An individual's approach to handling conflict is contingent upon situational factors, rather than being static. Conflict modes refer to an individual's predominant style or general approach toward conflict. Thomas and Kilmann (1977) highlighted the importance of managers to see the usefulness of conflict modes as depending upon a complex set of situational circumstances. Blake and Mouton's (1964) two-dimensional model of conflict remains the basis of conflict mode research and assessment instruments (Volkema & Bergmann, 1995). The dimensions of assertiveness and cooperativeness

represent the range of both strategic and tactical use of behaviors in dealing with conflict. The most widely accepted conflict mode assessments include Hall's (1969) Conflict Management Survey, the Thomas-Kilmann (2007) Conflict Mode Instrument, and Rahim's (1983) Organizational Conflict Inventory. All three instruments are based on the assertiveness and cooperativeness dimensions to include collaborating, competing, accommodating, cooperativeness, and avoiding styles.

The extensive research on conflict modes and situational factors that define conflict are useful starting points in explaining how circumstances can frame the conflict and dictate appropriate responses. Organizations should recognize that the deployment of situationally appropriate responses to conflict should produce positive outcomes for the individuals involved and for the organization (Callanan et al., 2006). This important connection between conflict modes and situations can serve as a valid foundation for conflict management training based on real-life scenarios and the application of the five conflict handling modes. Such training allows students and employees to see the complex factors that frame conflict as well as the potential efficacy of varying responses (Callanan et al., 2006). Additionally, this knowledge serves as the basis for exploring the impact that certain competencies such as critical thinking and emotional intelligence play in the application of various conflict-management responses.

Critical Thinking, Emotional Intelligence, and Brain Function

Cognition and Emotion

This research study examined the potential relationship between emotional intelligence, critical thinking, and conflict management modes. Critical thinking represents the cognitive aspect of brain function and emotional intelligence the emotional

aspect. In the area of brain research there has long been confusion and debate regarding the relationship between cognition and emotion (Lane & Nadel, 2000). A possible source of the confusion is that cognition and emotion are not considered real functions of the brain but instead collections of disparate brain processes. The true nature of this relationship will not be understood until the interaction rules that relate cognition and emotion are specified (Lane & Nadel, 2000).

The integration of left-right brain function delineates the left-brain functions to include logic, analysis, and linear thought. Right brain functions include concepts, relationships, and lateral thought (Stefano & Wasylyshyn, 2005). Lane and Nadel (2000) report that research in the prefrontal cortex has indicated that emotion is integral to the process of reasoning and decision-making. Thoughts and feelings are two ways of knowing and making sense of immediate reality (Nelson, Low, & Ellis, 2007). The delicate balance between emotional intelligence, critical thinking, and conflict management modes can be reframed as a relationship between emotions, thoughts, and action. No matter how rational thoughts are, an emotional impulse is required to take action (Frijda, Manstead, & Bem, 2000).

Caruso and Salovey (2004) explored the strong link between emotions and thinking. Thinking cannot and does not occur without emotion (p. 100). The existence of emotional markers in the brain is a critical factor that leads to effective decision making during the reasoning process (Bechara, 2004). Marziali (2006) reported that the frontal lobes of the brain are not only the seat of emotion, but they also interconnect emotion, social conduct, and decision-making. Armstrong (1973) wrote that while beliefs may

guide actions, they are not sufficient to initiate action. No matter how rational thoughts are, emotional impulse is needed to take action.

Emotions turn thinking into action (Frijda, Manstead, & Bem, 2000). Emotions influence thinking in general and do so by motivating thought as well as influencing the information selection (Frijda et al., 2000). According to Brand (1984), thinking, no matter how well articulated, is not sufficient for action. Rational thoughts require an emotional impulse before they are acted upon. Damasio (1994) demonstrated that emotional processes are required for certain types of decision-making to occur.

Thinking, Feeling, and Wanting

Paul and Elder (2002) identified three functions of the mind to include thinking, feeling, and wanting (see Figure 1). The function of thinking is to create meaning and make sense of the world. The function of feeling monitors or evaluates the meanings created by the thinking function. The wanting function allocates energy to action (Paul & Elder, 2000). "There is an intimate, dynamic interrelation between thinking, feeling, and wanting" (p. 40). The function of emotion is seen as the management of action (Oatley, 1992). Reisenzein (1998) proposed that emotion is a non-cognitive form of appraisal.

The function of thinking is to create meaning. Thinking makes sense of the events in our lives and sorts events into named categories and finds patterns (Elder, 2004). The cognitive component of the mind includes actions such as analyzing, comparing, assimilating, assuming, inferring, and questioning. This cognitive function is concerned with conceptualizing and reasoning (Elder, 2004). Reasoning occurs whenever the mind draws conclusions on the basis of reasons. Thinking always involves some element of reasoning (Paul & Elder, 2000).
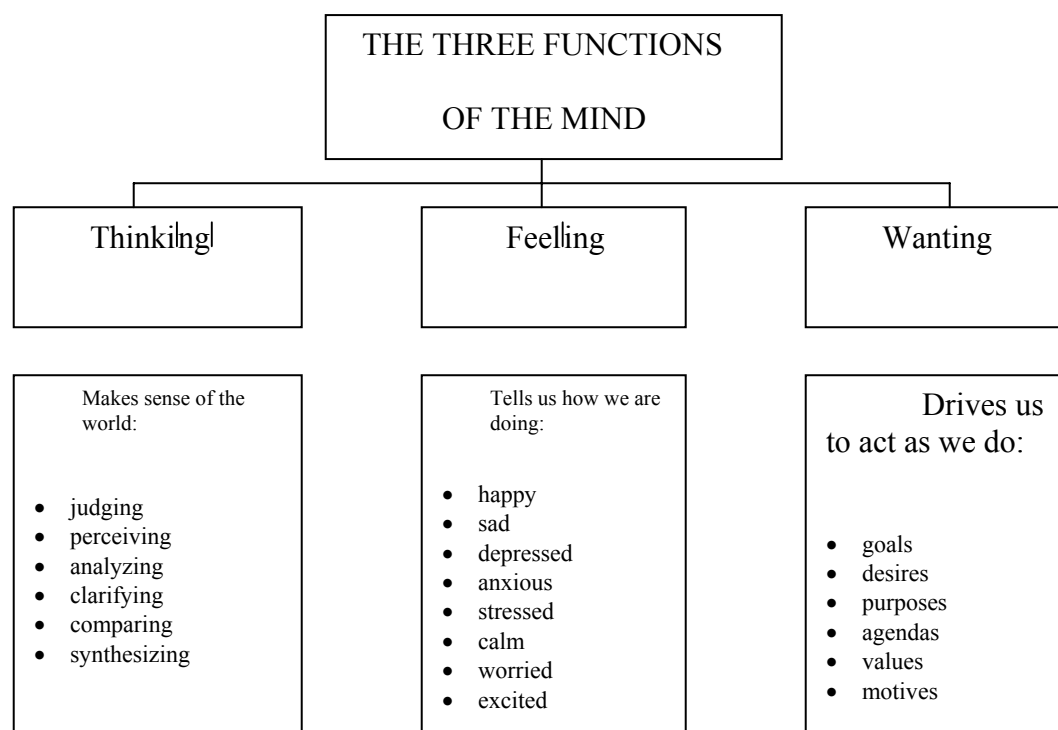
Figure 1. The Three Functions of the Mind

Note. From "Critical Thinking: Tools for Taking Charge of Your Professional and Personal Life," by Paul and Linda Elder, 2002. Upper Saddle River, NJ: Prentice Hall. Reprinted with permission of the publisher.

The function of feeling is to monitor and evaluate the meanings created by the thinking function. The feeling function evaluates how positive and negative the events of our lives are, given the meaning we ascribe to them (Paul & Elder, 2002). The feeling function is the internal monitor of the mind that informs us how we are doing in certain situations. The function of wanting allocates energy to action based on the notions of desirability and possibility (Paul & Elder, 2002). This function is the driving force, including desires, and volition. Our mind is continually communicating three distinct kinds of information including what is going on in our lives, feelings about those events, and things to pursue, and where to put our energy. According to Elder (2004) despite the

fact that cognition, feeling, and wanting are key brain functions, the cognitive function is the key to the other two.

Critical Thinking and Emotional Intelligence

This research study explored the relationship that critical thinking and emotional intelligence has on conflict management modes. Elder (1997) questions Goleman's (1995) conclusions of two separate minds. Goleman (1995) wrote that we have two kinds of intelligence that include the rational and emotional minds. Elder (2004) challenges this assumption and contends that a complex, intricate relationship exists between thinking and emotions. Critical thinking determines the quality of our emotions and leads us toward or away from some action. Therefore, critical thinking is the key to emotional intelligence (Elder, 2004). Stefano and Wasylyshyn (2005) discussed the relationship as an integration of left and right brain functioning. The authors refer to this integration as total brain leadership.

The current landscape of change and the global nature of business and society have changed the requirements for successful leaders. Managers need more than analytical intelligence to manage in this complex environment. In order to make sense of the complex information flows, managers need pattern recognition skills and the ability to explore and create new concepts (Maccoby, 2004). Organizations have put a higher value on teamwork, collaboration, and customer relationships. These new values require interpersonal, relationship building, collaboration, and networking skills. In order to succeed in this new landscape, managers need to have skills sets in the cognitive and emotional areas of intelligence. Intellectual and emotional attributes determine how well

managers exercise and practice decision-making, negotiation, strategy, and communication competencies (Maccoby, 2004).

Lewis and Weigart (1985) explored the mix of feeling and thinking as a key determinant of trust within organizations. Trust evolves from a pattern of careful, rational thinking coupled with an understanding of one's feelings. McAllister (1995) focused on the cognitive element of interpersonal trust. This cognitive element of trust refers to the careful, methodical thought process of determining if an individual or group is trustworthy. Lewis and Weigart (1985) contended that trust also has an emotional base. This affective response refers to the process of instincts or feelings concerning an individual or groups trustworthiness. As relationships develop, both these cognitive and affective processes influence the feeling of trust.

Jones and George (1998) conclude that trust can lead to cooperative behavior. Trust is a key construct in relationship building and important for managers to develop in subordinate relationships. The integration and interaction of critical thinking and emotional intelligence competencies in developing trust and leadership effectiveness requires further research. Core leadership competencies must include both cognitive and affective aspects. Understanding the complex integration and interaction of critical thinking and emotional intelligence competencies may hold the key for the development of effective leaders.

Gender and Age Differences

These new leadership competencies have also raised awareness and interest in exploring the differences across demographics related to the emotional intelligence, critical thinking, and conflict modes. Mayer, Salovey, and Caruso (2002) have reported

statistically significant differences in emotional intelligence scores by age and gender. Women score higher than men in all MSCEIT scales (Mayer et al., 2002). Additionally, emotional intelligence scores increase with age. Young adults under 25 score significantly lower than older groups (Mayer et al., 2002). Watson and Glaser (1980) report no statistically significant differences in WGCTA results across gender or age. Brewer, Mitchell, and Weber (2002) studied conflict modes by gender and reported that men score significantly higher than women do in the competing mode. More research is needed in this area to expand knowledge about differences that may influence the demonstrated behaviors of emotional intelligence, critical thinking, and conflict modes.

Conclusion

The purpose of this quantitative correlational study was to examine the link between emotional intelligence, critical thinking competencies, and the conflict management modes employed by financial services managers. This chapter presented a discussion of the literature review related to critical thinking, emotional intelligence, and both constructs in the context of leadership effectiveness. The topics of conflict and conflict management are symptoms of our changeable society and requisites for today's manager. These complex challenges have forced a new view of leadership; one that is more holistic, aligning mind, body, and spirit, including a complex mix of behavior, thoughts, and emotions.

Leadership theory has evolved over time, changing form, and drawing momentum and meaning from various ideas, concepts, and environments. The transformation to a global, diverse, and technically advanced society has dramatically influenced organizational environments. Such rapid change has resulted in business environments wrought with tension,

conflict, violence, and uncertainty (Booth & Mann, 2005). The element of emotion has permeated the fabrics of organizations and challenge leaders, drawing on new skill sets and competencies. Organizational leaders are recognizing performance gaps in the management ranks, resulting in unmanaged conflict that threatens the fitness and future of organizations.

Critical thinking and emotional intelligence represent two constructs that may offer hope for understanding conflict management. Both constructs represent the connection between the cognitive and affective aspects of brain function. The cognitive component of the mind includes mental actions such as analyzing, comparing, assuming, inferring, questioning, contrasting, and evaluating (Elder, 1997). The affective function is the internal monitor, which informs us how we are doing in any given situation (Elder, 1997). Elder (1997) contends that critical thinking provides the critical link between intelligence and emotions. While much is still to be learned about the connection and workings of the thinking and feeling elements of brain function, both are crucial elements in our practice of dealing with emotion.

Summary

The literature review explored research relating to the critical thinking and emotional intelligence competencies in the context of leadership. Studies relating to conflict and conflict management were also explored. Organizations must be effective at managing change in order to prepare their organizations for long-term, sustained performance, and success (Reid, 2008). A key to achieving this is the ability to recruit, develop, and nurture leaders adept at managing in these changeable times. Managing emotions and conflict in the workplace is an incredible challenge, demanding new skill sets and advanced competencies (Pinos, Twigg, Parayitam, & Olson, 2006).

Conflict has long been the subject of research studies. Relatively little is known about leadership competencies in the context of conflict management. Managing conflict requires the internal management of one's own feeling and thoughts while outwardly reacting and dealing with other's emotional reactions (Cooper, 1997). This represents a compelling and complex human dynamic. While critical thinking and emotional intelligence have been the focus of many researchers, little research has been conducted relating critical thinking and emotional intelligence competencies with conflict management modes.

This lack of empirical research confirmed the value for this research study, to examine the constructs of thinking and feeling, and assess how they translate into the practice of conflict management. The results of this research study provide organizational leaders with critical information to assess existing leadership curriculum and to advance these programs with the goal of producing leaders with core competencies that are likely to result in effective conflict management in the workplace.

Chapter 2 provided a discussion of the research and significance of studies relating to critical thinking, emotional intelligence, both constructs and leadership, conflict, and conflict management. Chapter 3 provides a review of the research design, methodology, study instruments, population, data collection, and analysis.

CHAPTER 3: METHOD

The purpose of this descriptive quantitative correlational study was to examine if a relationship exists between emotional intelligence, critical thinking skills, and the preferred conflict management modes of financial services managers. Emotional intelligence and critical thinking are critical competencies that influence how managers think and feel. This chapter includes a review of the research design and methodology, appropriateness of research, research questions, hypotheses, population, data collection, and analysis.

Research Design

According to Creswell (2005), quantitative research asks specific, narrow questions to obtain measurable and observable data on variables. The major statements and questions in the research study are specific and narrow because the variables in the research study are limited. From the study of these variables, measures are attained via research instruments. Conversely, qualitative research focuses on open-ended questions and inquiry as well as generating questions rather than testing hypotheses (Creswell, 2005). This research study involved the specific measurable examination of emotional intelligence and critical thinking characteristics related to conflict management modes. Descriptive quantitative research involves either identifying the characteristics of observed phenomenon or exploring possible correlations among two or more phenomena. Descriptive research examines situations as they exist today, and does not involve changing or altering the situation under investigation (Leedy & Ormrod, 2005).

Correlational research is used to relate two or more variables and to determine if they influence each other. This method of research involves the use of a correlational

statistical test to describe and measure the degree of association between two or more variables (Creswell, 2005). The basic objective of this research is to explain the association between and among variables and is often referred to as explanatory research design. This research study examined and explained the association between the following variables: emotional intelligence, critical thinking, and conflict management modes.

Variables

Emotional intelligence is the first independent variable examined. The Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) measures the four core emotional abilities defined in the Mayer-Salovey Model (Mayer, Salovey, & Caruso, 2002). The four abilities or branches include perceiving, using, understanding, and managing. Within these four branches, there are eight tasks include faces, pictures, facilitation, sensations, changes, blends, emotional management, and emotional relations (Mayer et al., 2002). There is an overall emotional intelligence score, two areas scores, four branch scores, and eight task scores (Mayer et al.). The experiential area includes the perceiving and facilitating branches. The strategic area includes the understanding and managing branches (Mayer et al.). The MSCEIT takes approximately 30-45 minutes to complete (Mayer et al.). This assessment measures emotional skills using an ability test and provides a unique perspective and look at a person's management and leadership skills (Caruso & Salovey, 2004).

Critical thinking is the second independent variable examined. The Watson-Glaser Critical Thinking Appraisal (WGCTA) was utilized to assess individual critical thinking skills. This assessment produces a single critical thinking score based on the five

critical thinking skills including inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments (Watson & Glaser, 1980). This assessment requires the participants to evaluate reading passages that include problems, statements, arguments, and interpretations (Watson & Glaser, 1980).

The dependent variables in this research study were the conflict handling modes of financial services managers. The Thomas-Kilmann Conflict Mode Instrument (TKI) was used to assess individual's behavior in conflict situations. This assessment measures a person's behavior along two basic dimensions that include assertiveness and cooperativeness (Thomas & Kilmann, 2007). These two dimensions of behavior form the basis of the five specific methods of dealing with conflict. These conflict-handling modes include competing, accommodating, avoiding, collaborating, and compromising (Thomas & Kilmann, 2007). The scores for each conflict-handling mode are presented in relation to the scores of the norm group, which is comprised of 400 middle and upper level managers in business and government organizations (Thomas & Kilmann, 1977). The Thomas-Kilmann Conflict Mode Instrument is designed to assess the individual's mix of conflict handling modes (Thomas & Killman, 1977).

The demographic variables in this research study included age, gender, workplace experience, and education level. These variables were used to classify data and to determine any potential influence and relationship to the independent and dependent variables.

<center>Appropriateness of Design</center>

Creswell (2005) suggests using quantitative correlational research when a researcher seeks to relate two or more variables to see if they influence each other.

Correlation is a statistical test that determines the tendency or pattern of two or more variables or sets of data to vary consistently. Explanatory research is a correlational design in which the researcher is interested in the extent to which two or more variables co-vary. Co-vary means that a score on one variable can be predicted with the knowledge about the individual's score on another variable (Creswell, 2005). In this research study, the extent to which emotional intelligence and critical thinking competencies influence the preferred conflict handling modes of financial services managers were explored. Correlational studies seek to determine the degree of association between two variables and do not establish a probable cause and effect (Creswell, 2005). Based on the fact, that the intent of this research study was to relate variables rather than to manipulate them, a quantitative correlational research design was appropriate.

Research Questions

1. Is there a statistically significant relationship between critical thinking and conflict mode preferences?

2. Is there a statistically significant relationship between emotional intelligence and conflict mode preferences?

3. Is there a statistically significant combined relationship between critical thinking, emotional intelligence and conflict mode preferences?

Hypotheses

The previous research questions provided the foundation for the development of the following hypotheses for this quantitative study:

H_0: There is no statistically significant relationship between critical thinking, emotional intelligence and conflict management modes.

The null hypothesis theorizes that, there is no statistically significant relationship between critical thinking, emotional intelligence and conflict management modes.

H_{1a}: There is a statistically significant relationship between critical thinking and conflict mode preferences.

H_{1b}: There is a statistically significant relationship between emotional intelligence and conflict mode preferences.

H_{1c}: There is a statistically significant combined relationship between critical thinking, emotional intelligence and conflict mode preferences.

The alternative hypothesis theorizes that, there is a statistically significant relationship between critical thinking, emotional intelligence and conflict management modes.

Population

The target population for this research study were financial services managers. One financial service company in Massachusetts participated in the research study. This company was selected based on convenience and access. This company agreed to participate in the research study and the population will include 50 randomly selected managers across two company locations in Massachusetts. Participants in the research study were required to be actively employed managers. Demographic statistics were captured to include the range of manager's age, experience, and gender. This population was selected via a simple random sample of financial services managers across the two company locations.

Informed Consent

Permission was received from a Massachusetts financial services company to perform the research on the premises. The Permission to Utilize Premises Form is included in Appendix A. The research study population included 50 randomly selected managers employed by the organization.

All participants in this research study signed informed consent forms. Any likely risks associated with participation and the benefits of the research study were discussed with participants. The participants were reminded that participation was voluntary and that they could withdraw from the research study at any time. Participants were told that the results of the research study may be published and that individual results and a summary of research findings were available upon request. All participants requested and received individual results.

Sampling Frame

The researcher conducting a descriptive study wants to determine the nature of how things are. In probability sampling the researcher can specify in advance that each segment of the population will be represented in the sampling (Leedy & Ormrod, 2005). For the purposes of this research study, the participating organization agreed that 50 randomly participants from the manager population would complete the assessment instruments for an n of 50.

The sampling frame should be sufficient to avoid both Type I and Type II errors. Type I errors are concerned with the issue of finding a relationship that does not exist. Type II errors are problems associated with not finding a relationship when one is present (Howell, 2007). Creswell (2005) recommends a minimum of 30 participants for

correlational studies. Howell (2007) recommends that for an expected correlation between variables of .40 (medium effect), to achieve a power of .80, sample size should equal 50. The most stringent sample size requirement is for multiple regression. Cohen (1992) recommends for a large effect size, power of .80 and alpha of .05, 45 participants is desired. This research study surveyed 50 managers for an *n* of 50 exceeding minimum correlational and multiple regression sample recommendations.

Participants were selected through simple random sampling. Random samples are most likely to yield a sample that truly represents a population (Creswell, 2005). A table of random numbers was developed and used to select the random sample. This is the most widely used and accepted method for random sampling (Leedy & Ormrod, 2005). The manager population was organized by surname and assigned a control number. The random sample will be determined by using a table of random sampling. The selection was accomplished by determining the table entry point by chance and based on the entry point determining the sample by selecting participants that corresponded with the number on the table. A random sample provides a process for the researcher to calculate the relationship between the sample and the population to determine sampling error (Creswell, 2005).

<div align="center">Confidentiality</div>

Confidentiality in research is an ethical issue. Obtaining appropriate permission through the informed consent process is an ethical practice (Creswell, 2004). Participation in this research study was voluntary, and participants were reminded that they could withdraw from the research study at any time. A meeting was held with all participants. At this meeting, the purpose of the research study was reviewed and the

participants were assured of the absolute confidentiality of data and that the data collected would be used exclusively for the purpose of the research study. The consent forms were completed and signed before participants received a survey packet. The consent forms were collected and kept in a separate envelope. The consent form included a description of the research study. Each participant was assigned a control number to ensure confidentiality. The hard copy surveys and research data are stored in a safe and will be destroyed after three years via a shredder.

The survey data was entered into a personal laptop. The data and laptop are password protected and the laptop is secured with a security firewall. Access to the PC is protected with associated passwords. This data will be maintained and all data and associated files will be destroyed after three years.

The survey packet included the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT), the Watson-Glaser Critical Thinking Appraisal (WGCTA), the Thomas-Kilmann Conflict Mode Instrument (TKI), and a participant data form (PDF) for demographic information. These forms contained the same control number and participants were reminded not to include their names on any of these forms. After completion, all forms were placed inside an envelope and locked in a safe.

Geographic Location

This research study was conducted in Massachusetts. The company participating in the research study is located in Southeastern Massachusetts. Massachusetts is a New England state with a total population of over six million and more than 180,000 people employed in the financial services industry (U.S. Census Bureau). This company was selected based on convenience.

Instrumentation

The purpose of this research study was to examine the link between emotional intelligence, critical thinking skills, and the conflict management mode employed by financial services managers. Instruments measure the extent a theoretical construct exists through observable behaviors (Leedy & Ormrod, 2005). Three established instruments were used to assess the independent variables (emotional intelligence and critical thinking) and the dependent variable (conflict handling modes). The Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) were used to assess emotional intelligence, the Watson-Glaser Critical Thinking Inventory to assess critical thinking, and Thomas-Kilmann's Conflict Mode Instrument to assess conflict management modes. In addition, the Participant Data Form (PDF) was developed to administer the collecting of demographic information including gender, age, and experience.

Mayer, Salovey, and Caruso Emotional Intelligent Test (MSCEIT)

The MSCEIT is a 141-question self-evaluation ability based test designed to measure the four branches of the emotional intelligence model developed by John Mayer, Paul Salovey, and David Caruso in 2002. The MSCEIT was selected for this research study due to the scientifically based characteristics of the instrument. The MSCEIT responses represent actual abilities to solve emotional problems. Therefore, MSCEIT scores are relatively unaffected by self-concept, response set, emotional state, and other confounds (Mayer, Salovey, & Caruso, 2002). The MSCEIT was selected over the Bar-On emotional quotient inventory (EQi) survey and the Goleman (1998) emotional intelligence inventory (ECI) 360, primarily due to the MSCEIT's ability-based structure. The Goleman ECI 360 is a self-report test and asks for other's opinions. The Bar-On EQi

(1997) is a self-report scale that includes other attributes such as self-actualization, mood, and other related qualities (Mayer et al., 2000).

The MSCEIT represents a means for emotional intelligence assessment that is based on ability-based data that is not overly subject to response bias (Mayer, Salovey, & Caruso, 2002). The MSCEIT is a performance-based test that provides an estimate of a person's ability by having them solve problems (Mayer et al., 2002). Leung (2005) reviewed the MSCEIT and concluded that the MSCIET is a well -constructed measure of emotional intelligence that provides professionals with an assessment tool in which emotional intelligence is more clearly defined as a set of skills.

The MSCEIT measures four emotional intelligence variables. The four areas or branches of emotional intelligence include perceiving emotions, using emotions to facilitate thought, understanding emotions, and managing emotions (Mayer, Salovey, & Caruso, 2002). Perceiving emotions is the ability to recognize accurately how you and those around you are feeling (Mayer et al., 2002). Using emotions to facilitate thought is the ability to generate emotions and to use emotions in cognitive tasks such as problem solving and creativity (Mayer et al.). Understanding emotions is the ability to understand complex emotions including how emotions transition from one stage to another (Mayer et al.). Managing emotions is the ability to devise effective strategies that help you achieve positive outcomes.

These four abilities work together as a process model and approach to understanding and addressing situations (Mayer et al., 2002) These branch scores can be grouped and into two area scores. The two areas are experiential and strategic. The experiential area score is calculated using perceiving emotions and facilitating thought

branch scores. The Strategic area score is calculated using the understanding emotions and managing emotions branch scores. There are also eight task scores that include faces, pictures, sensations, facilitation, blends, changes, emotional management, and emotional relationships (Mayer et al.) The task scores are less reliable than the branch and area scores and are provided for the individual interpretive use (Mayer et al.). The MSCEIT provides a total EI score, two area scores, four branch scores, and eight task scores (Mayer et al.). For the purposes of the data analysis, the total EI score, areas scores, and branch scores were used. The MSCEIT takes 30 - 45 minutes to complete and is distributed by Multi-Health Systems, Inc (Mayer et al.).

Watson-Glaser Critical Thinking Appraisal (WGCTA)

The Watson-Glaser Critical Thinking Appraisal (WGCTA) is an assessment instrument designed to measure an individual's critical thinking skills. The instrument requires test takers to evaluate reading passages that include problems, statements, arguments, and interpretations (Watson & Glaser, 1980). The WGCTA was selected because of the long and rich history of development and research. This test is comprised of 80 questions and can be completed in 45-50 minutes (Watson & Glaser, 1980). The WGCTA produces a single score based upon the assessment of five critical thinking skills including inference, recognition of assumptions, deduction, interpretations, and evaluation of arguments (Watson & Glaser, 1980).

The WGCTA is designed to measure gains in critical thinking abilities, predict success in certain types of occupations, and determine the relationship between critical thinking abilities and other abilities or traits (Watson & Glaser, 1980). Results of research studies (Houle, 1943; Morse & McCune, 1957) indicate that the items in the Watson-

Glaser Critical Thinking Assessment represent an adequate sample of the five abilities

and that the total score yields a valid estimate of the proficiency of individuals with

respect to critical thinking. Berger (1985) reviewed the WGCTA and reported that it was

a well-constructed assessment of critical thinking, with no other similar tests to compare

against. The WGCTA has been shown to correlate with measures of academic

achievement and to traditional measures of intelligence (Watson & Glaser, 1980). The

WGCTA is distributed by Harcourt Assessment, Inc.

Thomas-Kilmann Conflict Mode Instrument (TKI)

The Thomas-Kilmann Conflict Mode Instrument (TKI) was designed to assess an

individual's behavior in conflict situations, in which two people's concerns appear to be

incompatible (Thomas & Kilmann, 1977). Thomas and Kilmann (1977) developed this

instrument to further explore the five conflict modes first hypothesized by Blake and

Mouton. Other conflict mode instruments include those developed by Blake and Mouton

(1964), Lawrence and Lorsch (1967), and Hall (1969). The TKI was selected for this

study primarily due to the strong theoretical framework and the widespread use of the

instrument in many industries and academia. The TKI compares favorably to the other

instruments with high marks from trainers for its ease of use and value in understanding

differences in modes of conflict management (Womack, 1988). Johnson (1989) reviewed

the TKI and concluded that the TKI has value as a research tool and a supplemental

instrument.

The TKI consists of 60 statements, which are divided into 30 pairs of items and

takes approximately 20 minutes to complete (Thomas & Kilmann, 2007). Participants

choose one option in the pair that best describes the way they generally behave in the

conflict situation. This instrument assesses a person's behavior along the two basic dimensions of assertiveness and cooperativeness. Assertiveness is an attempt to satisfy personal needs and cooperation is an attempt to satisfy the needs of others (Kilmann & Thomas, 1977). These two dimensions can be used to define the five methods of dealing with conflict that include competing, collaborating, compromising, avoiding, and accommodating. Xicom Incorporated, a subsidiary of Consulting Psychologists Press, Inc., distributes the TKI (See Figure 2).

Instrument	Areas of Measurement	Authors	Items
Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT)	Perceiving Emotions Facilitating Thoughts Understanding Emotions Managing Emotions	John D. Mayer Peter Salovey David R. Caruso	141
Watson-Glaser Critical Thinking Appraisal (WGCTA)	Inference Recognition of Assumptions Deduction Interpretation Evaluation of Arguments	Goodwin Watson Edward M. Glaser	80
Thomas-Kilmann Conflict Mode Instrument (TKI)	Behavior in Conflict Situations Individual Response to Conflict Behavior Along Assertiveness and Cooperativeness Domains	Kenneth W. Thomas Ralph Kilmann	30

Figure 2. Research Instruments

Data Collection

Creswell (2005) defined five steps in the data collection process as selecting the population, obtaining permissions, deciding what data to collect, developing or selecting

existing instruments, and procedures for the actual data collection. The population for this research study included 50 randomly selected managers from one financial services company including three locations. Permission was obtained from the participating organization in order to use the premises for the purpose of research. The data collected was generated from the Mayer, Salovey, and Caruso Emotional Intelligence Test (Mayer, Caruso, & Salovey, 1999), the Watson-Glaser Critical Thinking Appraisal (Watson & Glaser, 1980), the Thomas-Kilmann Conflict Mode Instrument (Thomas & Kilmann, 2007), and the Participant Data Form.

Data collection should be ethical and demonstrate respect for the individuals. The research study was explained in detail to the participants including the risks, benefits, procedures, and confidentiality. The participants were reminded that participation was voluntary and that they could withdraw from the research study at any time. Informed consent forms were completed, signed, and collected prior to the collection of any data. Participants were assigned a control number to protect their anonymity.

Data was collected using the three instruments that measure emotional intelligence (MSCEIT), critical thinking (WGCTA Form A), and conflict modes (TKI). The Participant Data Form (PDF) was used to collect demographic data including gender, age, and experience. All four instruments are paper and pencil assessments and were administered in conference rooms at the company location. Standard procedures were used to classify the data accordingly. Creswell (2005) noted that organization is especially important when data is combined from multiple sources into one file for analysis.

Data Analysis

In correlational studies data analysis is centered on the relationship between variables and the strength of the relationships. Descriptive statistics, Pearson correlations, and multiple regressions were used. Descriptive statistics were used to analyze the data and to summarize the overall trends and characteristics in the data including variations. The Statistics Package for Social Science (SPSS) software was used along with Excel. The purpose of this study was to describe the degree of association among the seven scales of emotional intelligence (total EI, area and branch scores) and the five TKI conflict modes, among the WGCTA critical thinking score and the five TKI conflict modes, as well as the combined association of emotional intelligence, critical thinking and the five TKI conflict modes.

A correlation matrix was used to display the Pearson correlation coefficients of all the variables in the research study. The matrix helped to demonstrate the direction of the association between variables. Correlational researchers interpret strength, magnitude, and direction of correlations (Creswell, 2005), using significance testing of the hypothesis by setting a level of significance, calculating the test statistic, examining whether the correlation coefficient falls into the region of rejection, and rejecting or failing to reject the null hypothesis (Creswell, 2005). Pearson correlations were used to determine the relationship among the seven emotional intelligence scales and five TKI conflict modes and among the critical thinking score and the five TKI conflict modes.

Multiple regression is used to examine the combined relationship of multiple independent variables with a single dependent variable. In this research study, the combined influence of emotional intelligence and critical thinking on each conflict mode

was explored. In regression, the variation in the dependent variable is explained by the variance of each independent variable as well as the combined effect of all independent variables (Creswell, 2005). Regression coefficients were calculated for each variable in order to assess the combined influence of all variables, and provide a comprehensive view of the results.

<div align="center">Validity and Reliability</div>

Validity and reliability are important concerns in the research process and especially important as it relates to the instruments. The validity of an instrument refers to the extent to which the instrument measures what is supposed to measure. Reliability of an instrument refers to the consistency with which a measuring instrument yields a certain result when the entity being measured has not changed (Leedy & Ormrod, 2005). In general, validity and reliability reflect the degree of error in the selected measurements and in the research study. The three instruments selected for this research study (MSCEIT, WGCTA, and TKI) are research-based, well established instruments that have been proven generally valid and reliable.

Mayer, Salovey, and Caruso Emotional Intelligent Test (MSCEIT)

Studies have concluded that the MSCEIT has content and structural validity (Mayer, Caruso, & Salovey, 2000). Factor analysis revealed that the MSCEIT yields one-factor, two-factor, and four-factor solutions (Mayer et al., 2000). One research study examined the face validity of the MSCEIT in the workplace and concluded that the MSCEIT has positive face validity (Pusey, 2000). In terms of reliability, the MSCEIT has found to score full test reliability of .93 for the general category, .91 for expert scoring, and test-retest reliability for the total MSCEIT score is .86 (Mayer et al., 2000). The

general reliability scores for the four branch scores were .91 for perception, .79 for facilitation, .80 for understanding, and .83 for management (Mayer et al., 2000).

Watson-Glaser Critical Thinking Appraisal (WGCTA)

Validity studies have examined the WGCTA in various settings. Watson and Glaser (1980) have reported the evidence of criterion-related validation when exploring the relationship between critical thinking to other valued measures of performance such as grade point averages and licensing examinations. The reliability of the WGCTA using split half reliability coefficients ranged from .69 to .88 (Watson & Glaser, 1991). The WGCTA is a valid and reliable tool to measure gains in critical thinking abilities resulting from instructional programs, predict success in certain types of occupations in which critical thinking is known to play a critical role, and to determine the relationship between critical thinking and other abilities or traits (Watson & Glaser, 1980). Gadzella, Hogan, Masten, Stacks, Stephens, and Zascavage (2006) confirm that the Watson-Glaser Critical Thinking Appraisal is a reliable and valid instrument measuring critical thinking.

Thomas-Kilmann Conflict Mode Instrument (TKI)

Thomas and Kilmann (1977) reported that structural validity of the TKI is consistent with the definitions of conflict modes. The external validity of the instrument has been confirmed through numerous studies including the examination of mean scores for five modes across different groups, empirical studies based on the two behavioral dimensions, and the correlation of finding between the TKI and other conflict management instruments (Edison, 2003). Per Thomas and Kilmann (1977), the test-retest reliability coefficient of the TKI is .64 and compared favorably with other similar instruments (.39 to .55). Johnson (1989) reviewed the TKI and reported an average alpha

coefficient of .64 compared with .50 (Lawrence-Lorsch), .39 (Blake-Mouton), and .55 (Hall). The TKI is one of the most widely recognized and used conflict mode instruments. This instrument is particularly suited to this research study given the positive validity and reliability studies and the fact that the instrument was designed to assess an individual's behavior in conflict situations (Thomas & Kilmann, 1977).

Summary

The intent of this quantitative correlational research study was to explore and determine if and to what extent a relationship exists between emotional intelligence, critical thinking, and the conflict modes of financial services managers. This research study involved the use of three widely accepted research based instruments. Robust data collection procedures were used to ensure the ethical collection, classification, and storage of the data. Descriptive, Pearson correlation, and multiple regression statistical methods were used to analyze and evaluate the data.

Based on the literature review, this research study was unique in the examination of the combined influence of emotional intelligence, critical thinking, and conflict modes. While other studies have explored some of these variables and subject matter, few have attempted to explore the combined correlation and influence of both emotional intelligence and critical thinking to conflict mode behavior. Emotional intelligence and critical thinking are constructs that represent the feeling and thinking dimensions of the brain (Goleman, 1995). This research study explored these dimensions as well as how these dimensions influence conflict management modes. Conflict has become a costly challenge for many organizations and the management of conflict a recognized competency gap in the management force (Sharpe, 2001). Through this research study,

the understanding of conflict management as a competency was enhanced by providing

organizational leaders with information to address this critical competency gap to

improve the overall fitness of their organizations. Chapter 4 describes the findings of the

research study.

CHAPTER 4: RESULTS

This quantitative correlational study surveyed financial services managers in order to examine the relationship between emotional intelligence and conflict modes, critical thinking and conflict modes, and the combined influence of emotional intelligence and critical thinking on conflict modes. The independent variables include the emotional intelligence scores (total EI, experiential area, perceiving branch, facilitating branch, strategic area, understanding branch, managing branch). The other independent variables include the WGCTA critical thinking score. The dependent variables include the five conflict modes (competing, collaborating, compromising, avoiding, accommodating). Figure 3 summarizes the independent and dependent variables in this study. Chapter 4 includes a description of the research participants, data collection methods, survey instruments, details of the statistical analysis, summary of results, and conclusions about the research questions and hypotheses.

MSCEIT Independent Variables (7)	WGCTA Independent Variable (1)	TKI Dependent Variables (5)
Total EI Score Experiential Area Score (1) Perceiving Branch (2) Facilitating Branch Strategic Area Score (1) Understanding Branch (2) Managing Branch	Total Critical Thinking Score	Competing (forcing) Collaborating (problem solving) Compromising (sharing) Avoiding (withdrawing) Accomodating (smoothing)

Figure 3. Research Variables.

Participants and Procedures

The study was based on a sample size of 50 participants (N=50). A file of managers was provided by the financial services Human Resources Department, with permission from the organization's Division Vice President. Managers were randomly selected via simple random sample and sent a form letter via electronic mail. Interested participants were invited to informational sessions, where the research project was presented in detail and any questions answered. Interested participants were required to sign a consent form and then scheduled to take the assessments.

Data Collection

The data was collected via three paper-based assessments including the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT), the Watson-Glaser Critical Thinking Inventory (WGCTA), and Thomas-Kilmann's Conflict Mode Instrument (TKI). Participants were required to complete a Participant Data Form that included demographic information such as age, gender, experience, number of subordinates, and education level. The assessments were administered at the company location. The WGCTA, TKI, and MSCEIT assessments were scored and entered into Microsoft Excel.

Survey Instruments

All three instruments utilized in this study (MSCEIT, WGCTA, and TKI) are widely accepted instruments used in research, education, and business organizations. These instruments were selected based on a thorough analysis of similar instruments available to measure critical thinking, emotional intelligence, and conflict modes. Each instrument was selected based on validity, reliability, administration, practical use, and

assessment features. Each of the instruments has research supported validity and reliability.

Critical thinking was measured with the WGCTA Form A and permission provided by Harcourt Assessment. The maximum raw score for the test is 80. The test is comprised of five subtests including inference, recognition of assumptions, deduction, interpretation, and evaluation of arguments. For the purposes of this study, only the raw total critical thinking score was used. The scores from the subtests (inference, recognition of assumptions, deduction, interpretation, evaluation of arguments) are not recommended for evaluation of individual attainment due to the small number of items and lack sufficient reliability (Watson & Glaser, 1980).

Emotional intelligence was measured with the MSCEIT and permission granted by Multi-Health Systems. The assessment is a 144-item instrument divided into eight parts (A through H). The average score is 100 and standard deviation is 15 (Mayer et al., 2002). The MSCEIT is based on the four-branch model of emotional intelligence including perceiving and identifying emotions, using emotions to facilitate thought, understanding emotions, and managing emotions (see Figure 3). There is one total emotional intelligence score, two area scores (experiential and strategic). Each area has two branch scores. The experiential area includes perceiving and facilitating branches and the strategic area includes the understanding and managing branches. Each branch includes two task scores. For the purposes of this study, the task scores were not utilized. The task scores are less reliable than the branch and area scores and are provided for the individual interpretive use only (Mayer et al., 2002). General and expert scoring is available for the MSCEIT. This study utilized the general scoring method. General

scoring is recommended for most users and utilizes the entire normative sample of 5,000 to score item responses (Mayer et al., 2000).

Conflict handling modes were assessed using the TKI. The TKI consists of 60 statements, which are divided into 30 pairs of items (Thomas & Kilmann, 2007). The five modes include competing, collaborating, compromising, avoiding, and accommodating (see Figure 3). Each mode is scored between 0-12. Participants are required to select one option in the pair that best describes the way they generally behave in the conflict situation. This instrument assesses a person's behavior along the two basic dimensions of assertiveness and cooperativeness. Assertiveness is an attempt to satisfy personal needs and cooperation is an attempt to satisfy the needs of others (Kilmann & Thomas, 1977).

<div align="center">Research Questions and Hypotheses</div>

The research questions directing this study included determining if there were statistically significant relationships between (1) critical thinking and conflict mode preferences and (2) between emotional intelligence and conflict mode preferences. The third research question examines if there is a statistically significant combined relationship between critical thinking, emotional intelligence, and conflict modes. Specifically, how do critical thinking variables (total score) relate to conflict handling modes? How do emotional intelligence variables (total EI, experiential area, perceiving branch, facilitating branch, strategic area, understanding branch, managing branch) relate to conflict handling modes? Finally, how do the combined variables of critical thinking and emotional intelligence relate to conflict modes? These research questions provided the foundation for the development of the following hypotheses for this quantitative study:

H_0: There is no statistically significant relationship between critical thinking, emotional intelligence and conflict management modes.

The null hypothesis theorizes that statistically, there is no relationship between critical thinking, emotional intelligence and conflict management modes.

H_{1a}: There is a statistically significant relationship between critical thinking and conflict mode preferences.

H_{1b}: There is a statistically significant relationship between emotional intelligence and conflict mode preferences.

H_{1c}: There is a statistically significant combined relationship between critical thinking, emotional intelligence and conflict mode preferences.

The alternative hypothesis theorizes that statistically, there is a relationship between critical thinking, emotional intelligence and conflict management modes.

Data Analysis

A total of 140 randomly selected management personnel (*N=140)* were contacted to participate in the study. A total of 50 randomly selected managers agreed to participate in the study. All 50 participants signed an informed consent form, completed the WGCTA, MSCEIT, TKI assessments, and a Participant Data Sheet. Of the 50 individuals participating in the survey 15 (30.0%) were male and 35 (70.0%) were female. The mean response for participant age was 42.36 (*SD* = 8.76), the mean for years of management experience was 8.30 (*SD* = 6.36), and the mean for number of subordinates was 12.12 (*SD* = 9.76), (see Table 1). Frequencies and percents for participants' education are presented in Table 2, where the majority of participants 22 (44.0%) had an undergraduate

degree and 45 (90%) had some education past high school. Six participants or (12%) had some post-graduate education, with 2 (4%) had post graduate degrees.

Table 1

Means of Standard Deviations for Continuous Demographic Data

Variable	N	Min	Max	M	SD
Age	50	29	61	42.36	8.67
Management Years	50	1	25	8.30	6.36
Number of Subordinates	50	3	55	12.12	9.76

Table 2

Frequencies and Percents for Participant's Education

Variable	Frequencies	Percents
High School	5	10.0
Some College	17	34.0
Undergraduate Degree	22	44.0
Some Post Graduate	4	8.0
Post Graduate Degree	2	4.0

Descriptive Statistics

Descriptive statistical analyses were performed to summarize the data and present the basic features and characteristics of the data. Means and standard deviations for the TKI, MSCEIT and WGCTA variables are presented in Table 3 and 4. The mean for the WGCTA critical thinking score (see Table 3) for the participant population was 55.94 (SD=9.13). Based on the norms for a typical business organization, this score is below

the reported mean of 59.6 (SD=8.7) and is in the 25th percentile (Watson & Glaser, 1980).

The MSCEIT emotional intelligence scales reported in Table 3 include total EI, perceiving, facilitating, understanding, and managing braches, along with the experiential and strategic areas. The perceiving and facilitating emotions branches and the corresponding experiential emotional area are the most prominent, with means all exceeding 100.

Table 3

Means and Standard Deviations for WGCTA, MSCEIT

Research Variables	N	Min	Max	M	SD
Critical Thinking	50	41	74	55.94	9.13
Total EI	50	73	122	99.96	10.60
Experiential Area	50	67	129	102.06	14.03
Perceive Branch	50	80	132	102.44	13.51
Facilitate Branch	50	63	132	100.74	13.58
Strategic Area	50	81	123	97.70	8.16
Understand Branch	50	77	116	95.96	9.49
Mgt Branch	50	78	118	98.72	7.72

The TKI results (see Table 4) are raw scores for each conflict mode. The scale ranges from (0-12) for each mode. The results indicate the compromising mode as dominant with a mean of 7.74 (SD=2.04) and the competing mode as the least utilized with a mean of 4.30 (SD=2.70). The avoiding mode was the second most utilized mode with a mean of 6.28 (SD=2.57). The resulted reported for the TKI are the raw scores for each mode.

Table 4

Means and Standard Deviations for TKI

Research Variables	N	Min	Max	M	SD
Competing Mode	50	0	10	4.30	2.70
Collaborating Mode	50	1	10	5.72	2.26
Compromising Mode	50	3	12	7.74	2.04
Avoiding Mode	50	0	11	6.28	2.57
Accomodating Mode	50	2	10	5.92	2.04

Bivariate correlations were conducted to explore if relationships exist between demographic variables (age, management years, subordinates and education) and research variables (total EI, experiential area, strategic area, perceive, facilitate, understand, management, strategic, critical thinking, compete mode, collaborate mode, compromising mode, avoiding mode, and accommodating mode). The results are presented in Table 5 and reveal significant positive correlation coefficients between age and total EI, experiential area, perceive branch, strategic area, and management branch, suggesting that as age increases total EI, experiential area, perceive branch, strategic area,

and management branch scores also increase. The results also revealed a
significant positive correlation coefficient between critical thinking and education,
suggesting that as education increases critical thinking also increases. No other
significant relationships were revealed between demographic and research variables.

Table 5

Correlations between Demographic Variables and Research Variables

	Age	Management Years	Subordinates	Education
Total EI	0.40	0.27	-0.06	-0.01
Experiential	0.36	0.19	-0.17	-0.13
Perceive	0.42	0.19	-0.24	-0.22
Facilitate	0.16	0.14	0.01	0.01
Strategic	-0.28	0.24	0.11	0.20
Understand	0.08	0.19	0.12	0.26
Management	0.39	0.20	0.11	-0.01
Critical Thinking	-0.14	0.14	0.12	0.34
Compete	0.00	0.01	-0.07	0.14
Collaborate	0.24	0.03	-0.10	-0.14
Compromise	0.06	0.12	-0.22	0.00
Avoid	-0.22	-0.17	0.18	-0.04
Accommodate	-0.03	0.06	0.20	0.02

Note. $* p < 0.05$, $** p < 0.01$

Thirteen independent sample *t*-tests were conducted to assess if differences exist on research variables (total EI, experiential, perceive, facilitate, strategic, understand, management, critical thinking, compete mode, avoid mode, collaborate mode, compromise mode, and accommodate modes) by gender (male vs. female). The results of the *t*-tests are presented in Table 6 and revealed that significant differences exists on experiential area by gender, *t* (48) = 2.79, *p* < .01 and on perceiving branch, *t* (48) = 3.71, *p* < .01 suggesting that on experiential and perceiving, males had a smaller mean compared to females. The results also revealed a significant difference on critical thinking by gender *t* (48) = 2.33, *p* < .05 suggesting that males had a larger mean on critical thinking compared to females. No other significant differences were revealed on the research variables by gender.

Table 6

Independence Sample t-tests for Research Variables by Gender

	T	Sig.	Male		Female	
			M	SD	M	SD
Compete	1.20	.235	5.00	2.98	4.00	2.57
Collaborate	-1.64	.108	4.93	2.37	6.06	2.15
Compromise	-0.02	.988	7.73	2.05	7.74	2.06
Avoid	0.33	.741	6.47	2.07	6.20	2.78
Accommodate	-0.42	.676	5.73	1.79	6.00	2.16
Total	-1.64	.108	96.27	10.56	101.54	10.37
Experiential	-2.79	.008**	94.13	11.37	105.46	13.82
Perceive	-3.71	.001**	92.80	9.66	106.57	12.88
Facilitate	-0.73	.472	98.60	12.93	101.66	13.94
Strategic	0.32	.752	98.27	8.30	97.46	8.22
Understand	0.80	.429	97.60	9.13	95.26	9.68
Management	-0.23	.819	98.33	7.89	98.89	7.76
Critical Thinking	2.33	.024*	60.33	8.72	54.06	8.76

Note. df = 48. * $p < 0.05$, ** $p < 0.01$.

Hypotheses Testing

This quantitative correlational study focused on the degree of relationship between the variables of critical thinking, emotional intelligence, and conflict handling modes. In correlational research designs, researchers use correlation statistical tests to describe and measure the degree of association between two or more variables to vary consistently (Creswell, 2005). Pearson correlations were performed to test hypotheses one and two, which involved assessing the degree of relationship between critical thinking and conflict modes as well as emotional intelligence and conflict modes. Multiple regression calculations were used to assess hypothesis three, the degree of relationship between the combined critical thinking and emotional intelligence variables and conflict handling modes. Multiple regression is a statistical procedure for examining the combined relationships of multiple independent variables with a single dependent variable (Creswell, 2005).

For hypotheses one and two, Pearson r correlations were conducted to determine whether or not there was a relationship between two variables. The sample correlation coefficient is denoted by r. The sample correlation coefficient (r) demonstrates how strong the linear relationship is between two variables. The sample correlation coefficient is a point on the scale between -1 and 1. The closer the coefficient is to either of those limits, the stronger the relationship between the two variables (Howell, 2007). This association between two sets of scores reflects whether there is a consistent and predictable association. The significance used in this study was $P=<.05$. For p values less than .05, the item is noted with a single asterisk. For p values less than .01, a double asterisk is noted. Based on this p value the decision is made whether or not to reject the null hypothesis. Ho is rejected if the p value is less than .05.

Hypothesis One

The first research question examined was: Is there a statistically significant relationship between critical thinking and conflict mode preferences? This question sets the foundation for the following hypothesis:

$H_{1a:}$ There is a statistically significant relationship between critical thinking and conflict mode preferences.

To examine hypothesis H_{1a}, five Pearson *r* correlations were conducted to assess if relationships exist between the WGCTA critical thinking score and the five TKI conflict mode subscales (competing, collaborating, compromising, avoiding, accommodating). The results indicate no significant relationships between WGCTA critical thinking and the five TKI subscales. The results suggest that there is no relationship between critical thinking and conflict mode. Therefore, it is concluded that H_{1a} is false. The results are presented in Table 7.

Table 7

Pearson r Correlations between WGCTA, Critical Thinking, and TKI

TKI		WGCTA Critical Thinking
Compete	R	0.17
	Sig.	.244
	N	50
Collaborate	R	-0.24
	Sig.	.094
	N	50
Compromise	R	0.18
	Sig.	.202
	N	50
Avoid	R	-0.14
	Sig.	.320
	N	50
Accommodate	R	0.04
	Sig.	.770
	N	50

Hypothesis Two

The second research question was: Is there a statistically significant relationship between emotional intelligence and conflict mode preferences? This question sets the foundation for the following hypothesis:

H$_{1b:}$ There is a statistically significant relationship between emotional intelligence and conflict mode preferences.

To examine hypothesis two (H$_{1b}$), thirty-five Pearson *r* correlations were conducted to assess if relationships exist between the seven MSCEIT subscales (total EI, experiential area, perceiving branch, facilitating branch, strategic area, understanding branch, and management branch) and the five TKI subscales (competing, avoiding, collaborating, compromising and accommodating). The results revealed a significant negative correlation coefficient between understanding emotions and the collaborating mode, *r* (50) = -0.32, *p* < 0.05, suggesting an inverse relationship exists such that as understanding emotions increases collaboration decreases and vice versa. The results also revealed a significant negative correlation coefficient between managing emotions and the avoiding mode, *r* (50) = -0.37, *p* < 0.01, suggesting an inverse relationship exists such that as managing emotions increases the avoiding mode decreases and vice versa. The results also revealed a positive correlation coefficient between managing emotions and collaboration, *r* (50) = 0.36, *p* < 0.05, suggesting a direct relationship exists such that as managing emotions increases collaboration also increases and vise versa. No other significant relationships were revealed between the seven MSCEIT subscales and the five TKI subscales. The results suggest that there is a relationship between emotional intelligence and conflict modes. Therefore, it is concluded that H$_{1b}$ is true. The results are presented in Table 8.

Table 8

Pearson r Correlations between MSCEIT and TKI

MSCEIT		TKI Conflict Modes				
		Compete	Collaborate	Compromise	Avoid	Accommodate
Total EI	*r*	0.16	0.10	0.13	-0.23	-0.15
	Sig.	.279	.501	.387	.116	.307
	N	50	50	50	50	50
Experiential	*r*	0.06	0.16	0.08	-0.16	-0.12
	Sig.	.694	.278	.572	.272	.425
	N	50	50	50	50	50
Perceive	*r*	0.02	0.22	0.11	-0.20	-0.10
	Sig.	.870	.126	.458	.165	.476
	N	50	50	50	50	50
Facilitate	*r*	0.06	0.10	0.03	-0.10	-0.10
	Sig.	.682	.501	.864	.489	.495
	N	50	50	50	50	50
Strategic	*r*	0.17	-0.06	0.13	-0.18	-0.05
	Sig.	.250	.674	.386	.200	.740
	N	50	50	50	50	50
Understand	*r*	0.20	-0.32*	0.10	0.04	-0.06
	Sig.	.158	.025	.491	.793	.683
	N	50	50	50	50	50
Manage	*r*	0.10	0.36*	0.03	-0.37**	-0.10
	Sig.	.512	.011	.849	.009	.473
	N	50	50	50	50	50

Note. * $p < 0.05$, ** $p < 0.01$.

Hypothesis Three

The third research question examined was: Is there a statistically significant combined relationship between critical thinking, emotional intelligence, and conflict mode preferences? This question sets the foundation for the following hypothesis:

$H_{1c:}$ There is a statistically significant combined relationship between critical thinking, emotional intelligence and conflict mode preferences.

To examine hypothesis three, five multiple linear regressions were conducted to assess if the seven MSCEIT subscales (total EI, experiential area, perceive branch, facilitate branch, strategic area, understanding branch, management branch) and WGCTA critical thinking predict the five TKI conflict modes. The first multiple regression calculated was for the TKI competing mode. The results of the regression were not significant F (8, 41) = 0.86, p = .556 and the independent variables accounted for (R^2) 14.4% of the variance in the dependent variable. This indicates no statistically significant relationship between critical thinking, emotional intelligence, and the TKI competing mode. Beta coefficients for the regression are presented in Table 9.

Table 9

Multiple Regression - MSCEIT and WGCTA Predicting TKI Compete

Independent Variables	B	SE	Â	*t*	Sig.
(Constant)	22.23	15.55		1.43	.161
Total EI	0.80	0.42	3.12	1.89	.065
Area	-0.15	0.28	-0.78	-0.54	.590
Perceive	-0.20	0.16	-0.98	-1.22	.229
Facilitate	-0.15	0.13	-0.75	-1.15	.258
Strategic	-0.20	0.18	-0.60	-1.12	.272
Understand	-0.15	0.17	-0.53	-0.90	.373
Management	-0.15	0.18	-0.43	-0.84	.405
Critical Thinking	0.03	0.05	0.09	0.51	.613

Note. $F(8, 41) = 0.86$, $p = .556$, $R^2 = .144$.

A multiple linear regression was conducted to assess if the seven MSCEIT subscales (total EI, experiential area, perceive branch, facilitate branch, strategic area, understanding branch, management branch) and WGCTA critical thinking predict the TKI collaboration mode. The results of the regression were significant $F(8, 41) = 2.76$, $p < .05$ and the independent variables accounted for (R^2) 35% of the variance in the dependent variable. The results indicate a statistically significant relationship between emotional intelligence, critical thinking, and the TKI collaboration mode. This significance is primarily driven by the relationship between the managing emotional intelligence branch and the collaboration mode. This is determined by reviewing the individual significance level for each variable (see Table 10). Managing emotions is the

only variable with a significant relationship (p<.05). The significance level for

managing emotions is (.025). The relationships with the other variables are not significant

(p>.05). Beta coefficients for the regression are presented in Table 10 and suggest that for

every one unit increase in managing emotion, collaboration increases by 0.30 units.

Table 10

Multiple Regression - MSCEIT and WGCTA Predicting TKI Collab

Independent Variables	B	SE	Â	*t*	Sig.
(Constant)	-13.93	11.32		-1.23	.225
Total	-0.36	0.31	-1.71	-1.19	.241
Area	0.08	0.20	0.49	0.39	.696
Perceive	0.10	0.12	0.62	0.90	.376
Facilitate	0.08	0.10	0.45	0.80	.431
Strategic	-0.10	0.13	-0.37	-0.80	.429
Understand	0.11	0.12	0.46	0.91	.371
Management	0.30	0.13	1.04	2.32	.025
Critical Thinking	-0.01	0.04	-0.05	-0.35	.731

Note. $F_{(8, 41)}$ = 2.76, p = .016, R^2 =.350.

A multiple linear regression was conducted to assess if the seven MSCEIT

subscales (total EI, experiential area, perceive branch, facilitate branch, strategic area,

understanding branch, management branch) and WGCTA critical thinking predict the

TKI compromise mode. The results of the regression were not significant $F_{(8, 41)}$ =

0.80, p = .606 and the independent variables accounted for (R^2) 13.5% of the variance in

the dependent variable. This indicates no statistically significant relationship between

emotional intelligence, critical thinking and the TKI compromising mode. Beta

coefficients for the regression are presented in Table 11.

Table 11

Multiple Regression MSCEIT and WGCTA predicting TKI Comp

Independent Variables	B	SE	Â	*T*	Sig.
(Constant)	17.76	11.78		1.51	.139
Total	0.45	0.32	2.33	1.41	.167
Area	-0.26	0.21	-1.79	-1.25	.218
Perceive	0.04	0.12	0.24	0.30	.769
Facilitate	-0.02	0.10	-0.10	-0.15	.879
Strategic	0.11	0.13	0.44	0.82	.416
Understand	-0.22	0.13	-1.02	-1.73	.092
Management	-0.23	0.14	-0.87	-1.70	.097
Critical Thinking	0.05	0.04	0.21	1.17	.248

Note. $F(8, 41) = 0.80$, $p = .606$, $R^2 = .135$.

A multiple linear regression was conducted to assess if the seven MSCEIT

subscales (total EI, experiential area, perceive branch, facilitate branch, strategic area,

understanding branch, management branch) and WGCTA critical thinking predict the

TKI avoiding mode. The results of the regression were not significant $F(8, 41) = 1.76$, p

$= .113$ and the independent variables accounted for (R^2) 25.6% of the variance in the

dependent variable. This indicates no statistically significant relationship between critical

thinking, emotional intelligence, and the TKI avoiding mode. Beta coefficients for the

regression are presented in Table 12.

Table 12

Multiple Regression MSCEIT and WGCTA Predicting TKI Avoid

Independent Variables	B	SE	Â	*T*	Sig.
(Constant)	9.77	13.79		0.71	.482
Total	-0.40	0.37	-1.66	-1.08	.285
Area	0.30	0.24	1.66	1.25	.220
Perceive	-0.09	0.14	-0.50	-0.67	.510
Facilitate	-0.02	0.12	-0.10	-0.16	.873
Strategic	-0.03	0.16	-0.08	-0.17	.869
Understand	0.21	0.15	0.76	1.40	.169
Management	0.04	0.16	0.13	0.27	.788
Critical Thinking	-0.08	0.05	-0.27	-1.64	.108

Note. $F_{(8, 41)} = 1.76$, $p = .113$, $R^2 = .256$.

A multiple linear regression was conducted to assess if the seven MSCEIT subscales (total EI, experiential area, perceive branch, facilitate branch, strategic area, understanding branch, management branch) and WGCTA critical thinking predict the TKI accommodating mode. The results of the regression were not significant $F_{(8, 41)} = 0.58$, $p = .789$ and the independent variables accounted for (R^2) 10.2% of the variance in the dependent variable. This indicates no statistically significant relationship between critical thinking, emotional intelligence, and the TKI accomodating mode. Beta coefficients for the regression are presented in Table 13.

Table 13

Multiple Regression MSCEIT - WGCTA Predicting TKI Accom

Independent Variables	B	SE	Â	*t*	Sig.
(Constant)	-4.58	12.01		-0.38	.705
Total	-0.46	0.33	-2.40	-1.42	.164
Area	0.07	0.21	0.48	0.33	.742
Perceive	0.12	0.12	0.82	1.01	.321
Facilitate	0.07	0.10	0.50	0.74	.464
Strategic	0.21	0.14	0.83	1.51	.139
Understand	0.05	0.13	0.23	0.39	.700
Management	0.03	0.14	0.12	0.22	.824
Critical Thinking	0.02	0.04	0.09	0.52	.609

Note. $F(8, 41) = 0.58$, $p = .789$, $R^2 = .102$.

The hypotheses testing involved performing Pearson correlations for hypotheses one and two. Multiple regression was performed to test hypothesis three. The test statistic *r* is the value of the sample correlation coefficient. Hypothesis tests use the *p* value to weigh the strength of the evidence. The level of significance for this study is *P*=<.05. Based on the strength of the *p* value, the null hypothesis is either rejected or accepted. H$_0$ is the null hypothesis. The following hypotheses were developed for this study:

The null hypothesis theorizes that statistically, there is no relationship between critical thinking, emotional intelligence and conflict management modes.

H$_{1a:}$ There is a statistically significant relationship between critical thinking and conflict mode preferences.

$H_{1b:}$ There is a statistically significant relationship between emotional intelligence and conflict mode preferences.

$H_{1c:}$ There is a combined statistically significant relationship between critical thinking, emotional intelligence and conflict mode preferences.

The alternative hypothesis theorizes that statistically, there is a relationship between critical thinking, emotional intelligence and conflict management modes.

Pearson correlations (see Table 7) were performed to examine the relationship between critical thinking and conflict modes. The results indicated no statistically significant relationship. Therefore, H_{1a} is false. Pearson correlations were also performed to examine the relationship between the seven emotional intelligence scales and the five conflict modes. Results indicated significant relationships between managing emotions and the collaboration mode and avoiding mode. There was also a significant collaboration identified between understanding emotions and the collaboration mode. Based on these results, and the fact that the data indicates a significant relationship between at least one pair of variables, H_{1b} is true.

Multiple regression was performed to examine the combined relationship between critical thinking, emotional intelligence, and each conflict mode. Results indicated a significant combined relationship between critical thinking, emotional intelligence, and the collaboration mode only (p=0.016). Upon further review of the data, this significance in the results was driven by the strong, significant predictive relationship between managing emotions and the collaboration mode, (p=.025). The other EI variables and critical thinking did not contribute significantly to the predictive model. Given that Pearson correlations did not find any significant correlation between critical thinking and

conflict modes, H_{1c} is false and there is no combined relationship. Therefore, hypothesis one is false, hypothesis two true, hypothesis three false, and the null hypothesis rejected.

Summary

Chapter 4 reported the findings from the data collected and analyzed from 50 financial services managers employed in a financial services company in the Northeast region of the United States. Data was collected and analyzed for the purpose of exploring the relationship between critical thinking, emotional intelligence, and conflict handling modes. The MSCEIT, WGCTA, and TKI were the instruments utilized to assess emotional intelligence, critical thinking, and conflict management modes. Demographics information was also collected.

The hypothesis testing through correlation and multiple regressions partially validated the alternative hypothesis and rejected the null hypothesis by identifying significant positive and negative correlations between emotional intelligence and conflict modes. Significant correlations were not identified for all emotional intelligence variables. Additionally, a predictive relationship was identified between managing emotions and collaboration.

Chapter 5 presents a discussion of the findings of this research study relative to existing literature on the subject matter. Conclusions, implications, and recommendations resulting from this study are presented. Finally, suggestions for future research are presented in light of the findings.

CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS

Chapter 5 provides a summary of the study, reviews the purpose, and includes a discussion of the findings presented in Chapter 4 as related to the results identified in previous research about these topics. The discussion of findings is followed by conclusions and implications for organizational leaders. Chapter 5 concludes with recommendations for future research related to these findings.

Summary of Purpose

Technological advancement, rapid change, and the global aspect of business demand new competencies of today's managers. These new competencies include the ability to deal with anger and conflict in the workplace (Myers & Larson, 2005). Little empirical evidence exists regarding the role of emotional intelligence in achieving better performance during conflict resolution (Jordan & Troth, 2004). Tjosvold (1991) suggested that conflict researchers increase the focus on conflict in the context of leadership instead of treating conflict as independent. This study focused on exploring critical thinking and emotional intelligence constructs in the context of managing conflict.

The purpose of this quantitative, correlational study was to explore the relationship between critical thinking, emotional intelligence, and conflict modes among financial services managers employed in a financial services organization in the Northeast region of the United States. The independent variables in this study included the overall critical thinking score and seven emotional intelligence scales (total emotional intelligence, experiential and strategic areas, perceiving, facilitating, understanding, and managing emotion branches). The dependent variables were the conflict management modes (competing, collaborating, compromising, avoiding, accommodating). Pearson

correlation calculations and multiple regression statistical analyses were employed to assess the strength of relationships among variables.

Three known and reliable instruments were used in the study including the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT), the Watson-Glaser Critical Thinking Assessment (WGCTA), and the Thomas-Kilmann Conflict Mode Instrument (TKI). This study filled an important void in leadership research by exploring critical thinking and emotional intelligence constructs in the context of conflict mode application.

<div align="center">Scope and Limitations</div>

Research participants included 50 managers employed at a financial services organization located in the Northeast region of the United States. The participants were selected via simple random sample and willingly devoted two hours to complete the assessments. Their experience and educational levels were varied. All participants requested and provided with their individual results.

The assumptions included that participants would trust the confidentiality related to the completion of the surveys, would respond honestly and complete surveys in a responsible manner, and would be presently working in a management position. Human resources provided a file of all managers currently working in a management position.

Limitations of the study included that the validity of the research results were dependent upon the reliability of the research instruments. Other limitations included potential bias and the potential for research subjects to drop out of the research study due to workload. No research subjects withdrew from the study. The delimitations include that results may have been impacted by corporate culture and may not be generalized across industries or across financial services organizations in other geographical locations. Interpretation of these results should be limited to the context of this study. The

study was limited by the honesty of the participants in completing the

assessments. The possibility also exists that contravening variables may have influenced

the results of the study. The findings related to gender differences were limited by the

small percentage of male managers (15%) that agreed to participate in the study. Data

collection took place in a time of uncertainty and stress due to the negative impact of the

economic downturn on financial services organizations. Additionally, the validity of this

study is limited to the reliability of the three selected instruments. The specific validity

and reliability of the instruments are detailed in Chapters 2 and 3.

<div align="center">Discussion of Findings</div>

The study sought to explore the relationship between critical thinking, emotional,

intelligence, and conflict handling modes. The first two research questions were designed

to focus the study on exploring the individual relationships between critical thinking and

conflict modes and between emotional intelligence and conflict modes. The third research

question sought to explore the combined relationship between the collective critical

thinking and emotional intelligence variables and conflict modes. There were also

important findings related to the demographic variables of age and gender. A discussion

of prominent findings associated with demographic variables and each research question

and hypothesis follows.

Demographics

The findings from this study indicated significant correlations between gender and

age and some of the research variables. Consistent with prior research, there was a strong

positive correlation between emotional intelligence and gender. Women tend to score

higher than men do on emotional intelligence (Mayer et al., 2002). The results from this

study indicated significant differences in the experiential area, strategic area, perceiving

branch, and managing emotions branch, with women scoring higher than men

do. Significant differences were also identified with critical thinking scores, with men

scoring higher than women do. Watson and Glaser (1980) have reported no meaningful

differences with the WGCTA and gender. The gender results should be viewed within the

context of this study. The participant population was 70% (35) women and 30% (15)

men. The company's overall management force reflects gender proportions of 58%

women and 42% men. Given this data, gender results from this study should be not be

considered significant, due to the potential of type I and II errors. Another significant

difference identified was an increase in critical thinking scores with education level. This

is consistent with reports that WGCTA scores increase with education level (Watson &

Glaser, 1980).

Significant differences were also identified between age and total emotional

intelligence and several of the scales, including experiential, strategic, perceiving, and

managing emotions. Scores in these areas increased with age. This is consistent with

existing research findings (Mayer et al., 2002), that MSCEIT scores increase with age.

These are meaningful results and confirm Goleman's (1995) contention that emotional

intelligence can be learned.

Hypothesis One – Critical Thinking and Conflict Modes

The first research question asked if there was a statistically significant

relationship between critical thinking and conflict mode preferences. Hypotheses one

(H_{1a}) states: There a statistically significant relationship between critical thinking and

conflict mode preferences. The results of this study indicated no statistically significant

relationship between critical thinking and conflict modes. While critical thinking has

been linked to improved decision making, recent studies have suggested the relationship

between intelligence and leadership is ambiguous, recognizing the importance

of the situation and context (Chan, 2007). Based on Pearson correlations, critical thinking

aptitudes did not directly correlate with the application of conflict modes. Therefore, the

null hypothesis was supported for the relationship between critical thinking and conflict

modes.

Hypothesis Two – Emotional Intelligence and Conflict Modes

The second research question asked if there was a statistically significant

relationship between emotional intelligence and conflict modes. Hypothesis two (H_{1b})

states: There is a statistically significant relationship between emotional intelligence and

conflict mode preferences. The results of this study identified three significant

relationships between emotional intelligence scales and conflict modes. There was a

significant negative correlation between understanding emotions and collaboration.

Understanding emotions is the ability to label emotions and to reason with them at an

understandable level (Mayer et al., 2002). Collaboration involves working with the other

person to find a solution. This involves investigating the issue to identify underlying

issues (Thomas & Killman, 1980). This negative relationship suggests that as

understanding emotions increase, collaboration decreases and vice versa. A possible

explanation is that individuals with a high understanding of emotions may not feel the

need to spend the time investigating the underlying issues through collaboration.

Conversely, individuals with low understanding emotions may want to increase

collaboration in order to understand the underlying concerns better.

The results indicated a significant negative relationship between managing

emotions and avoiding. Managing emotions is successfully managing and coping with

emotions. Managing emotions entails the awareness, acceptance, and use of emotions in

problem solving (Mayer et al., 2000). Avoiding is unassertive and

uncooperative. In the avoiding mode, conflict is not addressed and the individual

withdraws (Thomas & Kilmann, 1980). This negative relationship implies that as

managing emotions increase, avoiding decreases and vice versa. It stands to reason, that

individuals high in the ability to manage emotions, would not prefer to practice the

avoiding mode. In conflict situations, individuals adept at problem solving are likely to

prefer to address the issue rather than avoid the situation. Whereas, individuals low in

managing emotions may feel inadequate to handle certain situations and may practice the

avoidance conflict mode.

The results also identified a significant positive relationship between managing

emotions and collaboration. These results indicate that as managing emotions increases

collaboration also increases and vice versa. Individuals high on managing emotions are

likely to prefer the collaboration mode because it involves investigating the issue and

working to find creative solutions. Collaboration requires the problem solving skills of an

individual high in managing emotions. The null hypothesis was rejected for the

relationship between emotional intelligence and conflict modes.

Hypothesis Three – Critical Thinking, Emotional Intelligence and Conflict Modes

The third research question asked if there was a statistically significant combined

relationship between critical thinking, emotional intelligence, and conflict modes.

Hypothesis $H_{1c:}$ states: There is a combined statistically significant relationship between

critical thinking, emotional intelligence and conflict mode preferences. The results from

this study indicate no evidence to confirm a combined relationship between emotional

intelligence, critical thinking, and conflict modes. This result was expected, as hypothesis

one findings noted no significant relationship between critical thinking and conflict

modes. The multiple regression analysis did identify a specific and significant, predictive relationship between managing emotions and collaboration. This relationship drove the overall significance of the findings with the other variables deemed insignificant. Therefore, based on the multiple regression data, when managing emotions increase by one unit, collaboration increases by .30 units. Despite this specific finding, the null hypothesis was supported for the combined relationship among critical thinking and emotional intelligence variables and conflict modes.

Conclusions

This study focused on exploring the relationship between critical thinking, emotional intelligence, and conflict modes. While many studies have attempted to explore the relationship of these constructs with leadership effectiveness, few studies have explored these constructs in the context of conflict management modes. Societal changes brought about by rapid technological advances and globalization, have resulted in a workplace environment with dynamic aspects of change, emotion, conflict, violence, and complexity. Organizational structures are flatter and require managers to deal with complex relationships that span time, space, and traditional reporting structures.

The most significant results of these findings were the confirmation of a statistically significant relationship between emotional intelligence and conflict management modes. More specifically, the ability to manage emotions directly relates, influences, and may predict the likelihood of a manager making a conscious decision to either avoid conflict or practice the collaboration mode. The findings indicated a positive, statistically significant relationship ($p<.05$) between managing emotions and the collaboration mode. Additionally, the finding determined a negative, statistically,

significant relationship ($p<.05$) between managing emotions and the avoiding
conflict mode.

   These findings are significant because they distinguish one aspect of emotional
intelligence as specifically influencing how managers manage in conflict situations.
Individuals read contextual factors and social cues within a conflict episode to select the
most situationally appropriate conflict-handling response (Callanan et al., 2006). An
individual's approach to handling conflict is contingent upon situational factors and their
skills sets. Based on the results of this study, individuals high in the ability to manage
emotions are more likely to choose to collaborate and less likely to avoid conflict. In fact,
regression analysis not only confirmed the strength of the relationship between managing
emotions and collaboration, but also indicated a predictive relationship. Findings revealed
that when managing emotions increases by one unit, collaboration increases by .3,
meaning that increasing competence in managing emotions will predict a subsequent
increase in collaboration behavior.

   Given these significant findings, the managing emotions aspect of EI has been
identified, as the key emotional intelligence scale related to conflict management.
Managing emotions is the key to increasing collaboration and decreasing avoidance
behavior in the context of conflict management in the workplace. Managing emotions, is
the behavior within the larger construct of emotional intelligence that includes being open
and closed to emotional information at difference times and working with feelings in a
judicious way. Managing emotions also refers to the ability of emotional awareness,
acceptance, and use of emotions in problem solving (Mayer et al., 2002). In effect,
managing emotions is understanding emotions and using this understanding for practical
problem solving.

In conclusion, this study was an initial attempt to examine the link between critical thinking, emotional intelligence, and conflict modes. The findings revealed significant relationships between emotional intelligence and collaboration. These results are meaningful because they single out the managing emotions scale of emotional intelligence as potentially holding the key to conflict management. Findings from this study indicate a predictive relationship between the ability to manage emotions and collaboration. This study provides additional insight into the nature of emotional intelligence in the context of conflict management. This valuable information provides organizational leaders with meaningful information to potentially grow and develop leaders with more effective conflict management competencies.

Implications for Organizational Leaders

Organizational leaders desperately need to find solutions and strategies to hire, develop, and grow managers adept in managing conflict and building workable solutions to complex problems in this changeable environment. Managers across industries are struggling in dealing with this increase in emotion and conflict in the workplace (Myers & Larson, 2005). Managing conflict is central to understanding the practice of organizations (Tjosvold, 1991). Unmanaged conflict negatively impacts the bottom line of organizations and results in turnover, absenteeism, dysfunctional stress, retribution, manager and executive time waste, and legal costs. Low morale, intense conflict, and stressors all limit organizational performance (Bagshaw, 1998). The future of organizations will depend upon the ability of organizational leaders to develop managers who can successfully manage conflict. "Unmanaged conflict is the largest reducible cost in organizations today, and the least recognized" (Dana Mediation Institute, 2008, p.1).

Conflict is a high-risk venture for all organizational leaders and the stakes could not be higher. Conflict is not inherently positive or negative. Rather, conflict represents the potential for growth, innovation or the potential for rising, reducible costs that threaten profitability and long-term viability. Effectively managed conflict can be a positive force, helping to maintain and advance an optimal level of stimulation and activation among organizational members and contribute to creativity and innovation (Callanan, Benzing, & Perry, 2006). Research indicates that emotion, when properly managed, can drive trust, loyalty, and commitment, leading to greater productivity, innovation, and achievement for individuals, work teams, and organizations (Cooper, 1997). The key determinant to the successful management and leveraging of conflict for an organization is a management force with effective leadership practices that translate positively in the context of conflict.

Given the current economic climate, controlling costs, and sustaining productive business practices is more important than ever and necessary for survival. Organizational leaders are desperate to learn the specific behaviors that translate into effective conflict management. This study provides valuable information that will help organizational leaders engineer meaningful management development programs that focus on developing the competencies necessary to effectively, manage emotion and conflict in the workplace. This study provides organizational leaders with research that indicates the importance of emotional intelligence aptitudes in the practice of conflict management.

Organizational leaders can use the results of this study to focus on the construct of emotional intelligence in the context of conflict management. The real value in this study, are the specificity of the results. The results provide organizational leaders with the details that one specific scale or aspect of emotional intelligence, managing emotions,

results in an increase in collaboration and a decrease in conflict avoidance. While Thomas and Kilmann (1980) stress that no one conflict mode is the best fit in all situations, the collaboration mode is a balanced approach that is both assertive and cooperative and involves investigating the underlying concerns and issues and working to find creative solutions that satisfy both parties (Thomas & Kilmann, 1980). The avoiding mode is both uncooperative and unassertive (Thomas & Kilmann, 1980). Research has confirmed collaboration to be integral to team success. Whitaker (2009) contends that collaboration is the secret to unlocking a team's potential and achieving high performance. The significance of this is study is the inference that the development of higher levels of emotional intelligence competencies may lead to more effective conflict management. Based on the results of this study, organizational leaders and managers interested in enhancing conflict management skills should focus on addressing emotional intelligence gaps.

Organizations leaders should recognize that the deployment of situationally appropriate responses to conflict should produce positive outcomes for the individuals involved and for the organization (Callanan et al., 2006). This study has identified the important connection between conflict modes, situations, and emotional intelligence competencies. This information can serve as a valid foundation for conflict management training based on real-life scenarios and the application of the five conflict handling modes. The specific ability to manage emotions effectively within the emotional intelligence scale provides organizational leaders with valuable insight. This information will allow organizational leaders to target specific emotional intelligence competencies in the quest to develop more effective conflict managers in this changeable environment. The results will strengthen organizations through the development of effective conflict

managers, enabling organizations to take advantage of and advance the innovative and creative nature of conflict as well as diminish the dysfunctional and cost prohibitive aspects that threaten the future of organizations.

<div align="center">Recommendations for Future Research</div>

Additional research is needed in order to further explore and expand the knowledge and understanding of the emotional intelligence construct in the context of conflict management. Significant research has focused on exploring the relationship between emotional intelligence and leadership effectiveness. A research gap exists on the specific relationship between emotional intelligence and conflict modes. Future conflict management research should focus at the individual and organizational level.

This study has identified significant relationships among managing emotions, collaboration, and avoidance modes. Given the limited population for this study, future research should be expanded across industries to enhance generalizability. Given the results of this study, emotional intelligence may hold the key to understanding the requisite competencies that enhance a leader's ability to select situationally appropriate responses to conflict. Future studies should also explore the specific competency of managing emotions and the relationship to collaboration. If a predictive relationship is confirmed through future research, this could prove to be valuable in the conflict management arena.

 Future research should also focus on organizational conflict and how successful organizations, are able to create a culture in which change and conflict are integral components. Conflict is fundamental to human interaction and to all aspects of business practices. Unmanaged conflict threatens organizations today resulting in significant reducible costs. Given the economic climate, conflict is likely to increase along with the

associated costs. Despite these trends, conflict also represents hope and

opportunity. Conflict can inspire innovation, creativity, and commitment, which are

critical drivers of organizational performance. These are all aspects of business that will

be integral to survival and growth in this challenging economic environment.

Organizational leaders successful in developing and fostering cultures that advance the

positive aspects of conflict and change will likely succeed in securing the long-term

strength and vigor of their organizations.

Summary

This quantitative, correlational study explored the relationship between critical

thinking, emotional intelligence, and conflict management modes. The findings identified

significant relationships between emotional intelligence and conflict modes. Specifically,

there was statistically significant relationship identified between the emotional

intelligence factor of managing emotions and the collaborating and avoiding conflict

modes. This study provides organizational leaders with meaningful knowledge in order to

advance the competency of managing conflict in the workplace.

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APPENDIX A: PERMISSION TO USE PREMISES

University of Phoenix

INFORMED CONSENT: PERMISSION TO USE PREMISES, NAME,

AND/OR SUBJECTS

Boston Financial Data Services, Inc.

Name of Facility, Organization, University, Institution, or Association

I hereby authorize Susan J. Sherman, student of the University of Phoenix, to use the Boston Financial Data Services, Inc. facilities to conduct a study entitled the correlation between emotional intelligence, critical thinking, and the conflict management mode of financial services managers. Susan is not authorized to identify the company by name in her dissertation or in any publication that might result from the dissertation.

_____   4/28/08
Signature   Date

Division Vice President, Boston Financial Data Services, Inc.
Title

APPENDIX B: FORM LETTER/INFORMED CONSENT FORM

FORM LETTER TO PARTICIPANTS

Date:

Dear Research Participant,

I am a doctoral student at the University of Phoenix pursuing a doctorate degree in Education – Curriculum and Instruction. I am conducting a research study entitled The Correlation Between Critical Thinking, Emotional Intelligence, and Conflict Management Modes of Financial Services Managers. The purpose of this research study is to examine the relationship between emotional intelligence, critical thinking skills, and the conflict management modes employed by financial services managers. The Division Vice President has given me permission to conduct this research study on Company X premises. [Note: the name of the individual granting permission to use the premises and the pseudo name, X Company, was replaced with the Company's legal name when distributing the form letter.]

Your participation will involve completing three instruments and a participant data form. The three instruments include the Mayer, Salovey, & Caruso Emotional Intelligence Test, the Watson-Glaser Critical Thinking Assessment, and the Thomas-Kilmann Conflict Mode Instrument. The Participant Data Form will include general demographics information. The time required to complete the survey instruments is estimated to be between 90 – 120 minutes. Your participation in this study is voluntary. If you choose not to participate or to withdraw from the study at any time, you can do so without penalty or loss of benefit to yourself. The results of the research study may be published, but your name will not be used and your results will be maintained in confidence.

In this research, there are no foreseeable risks to you. There are also no direct benefits for research participants. The results of this study will provide valuable research data in the field of conflict management and management development. Individual results will be provided to participants upon request. These results will provide individual information on critical thinking, emotional intelligence, and conflict mode attributes.

If you have any questions concerning the research study, please contact me via by telephone at (978)509-2887 or email at sjsherman7@verizon.net. Several informational sessions will be held to review the study in more detail. Interested participants will be required to sign an informed consent form and then scheduled to complete the surveys.

Sincerely,

Susan J. Sherman

8 Jamies Path

Plymouth, MA 02360

UNIVERSITY OF PHOENIX

INFORMED CONSENT: PARTICIPANTS 18 YEARS OF AGE AND OLDER

I understand:

1. I may withdraw or decline at any time without consequences.

2. The research records will remain confidential.

3. My personal anonymity will be upheld and guaranteed.

4. The research data results will be used for publication.

5. Susan J. Sherman, the researcher, has thoroughly explained the parameters of the research study and all of my questions and concerns have been addressed. If I have future questions or research-related concerns, I may contact the researcher by phone: (978)509-2887 or (email) @ sjsherman7@verizon.net .

6. Only the researcher, Susan J. Sherman will see my responses. The researcher will structure a coding process to assure my anonymity in all documents supporting the research.

7. Data will be stored in a confidential and locked area, will be held for a period of three years, and then destroyed in the most appropriate manner available to the researcher at the time.

8. Individual results will be available upon request.

By signing this form, I acknowledge that I understand the nature of the study, the potential risks to me as the participant, and the means by which my identity will be kept confidential. My signature on this form also indicates that I am 18 years old or older and that I give my permission to voluntarily serve as a participant in the study described.

Signature of Participant _____ Date:_____

Signature of Researcher _____ Date:_____

APPENDIX C: PERMISSION TO USE EXISTING SURVEY

UNIVERSITY OF PHOENIX

PERMISSION TO USE AN EXISTING SURVEY

June 19, 2008

Ms. Susan J. Sherman
8 Jamies Path
Plymouth, MA 02360

Thank you for your request for permission to use the Mayer, Salovey, Caruso Emotional Intelligence Test in your research study. We are willing to allow you to utilize the instrument as outlined in your request with the following understanding:

- You will use this survey only for your research study and will not sell or use it with any compensated management/curriculum development activities.
- You will include the copyright statement on all copies of the instrument.
- You will send your research study and one copy of reports, articles, and the like that make use of this survey data promptly to our attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this letter and returning it to us.

Best wishes with your study.

Sincerely,

_____ — Betty Mangos
Signature   *B. Mangos*   M HS Pre

I understand these conditions and agree to abide by these terms and conditions.

Signed _SJS_ Date _6-19-2008_

_____

Expected date of completion 4/1/09

1

June 12, 2008

CPP

Confirmation Letter for Qualification Level Requirements

Susan Sherman
8 Jamies Path
Plymouth, MA 02360
SSHERMAN@BostonFinancial.com

To Whom It May Concern:

This letter will confirm that CPP, Inc. has received from Susan Sherman a written statement describing her training, coursework and/or academic supervision, and that CPP has accepted that statement as evidencing Susan Sherman's appropriate qualifications to administer and interpret the Thomas-Kilmann Conflict Mode Instrument. If you wish more information on these qualification criteria, please see the current CPP product catalog, available online at www.cpp.com.

Based upon these qualifications, CPP has agreed to license Susan Sherman use of the Thomas-Kilmann Conflict Mode Instrument in its original format. Licensed use does not include permission to reproduce the inventory in part or in its entirety.

If you have further questions or concerns, please contact CPP at 1-800-624-1765.

Sincerely,

Sylvia Castañeda

Sylvia Castañeda
Manager, Copyrights, Licensing and Permissions

The CPP logo is a registered trademark of CPP, Inc.

CPP, Inc. 1055 Joaquin Road, 2nd Floor, Mountain View, CA 94043 Tel: 650.969.8901 Fax: 650.969.8608 www.cpp.com

UNIVERSITY OF PHOENIX

PERMISSION TO USE AN EXISTING SURVEY

May 19, 2008

Ms. Susan J. Sherman
8 Jamies Path
Plymouth, MA 02360

Thank you for your request for permission to use the Watson Glaser Critical Thinking
Assessment in your research study. We are willing to allow you to utilize the instrument as
outlined in your request with the following understanding:

- You will use this survey only for your research study and will not sell or use it with any
  compensated management/curriculum development activities.
- You will include the copyright statement on all copies of the instrument.
- You will send your research study and one copy of reports, articles, and the like that make
  use of this survey data promptly to our attention.

If these are acceptable terms and conditions, please indicate so by signing one copy of this
letter and returning it to us.

Best wishes with your study.

Sincerely,

Kim E. Thomas, Permissions Coordinator Pearson
Signature

I understand these conditions and agree to abide by these terms and conditions.

Signed ~STE~ Date 5/19/08

Susan J. Sherman

Expected date of completion 4/1/09

1

APPENDIX D: PARTICIPANT DATA FORM

Participant Data Form

Control #:_____

Research Study: THE CORRELATION BETWEEN CRITICAL THINKING, EMOTIONAL

INTELLIGENCE, AND CONFLICT MANAGEMENT MODES OF FINANCIAL SERVICES

MANAGERS

Age: _____

Gender: Male   Female

(PLEASE CIRCLE)

Years of Management Experience: _____

Number of Subordinates: _____

Highest Level of Education: _____

(PLEASE CIRCLE)

High School	Some College	Undergraduate Degree	Some Post-Graduate	Post-Graduate Degree