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Leadership Styles Inventory of Michigan Career and Technical Education Area Center Principals

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LEADERSHIP STYLES INVENTORY OF MICHIGAN CAREER AND TECHNICAL EDUCATION AREA CENTER PRINCIPALS

by

Alan D. Papendick

A Dissertation
Submitted to the
Faculty of The Graduate College
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requirements for the
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Advisor: Richard Zinser, Ed.D.

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This study was conducted to determine the leadership styles of the career and technical education (CTE) area center principals in Michigan and how effective they are perceived by their subordinates. The concept of leadership traits or styles has been studied extensively within the K-12 general education setting, but lacks sufficient empirical evidence within the CTE community. The population for this study included all the CTE area center principals in Michigan and their determined subordinates: lead administrative assistant, counselor, paraprofessional, and four faculty members. This study analyzed data collected from 19 CTE area center principals and 70 subordinates. The instrument used for collection of data in this study was the 45-item Multifactor Leadership Questionnaire 5X (MLQ) that contains four statements regarding perceived effectiveness. The researcher designed and added eight items for the gathering of demographic information. The classifications of leadership styles in this study are transformational, transactional, or laissez-faire (Bass & Avolio, 2000; Kouzes & Posner, 2002).

This study was conducted completely electronically from the participants’ initial invitation to participate through their completion of the MLQ. The CTE area center
center principals and their subordinates were encouraged to complete the instrument in an open and honest manner and anonymity was insured for the respondents. The SAS/STAT® software package was used to analyze the data collected. A \( t \) test, frequency distribution, MANOVA, and the multivariate main effect for status were used to determine differences and relationships.

Results found that most of Michigan’s CTE area center principal respondents view themselves as transformational leaders and received a corroboration of this view from their subordinates. Subordinates perceived their transformational leaders as being effective, while laissez-faire leaders were viewed negatively. The results of this study should be of interest to postsecondary institutions, public school superintendents, human resource managers, and teacher educators as the principals of Michigan’s CTE area center age and the necessity to locate desirable replacements emerges.
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ACKNOWLEDGMENTS

This dissertation would not have been possible without the encouragement, support, and understanding of those with whom I share my life. Their belief in my abilities and me to do this study gave me the tenacity necessary to succeed.

I wish to dedicate this dissertation to six very special people in my life: my wife Diane, my children and their spouses—Brian and Becky, Kari and Erick, and my grandson Ethan. Their love and support have enabled me to obtain this dream. Thank you all very much.

To my wife, Diane, without your constant encouragement, support, and amazing love this dissertation and phase in my educational career would have faltered. Thank you from the bottom of my heart and know that my love has never waned. This process has been long and tedious, but rest assured that never again will I allow anything to come before you.

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ii
Acknowledgments—Continued

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Alan D. Papendick
# TABLE OF CONTENTS

**ACKNOWLEDGMENTS** ......................................................................................... ii

**LIST OF TABLES** ..................................................................................................... ix

**CHAPTER**

I. **INTRODUCTION** ................................................................................................. 1

  Background........................................................................................................... 1

  Leadership in Career and Technical Education ............................................ 1

  Future Leaders in Career and Technical Education .................................... 3

  Statement of Problem....................................................................................... 5

  Effects of Transformational Leadership Upon Student Learning Outcomes ... 6

  Research Questions............................................................................................ 9

  Significance of the Study .................................................................................. 9

  Operational Definitions...................................................................................... 10

  Research Design Overview.............................................................................. 12

  Limitations and Delimitations of the Study .................................................... 13

  Summary............................................................................................................ 14

II. **LITERATURE REVIEW** .................................................................................... 16

  Introduction........................................................................................................ 16

  Defining Leadership Styles............................................................................. 17

  Transformational Leadership Style............................................................... 20
Table of Contents—Continued

CHAPTER

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactional Leadership Style</td>
<td>25</td>
</tr>
<tr>
<td>Laissez-faire Leadership Style</td>
<td>26</td>
</tr>
<tr>
<td>Future Leaders in Career and Technical Education</td>
<td>29</td>
</tr>
<tr>
<td>Specific CTE Leadership Research</td>
<td>29</td>
</tr>
<tr>
<td>CTE Leadership Development</td>
<td>30</td>
</tr>
<tr>
<td>Determining Leadership Styles Using the <em>Multifactor Leadership Questionnaire 5X</em></td>
<td>33</td>
</tr>
<tr>
<td>Summary</td>
<td>35</td>
</tr>
</tbody>
</table>

III. METHODOLOGY ......................................................................................... 36

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population and Sample</td>
<td>36</td>
</tr>
<tr>
<td>Area Center Principals</td>
<td>37</td>
</tr>
<tr>
<td>Subordinates</td>
<td>38</td>
</tr>
<tr>
<td>Description of Research Instrument</td>
<td>39</td>
</tr>
<tr>
<td>Data Collection</td>
<td>44</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>46</td>
</tr>
</tbody>
</table>

IV. ANALYSIS OF DATA .................................................................................. 50

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptive Data</td>
<td>50</td>
</tr>
<tr>
<td>Gender</td>
<td>54</td>
</tr>
<tr>
<td>Age</td>
<td>54</td>
</tr>
<tr>
<td>Years of Business/Industrial and Educational Experience</td>
<td>54</td>
</tr>
<tr>
<td>Major Findings</td>
<td>Question 1: What Are the Leadership Styles of Michigan’s CTE Area Center Principals?</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>56</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td></td>
</tr>
</tbody>
</table>
Table of Contents—Continued

CHAPTER

Question 2: To What Extent Are the Leadership Style Assessments of the CTE Area Center Principals, as Offered by Themselves, the Same as Those Offered by Their Subordinates ........................................................ 76

Question 3: Does a Relationship Exist Between the Subordinates' Perceived Leadership Styles of Michigan's CTE Area Center Principals and Selected Demographics of Such Principals? .......................................................... 77

Question 4: To What Extent Does a Relationship Exist Between the Subordinate-Perceived Leadership Styles of the CTE Area Center Principals and the Leaders' Effectiveness as Perceived by the Subordinates ........................................ 77

Implications and Discussions ................................................................... 78

Population Sample Size ....................................................................... 78

Leadership Styles of Michigan's CTE Area Center Principals ............... 80

Leadership Styles and Subordinate-Perceived Effectiveness ..................... 80

Recommendations for Further Research .................................................... 83

Summary of Findings ............................................................................. 85

REFERENCES ............................................................................................. 87

APPENDICES

A. Human Subjects Institutional Review Board Approval ....................... 94

B. Multifactor Leadership Questionnaire 5X Permission for Duplication .......... 96

C. Leader Survey .................................................................................... 98
Table of Contents—Continued

APPENDICES

D. Rater Survey ................................................................................................... 102
E. Email Invitation to Area Center Principals ..................................................... 105
F. Informed Consent Document for Area Center Principals ............................... 107
G. Email Non-Respondent Reminder to Area Center Principals ......................... 109
H. Email to Selected Subordinates of Area Center Principals ............................. 111
I. Informed Consent Document for Raters ......................................................... 113
J. Email Non-Respondent Reminder to Rater ..................................................... 115
K. Email Letter of Appreciation to Area Center Principal ............................... 117
L. Email Letter of Appreciation to Rater ............................................................ 119
LIST OF TABLES

1. Descriptive Statistics and Reliability Scores for MLQ ........................................ 40
2. Years in Business/Industry Prior to Education .................................................. 55
3. Years of Employment in Education ................................................................ 56
4. Years of Business/Industry Supervisory Experience Prior to Education 57
5. Years of Educational Supervisory Experience Prior to Current Position 58
6. Years in Current Educational Supervisory Position ....................................... 59
7. Mean Score of Self-Perception and Subordinates’ Perception of the Leadership Style of Michigan’s CTE Area Center Principals as Determined From the Multifactor Leadership Questionnaire 5X .................................. 62
8. Michigan’s CTE Area Center Principals Self-Perceived Leadership Styles by Gender as Determined From the Multifactor Leadership Questionnaire 5X (N = 19) ............................................................................. 63
9. Michigan’s CTE Area Center Principals Subordinate-Perceived Leadership Styles by Gender as Determined From the Multifactor Leadership Questionnaire 5X (N = 19) ...................................... 63
10. Mean Score of the Subordinates’ Responses to Effectiveness Statements as Identified Using the Multifactor Leadership Questionnaire 5X (N = 70) ........................................................... 64
11. MANOVA Results for Subordinate-Perception of the Effectiveness of Michigan’s CTE Area Center Principals by Gender ............................................. 65
12. Descriptive Statistics for Leadership Styles as Perceived by Michigan CTE Area Center Principals and Their Subordinates ........................................... 66
13. Summary of MANOVA Results for Michigan’s CTE Area Center Principals’ Perceived Leadership Style and Subordinate-Perceived Leadership Styles .................................................................. 68
List of Tables—Continued

14. Summary of MANOVA Results for Subordinate-Perceived Leadership Styles of Michigan’s CTE Area Center Principals and Seven Principal Demographics ................................................................................. 69

15. Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Age and Effectiveness .................................................................................. 69

16. Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Gender and Effectiveness .................................................................................................. 70

17. Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Years in Business/Industry and Effectiveness .......................................................... 70

18. Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Years in Educational Employment and Effectiveness ........................................... 71

19. Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Years in Educational Supervision and Effectiveness ........................................... 71

20. Correlation Between Subordinate-Perception of Michigan’s CTE Area Center Principals’ Leadership Styles and Effectiveness (N = 70) ................................................................. 73
CHAPTER I

INTRODUCTION

Background

Leadership in Career and Technical Education

A significant number of Career and Technical Education (CTE) center principals are currently reaching retirement age and leaving education (Zirkle, Parker, & McCaslin, in press). These principals are those persons responsible for the management and operation of CTE centers, often referred to as “area centers.” Such area centers provide CTE classes to high school students as part of a half-day program away from the traditional high school. The exodus of such principals caused Zirkle and Cotton (2001) to express their “concern that [appropriately trained] educational leadership for CTE programs may be approaching a critical shortage” (p. 14). Zirkle, Parker, and McCaslin (in press), in their 2005 study, also noted that the critical shortage is here in part because leadership development programs emphasizing CTE have been reduced by 36% over the last 6 years.

The shortages have resulted in quite a number of speculative theories. A number of researchers have sought to determine if educational leadership has become a less desirable vocation, or whether the Career and Technical Education (CTE) leadership shortage results from the current CTE teacher shortage (Lambrecht, Hopkins, Moss,
Finch, Craine, & Bruce, 1997; Moss & Liang, 1990; Zirkle & Cotton, 2001). Lambrecht and others (1997) asserted that industrial globalization, the declining amount of federal support for CTE programs, and a high rate of technological change have played important roles in the declining number of CTE teachers and administrators. Other researchers, however, think the shortage of administrative candidates is primarily a combination of both lack of teachers and lack of CTE specific leadership development programming (Long, 2003; Moss & Jensrud, 1995; Moss & Liang, 1999; Zirkle & Cotton, 2001).

An aging population of principals reaching retirement is one important factor. Long (2003) cited national statistics from 1994 that documented 75% of general education principals were at least 45 years old. Over a decade later, Long found that many of those instructional leaders are making plans for retirement or had already left the profession. In a similar vein, Childs-Bowen, Moller, and Scrivner (2000) predicted a 10% to 20% shortfall of principals by 2005. These authors noted that the National Association of Secondary School Principals and the National Association of Elementary School Principals found that in 1998 half of the nation’s school districts reported a shortage of qualified candidates for principal openings.

Long (2003) also clearly found that qualified applicants for CTE principal positions are not as readily available today as in the past, and the struggle to find potential leaders continues to increase. Overall, research depicts a decrease in the number of candidates available to lead traditional schools, as well as CTE area centers.
In addition to the issue of quantity, there are also issues of quality. To this end, area centers are concerned with securing the best-prepared leaders. Ansari (1990) stated that "there is no such thing as an ideal leader" (p. 29), and agreed with Bennis and Nanus (1985), who stated that leaders can be developed through education and training. Glanz (2002) validated that leadership development is attainable through education in a study that found "most leaders are made, not born" (p. 14). Focusing specifically on CTE educators, Kister (2001) encouraged the recruitment of outstanding CTE teachers who exhibit leadership potential to matriculate into specific CTE leadership training programs to acquire the skills and knowledge necessary.

Some universities, in an attempt to train future leaders, have established specific CTE leadership programs for educators. However, the numbers of such programs have declined, causing researchers to question where the next generation of CTE principals will emerge (Kister, 2001; McCay, 2001; Moss & Liang, 1999; Wick & León, 1993; Zirkle, 1998; Zirkle et al., in press). For example, Zirkle et al. (in press) located 67 CTE specific leadership development programs in 1998, and only 43 such programs nationwide in 2004, a 36% decline. This is of particular concern to CTE educators due to the paucity of offerings when compared to 371 general education leadership programs. They found, in addition to the reduction in CTE leadership development programs, that CTE teacher education programs have experienced an 11% decline during the past decade.

The issue of quality leadership is particularly important given the accountability forces facing schools today. CTE principals, as well as those in the general education
community, must now lead teachers to produce tangible results on the ambitious academic standards of the No Child Left Behind (NCLB) legislation. This legislation requires not only innovative practices for its implementation, but a different educational presentation mindset (Lashway, 2002). This means that CTE and general education principals must step up their professional development to meet the increasing demands of NCLB that raises the performance bar and increases principals' responsibilities.

Kirkpatrick's (2000) article in the National Association of Secondary School Principals publication, NASSP Bulletin, emphasized how "high-stakes testing spurred expectations for quality instructional leadership and participatory management" (p. 1). Clearly, the need to recruit and develop quality general education principals is apparent. Needs continue to expand without the appropriate resources to fill those needs. For example, Jefferson County, Kentucky, predicted that its school district would require approximately 100 principals and 100 assistant principals to fill vacancies in a few years (Kirkpatrick, 2000).

Concerns regarding leadership quality and leadership shortages in general education are also relevant to CTE. Kister's research (2001) confirms the relevance of these shortages in her study for the National Vocational Technical Education Foundation and recommends that greater emphasis be placed on CTE specific leadership development programs along with appropriate funding.
Statement of Problem

Research has established a relationship between the leadership styles of educational leaders and the educational environment of their organization (Daughtry & Finch, 1997). Leadership “styles” refer to the approach leaders takes as they work with others in their organization. There are many classifications of such styles, but three common ones, which will remain the focus of this study: (1) transactional, (2) transformational, and (3) laissez-faire (Avolio & Bass, 2003).

According to Burns (1978), the transactional leadership style is one where leaders “approach their followers with an eye to trading one thing for another, jobs for votes, subsidies for campaign contributions” (p. 4). Bass (1990) refined Burns’ definition of a transactional leader as one who uses an exchange of rewards and promises for appropriate levels of effort, as well as responds to the needs and desires of subordinates.

In contrast, a transformational leader, in Kouzes and Posner’s (2002) eyes is “a leader, [who] through interactions with others, raises the level of human conduct and ethical aspiration of both the leader and the led” (p. 153). This means when the traits of a leader are predominately transformational, the organization being led will benefit as the employees and leaders strive to raise the bar and obtain a new level of performance without compromising their principles.

And as a third style, leaders showing evidence of laissez-faire leadership tendencies are leaders who “permit the members of the group to do whatever they want. [These] leader[s have] no established policies or procedures, nor attempts to influence
anyone" (Hersey & Blanchard, 1982, p. 87). Avolio and Bass (2003) contend that the laissez-faire leader represents the absence of formal leadership.

Effects of Transformational Leadership Upon Student Learning Outcomes

A number of studies have been conducted on the relationship between the style of leaders, and students' achievement on high stakes testing and resulting climate within a given school (DeMoss, 2002; Verona & Young, 2001). For example, DeMoss's 2002 study drew from eight case studies from among the lowest performing schools in the Chicago schools system. The Iowa Tests of Basic Skills (ITBS) was the instrument used to rank the schools studied and evaluate school progress. This study found strong outcomes on the high stakes testing in schools where the leader displayed transformational tendencies. Inconsistent or unsustained results on high stakes test were recorded for schools administered by principals displaying transactional or laissez-faire leadership traits.

In another study, Verona and Young (2001) compared leadership styles with student test results from two general education facilities and two area vocational centers in New Jersey. They studied the results of the New Jersey High School Proficiency Test (HSPT) for all 11th grade students enrolled at the schools. The results of Verona and Young's study showed that having a principal of general educational institutions with transformational leadership traits was a significant indicator for passing the HSPT. Transformational leadership in an area center school, however, had a significantly less effect on the students' test scores due to the limited contact time with the students.
Focusing specifically on CTE leadership research, recent studies by Blatt (2002) and Glanz (2002) found a significant positive relationship between a CTE leader possessing transformational leadership traits and the climate of the schools in which students, teachers, and principals functioned. Their research also indicated that schools, led by a transactional leader, had mixed points of view when students and subordinates looked at a specific school’s climate. These climate perspectives ranged from friendly, inviting, and exciting, to a climate lacking enthusiasm, feeling cold, and closed.

Finally, studies were located illustrating the subordinates’ perceived effectiveness of their educational leader according to various leadership styles of CTE principals (Daughtry & Finch, 1997; Liang, Chiou, & Liou, 2001; Moss & Jensrud, 1996). The definition of the effectiveness of a leader is defined as to what extent leaders influence their followers to achieve an organization’s objectives. For example, Liang, Chiou and Liou (2001) found that effectiveness of Taiwan’s area center principals was divided equally among those showing transformational and transactional leadership traits. As another example, Bostick-Rice (1993) found transformational leadership traits were regarded higher in effectiveness than leaders displaying transactional traits.

Research has also shown that gender influences a given leader’s style. For example, Bostick-Rice’s 1993 study showed a positive relationship between gender, transformational leadership, and school climate. Bostick-Rice also established that a mediocre climate existed in buildings led by a transactional leader, but established the need for this leadership style, especially during organizational change.
Moss and Jensrud (1996) also found a significant difference in leadership styles between genders. This study found a statistical significance in the data indicating that female CTE leaders received a rating higher of effectiveness on the Leadership Effectiveness Index survey used by Moss and Jensrud than their male counterparts.

Although findings are mixed, previous research overall has shown a link between general education leadership styles and educational environment, perceived effectiveness and high-stakes test results. However, little is still known how and where CTE leaders fit into leadership studies. There have been studies conducted to determine the leadership styles of general education leadership in Michigan and other states, but rarely are CTE area center principals' leadership traits separated from the aggregated data. On a national level, available studies are also limited when a researcher attempts to separate out CTE leadership from the pool of educational leadership research (Bostick-Rice, 1993). To that end, this statewide study addressed two areas of interest: (1) the leadership styles of Michigan's CTE area center principals, and (2) how subordinates perceive the effectiveness of these leadership styles.

For this study, this researcher opted to look at the educational population within the 53 CTE area centers located in Michigan. The number of CTE area centers in Michigan is one of the largest concentrations of these specialized educational institutions in the United States. Such concentration allowed this researcher access to a number of CTE area center principals and their subordinates. Although not national in scope, statewide data from this study add to the limited knowledge base surrounding CTE leadership styles and perceived effectiveness of such styles.
Research Questions

1. What are the leadership styles of Michigan’s CTE area center principals as profiled by the following:
   a. self-perceptions of CTE area center principals; and
   b. perceptions offered by the CTE area center principals’ subordinates (e.g., lead administrative assistant, counselor, paraprofessional, and four faculty members)?

2. To what extent are the leadership style assessments of the CTE area center principals, as offered by themselves, the same as those offered by their subordinates?

3. Does a relationship exist between the subordinates’ perceived leadership styles of Michigan’s CTE area center principals and selected demographics of such principals (e.g., gender, age, years of business/industrial work experience, years of educational employment, years as a school administrator)?

4. To what extent does a relationship exist between the subordinates’ perception of Michigan’s CTE area center principals’ leadership styles and the area center principals’ effectiveness as perceived by the subordinates?

Significance of the Study

Bass and Avolio (1990) established the ability for an individual to change one’s leadership style through education, mentoring, and peer interactions. This means if one leadership style is perceived to be more effective than others within a given educational environment, an individual can attempt to change toward that style (via training, etc.).
This study will add to the limited knowledge base regarding leadership styles of CTE area center principals and their perceived effectiveness. Knowing such information will benefit those educators desiring to move from the classroom into administration so they could adjust their leadership style if necessary.

The results of this study should have particular relevance to people in the local, state, university educational communities, and professional education associations who work with leadership development or professional development programs for CTE educators. Outcomes could assist in the design of leadership and professional development opportunities tailored to CTE area center principals, CTE faculty, and potential CTE administrators. It is through leadership development programs and especially those specializing in CTE leadership skills that the next generation of educational leaders will arrive.

Operational Definitions

*CTE Area Center Principals:* Those individuals responsible for the management and operation of the vocational CTE area center based on their administrative position.

*Career and Technical Education:* Career-based education that has as its primary purpose to prepare individuals for entrance into the workforce.

*Effectiveness of a Leader:* The extent to which leaders influence followers to achieve organizational objectives.

*Laissez-faire Leadership:* A leadership style where leaders "permit the members of the group to do whatever they want to do. [This] leader has no established policies or
procedures, nor attempts to influence anyone. This leader represents the absence of formal leadership” (Hersey & Blanchard, 1982, p. 87).

Leadership Style: A set of behaviors consistently utilized by leaders as they guide individuals of the group toward the achievement of organizational goals. Leaders and others perceive these behaviors as predictable patterns of behavior under various conditions. Three basic leadership styles as defined by Burns (1978), Bass and Avolio (1994), and Kouzes and Posner (2002) are Transformational, Transactional, and Laissez-faire.

Multifactor Leadership Questionnaire 5X (MLQ): A self-reporting assessment instrument consisting of 45 statements using a 5-step Likert scale to compare one leadership style tendencies to another. The MLQ measures leaders’ perception of their leader style in their present job and correlates it to the perceived leadership style of their subordinates.

Transactional Leadership: A style of leadership where leaders “approach their followers with an eye to trading one thing for another, jobs for votes, subsidies for campaign contributions” (Burns, 1978, p. 4). A leader who uses an exchange of rewards and promises for appropriate levels of effort, as well as a response to the needs and desires of the subordinates (Bass, 1990).

Transformational Leadership: A leadership style exhibited when “a leader, through their interactions with people, raises the level of human conduct and ethical aspiration of both the leader and the led” (Kouzes & Posner, 2002, p. 153). Leaders with
transformational tendencies are visionary leaders whose leadership follows a consistent set of practices and rules (Bolman & Deal, 2003).

*Vocational Area Center:* A specialized school or sector within a school serving the CTE needs of the enrolled students. Enrollment is primarily to students in the 11th and 12th grades and may come from more than one high school.

**Research Design Overview**

This study involved collection of data for the purpose of determining the leadership style and perceived effectiveness of CTE area center principals in the state of Michigan. The *Multifactor Leadership Questionnaire 5X* (Bass & Avolio, 2000) was used to determine the predominant leadership style (i.e., transformational, transactional, or laissez-faire) of these leaders. The *Multifactor Leadership Questionnaire 5X* is a commercially available self-reporting assessment instrument consisting of 45 statements using a 5-step Likert scale to compare one leadership style tendency to another. The standard paper/pencil commercial version of this instrument, marketed by Mind Garden, Inc., was converted into an electronic survey.

Each of the CTE area center principals in Michigan were asked to identify seven of their subordinates, and this leadership survey was to be completed by each principal as well as their subordinates. All surveying and data collection was accomplished 100% electronically. Additional details regarding methodology are offered in Chapter III.
Limitations and Delimitations of the Study

The key limitation of this study is that it depended upon sincere responses from all participants. As principals rated themselves, they may have responded to what they think the best response was. In selecting their subordinates, they may have chosen only those who had previous successful experience with them as leaders, and thereby gave a favorable rating on the survey. Also, although confidentiality was ensured, the responding subordinates may have still felt some pressure to respond in certain ways. This perceived risk may have distorted the objectivity of their answers.

The primary population studied in this research, area center principals, comes from a small finite group of individuals. Therefore, the power of this study was limited and subject to the response rate of both the area center principals and their subordinates. Also, as the population of this study was restricted to only the 53 area center principals in Michigan and their chosen seven subordinates, the results of the study cannot be exercised to characterize those area center principals not responding or general education principals.

The issuance of the Rater Survey to seven subordinates to substantiate the leader’s self-determined leadership style and effectiveness also places a probable limitation on the findings of this study. An accurate perception of the area center principals’ leadership style and perceived effectiveness ideally should have included input from all career and technical education center employees.

However, despite these concerns, the Multifactor Leadership Questionnaire 5X has been used in “close to 200 theses and doctoral dissertations on the subject of
"[leaders]" (Bass & Avolio, 2000, p. 1). Thus, the limitations noted above are of less concern given this tool was utilized.

The key delimitation of this study is that the results can only be generalized to the CTE area centers within Michigan. The data collected for this study came from a solicitation of principals and specific subordinates employed in Michigan’s 53 area centers. Student enrollment within such area centers during the normal daily school hours is limited to 11th and 12th graders. Therefore, any conclusions drawn from the analyzed data of this study cannot be generalized to other types of educational institutions or area centers outside of Michigan.

Despite such limitations and delimitations, results of this study are still important given the limited research on the leadership styles of CTE leaders, and their relationship to perceived effectiveness.

Summary

The primary purpose of this study was to identify the leadership styles of CTE area center principals in Michigan with a secondary purpose of determining the effectiveness of such leadership styles as perceived by seven specific subordinates. The commercially developed Multifactor Leadership Questionnaire 5X was established as the surveying instrument for data collection and analysis.

An overview of educational leadership, leadership development, and the background of the research problem has been provided. The statement of the problem,
significance of the problem, research questions, definitions of terms, assumptions of the study, limitations of the study, delimitations of the study, and summary were presented.

A review of selected literature was conducted to give support to this study. The related research on leadership styles of area center principals is limited. Therefore, this study includes related research regarding leadership styles of general education and business leadership. The results of this literature review are presented in the next chapter and include research findings related to transformational, transactional, laissez-faire leadership styles, and leadership development.
CHAPTER II

LITERATURE REVIEW

A key focus of this study was to determine what leadership styles existed among the area center principals in Michigan. Another focus was to determine how the area center subordinates view the effectiveness of their principal and if a correlation existed between that perceived effectiveness and the principals’ leadership style, as collaborated by their subordinates. The following descriptors were used to facilitate the review of literature: area center and vocational center principals, educational leadership, vocational education, career and technical education, leadership styles, transformational leadership, and transactional leadership. The literature review revealed the lack of previous studies conducted to specifically determine the leadership styles of area center principals. Therefore, related literature on leadership styles for administrators were reviewed using research garnered from general education principals, directors, and superintendents as opposed to only career and technical education (CTE) specific administrators.

Introduction

In the past 20 years, leadership studies centering their attention on career and technical education administrators have been virtually nonexistent (Greenan, Wu, & Mustapha, 1998). One of the few studies conducted was by Greenan and colleagues...
using a random sample of 250 subjects, from a population base of 2,641 secondary CTE classroom educators in Indiana, to study the attitudes and motivations of CTE teachers. The design of this study was intended to make recommendations to improve the effectiveness, efficiency, and quality of vocational programs and district personnel.

The literature review also did not uncover research reflective of professional development of CTE personnel. Other researchers studying leadership styles of CTE principals, especially empirical studies, encountered similar difficulties in reference to finding previous research to build their work on (Greenan et al., 1998). Since CTE leadership style research studies are limited, the broader context provided via this chapter is the research findings related to leadership styles of general education principals, K-12 public schools, and the influence of these styles on the operation within school buildings as perceived by their subordinates.

Defining Leadership Styles

The review of the literature revealed that the dominant traits of leadership styles in the United States and Pacific Rim countries have changed their focus over the last quarter century. Leadership styles initially focused on either autocratic or democratic principles, but more recent views now concentrate on transactional, transformational, and laissez-faire.

Heller (1971) considered the autocratic leadership as a classical approach to leading where the leader retains as much power and decision-making authority as possible. This leader does not consult employees, nor are they allowed to give any
input. The employees of an autocratic leader are expected to obey orders without receiving any explanations and work in an environment where motivation is produced by creating a structured set of rewards and punishments. Per Jensen (2000), autocratic leadership involves leaders that exhibit the attitude of "it's my way or the highway." Jensen noted that autocratic leaders were viewed as dictators who micro-managed their subordinates. The expectation is that employees of an autocratic leader are to obey orders without receiving any explanations and are poorly motivated. Lashway (2002) implies that over the past 30 years this leadership style has been greatly criticized.

On the other hand, the democratic leadership style, often referred to as the participative style, encourages employees to be a part of the decision-making (Heller, 1971). This leader keeps his or her employees informed about everything that affects their work and shares decision-making and problem-solving responsibilities. Per Jones (2003), democratic leaders will consult their subordinates rather than command them. He noted that democratic leaders promote the well-being of their subordinates who achieve results, and they encourage their employees to take risks and challenge them to be better than they think they are. Lashway (2002) maintains that a leader demonstrating democratic leadership tendencies can inspire their subordinates to produce high quantity work for extended periods of time. Employees like this style of leadership because they are give the feeling that they are trusted and usually respond with cooperation, team spirit, and high morale (Heller, 1971).
In 1978, new terms were introduced as James MacGregor Burns first presented his theory illustrating leadership as being either transformational or transactional, with such ideas still serving a major foundation for most leadership theories today. Burns, as noted by Bass (1985) and Leimbach (1993), wrote that a transformational leader is generally defined as someone having the ability to sell the vision, to set an example, and cultivate a supportive environment. A transactional leader, as defined by Burns, is a leader who uses rewards and punishments to coerce compliance to divisional or company goals, or individual advancements. Burns chose not to use the terms autocratic or democratic, but clearly a democratic style would have fit under his transformational style, while transactional is more aligned with autocratic.

The literature reveals that a substantial portion of the world’s leadership authorities, especially in the United Kingdom, still sanction Heller’s leadership style descriptors (Dvir & Shamir, 2003). However, after the publication of Burns’ book *Leadership* (1978), subsequent research and writings on leadership, particularly in the United States and Pacific Rim nations, tend to use the transactional/transaction point of view rather than the previous autocratic/democratic point of view (C. Chen, 2004; H. Chen, 2004).

Techniques that leaders utilize while working with others within their organization can be viewed as their leadership style (Burns, 1978). Overall, literature has established a number of classifications of such styles. Research, in the past decade, has identified three common leadership styles emerging that include
(1) transformational, (2) transactional, and (3) laissez-faire (Avolio & Bass, 2003; Bass & Avolio, 2000, Daughtry & Finch, 1997; Kouzes & Posner, 2002). The reader will note that two of these terms were previously introduced in this chapter as being commonly utilized since Burns’ book in 1978. The third term—laissez-faire—is now commonly added to the list as a means to depict the complete absence of leadership. More details on this third style as well as additional information on the first are offered next.

Transformational Leadership Style

Bass (1985) and Yukl (2001) noted that the prevalent tendencies of a transformational leader included: (a) idealized influence, (b) individualized consideration, (c) inspirational motivation, and (d) intellectual stimulation. The definitions of transformational leader traits according to Ryan and Reilly (2005) are:

Idealized influence creates a strong positive identification with the leader. Individualized consideration encourages and promotes the team members’ sense of efficacy. Inspirational motivation mobilizes the team toward goals that are articulated by a clear vision. Intellectual stimulation involves bringing the team member into the development of the solution. (p. 3)

Barbuto and Brown (2000) in their recent educational leadership study modified Bass and Avolio’s subdivision of transformational leadership by renaming the four different secondary categories to be visionary, compassionate, inspirational, and intellectual leading. A visionary leader is generally a leader who mobilizes the team toward goals through developing a trust and confidence from employees by exhibiting a great commitment and persistence in pursuing the vision of the
organization. This leader's message to subordinates is "I believe that this is truly the right thing to do" and they understand that this leader is "walking the talk." Barbuto and Brown view leaders who display compassionate leading trait as leaders whose leadership strength derives from their genuinely caring and demonstration of this compassion in actions. Subordinates see compassionate leaders as someone who sends the message that "I care about you and am looking out for your best interest."

Inspirational leading inspires others to perform by exciting the masses through a shared vision. By focusing on what the organization stands for, and aligning the individual needs with the organizational needs, the inspirational leader sends the message that "we can achieve whatever we desire." The transformational leadership subcategory of intellectual leading encourages the subordinates to "think outside of the box." By encouraging the imagination of employees and being willing to take risks for potential organizational gains, these leaders excite their subordinates by letting them understand "if we change our assumptions, then . . ."

Barbuto and Brown (2000) felt that these categorical names better fit the identification of educational leaders displaying transformational inclinations. They contend that the reclassification or renaming of the four transformational subcategories further strengthened previous research by using verbiage that is more contemporary. Their study, and those of a number of their colleagues, also pointed out that transformational leadership has become the predominant leadership style for general education secondary school principals (Daughtry & Finch, 1997; Ireh & Bailey, 1999). Daughtry and Finch (1997) also noted that educational administrators
who exhibited Bass and Avolio's four subcategories of transformational leadership were more successful when leading others.

Recent studies by Blatt (2002), Gustafson (2001), and Verona and Young (2001) concur with the results of earlier studies by Bostick-Rice (1993) and Daughtry and Finch (1997) that showed among general educational leaders the predominating leadership style is transformational. As people have their own unique personality, so will leaders in determination of their leadership styles. As the aforementioned studies observed, the general education leaders showed strong tendencies for transformational traits. However, when these same leaders are coping with the personalities of their individual subordinates, transactional and laissez-faire leadership traits may emerge. Transformational leaders find that these traits have limited influence in their leadership actions.

Leithwood and Jantzi's (2000) research on general education administrators substantiated the premise that transformational instructional leaders have one, or a combination of, the aforementioned leadership traits (idealized influence/vision, individualized consideration/compassionate, inspirational consideration/inspirational, and intellectual stimulation/intellectual). In this study, it was determined that the subordinates viewed the transformational leadership style as appropriate in the establishment of the 9-12 general education school's environment. A school environment, as viewed by Leithwood and Jantzi, included knowing and supporting the school's purposes and goals, policies and procedures, organizational structure, and culture. Leithwood and Jantzi observed that while transformational leaders were
instrumental in motivating an organization and their subordinates, leadership style had "a disappointingly small effect on the behavioral dimensions of student participation or engagement in the general education setting" (p. 124). In the context of the study, Leithwood and Jantzi considered participation and engagement to be the "extent of the students' participation in school activities, both inside (curricular) and outside (extracurricular) of the classroom" (p. 117). In addition to these four transformational subtraits, Daughtry and Finch (1997) initiated the idea that, for educational leaders to successfully motivate their subordinate educators, they must become effective in inspiring trust and respect.

After 2,800 separate leadership style studies utilizing leader populations from military, business, and education, Bass and Avolio (2000) found support for the concept that transformational educational leaders inspire their subordinates to a higher level of participation or engagement. Tremmel's 2003 study of leadership styles, and leaders' ability to inspire their subordinates, concluded that transformational leaders strengthened an organization through their inspirational leadership. Moreover, in their 2000 study, Leithwood and Jantzi concurred that the educational staff of a transformational leader exhibited a high commitment level to the goals and vision for the educational process within a specific building. A conclusion found in this same study indicated that leaders possessing the transformational leadership style also had a small effect on the behavior and inspiration of enrolled students.
The long-term success of leadership, as defined by Bass (1985) and Bass and Avolio (1990), is directly connected to the leaders' visions and their ability to transfer these visions to their subordinates. In an article reflecting on his 30 years of experience as a general education principal, DuFour (1999) discussed how successful principals lead through shared vision and values (i.e., transformational) rather than rules and procedures (i.e., transactional). He also shared his insights on the necessity for the principal to be results-oriented using data and achieving results by asking questions rather than imposing solutions. DuFour concluded that as the position of a principal becomes more complex, principals should orchestrate, through transformational tendencies, their visions and goals to be successful.

Gustafson's (2001) recent study evaluated leadership styles within an industrial organization to determine if leadership styles of an organization's management team could predict the leadership performance at the team level. This study used the MLQ to establish the self-perceived leadership styles of leaders, along with corroboration of this style, through participation of subordinates and the leader's supervisory personnel in determining a 360-degree leadership profile for each. Gustafson concluded that the management team of an industrial organization showed a significant tendency for transformational leadership. While the individual manager exhibited strong transformational tendencies paired with contingent reward, a transactional trait, overall, transactional and laissez-faire leadership styling showed a considerably distant second and third. The results of this study indicated that the
"teams' outcome was influenced to a lesser degree by the management behaviors than by team behaviors" (Gustafson, 2001, p. 8).

**Transactional Leadership Style**

Burns (1978) defines the transactional leadership style as leaders who “approach[es] their followers with an eye to trading one thing for another, jobs for votes, subsidies for campaign contributions” (p. 4). Bass (1990) refined this form of leadership by stating that a leader who employs an exchange of rewards and promises for appropriate levels of effort to achieve the desired response from the subordinates.

According to Bass (1985), subordinates view their transactional leaders as an authoritarian. He believes that transactional leaders are those leaders who use power, coercion, and reward to receive compliance from their underlings. C. Chen (2004) also established that this form of leadership has not proven successful within the educational community where change or disruption to the norm, whereby transactional traits resulted in a reduction in the level of faculty job satisfaction. On the other hand, Daughtry and Finch (1997) have shown that an instructional leader possessing a transactional leadership style will be successful in an educational community that exhibits stability and has a settled atmosphere.

In order to have a clearer understanding of the characterization possessed by a transactional leader, one must one must understand the traits that inhibit such a person. A transactional leader may possess one or more of the sub-characteristics, predicated Bass and Avolio (2000), as well as Ryan and Reilly (2005), of the
transactional leadership style. These four sub-characteristics are: (1) contingent reward, which focuses on the relationship between the leader's desired output and the reward that is available when the output is successfully accomplished; (2) management by exception-active sub-characteristic, where leaders believe success will come through their active monitoring of the organization's output and strict enforcement of rules to avoid mistakes; (3) management by exception-passive, where leaders will address mistakes after the fact and impose a punishment they deem relevant to the error; and (4) laissez-faire, which is a form of transactional leadership that can be best described as that of nonleadership.

Overall, the predominant leadership style of educational leaders has reduced the importance of the transactional leader to a distant second seat to the transformational leader as stated by a number of researchers, including Blatt (2002), Bostick-Rice (1993), and Gustafson (2001). Regardless of this premise, during a crisis transactional tendencies will surface from within transformational leaders to assist in its resolve. For with change, people respond quicker in the direction a leader wishes when being told—transactional—than when being asked—transformational (Bass, 1985; Bostick-Rice, 1993).

Laissez-faire Leadership Style

Burns (1978) categorized laissez-faire leadership as a sub-classification of leaders recognized as having transactional characteristics. Laissez-faire's "hands off" or passive/avoidance approach to leadership clashes with the "hands on" approach of
both transformational and transactional leadership. However, as recent as 1985, laissez-faire has come to be viewed as its own leadership style and is being referred to as such in the literature (Bass & Avolio, 2000; Gustafson, 2001).

The tendency of a laissez-faire leader is to “permit the members of the group [or organization] to do whatever they want. [These] leader[s have] no established policies or procedures, nor attempts to influence anyone” (Hersey & Blanchard, 1982, p. 87). Avolio and Bass (2003) contend that the laissez-faire leader represents the absence of formal leadership.

In 1990, Bass and Avolio established the need for separating laissez-faire as a leadership style from the four subcategories of transactional leadership. These researchers determined that this leadership style, or lack of leadership style, affected their subordinates differently than the other three subcategories. Thereby, Bass and Avolio (1990, 2000) adapted the results of the *Multifactor Leadership Questionnaire* to establish three classifications of leadership styles, to include (1) transformational, (2) transactional, and (3) laissez-faire.

Blatt (2002) described laissez-faire leadership as the complete abdication of leadership. Using the data acquired from the implementation of the *Multifactor Leadership Questionnaire* within his study of 345 CTE teachers and 97 directors employed in joint vocational school districts in Ohio, Blatt was able to determine that subordinates exhibited lower productivity and job satisfaction when their leader displayed a laissez-faire leadership style when being compared with followers whose leaders were identified as possessing transformational or transactional tendencies.
"Webster's New World Dictionary" (Guralnik, 1970) defined laissez-faire as "the policy or practice (by leaders) of letting people act without interference or direction" (p. 788). The interpretation of this definition can be allowing subordinates to make rules or do things without leadership interference or regulations and invites chaos and disruption into organizations (Gastrich, 1998; Webster, 2003). According to Barbuto and Brown (2000), this absence of leadership will have a detrimental effect on the educational environment of institutions. In the same study, Barbuto and Brown established that leaders who possess a laissez-faire leadership style are the most ineffective leaders. So although laissez-faire is often viewed as the least desirable leadership style because of its lack of direction and permissive supervision, Sergiovanni and Starratt (2002) pointed out that through the 1930s and into the 1950s a large number of leaders subscribed to this leadership style. Due to laissez-faire's "winning friends" tactics used to influence subordinates, "it became clear that increases in school productivity would not be achieved" (Sergiovanni & Starratt, 2002, p. 15).

Having the knowledge of one's leadership style, whether primary or secondary, will benefit leaders in working with their subordinates toward a common goal or vision. Without this awareness of leadership styles or sub-traits, leaders may flounder in their organizational leadership. As observed in the literature the implementation of a leader's goals, changes, visions, and even discipline rests upon his or her leadership style.
Future Leaders in Career and Technical Education

Specific CTE Leadership Research

Studies of leadership styles of academic leaders have been conducted primarily in the general education community. With the specialization of Career and Technical Education and the minimal number of stand-alone facilities, limited studies have been conducted among the leaders comprising this sector of education. Thus specific studies of leadership styles pertaining to CTE principals are minimal.

So what is known? Available studies of CTE principals indicate that the leadership styles are similar to the leadership styles of general education principals. The dominant leadership style of general education principals is transformational, with transactional leadership being a distant second followed by laissez-faire (Bostick-Rice, 1993; Day, 2000, Glanz, 2002; Moss & Jensrud, 1995).

The vision of an educational leader, with the courage to implement necessary changes, will make a difference in any educational program, whether the leader’s focal point is career and technical education or general education (Leimbach, 1993). Leimbach also emphasized that those CTE leaders who lack vision will affect a program by causing it to stagnate or even decline. Due to turmoil, confusion, and paranoia, leaders may have programs that experience negative reactions while implementing the vision and gaining its acceptance (Kouzes & Posner, 2002).

Research has been done to show the impact of CTE leadership styles. Blatt (2002) studied the relationship between leadership styles of CTE directors and school
climate. School climate as defined by Blatt is "something about a particular organization that set it apart from other organizations of similar purpose" (p. 15) that enhances its effectiveness. This study strengthens previous studies in acknowledging that the primary leadership style of educational administrators, predominantly principals, is transformational. The study also indicated that transformational leaders had moderately positive effects on the climate within their institutions.

Finally, research conducted by Daughtry and Finch in 1997 found that 45% of CTE principals, nationwide, were female. Daughtry and Finch's (1997) research also found that a greater number of CTE faculty, males and females, did not perceive a difference between the effectiveness of female and male leaders. The study concluded that CTE faculty members conferred their support to an educational leader regardless of gender (Daughtry & Finch, 1997). Although Daughtry and Finch's study did not determine the actual leadership style of such female CTE administrators, other studies have done that for female principals of non-CTE schools. For example, Bostick-Rice (1993) made an analysis of dominate leadership styles demonstrated by male and female principals in Delaware. She determined the predominant leadership style across genders was transformational, although female leaders displayed a higher level of transformational leading that their male counterparts.

**CTE Leadership Development**

Bass and Avolio (1994) stated that a person in leadership is not limited to a specific leadership style. They contend that a leadership style is teachable through a
leadership development program. Senge (1990) introduced the idea that leaders must expand their capabilities to shape their future—that is, leaders are responsible for the acceptance by their students and staff that learning is a life-long commitment. Wick and León (1993) emphasized that part of leadership development was to set the example. CTE leaders who place an emphasis on the need for professional development of their constituents and subordinates have to be willing to practice the cliché of “walking the talk.”

According to several researchers, (Kister, 2001; McCay, 2001; Rosenblugh, 1991), an area center administrator must establish a basic understanding of CTE and know what is required of a CTE leader. Wick and León (1993) also believe that an understanding of CTE administrative duties, i.e. funding, programming, and record keeping, will be developed when an individual has completed a Leadership Development Program (LDP) for future or existing CTE educational leaders. Moving away from leadership styles into the venue of leadership development, Greenan et al. (1998) established that “minimal research has been conducted regarding the professional development (specifically targeted toward) secondary vocational personnel” (p. 6). This study pointed out that either professional development is not a priority of CTE faculty and CTE leadership, or this sector of the educational community does not appreciate the value of CTE leadership education.

Kister (2001) concurred with Moss and Liang's (1990) thoughts that leadership development programs for general education leaders are more common than programming expressly created for the CTE leader. Partial rationale for the
phenomena can be seen in states similar to Michigan where certified teachers must continue their education with postgraduate work to retain their certification and there are a greater number of general education teachers than vocational or CTE teachers. Others have found that despite the potential benefits of professional or leadership development programs specifically designed for the CTE teacher, leadership development programs emphasizing CTE administration are being eliminated or reduced (Kister, 2001; Wonacott, 2001; Zirkle & Cotton, 2001).

During research of leadership development programs in the Midwest, Zirkle (1998) as well as Zirkle et al. (in press) determined that 12 CTE administration certification programs exist within the eight states surrounding the Great Lakes. These states, which include Michigan, represented approximately 33% of the “25 states (nationwide) . . . that offered formal Career and Technical Education Administration certification programs” (p. 17). Zirkle and his colleagues concur that “career and technical education has been seen as ‘alternative education,’ that is separate, and often unequal” (p. 21). The reduction of CTE specific leadership programs has made it necessary for CTE educators desiring to rise within the CTE leadership ranks to enroll in general education leadership programs. Not that this is undesirable, but by the development of CTE leadership programs, career and technical education can be assured of being part of any educational process that require qualified, effective leaders (Zirkle & Cotton, 2001).

Citing the Interstate School Leaders Licensure Consortium of 1996, Kister noted in his 2001 study that leadership development programs intended to foster the
growth of CTE specific administrators have declined. With the decline in CTE specific leadership programming, it can be conjectured that administrators with minimal or no CTE experiences, and perhaps poor leadership ability, could be employed to satisfy anticipated openings. As recent as 1995, it has been advocated by Moss and Jensrud that “it is axiomatic that vocational education needs the best leaders obtainable, particularly in administrative roles” (p. 1).

Determining Leadership Styles Using the Multifactor Leadership Questionnaire 5X

In 1982, Blanchard and Hersey defined leadership as the process of influencing the activities of an individual or group in efforts toward goal achievement in a given situation. This definition of a leadership style was refined in 2001 by Hersey, Blanchard, and Johnson as “the behavior pattern that a person exhibits when attempting to influence the activities of others—as perceived by those others” (p. 265) toward goal achievement in a given situation. Before initiating a study into the leadership styles of educational leaders, a method of assessing a leader’s style must be established. The Multifactor Leadership Questionnaire 5X (MLQ) is considered a comprehensive assessment of a leader’s full range of leadership skills and capabilities.

Bass first published the MLQ in 1985 using the eight categories of leadership traits when defining transformational and transactional leaders. They broke transformational into four traits: (1) idealized influence, (2) individualized consideration, (3) inspirational motivation, and (4) intellectual stimulation, and
transactional into four traits: (1) contingent reward, (2) management by exception-passive, (3) management by exception-active, and (4) laissez-faire.

Since its 1985 inception, the MLQ has gone through a number of revisions to evolve as the MLQ 5X assessing the components of a 360 Degree Leadership profile (Bass & Avolio, 2000). A 360 degree leadership profile assesses the leadership skills of the prospective leader through administration of the questionnaire for a self-perception along with an assessment from their subordinates, their superiors, and their peers to improve an organization’s teamwork, facilitate better communication, and boost productivity (Hybels, 2001). The design of this instrument is to furnish leaders with developmental feedback regarding their strengths and weaknesses (Avolio & Bass, 2003).

Employment of the MLQ for this study was based on its longevity of use in industry and education. Avolio and Bass (2003) pointed out that before their development of the MLQ in 1985, there was no reliable or valid method of determining leadership styles. The MLQ provides a comprehensive assessment of leadership behaviors ranging from the style perceived most effective—transformational—to the style perceived ineffective—laissez-faire (Avolio & Bass, 2003).

A leader is administered the MLQ along with 3 to 10 subordinates who report to the leader. The leader selects the subordinates who will participate in this survey. Currently the MLQ subdivides the three leadership styles into 8 leadership traits for additional clarification: transformational (4 traits), transactional (3 traits), and laissez-
faire (1 trait). This subdivision by Bass and Avolio (2000) helped expand the MLQ to define with greater accuracy the constructs associated with leadership styling and behaviors.

Summary

The organization for the review of literature and research of this study was in three sections: (1) leadership styles, (2) future career and technical education leaders and research, and (3) determination of leadership styles using the MLQ. The review suggested that leadership development programming for career and technical educational leaders is on the decline and that existing leadership development programs are in need of improvement to include CTE specific programming. The review of literature shows the leadership styles of general educational leaders and the effectiveness exhibited by leaders of such styles. What is not known because of this review is adequate information regarding specific leadership profiles of CTE area center principals.

The next chapter gives an overview of the research design used in this study and the establishment of the population under study. A discussion of the research instrument, data collection procedures, and treatment of the collected data is also included.
CHAPTER III

METHODOLOGY

This chapter gives an overview of the research design, identifies the population and sample of subordinates, and the regionalization of the population. Included in this chapter is a discussion regarding the research instrument, data collection procedures, and treatment of the collected data. The primary purpose of this study was to identify the self-determined leadership style of Michigan's area center principals along with the effectiveness of the leadership styles as perceived by seven specific subordinates of each area center principal.

Another purpose of this study, after determining the self-determined leadership styles of area center principals, was to investigate if the established leadership styles correlated with leader-specified subordinates' perception of their leader's style. A third objective was to determine the correlation between the established leadership style and the subordinates' perceived effectiveness of the area center principals attempting to establish if one leadership style was more effective than another.

Population and Sample

There are 53 career and technical educational (CTE) centers in the state of Michigan from which the population for the study was drawn. The educational
community studied is unique because it serves a specific population of secondary students, primarily 11th and 12th graders. The study utilized the *Multifactor Leadership Questionnaire 5X* (MLQ) to analyze and determine the leadership style of these area center principals. To establish a confirmation of their leadership style, a request was made of each area center principal to select seven subordinates from specific categories predetermined by the investigator. These participating subordinates were asked to complete a parallel MLQ survey.

The area center principals were defined as those individuals whose primary responsibility (50% or more) was the day-to-day operation of a career and technical education building. Subordinates in this study were individuals employed at the area centers who reported directly or indirectly to the area center principal. The subordinate categories were: the building’s administrative assistant, the most senior vocational counselor, a paraprofessional within the building, and four CTE instructors. Information on each broad group of participants and the identification process is described briefly in the following sections.

*Area Center Principals*

The Office of Career and Technical Preparation (OCTP), a division within the Michigan Department of Labor and Economic Growth, provided a list of area center principals or directors. The use of the term *leaders* was one method of identification for these principals or directors. The listing included names, mailing addresses, telephone and fax numbers, and email addresses for each area center principal.
Subordinates

The area center principals chose their subordinates, also known as raters, in each of four predetermined employment categories for inclusion in this survey. All subordinates were from the leader's area center staff. The selected surveyed subordinates matched specific job titles furnished by the investigator. Since the investigator had no access to the building employees' email addresses, it was necessary to have the area center principal select the subordinates.

Those included in this study as subordinates or "raters" were the building's administrative assistant, the most senior vocational counselor, a paraprofessional within the building, and four CTE instructors. Descriptions of these seven predetermined subordinate categories of raters are as follows:

1. Building's Administrative Assistant: The person whose daily responsibilities include performing a wide variety of complex secretarial and administrative assistant tasks to assist the area center principal in his/her duties.

2. Most Senior Career Counselor: The career counseling staff member who employed as a CTE counselor in the building the longest.

3. Paraprofessional: A person whose responsibilities include, but are not limited to, supervision of assigned students, providing assistance to special education students, along with supporting and working with the CTE instructor(s) at the career and technical education center. This person may be employed either half or full time.

4. Instructor 1: A CTE instructor with 4 or less years of teaching experience.
5. Instructor 2: A CTE instructor who has taught in the area center building for 5 to 10 years.

6. Instructor 3: A CTE instructor who has taught CTE courses for 10 to 15 years, with the majority of his/her experience in the area center building.

7. Instructor 4: A CTE instructor who has taught more than 15 years, not necessarily in their current area center building, and possibly not entirely in career and technical education.

Description of Research Instrument

The *Multifactor Leadership Questionnaire 5X* (MLQ) was chosen as the survey instrument. Permission to reproduce the commercially available MLQ was received from Mr. Robert Most of Mind Garden, Inc. Permission to duplicate 150 copies can be found in Appendix B. Mind Garden, Inc. also gave permission for a maximum of six MLQ response-generating statements to be duplicated within the Appendices.

According to the developers, Bass and Avolio (2000), the MLQ has acceptable construct validity based on initial and replication analysis of 14 samplings \(n = 3,860\). The validity of the nine-factor MLQ used in this study is 0.91. The reliabilities for the 45 survey items and each of the nine leadership factor scale ranged from 0.74 to 0.94. Located in Table 1 are the descriptive statistics and reliability scores for the MLQ.
Table 1

Descriptive Statistics and Reliability Scores for MLQ

<table>
<thead>
<tr>
<th>Leadership Styling</th>
<th>Mean</th>
<th>SD</th>
<th>Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idealized Influence - Attributed</td>
<td>2.56</td>
<td>.84</td>
<td>.86</td>
</tr>
<tr>
<td>Idealized Influence - Behavior</td>
<td>2.64</td>
<td>.85</td>
<td>.87</td>
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<tr>
<td>Inspirational Motivation</td>
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<td>.97</td>
<td>.91</td>
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<tr>
<td>Intellectual Stimulation</td>
<td>2.51</td>
<td>.86</td>
<td>.90</td>
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<tr>
<td>Individualized Consideration</td>
<td>2.66</td>
<td>.93</td>
<td>.90</td>
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<tr>
<td>Contingent Reward</td>
<td>2.20</td>
<td>.89</td>
<td>.87</td>
</tr>
<tr>
<td>Manage-By-Exception - Active</td>
<td>1.75</td>
<td>.77</td>
<td>.74</td>
</tr>
<tr>
<td>Manage-By-Exception - Passive</td>
<td>1.11</td>
<td>.82</td>
<td>.82</td>
</tr>
<tr>
<td>Laissez-Faire</td>
<td>0.89</td>
<td>.74</td>
<td>.83</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leadership Trait</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra Effort</td>
<td>2.60</td>
<td>1.16</td>
<td>.91</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>2.62</td>
<td>.72</td>
<td>.91</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>2.57</td>
<td>1.28</td>
<td>.94</td>
</tr>
</tbody>
</table>

Note. *N* = 2154.

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Wiesen and Schlenger (1998) stated "the basic concept of statistical power refers to the ability of a test statistic to detect a true difference between two (or more) groups" (p. 1). Power is also an indicator as to the probability that the results of a test will show statistical significance (March, 1998). Power is an important issue, as
investigators want to avoid falsely concluding a test as ineffective. Power is also a way to reduce the chance of making Type II error in the meaningfulness of detected differences (Wiesen & Schlenger, 1998). According to Hauser (2001), researchers illustrate power of empirical studies through the use of significance testing to detect small, medium, and large effects at $\alpha = .01$, $\alpha = .05$, and $\alpha = .10$. Couch (1987) along with Wiesen and Schlenger (1998), also stated as the alpha level in small studies becomes more stringent (going from .05 to .01), the power of a statistical test decreases. Therefore, the investigators of this study opted to use an alpha level of $p = 0.05$.

The analysis of the data acquired from using the MLQ allows researchers to achieve an educational research confidence interval level of $p < 0.05$. The conciseness of information collected by the MLQ gives an investigator the ability of achieving a "greater statistically desirable level of confidence of $p < 0.001$ rather than $p < 0.05$ (B. Applegate, personal communication, October 11-12, 2002; W. E. Lacefield, personal communication, February 7-8, 2003).

This study examined the leadership styles—transactional, transformational, or laissez-faire—and demographics of area principals in Michigan by using the Multifactor Leadership Questionnaire 5X. In addition, this study explored the relationship between eight leadership subcategories—idealized influence, inspirational motivation, intellectual stimulation, individualized consideration, contingent reward, management-by-exception—active, management-by-exception—passive, and laissez-
faire—and demographics of the principals. The definitions of the eight leadership factors identified by the MLQ follow:

1. **Idealized Influence** depicts a leader with determination, a sense of purpose, charismatic, and morals. Idealized influence leaders attack a situation head-on and celebrate the accompanying success with their subordinates. (Transformational)

2. **Inspirational Motivation** describes a leader who exhibits an optimism and excitement about the future state of the organization and its goals. (Transformational)

3. **Intellectual Stimulation** depicts leaders who have the ability to motivate their subordinates’ efforts to be innovative and creative by questioning assumptions, reframing problems, and developing new approaches to old situations. (Transformational)

4. **Individualized Consideration** leaders focus on the development and mentoring of their subordinates and attend to their individual needs by providing new learning opportunities and a supportive climate. (Transformational)

5. **Contingent Reward** is a transactional trait of a leader who demonstrates the value of their subordinates’ satisfactory performances through the exchange of rewards or favors. (Transactional)

6. **Management-by-Exception–Active** is a description of a leader who monitors the subordinates’ performance using meeting pre-established standards. Leaders with this transactional trait tend to enforce the rule of mistake avoidance. (Transactional)
7. *Management-by-Exception—Passive* portrays a leader who will wait until problems become serious or brought to their attention before taking action. A leader who exhibits this type of trait is a reactive leader who will not respond to the situation until forces are placed upon him. (Transactional)

8. *Laissez-faire* leaders will avoid accepting responsibilities, are absent when needed, resist following up on assistance requests, and resist expressing their view on important issues (Bass & Avolio, 2000). A laissez-faire leader employs a passive/avoidance method of leadership.

The MLQ Leader Survey, originally developed in 1985 and currently in its fifth revision by Bass and Avolio (2000), was sent to each area center principal of Michigan's 53 career and technical education centers to determine their leadership style. The leadership survey portion, located in Appendix C, contains 45 statements designed to evaluate a leader's style of leadership. The researcher also added eight demographic requests.

To verify the self-determined leadership style of the area center principals and their perceived effectiveness, a rater questionnaire, *Multifactor Leadership Questionnaire 5X* Rater Survey, was sent to seven area center employees. The rater survey instrument is located in Appendix D. Those receiving the Rater Survey, chosen by the principal, included a counselor, the main administrative assistant, a paraprofessional, and four instructors. The MLQ is a commercially created survey, containing 45 statements, administered to assist leaders in self-determining their leadership style. As one person cannot validate his/her own leadership style, seven
subordinates of each leader were canvassed to corroborate the leaders' self-determined leadership style and the perceived effectiveness. The results from the administered MLQ were used in determining if correlations existed between leadership style and effectiveness.

Each survey, including responses to the added demographic information, should have taken participants approximately 10 to 15 minutes to access the web site and enter the necessary data into either the Multifactor Leadership Questionnaire 5X-Leader Survey, or Multifactor Leadership Questionnaire 5X-Rater Survey.

Data Collection

The investigator converted the MLQ survey, normally administered in a paper/pencil format, into an electronic version using Microsoft Word. This computerized format allowed for better presentation, data collection, and analysis. An electronic survey, SurveyMonkey.com, was modified for this study by an independently contracted website administrator. The modifications provided better accuracy for data collection and analysis. The survey data acquired from the area center principals and their subordinates was downloaded into an Excel spreadsheet for placement into the respective part of SAS/STAT® Software.

The area center principals received an email message containing an invitation to participate in the leadership survey, found in Appendix E. This invitation, sent to area center principals, included a URL that allowed entrance into the secure survey website which opened to an informed consent document where individuals were given
the option to participate. An example of the informed consent document is in Appendix F.

Follow-up emails, found in Appendix G, were sent on 5-day intervals to the area center principals who had not responded to the leader survey. Area center principals received no more than three reminder emails. The computer program generated a listing of incomplete surveys that the independently contracted website administrator used for follow-up emails.

Upon completion of the leader survey, participating area center principals were asked to submit the survey along with the email address for seven specific subordinates, to be known as raters, from within their building. Only the independently contracted website administrator had access to those email addresses. These raters included the building’s administrative assistant, the most senior vocational counselor, a paraprofessional within the building, and four CTE instructors.

After the website administrator received notification of leaders completing the survey, an email invitation was sent to the seven leader-selected raters to participate in this survey. This invitation, located in Appendix G, included a different URL, allowing the raters entrance into the secure Rater Survey website which opened to an informed consent document where the raters were given the option to participate. The rater’s informed consent document is located in Appendix I. Follow-up emails were sent every 5 days thereafter for four reminders. The follow-up emails to nonrespondent subordinates were sent from a list generated by the website,
SurveyMonkey, and issued to the independently contracted website administrator. The nonrespondent reminder email sent to the raters is located in Appendix J.

A note of appreciation was included as part of the electronic survey and appeared when a leader or rater had completed and submitted a survey. The note of appreciation directed to the area center principals is located in Appendix K. The note of appreciation to the raters can be found in Appendix L.

Data Analysis

Data received from the area center principals and their subordinates were downloaded from the survey website into an Excel spreadsheet for uploading into SAS/STAT® for statistical analysis. Descriptive statistics were employed to evaluate and review the demographic data.

The first research question was: What are the leadership styles of Michigan’s CTE area center principals as profiled by the following: (a) self-perceptions of CTE area center principals; and (b) perceptions offered by the CTE area center principals’ subordinates (e.g., lead administrative assistant, counselor, paraprofessional, and four faculty members)? The independent variables for Question 1 used in this study were the responses generated by the area center principals to the 45 designated statements on the Multifactor Leadership Questionnaire 5X (MLQ) pertaining to leadership style traits of the leaders. The dependent variables used in the comparison were the leadership styles of the leaders as designated by the subordinates. A multivariate analysis of variance (MANOVA) was used to analyze the data related to this question.
to determine if significant differences occurred between the self-determined leadership styles and the subordinate determined leadership styles. Statistical significance was determined by using the statistical value of \( p \leq 0.05 \). Descriptive statistics were used to chart the results to this question.

The second research question was: To what extent are the leadership style assessments of the CTE area center principals as offered by themselves the same as those offered by their subordinates? The purpose of this question was to determine to what extent the self-established leadership style of area center principals was correlated with the leadership style as perceived by their selected area center subordinates. The use of a MANOVA test was necessary to aide in determining the strength of the existing relationship. With multiple independent variables resulting from unequal subordinate responses, the data had to be manipulated with a MANOVA test to equalize the results for each dependent variable, thereby allowing for a comparison to be generated. Statistical significance was determined by using the statistical value of \( p \leq 0.05 \). Descriptive statistics were used to chart the results to this question.

The third research question was: Does a relationship exist between the subordinates' perceived leadership styles of Michigan's CTE area center principals and selected demographics of such principals (e.g., gender, age, years of business/industrial work experience, years of educational employment, years as a school administrator)? The purpose of this question was to determine if the subordinate-perceived leadership style of the area center principals was correlated with specific
demographic data collected (e.g., gender, age, years of business/industrial work experience, years of educational employment, years as a school administrator). The use of a MANOVA test was implemented to determine if a relationship existed. The results of the MANOVA test between subjects effects aided in determining the strength of any existing relationship. Statistical significance was determined by using the statistical value of $p < 0.05$. Descriptive statistics were used to chart the results to this question.

The fourth research question was: To what extent does a relationship exist between the subordinates’ perception of Michigan’s CTE area center principals’ leadership styles and the area center principals’ effectiveness as perceived by the subordinates? The independent variable for this question were the responses generated by the area center subordinates to the four designated statements on the Multifactor Leadership Questionnaire 5X (MLQ) pertaining to their perceived effectiveness of the leaders. The dependent variables used in this comparison were the leadership styles of the leaders as perceived by the subordinates. A MANOVA was used to analyze the data related to this question to determine if significant differences occurred within the self-determined effectiveness and within the subordinate determined leaders’ effectiveness. Statistical significance was determined by using the statistical value of $p \leq 0.05$. Descriptive statistics were used to chart the results to this question.

The next chapter presents results acquired from the area center principals and specific subordinates surveyed. To answer the four research questions, descriptive
statistics were used to describe the demographic characteristics of the leadership styles relating to the subjects participating in this study. Other procedures described in this chapter were designed to determine the relationship between leadership styles of area center principals and the effectiveness of the leadership styles as perceived by seven specified subordinates.
CHAPTER IV

ANALYSIS OF DATA

The purpose of this study was to examine the relationship between the leadership styles of Michigan’s area center principals and their effectiveness as perceived by their subordinates. This study collected data from Michigan’s area center principals concerning their gender, age, years of business/industrial experience, years of educational employment, years of employment as an educational supervisor/administrator, their leadership styles, and effectiveness. Data were collected from the subordinates to assist in establishing the leadership styles of the area center principals and the subordinates’ perception of the principals’ effectiveness. The sample for this study came from the 53 principals and 371 building subordinates employed in Michigan’s career and technical education area centers during the 2004-2005 school year.

The results of the investigation are organized in the following manner. First, the descriptive data are presented. Second, descriptions of the statistical analyses used are presented. Third, major findings are integrated, followed by a summary.

Descriptive Data

A total of 53 area center principals were identified from a directory provided by the Office of Career and Technical Preparation division of Michigan’s Department
of Labor and Economic Growth. Of this number, 36 (67.9%) area center principals responded to the survey, with 19 (35.9%) being usable. Seventeen responses were rejected for the following reasons: 7 (13.2%) had missing data, 4 (7.5%) had been started and for some unknown reason the respondent decided to leave the balance of the survey incomplete, 3 (5.7%) were returned after the closing date, and 3 (5.7%) responded by sending emails stating their unavailability to participate in this study.

Data received from the seven surveys missing responses and the four documents received that had been started but not competed were not used in the analysis for this study. As the MLQ is designed with traits of the three leadership styles intermixed and not presented consecutively, it allowed for the possibility of skewing the mean scores of the self- and subordinate-perceived leadership styles and perceived effectiveness. Therefore, the accuracy of the leadership style and effectiveness analysis may have been correct.

Each of the usable 19 respondents submitted an email address for 7 of their subordinates, creating a pool of 133 subordinates. Of these 133 subordinates contacted electronically, 70 (52.6%) returned the survey and all surveys were usable. Data collected from the subordinates were used in the corroboration of the aggregated mean principals' leadership style and established the subordinates' perception of the leaders' effectiveness.

According to Cohen (1988), it should be noted that the sample size of Michigan's area center principals used for this study is small (19 usable responses) and hence, the proposed multivariate statistical tests may not have adequate power to
detect significant differences or power. Cohen also pointed out that Couch (1987) stated, "as the alpha level becomes more stringent (goes from .05 to .01), the power of a statistical test decreases" (p. 187). This study's sample came from a finite population of 53 CTE area center principals, generating a response rate of 36%. The population for this study is specific to the CTE community in the state of Michigan and due to the size limitation of the population to be studied, it was inherently bound to have a small response rate, less than 50. Sheehan's (2001) study of response rates to electronic surveys (e-surveys) over a 15-year period, 1986 to 2000, showed declining response rate to this form of surveying. In 1995-96, respondents to e-surveys were found to be at 46%. Conversely, e-surveys administered 3 year later, 1998-99, fell to 30% responses. Sheehan found that the mean response rate was 36.83% for the 31 e-surveys distribute over these 15 years. The Energy Information Administration (1999) also found that e-surveys have lower response rates as can be seen through their 1998 Manufacturing Energy Consumption Survey that received 50 responses to the 239 surveys emailed, a 20.9% response rate.

The limitations of a small study population should be taken into consideration when reading this study. The results of this dissertation should not be interpreted as being representative of the total population of Michigan's area center principals or their counterparts throughout the country. The particular perspectives and interests of the responding area center principals and their subordinates only will influence findings of this document.
Three areas of concern affect the power of this study. First is the alpha level to be used. As the alpha level increases, i.e., from 0.50 to 0.01, the power of the study decreases (Couch, 1987). Therefore, this study used a $\alpha = 0.05$ to control the results for a Type I error. A Type I error occurs when the statistical analysis test incorrectly rejects the significance of the findings.

The second area of consideration is the effect size of the treatment. According to Keppel (1991) the effect size measures the group differences, and has a direct impact on power. To understand the effect size, imagine a basketball player practicing free throw shooting. It can be conjectured that the more time the player practices free throws, the better he will shoot in a game situation. The obverse is true; when a player does not practice or has limited practice time shooting free throws, the chances he will make his shots during a game are minimized. As the effect size increases, the statistical power increases.

Lastly, the sample size of the group studied is an important factor of statistical power. Statistical power and sampling errors will decrease as the sample size is increased (Keppel, 1991). Due to the small population used in this study, the presumption can be implied that the observed power of the MANOVA analysis test for this study may be small. The issues of power will be addressed as necessary later in Chapter IV.
Gender

Area center principals were asked to indicate their gender. Of the 19 surveys utilized for this study, 12 (63.2%) of the respondents indicated their gender as female; 7 (36.8%) reported their gender as male.

Age

Area center principals were requested to indicate their age using a five-step categorical scale with four categories containing a specified, closed-ended 7-year range and one category being open-ended. Twelve (63.2%) respondents of the 19 usable area center principal surveys of this study indicated that they were 50 years of age or older, whereas 5 (26.3%) respondents were between the ages of 43 and 49. One (5.2%) responding area center principal was between 29-35, and 1 (5.2%) between 36 and 42. No respondents were younger than 29 years of age.

Years of Business/Industrial and Educational Experience

Years in business/industry prior to education. Area center principals were queried as to the extent of their business experiences they had prior to entering the educational community. The data were collected using a five-step categorical scale measuring three categories containing a span of 6 years, one category no years of experience, and one category being open-ended. Ten (52.6%) respondents of the 19 usable area center principal surveys of this study indicated they had between 1 and 5 years of business or industrial experiences (work experience), whereas the work
experience of 5 (26.3%) respondents indicated 6 to 10 years. Two (10.5%) of responding area center principals placed their business/industry work experience between 11 and 15 years, 1 (5.3%) identified his or her work experience to be more than 15 years, and 1 respondent (5.3%) had not been employed outside of education prior to entering education. Table 2 further identifies the years in business/industry prior to education according to gender.

Table 2

*Years in Business/Industry Prior to Education*

<table>
<thead>
<tr>
<th></th>
<th>0 Years</th>
<th>1-5 Years</th>
<th>6-10 Years</th>
<th>11-15 Years</th>
<th>&gt; 15 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Male</strong> (n = 7)</td>
<td>0 0.0</td>
<td>5 26.3</td>
<td>1 5.3</td>
<td>1 5.3</td>
<td>0 0.0</td>
</tr>
<tr>
<td><strong>Female</strong> (n = 12)</td>
<td>1 5.3</td>
<td>5 26.3</td>
<td>4 21.1</td>
<td>1 5.3</td>
<td>1 5.3</td>
</tr>
<tr>
<td><strong>Total</strong> (n = 19)</td>
<td>1 5.3</td>
<td>10 52.6</td>
<td>5 26.3</td>
<td>2 10.5</td>
<td>1 5.3</td>
</tr>
</tbody>
</table>

Years of employment in education. In addition to years in business/industry prior to education, the area center principals were asked to identify the total number of years they have been employed in education. These data were classified using the same longevity and categorical scale as previously identified. Sixteen (84.2%) respondents of the 19 usable area center principal surveys indicated that they had between 11 and 15 years of educational employment, whereas 2 (10.5%) individuals each indicated they were employed in education for 1 to 5 years. One (5.3%) of
responding area center principals placed their years of educational employment between 6 and 10 years. None of the respondents to this study had been employed in education for less than 1 year or more than 15 years. The years of employment in education of Michigan’s CTE area center principals by gender is displayed in Table 3.

Table 3

*Years of Employment in Education*

<table>
<thead>
<tr>
<th></th>
<th>0 Years</th>
<th>1-5 Years</th>
<th>6-10 Years</th>
<th>11-15 Years</th>
<th>&gt; 15 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>0 0.0</td>
<td>1 5.3</td>
<td>1 5.3</td>
<td>5 26.3</td>
<td>0 0.0</td>
</tr>
<tr>
<td>(n = 7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1 0.0</td>
<td>1 5.3</td>
<td>0 0.0</td>
<td>11 57.9</td>
<td>0 0.0</td>
</tr>
<tr>
<td>(n = 12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1 0.0</td>
<td>2 10.5</td>
<td>1 5.3</td>
<td>16 84.2</td>
<td>0 0.0</td>
</tr>
<tr>
<td>(n = 19)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Years of Supervision Experience in a Business/Industrial or an Educational Setting*

During the course of completing the Leader Survey of the MLQ, Michigan’s area center principals were questioned as to the amount of supervisory experience they possess. To acquire this data, three different statements using a five-step categorical scale measuring three categories containing a span of 6 years, one category no years of experience, and one category being open-ended were employed. The three statements requested information regarding the respondent’s prior supervisory experience and current supervisory experiences. The supervisory
experiences under consideration in this study included the longevity of those both outside of and within the educational community and the corresponding data are presented in Tables 4, 5, and 6.

*Years of business/industrial supervisory experience prior to education.* Nine (47.4%) respondents of the 19 usable surveys of Michigan's area center principals studied in this research indicated that they did not have previous supervisory experience while working in a business or industrial setting prior to entering the field of education. These same data revealed that 10 (52.6%) of the responding area center principals had between 1 and 5 years of supervisory experience in a business or industrial setting. No responding area center principals indicated having had supervisory experiences prior to becoming an educator in the three remaining classifications: 6-10 years, 11-15 years, and greater than 15 years. Data illustrating the years of business/industry supervisory experience prior to education are presented in Table 4 and further identified in accordance to gender.

Table 4

*Years of Business/Industry Supervisory Experience Prior to Education*

<table>
<thead>
<tr>
<th>Years</th>
<th>Male (n = 7)</th>
<th>Female (n = 12)</th>
<th>Total (n = 19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 years</td>
<td>5 (71.4%)</td>
<td>4 (33.3%)</td>
<td>9 (47.4%)</td>
</tr>
<tr>
<td>1-5 years</td>
<td>2 (28.6%)</td>
<td>8 (66.7%)</td>
<td>10 (52.6%)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>11-15 years</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>&gt; 15 years</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
</tbody>
</table>

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Years of educational supervisory experience prior to current position. Eight (42.1%) respondents of the 19 usable area center principal surveys indicated they had between 11 and 15 years of educational supervision employment prior to their current position as an area center principal, whereas 5 (26.3%) individuals each indicated they had no educational supervisory experience. Three (15.8%) area center principals responded in each of two longevity sectors placing their years of educational supervision employment between 1 and 5 years or 6 and 10 years. None of the respondents to this study had experiences in an education supervisory capacity for more than 15 years. Data showing the years of prior educational employment in a supervisory position of the responding Michigan’s CTE area center principals are presented in Table 5 and further identified by gender.

Table 5

<table>
<thead>
<tr>
<th>Years of Educational Supervisory Experience Prior to Current Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>Male (n = 7)</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>Female (n = 12)</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>Total (n = 19)</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

Years of experience in current administrative position. Seven (36.8%) respondents of the 19 usable area center principal surveys of this study indicated they
had between 1 and 5 years of educational supervision experience in their current position as an area center principal, whereas 6 (31.6%) individuals indicated they had no educational supervisory experience. Four (21.1%) area center principals indicated their years of current educational supervisory experience was between 6 and 10 years and 2 (10.5%) have been in their current administrative position for between 11 and 15 years. None of the respondents to this study had experiences in an education supervisory capacity for more than 15 years. Data showing the years of current educational experience in a supervisory position as a CTE area center principal are presented in Table 6 and further identified by gender.

Table 6

<table>
<thead>
<tr>
<th>Years in Current Educational Supervisory Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Years %</td>
</tr>
<tr>
<td>Male (n = 7)</td>
</tr>
<tr>
<td>Female (n = 12)</td>
</tr>
<tr>
<td>Total (n = 19)</td>
</tr>
</tbody>
</table>

Leadership Styles of Leaders

The Multifactor Leadership Questionnaire 5X (MLQ) was the instrument selected to collect data used in this study. The MLQ employed a forward generating five-step Likert scale (0-4), from “not at all” to “frequently, if not always,” to provide
six mean scores for analysis: transformational leadership, transactional leadership, laissez-faire leadership, effectiveness, extra effort, and satisfaction. The extra effort and satisfaction scores were not utilized as part this study. Establishing a transformational leadership score for each principal was accomplished using the procedure recommended by Bass and Avolio (2000) of determining the mean of 20 statements identifying transformational leadership traits. The same procedure was used to create the transactional leadership score for each leader by determining the mean of the 12 statements encompassing transactional leadership traits. Four statements describing laissez-faire leadership tendencies were utilized in formulating the mean to determine laissez-faire leadership score. The means of the three leadership styles were reviewed in descending order with the largest mean signifying the self-perceived leadership style of Michigan’s CTE area center principals.

The MLQ provided the aforementioned six mean scores as determined from data submitted by the surveyed subordinates. The leadership traits statements/questions used in the subordinate’s survey were identical in wording to the leaders’ survey with the substitution of wording like “my” for “I” to change the content from a leader’s point of view to that of the subordinate. The 36 leadership style question/statements responded to by the subordinates were subdivided, using the same breaks as the leaders’ survey, to establish the subordinate perception of the area center principals’ leadership styles.

To determine the perceived leadership style of the leaders responding to the Multifactor Leadership Questionnaire, Bass and Avolio (2000) instructed researchers
to establish the means of the Likert scale scores to specific statements. The statements have been classified for use as the respondents' characterization of transformational, transactional, or laissez-faire leadership tendencies. The established means will range from 0.00 to 4.00, with the greater mean indicating the leadership style. This is true whether calibrating the means of the individual leader or aggregate mean of the responding leaders and the aggregated means of the responding subordinates.

The mean of the leaders' self-perceived transformational leadership score on a 5-point scale was 3.26. The mean range of self-perceived transformational leadership means was 2.55 to 3.70. The mean range of self-perceived transactional leadership was 0.93 to 3.42; collectively the group transactional leadership mean was 1.82. As a group, the self-perceived laissez-faire leadership mean was calculated at 0.59, with the individual means ranging from 0.00 to 2.00. These data establishing the self-perceived leadership style of Michigan's CTE area center principals as determined from the Multifactor Leadership Questionnaire 5X are presented in Table 7.

The mean of the subordinate-perceived transformational leadership score is lower at 2.74. Segregating the subordinate-perceived transformational leadership by individual leader produced mean scores ranging from 0.60 to 3.95. The mean range of self-perceived transactional leadership was 0.82 to 2.75; collectively the group transactional leadership mean was 1.85. As a group, the self-perceived laissez-faire leadership mean was calculated at 0.78, with the individual means ranging from 0.00 to 4.00. These data establishing the subordinate-perceived leadership style of
Michigan's CTE area center principals as determined from the *Multifactor Leadership Questionnaire 5X* are presented in Table 7.

Table 7

**Mean Score of Self-Perception and Subordinates' Perception of the Leadership Style of Michigan's CTE Area Center Principals as Determined From the Multifactor Leadership Questionnaire 5X**

<table>
<thead>
<tr>
<th>Leadership Trait</th>
<th>CTE Leaders' Self-Perception (n = 19)</th>
<th>Subordinates' Perception (n = 70)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>Transformational</td>
<td>19</td>
<td>3.26</td>
</tr>
<tr>
<td>Transactional</td>
<td>1.82</td>
<td>0.440</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.59</td>
<td>0.614</td>
</tr>
</tbody>
</table>

Leadership scores were also sorted and reviewed by gender. The mean of the female leader self-perceived transformational leadership mean was 3.14. The transactional leadership mean for females was 1.93, with the female laissez-faire leadership mean established at 0.60. The self-perceived mean of the male transformational leadership score was 3.15, while the transactional leadership mean for males was 1.77. The laissez-faire leadership mean of the males studied was 0.47. These data are segregated by gender mean score of leadership self-perception as determined from the *Multifactor Leadership Questionnaire 5X* leadership and are presented in Tables 8 (CTE area center principals) and Table 9 (Subordinates).
Table 8

**Michigan's CTE Area Center Principals Self-Perceived Leadership Styles by Gender as Determined From the Multifactor Leadership Questionnaire 5X (N = 19)**

<table>
<thead>
<tr>
<th></th>
<th>Female (n = 12)</th>
<th>Male (n = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Transformational</td>
<td>3.14</td>
<td>0.35</td>
</tr>
<tr>
<td>Transactional</td>
<td>1.93</td>
<td>0.53</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.60</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Table 9

**Michigan's CTE Area Center Principals Subordinate-Perceived Leadership Styles by Gender as Determined From the Multifactor Leadership Questionnaire 5X (N = 19)**

<table>
<thead>
<tr>
<th></th>
<th>Female (n = 12)</th>
<th>Male (n = 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Transformational</td>
<td>2.84</td>
<td>0.43</td>
</tr>
<tr>
<td>Transactional</td>
<td>1.87</td>
<td>0.31</td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.74</td>
<td>0.43</td>
</tr>
</tbody>
</table>

**Subordinate-Perceived Effectiveness**

Drawing data from the four responses to the MLQ relating to leader effectiveness, an overall mean of the studied leaders' effectiveness, as perceived by the subordinates, was determined to be 2.94 with a range of 0.25 to 4.00. The standard deviation was 0.645. Effectiveness data were also analyzed by gender. The mean effectiveness for females was 2.99, while the mean for males was 2.84. These
data of the subordinates' responses to effectiveness statements as identified by the

*Multifactor Leadership Questionnaire 5X* are presented in Table 10.

### Table 10

*Mean Score of the Subordinates' Responses to Effectiveness Statements as Identified Using by Multifactor Leadership Questionnaire 5X (N = 70)*

<table>
<thead>
<tr>
<th>Subordinate Perception of Effectiveness</th>
<th>M</th>
<th>SD</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness (Overall)</td>
<td>2.94</td>
<td>0.64</td>
<td>0.25</td>
<td>4.00</td>
</tr>
<tr>
<td>Female Principals (n = 50)</td>
<td>2.99</td>
<td>0.94</td>
<td>0.50</td>
<td>4.00</td>
</tr>
<tr>
<td>Male Principals (n = 20)</td>
<td>2.84</td>
<td>1.02</td>
<td>0.25</td>
<td>4.00</td>
</tr>
</tbody>
</table>

Previous research has indicated that a CTE area center principal's gender plays an important role in job effectiveness (Blatt, 2002; Bostick-Rice, 1993; Daughtry & Finch, 1997; Tremmel, 2003). More recent studies by Blatt (2002) and Tremmel (2003) confirmed Bostick-Rice's study that female CTE area center principals were considered more effective in the CTE educational process that their male counterparts. Daughtry and Finch (1997) were unable to find a statistical difference in the effectiveness between genders. In order to test for gender differences in subordinate-perceived effectiveness of CTE area center principals, an MANOVA was conducted. Table 11 presents the MANOVA results with the gender of Michigan's CTE area center principals' gender as the independent variable and the subordinate-perceived effectiveness of these principals as the dependent variable. The...
MANOVA results indicated there was no statistically significant difference in the means, $F(1, 68) = 0.335, p = 0.565$.

Table 11

MANOVA Results for Subordinate-Perception of the Effectiveness of Michigan's CTE Area Center Principals by Gender

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Wilks' Lambda Value</th>
<th>$df$</th>
<th>$F$</th>
<th>$p$</th>
<th>Partial $\eta^2$</th>
<th>Observed Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Effectiveness</td>
<td>0.976</td>
<td>1,68</td>
<td>0.404</td>
<td>0.805</td>
<td>.024</td>
<td>0.138</td>
</tr>
</tbody>
</table>

Major Findings

The major findings of this investigation are presented in this section. The research questions are discussed in the order that they were presented in Chapter I.

*Question 1: What Are the Leadership Styles of Michigan's CTE Area Center Principals?*

The leadership styles of Michigan area center principals was established from data collected using the *Multifactor Leadership Questionnaire 5X*, with responses received from 19 Michigan CTE area center principals and 70 of their subordinates. A descriptive analysis of the MLQ statements relating to the 20 transformational, 12 transactional, and 4 laissez-faire survey items received from leaders and subordinates are presented in Table 11, offering measures of central tendency and variability for transformational, transactional, and laissez-faire leadership styles.
Perceptions offered by the CTE area center principals’ subordinates are presented in Table 12 and indicate the responding CTE area center principals perceived themselves as being a transformational leader \((n = 19, M = 3.26, SD = 0.37)\). In accordance with the sensitive purchased survey instrument, MLQ, the leadership trait having the highest mean score is considered the prevailing leadership trait of the leader. Examining the mean scores produced using the data collected from subordinates, they, in general, view their leaders as transformational \((n = 56, M = 2.74, SD = 0.57)\). However, subordinates used in this study did signify that some area center principals demonstrate transactional \((n = 7, M = 1.85, SD = 0.43)\) and laissez-faire \((n = 7, M = 0.77, SD = 0.58)\) tendencies in their leadership styles.

Table 12

*Descriptive Statistics for Leadership Styles as Perceived by Michigan CTE Area Center Principals and Their Subordinates*

<table>
<thead>
<tr>
<th>Leader Self-Perceived Leadership Style ((n = 19))</th>
<th>Subordinate-Perceived Leadership Style ((n = 70))</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n)</td>
<td>Mean</td>
</tr>
<tr>
<td>Transformational</td>
<td>19</td>
</tr>
<tr>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Transactional</td>
<td>1.82</td>
</tr>
<tr>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Laissez-faire</td>
<td>0.59</td>
</tr>
<tr>
<td>10%</td>
<td></td>
</tr>
</tbody>
</table>
Question 2: To What Extent Are the Leadership Style Assessments of Michigan's Area Center Principals, as Offered by Themselves, the Same as Those Offered by Their Subordinates?

To test the difference between the dependent variable CTE area center principal perceived leadership style and the three subordinate-perceived leadership styles, a MANOVA was utilized. MANOVA analysis procedures indicate that there is both a statistical significance and a small practical effect, Wilks' Lambda (3, 34) = .762, p = .025, and partial $\eta^2 = .238$, indicating 23.8% of the variance was accounted for in the model of principals' perception of transformational leadership and the subordinate-perceived leadership style of transformational. This analysis designates that one of the three subordinate leadership perceptions, transformational, had a significant impact on the self-perceived leadership style of the area center principals' ($F = 10.713$, $p = 0.025$). There was no statistical significance between the CTE area center principals' perception of transformational leadership and the subordinate-perceived leadership styles of transactional and laissez-faire ($F = 0.54$, $p = 0.817$; $F = 0.892$, $p = 0.351$, respectively). Refer to Table 13 for MANOVA results.

Question 3: Does a Relationship Exist Between the Subordinate-Perceived Leadership Styles and Selected Demographics of Michigan's CTE Area Center Principals?

To examine the relationship between five selected demographics—age, gender, years in business/industry, years employed in education, and years employed in educational supervision—and the subordinate perception of Michigan's CTE area center principals, a MANOVA was used to determine if a statistical significance
Table 13

Summary of MANOVA Results for Michigan’s CTE Area Center Principals’ Perceived Leadership Style and Subordinate-Perceived Leadership Styles

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
<th>Wilks’ Lambda Value</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>Partial η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principals’ Perceived Leadership Style–Transformational</td>
<td>Transformational</td>
<td>.253</td>
<td>1,36</td>
<td>10.713</td>
<td>.025</td>
<td>.229</td>
</tr>
<tr>
<td></td>
<td>Transactional</td>
<td>.008</td>
<td>1,36</td>
<td>.054</td>
<td>.817</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Laissez-faire</td>
<td>.323</td>
<td>1,26</td>
<td>.892</td>
<td>.351</td>
<td>.024</td>
</tr>
</tbody>
</table>

existed. The MANOVA procedures revealed a lack of significance in a relationship between the subordinate perception of Michigan’s CTE area center principals’ leadership styles and any of the selected demographics as shown in Table 14. Tables 15–19 illustrate the descriptive statistics of the subordinates’ perception of Michigan’s CTE area center principals’ leadership styles by age (Table 15), gender (Table 16), years in business/industry (Table 17), years in educational employment (Table 18), and years in educational supervision (Table 19).
Table 14

Summary of MANOVA Results for Subordinate-Perceived Leadership Styles of Michigan’s CTE Area Center Principals and Seven Principal Demographics

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Demographics - Dependent Variable</th>
<th>Wilks' Lambda Value</th>
<th>df</th>
<th>F</th>
<th>Sig.</th>
<th>partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subordinate-Perceived Principal’s Leadership Styles</td>
<td>Age</td>
<td>.410</td>
<td>(12,26.7)</td>
<td>.894</td>
<td>.563</td>
<td>.257</td>
</tr>
<tr>
<td></td>
<td>Gender</td>
<td>.829</td>
<td>(4,10)</td>
<td>.516</td>
<td>.726</td>
<td>.171</td>
</tr>
<tr>
<td></td>
<td>Years in Business/Industry Work</td>
<td>.079</td>
<td>(6,2)</td>
<td>.851</td>
<td>.629</td>
<td>.719</td>
</tr>
<tr>
<td></td>
<td>Years in Business/Industry Supervision</td>
<td>.808</td>
<td>(2,1)</td>
<td>.118</td>
<td>.899</td>
<td>.192</td>
</tr>
<tr>
<td></td>
<td>Years in Education</td>
<td>.538</td>
<td>(2,1)</td>
<td>.429</td>
<td>.734</td>
<td>.462</td>
</tr>
<tr>
<td></td>
<td>Years in Current Educational Supervision</td>
<td>.028</td>
<td>(2,1)</td>
<td>.173</td>
<td>.167</td>
<td>.972</td>
</tr>
<tr>
<td></td>
<td>Years in Educational Supervision</td>
<td>.144</td>
<td>(4,2)</td>
<td>.817</td>
<td>.615</td>
<td>.620</td>
</tr>
</tbody>
</table>

Table 15

Descriptive Statistics of the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles by Age and Effectiveness

<table>
<thead>
<tr>
<th>Age</th>
<th>n</th>
<th>Transformational</th>
<th>Transactional</th>
<th>Laissez-Faire</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>29–35</td>
<td>1</td>
<td>3.04</td>
<td>2.48</td>
<td>0.38</td>
<td>3.06</td>
</tr>
<tr>
<td>36–42</td>
<td>1</td>
<td>2.84</td>
<td>1.63</td>
<td>0.88</td>
<td>2.69</td>
</tr>
<tr>
<td>43–49</td>
<td>5</td>
<td>2.47</td>
<td>0.420</td>
<td>1.68</td>
<td>0.328</td>
</tr>
<tr>
<td>≥ 50</td>
<td>12</td>
<td>2.83</td>
<td>0.650</td>
<td>1.89</td>
<td>0.212</td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.75</td>
<td>0.574</td>
<td>1.85</td>
<td>0.292</td>
</tr>
</tbody>
</table>

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Table 16

*Descriptive Statistics of the Subordinates' Perception of Michigan's CTE Area Center Principals' Leadership Styles by Gender and Effectiveness*

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>Transformational</th>
<th>Transactional</th>
<th>Laissez-Faire</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Female</td>
<td>12</td>
<td>2.84</td>
<td>0.437</td>
<td>1.88</td>
<td>0.318</td>
</tr>
<tr>
<td></td>
<td>65%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>7</td>
<td>2.59</td>
<td>0.768</td>
<td>1.81</td>
<td>0.259</td>
</tr>
<tr>
<td></td>
<td>35%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.75</td>
<td>0.574</td>
<td>1.85</td>
<td>0.292</td>
</tr>
</tbody>
</table>

Table 17

*Descriptive Statistics of the Subordinates' Perception of Michigan's CTE Area Center Principals' Leadership Styles by Years in Business/Industry and Effectiveness*

<table>
<thead>
<tr>
<th>Years</th>
<th>n</th>
<th>Transformational</th>
<th>Transactional</th>
<th>Laissez-Faire</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>&lt; 1</td>
<td>1</td>
<td>3.68</td>
<td>2.30</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–5</td>
<td>10</td>
<td>2.73</td>
<td>0.615</td>
<td>1.82</td>
<td>0.350</td>
</tr>
<tr>
<td></td>
<td>50%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6–10</td>
<td>5</td>
<td>2.59</td>
<td>0.619</td>
<td>1.85</td>
<td>0.163</td>
</tr>
<tr>
<td></td>
<td>30%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11–15</td>
<td>2</td>
<td>2.78</td>
<td>0.052</td>
<td>1.76</td>
<td>0.296</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 16</td>
<td>1</td>
<td>2.79</td>
<td>1.93</td>
<td>1.31</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.75</td>
<td>0.574</td>
<td>1.85</td>
<td>0.292</td>
</tr>
</tbody>
</table>

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Table 18

*Descriptive Statistics of the Subordinates' Perception of Michigan’s CTE Area Center Principals' Leadership Styles by Years in Educational Employment and Effectiveness*

<table>
<thead>
<tr>
<th>Years</th>
<th>n</th>
<th>Transformational Mean</th>
<th>SD</th>
<th>Transactional Mean</th>
<th>SD</th>
<th>Laissez-Faire Mean</th>
<th>SD</th>
<th>Effectiveness Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>2</td>
<td>2.94</td>
<td>0.137</td>
<td>2.06</td>
<td>0.602</td>
<td>0.63</td>
<td>0.354</td>
<td>2.88</td>
<td>0.265</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10</td>
<td>1</td>
<td>2.74</td>
<td>1.55</td>
<td>0.92</td>
<td>3.14</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-15</td>
<td>16</td>
<td>2.73</td>
<td>0.624</td>
<td>1.85</td>
<td>0.257</td>
<td>0.79</td>
<td>0.636</td>
<td>2.94</td>
<td>0.701</td>
</tr>
<tr>
<td></td>
<td></td>
<td>85%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.75</td>
<td>0.574</td>
<td>1.85</td>
<td>0.292</td>
<td>0.78</td>
<td>0.589</td>
<td>2.94</td>
<td>0.646</td>
</tr>
</tbody>
</table>

Table 19

*Descriptive Statistics of the Subordinates' Perception of Michigan’s CTE Area Center Principals' Leadership Styles by Years in Educational Supervision and Effectiveness*

<table>
<thead>
<tr>
<th>Years</th>
<th>n</th>
<th>Transformational Mean</th>
<th>SD</th>
<th>Transactional Mean</th>
<th>SD</th>
<th>Laissez-Faire Mean</th>
<th>SD</th>
<th>Effectiveness Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1</td>
<td>5</td>
<td>2.74</td>
<td>0.210</td>
<td>1.93</td>
<td>0.373</td>
<td>0.63</td>
<td>0.347</td>
<td>2.99</td>
<td>0.208</td>
</tr>
<tr>
<td></td>
<td></td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>3</td>
<td>2.03</td>
<td>0.815</td>
<td>1.72</td>
<td>0.319</td>
<td>1.15</td>
<td>1.253</td>
<td>2.18</td>
<td>1.138</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-10</td>
<td>3</td>
<td>2.78</td>
<td>0.633</td>
<td>1.67</td>
<td>0.305</td>
<td>0.53</td>
<td>0.419</td>
<td>2.98</td>
<td>0.555</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-15</td>
<td>8</td>
<td>3.01</td>
<td>0.461</td>
<td>1.93</td>
<td>0.228</td>
<td>0.81</td>
<td>0.476</td>
<td>3.19</td>
<td>0.519</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>19</td>
<td>2.75</td>
<td>0.574</td>
<td>1.85</td>
<td>0.292</td>
<td>0.78</td>
<td>0.589</td>
<td>2.94</td>
<td>0.646</td>
</tr>
</tbody>
</table>

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Question 4: To What Extent Does a Relationship Exist Between the Subordinates’ Perception of Michigan’s CTE Area Center Principals’ Leadership Styles and the Area Center Principals’ Effectiveness as Perceived by the Subordinates?

The relationship between subordinate-perceived leadership styles of Michigan’s CTE area center principals and the subordinate-perceived effectiveness was addressed by determining the correlation coefficient between the variables. The subordinate-perceived effectiveness of Michigan CTE area center principals was determined by establishing the mean of the responses to MLQ5X statements 39, 40, 43, and 45. The subordinates were asked to rate the leaders using a forward acting 5-point Likert scale (0–4) ranging from “not at all” to “frequently, if not always.” When the comparison was completed using leaders whose leadership style was perceived as being transformational, the Pearson product moment correlation coefficient $r = 0.082$ indicated a slightly positive relationship. This relationship was significant with the alpha level of $p < 0.0001$. A slightly positive relationship existed between the CTE area center principals whose leadership style was perceived as transactional and their perceived effectiveness. The Pearson product moment correlation coefficient has $r = 0.105$. However, a statistical significance was not present. When comparing the CTE area center principals with a perception of being a laissez-faire leader with their perceived effectiveness, a moderately negative relationship was present, $r = -0.626$. This relationship was statistically significant at the $p < 0.001$ level. The data illustrating the correlation between transformational leadership and effectiveness are contained in Table 20.
Table 20

*Correlation Between Subordinate-Perception of Michigan's CTE Area Center Principals' Leadership Styles and Effectiveness (N = 70)*

<table>
<thead>
<tr>
<th></th>
<th>Transformational</th>
<th>Transactional</th>
<th>Laissez-faire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>0.082*</td>
<td>0.105</td>
<td>-0.626*</td>
</tr>
</tbody>
</table>

*Significant p < .001.

Summary

Subordinates from Michigan's technical education area centers participated in this study to determine leadership styles of the area center principals. The relationship between the subordinate perception of leadership styles and the area center principals' perceived effectiveness was analyzed. Seventy subordinates and 19 area center principals completed the *Multifactor Leadership Questionnaire 5X* providing data for this study.

A multivariate analysis of variance (MANOVA) was utilized to determine the strength and differences found in the relationship between leader-perceived transformational, transaction, and laissez-faire leadership and those perceptions of subordinates, subordinate-perception leadership styles of the area center principals and effectiveness, and subordinate-perceived leadership styles and specific demographics.

All statistical analyses were performed with SPSS version 11.5. An alpha level of 0.05 was used to establish significance. As it is not sensitive to sample distribution,
Levene’s test for equality of variance, and the researcher, presumed unless otherwise noted that the variances were equal. This means that the variances across the sample are equal, which is known as homogeneity of variance.

Michigan’s CTE area center principals perceived themselves being transformational leaders, which was corroborated by their subordinates, although there was a statistical difference regarding the extent to which the subordinates felt their leaders were transformational. A statistically significant positive relationship was found between transformational leadership and effectiveness. A statistically significant negative relationship was indicated between laissez-faire leadership and effectiveness. Finally, there were no statistically significant relationships between the subordinate-perceived leadership styles of Michigan’s CTE area center principals and selected demographics of the responding leaders (e.g., gender, age, years of business/industrial work experience, years of educational employment, years as a school administrator).

The next chapter presents the summary, conclusions, and recommendations drawn from the results of the testing necessary for answering the study’s questions, as well as the demographic data.
CHAPTER V

CONCLUSIONS, RECOMMENDATIONS, AND SUMMARY

This chapter contains a summary of the descriptive data, and a summary of the findings, the conclusions, implications, discussions, and recommendations for further research.

Conclusions

Data collected as part of this study were sufficient to support the following conclusions.

Question 1: What are the Leadership Styles of Michigan’s CTE Area Center Principals as Profiled by the Following: (a) Self-perceptions of CTE Area Center Principals, and (b) Perceptions Offered by the CTE Area Centers’ Subordinates?

The descriptive data from 36% of Michigan’s CTE area center principals illustrated their self-perceived leadership style as being primarily transformational. The majority (80% or $n = 15$) of the responding CTE area center principals were perceived by their subordinates as being a transformational leader; a small minority of the responding subordinates viewed their CTE area center principal as being either transactional (10% or $n = 7$) or laissez-faire (10% or $n = 7$) leaders.
Question 2: To What Extent Are the Leadership Style Assessments of the CTE Area Center Principals, as Offered by Themselves, the Same as Those Offered by Their Subordinates?

All area center principals studied determined their leadership style to be transformational. The CTE area center principals’ self-perceived transformational leadership was observed at \( p = 0.048 \) demonstrating significantly stronger perception (\( M = 3.26 \)) than that of the subordinates (\( M = 2.74 \)). The subordinates, on the other hand, viewed their leaders differently. The majority of the responding area center principals (15 or 80%) were viewed by subordinates as possessing transformational leadership traits. The remaining principals were evenly split as having leadership tendencies of either transactional (2 or 10%) or laissez-faire (2 or 10%).

Due to the unequal variables in this study, a MANOVA was used to analyze the extent to which these perceived leadership styles were the same. Of the three leadership style combinations analyzed, only transformational/transformational indicated a statistical significance; Wilks’ Lambda (3, 34) = .762, \( p = .025 \), and partial \( \eta^2 = .238 \), indicating 23.8% of the variance was accounted for in the model of principals’ perception of transformational leadership and the subordinate-perceived leadership style of transformational. This analysis designates that one of the three subordinate leadership perceptions, transformational, had a significant impact on the self-perceived leadership style of the area center principals’ (\( F = 10.713, p = 0.025 \)).
Question 3: Does a Relationship Exist Between the Subordinates' Perceived Leadership Styles of Michigan's CTE Area Center Principals and Selected Demographics of Such Principals?

A MANOVA analyzed the demographics of the responding CTE area center principals to determine if a statistically significance difference existed between the subordinates' perceived leadership style and the demographics. Results of the MANOVA procedures revealed there were no statistically significant differences among the subordinate leadership perception of Michigan's CTE area center principals as broken down by selected leader demographics, e.g., age, gender, years in business/industry, years employed in education, and years as an educational supervisor.

Question 4: To What Extent Does a Relationship Exist Between the Subordinate-Perceived Leadership Styles of the CTE Area Center Principals and the Leaders' Effectiveness as Perceived by the Subordinates?

There was a statistically significant relationship between subordinate-perceived transformational leadership style and effectiveness. The Pearson product moment correlation coefficient of $r = 0.082, p < 0.001$ indicated a slightly positive relationship existed between the subordinates' perception of leaders with transformational leadership traits and their perceived effectiveness. A relationship did not exist when comparing perceived effectiveness with subordinates' perception of leaders exhibiting transactional leadership traits, $r = 0.105, p = 0.032$. Leaders who were perceived by their subordinates as being a laissez-faire leader displayed a moderately negative relationship, $r = -0.626, p < 0.0001$ when compared with their subordinates' perceived effectiveness.
Implications and Discussions

The purpose of this study was to determine the leadership styles of Michigan’s CTE area center principals and the perceived effectiveness of each ascertained style. In this study, the leadership styles were distinguished through the CTE area center principals’ self-perception, as well as the perception of selected subordinates. Therefore, the focus of this study examined what leadership style was predominant among Michigan’s CTE area center principals and its corroboration by seven selected subordinates. A secondary focus was to establish the subordinates’ view of their leaders’ effectiveness by their perception of the leaders’ leadership style.

Population Sample Size

The sample of Michigan’s CTE area center principals responding \( (n = 19) \) is small and may lack statistical power. Statistical power is the probability of getting a statistically significant result that there is a leadership style real effect in the population being studied (Cohen, 1988). The statistical power of a test comes from its probability of rejecting the null hypothesis, thereby proving the alternative hypothesis. Cohen (1988) has brought forth that power will increase as the sample size, effect size or alpha level increases. He contends that power is achieved at the \( \alpha = 0.80 \) or higher level. This means that when the statistical analysis of the data from a study achieves a level of \( \alpha = 0.80 \), then there is an 80% chance of validating the findings.

The population sample used came from a finite sector of the secondary school principals in Michigan. This sector is Career and Technical Education (CTE) and is
specific to Michigan. A number of school districts have CTE programs, also known as vocational education program, housed within their general education secondary schools. This study, however, looked at the 51 CTE programs housed in a stand-alone facility. In addition to these stand-alone facilities, two additional CTE programs were included in this study. These programs are located in a separate wing of a general education facility. In all cases, the principals and subordinates of the studied CTE programs are separate and independent from any general education sending school, and the student body enrolled in these programs arrive from other secondary schools in the district. Therefore, the total population receiving invitations of participation in this study is inherently small ($N = 53$).

Sheehan's (2001) study of response rates to electronic surveys (e-surveys) over a 15-year period from 1986 to 2000 showed declining response rates to this form of surveying. In 1995-96, respondents to e-surveys were found to be at 46%. Conversely, e-surveys administered 3 years later, 1998-99, fell to 30% responses. This study found that the mean response rate was 36.83% for the 31 e-surveys distributed over these 15 years. Based on this information, the 36% response rate achieved is considered about average and usable for this study. However, to meet an acceptable confidence interval for the small population used in this research, a response range of 70 to 94% would have been necessary (Weisen & Schleenger, 1998). Since this was not achieved, caution is urged when drawing conclusions from this study, especially as it relates to the differences between groups.
Leadership Styles of Michigan’s CTE Area Center Principals

It was determined that Michigan’s CTE area center principals’ self-perceived leadership style was shown to be transformational. In addition, their subordinates also viewed most as transformational. Earlier studies, by Blatt (2002), Bostick-Rice (1993), and Moehlman (1988), established that subordinates perceived their director/principals to possess transformational tendencies. Just like those studies, subordinates of this study, who did not view their principals as transformational, were evenly split in regarding those leaders as exhibiting either transactional or laissez-faire leadership traits.

Bostick-Rice’s (1993) study found that CTE principals showed a significant difference between the genders when analyzing female leadership traits versus male traits. Even though both genders displayed predominance for transformational leadership style, the female leaders of Bostick-Rice’s study showed that females had a greater tendency for the leadership trait. This study however found, similar to Daughtry and Finch’s 1997 study, that there was no significant difference between the genders’ self-perceived leadership style, with both being transformational. However, given the small sample size in this study, it cannot be stated with confidence whether there are indeed no differences, or if the sample size was simply too small to detect any differences.

Leadership Styles and Subordinate-Perceived Effectiveness

The significant positive relationship found in this study between the subordinate perception of Michigan’s CTE area center leaders’ transformational leadership style and their leaders’ perceived effectiveness confirms previous research that transformational
leaders make their effectiveness evident (Bass & Avolio, 2000). CTE area center principals, especially, should be eager to model the components of transformational leadership, idealized influence (charisma), inspirational motivation, intellectual stimulation and individualized consideration, as their effectiveness is a constant companion of the director (principal) (Moehlman, 1988). Bass and Avolio (2000) indicated that charismatic leaders could talk about values and beliefs, emphasizing a sense of mission and promote the good of the group. As part of inspirational motivation, CTE area center principals can establish a vision and solicit others to share the vision by making them feel a part of something bigger than themselves (Kouzes & Posner, 2002). CTE principals provide intellectual stimulation by stimulating subordinates to look "outside of the box" when thinking about the assumptions of their work (Leithwood & Jantzi, 2000). Finally, transformational CTE area center principals can personalize interactions with their subordinates and concern themselves with the individuals' desire for achievement (Bass & Avolio, 2000).

Expanding the extensive outline of what is required and how to get them done to accomplish the purpose of the organization is the focus of creating a plan (Blatt, 2002). The positive relationship between transformational leadership and perceived effectiveness is important to CTE area center principals as they plan. Subordinates who perceive their transformational leaders as effective, display a loyalty and willingness to follow their leader direction and strategies for the future direction of their institution compared to leaders possessing transactional or laissez-faire traits (Hersey et al., 2001).
Teaching of transformational leadership traits is possible (Bass, 1985; Bass & Avolio, 1994, 2000). College leadership programs for CTE administrators may consider redesigning content presented in order to teach the traits of transformational leadership, idealized influence, inspirational motivation, intellectual stimulation, and individual consideration, to current and future CTE area center principals or educational administrators. Superintendents may wish to include transformational leadership training in their professional development opportunities. Inclusion of such training will ensure exposure of transformational leadership to all administrators within their respective districts. This could result in CTE area center principals who display nontransformational leadership traits to possibly learn how to acquire additional leadership training, thereby improving the teaching and learning atmosphere of their institution.

Gulick and Urwick's study (1937, as cited in Blatt, 2002) indicated that "staffing is the process of bringing in and training staff, and maintaining favorable conditions of work" (p. 76). This study supported earlier research that leaders exhibiting transformational tendencies were considered effective. Therefore, it is important for intermediate school districts offering career and technical education programs, whether segregated in another building from the general education population or integrated within the same building, to hire principals or administrators who are transformational leaders. The Multifactor Leadership Questionnaire could be administered as part of the employment process to assess the prospective CTE area center principal candidate's leadership behaviors. Even though the results of the MLQ may not be considered part of the hiring decision, knowing the leadership traits possessed by a CTE area center principal will assist the superintendent...
in program evaluation or suggesting future professional development programming (Bass & Avolio, 2000).

Recommendations for Further Research

Based on the findings and conclusions of this study, the following recommendations for further study are presented:

1. Determining and corroborating the leadership style for each of Michigan’s 53 CTE area center principals by paralleling the responses from seven subordinates for each. Initially, this study was to corroborate the individual and aggregated leadership style for each CTE area center principal. However, due to lack of complete subordinate data for each CTE area center principal, this could not be accomplished. It could be an advantage for a CTE area center principal knowing his/her leadership style when implementing change within the organization or improving relationships with staff and/or students.

2. Analysis of the data in this study established that the dominant self-perceived leadership style of the 19 responding Michigan’s CTE area center principals is transformational and was corroborated by their subordinates. The corroborating population for this study came from seven hand-chosen subordinates submitted by each of the 19 CTE area center principals. A replication of this study is recommended using the CTE area center or vocational education programs’ principals/directors within Michigan and other close-by states: New York, Ohio, Indiana, Illinois, Minnesota, and Wisconsin. Results of increasing the CTE leader population might allow the analyzed data to be
generalizable to the CTE area center or vocational education principals/directors in the Midwest or nationwide.

3. The subordinate population used in this study met the MLQ recommended size of 3 to 10 individuals. This population was hand-selected by the studied CTE principals and was subject to subordinate objectivity. Another recommendation is to expanding the subordinate population to include all employees within the building housing the CTE programs. By including all employees, a larger database is formed and the accuracy of the resulting leadership styles determined by the MLQ is increased, thereby increasing the accuracy of the subordinate-perceived leadership style of an individual CTE area center principal and reducing any statistical error.

4. The Multifactor Leadership Survey used in this study to measure effectiveness was limited to four general effectiveness factors. It is recommended a replication of this study be conducted using only the subordinates of the CTE area centers or vocational education programs within Michigan and the six aforementioned close-by states. To analyze the subordinate-perceived effectiveness of the CTE area center or vocational education principal/director, it is recommended that a greater detailed effectiveness survey replace the four statements within the MLQ. Using a different effectiveness survey for data collection, e.g., Assessment of Basic Leader Effectiveness (ABLE), Audit of Principal Effectiveness, Leader Behavior Analysis II (LBAII), or Leader Effectiveness Index (LEI), enables the analysis of a larger data base and should give a better view of how the subordinates view the effectiveness of their leaders.
5. Analysis of the data revealed a positive relationship between subordinate-perceived transformational leadership and effectiveness. The *Multifactor Leadership Questionnaire* used in this study measured leadership utilizing five factors. A study should be conducted to examine the individual traits comprising transformational leadership, idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation, and their relationship to effectiveness. Having the data subdivided by the four subcategorical traits of transformational leadership will enable future researchers to ascertain if the positive effective results achieved are the results of a combination of the four leadership traits or an individual trait.

**Summary of Findings**

The analyses of data indicated a significant positive relationship between subordinate-perceived transformational leadership and effectiveness. No significant relationship was found between perception by subordinates of a leader being a transactional leader and effectiveness. A significant negative relationship was found between laissez-faire leadership and effectiveness. Moreover, analyses of data between the relationship of subordinate-perceived leadership styles and age, gender, years of business/industrial work, years of educational employment, and years as a school administrator found no significant relationships to exist. This lack of a significant relationship existing between the subordinate-perceived leadership style and the aforementioned demographics could have been due to the aggregated means washed out any CTE area center principal’s individual differences.

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If this small data set of Michigan's CTE area center principals studied is reflective of the total population, then the leadership style of about 80% of the principals, as perceived by their subordinates, is transformational; the leadership styles of the remaining 20% of CTE area center principals will be evenly split between transactional and laissez-faire. After determining that their subordinates consider leaders with transformational tendencies to be effective, it seems logical that the 20% of Michigan CTE leaders not perceived as transformational, might wish to modify their leadership style. Bass and Avolio (1990) established that through education or training, people have the ability to amend their leadership traits.

Where might the training for change exist? Education or continuing education might become available through leadership development programs offered by universities or community colleges. The age demographics of Michigan's area center principals revealed that 62.3% were older than 50 years of age. When this aging population retires, those stepping into these vacancies will need to have their leadership tendencies developed. Universities and community colleges developing a CTE specific leadership development program may use the presented knowledge to aid in establishing their curriculum. Training the next generation of CTE area center principals to exhibit transformational leadership traits will aid in their leading effectively.
REFERENCES


87


Moss, J., Jr., & Jensrud, Q. (1995, Fall). Gender, leadership, and vocational education [Electronic version]. *Journal of Industrial Teacher Education, 33*(1).


Appendix A

Human Subjects Institutional Review Board Approval
Date: May 26, 2004

To: Carl Wołoszyk, Principal Investigator
   Alan Papendick, Student Investigator

From: Mary Lagerwey, Ph.D., Chair

Re: HSIRB Project Number: 04-05-03

This letter will serve as confirmation that your research project entitled “Leadership Styles Inventory of Michigan CTE Area Center Principals as Perceived by Their Subordinates” has been approved under the expedited category of review by the Human Subjects Institutional Review Board. The conditions and duration of this approval are specified in the Policies of Western Michigan University. You may now begin to implement the research as described in the application.

Please note that you may only conduct this research exactly in the form it was approved. You must seek specific board approval for any changes in this project. You must also seek reapproval if the project extends beyond the termination date noted below. If there are any unanticipated adverse reactions or unanticipated events associated with the conduct of this research, you should immediately suspend the project and contact the Chair of the HSIRB for consultation.

The Board wishes you success in the pursuit of your research goals.

Approval Termination: May 26, 2005
Appendix B

*Multifactor Leadership Questionnaire 5X*
Permission for Duplication
MLQ Multifactor Leadership Questionnaire

Duplication Set

(Leader and Rater Forms, and scoring for MLQ 5x-Short)

Permission to reproduce either leader or rater forms for up to 150 copies in one year from date of purchase:
March 10, 2004

by Bernard Bass and Bruce Avolio
Appendix C

Leader Survey
Leader Survey

This questionnaire is to be used to describe your leadership style as you perceive it. Please answer all items within this electronic survey. Do not respond to an item if you feel it is irrelevant, or if you are unsure do not know the answer.

Fifty-three descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word others may mean your peers, classroom teachers, Raters, supervisors, and/or all of these individuals.

1. Gender?  
   - Female  
   - Male

2. Age?  
   - 21 – 28
   - 29 – 35
   - 36 – 42
   - 43 – 49
   - 50 and older

3. Total years business/industrial work experience before entering education?  
   - None
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

4. Total years business/industrial Supervisory experience prior to entering education?  
   - None
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

---

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5. Total years employed in the field of education?
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

6. Total years employed as a school administrator?
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

7. If you have had previous school administration experience, what position did you hold?
   - Not Applicable
   - Assistant Principal
   - Principal—Secondary
   - Principal – Middle School
   - Principal – Elementary
   - Director of (describe i.e. Curriculum)
   - Other

8. Total years employed in your current supervisory position?
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

Use the following rating scale for rating yourself:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

9. I provide others with assistance in exchange for their efforts.
   - 0
   - 1
   - 2
   - 3
   - 4

10. I re-examine critical assumptions to questions whether they are appropriate.
    - 0
    - 1
    - 2
    - 3
    - 4
11. I fail to interfere until problems become serious.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

0 1 2 3 4

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12. I focus attention on irregularities, mistakes, exceptions, and deviations from standards.

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<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

0 1 2 3 4

13. I avoid getting involved when important issues arise.

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<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

0 1 2 3 4

14. I talk about my most important values and beliefs.

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<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

0 1 2 3 4

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To aid in the determination of your leadership style, seven members of your Area Center's staff need to be surveyed. Please enter the specified staff member's email address in the box indicated and the web administrator will forward an invitation to participate in the Rater Survey.

Area Center Principal's Administrative Assistant

Most Senior Counselor

Instructor – 4 years or less teaching experience

Instructor – 5 to 9 years experience in building

Instructor – 10 to 14 years experience in building

Instructor – 15 or more years experience in building

Paraprofessional

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Appendix D

Rater Survey
Rater Survey

This questionnaire is to be used to describe the leadership style of your school building's principle administrator you perceive it. Please answer all items within this electronic survey. Do not respond to an item if you feel it is irrelevant, or if you are unsure do not know the answer. Please answer this questionnaire anonymously.

Eight descriptive statements are listed on the following pages. Judge how frequently each statement fits you.

1. Gender?
   - Female
   - Male

2. Age?
   - 21 – 28
   - 29 – 35
   - 36 – 42
   - 43 – 49
   - 50 and older

3. Primary job responsibility (50% or more of your time)?
   - Executive
   - Assistant
   - CTE Counselor
   - CTE Instructor
   - Paraprofessional

4. Total years of business/industrial work experience prior to entering education?
   - None
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

5. Have you had previous supervisory experience?
   - Yes, industrial
   - Yes, educational
   - No

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6. Total years employed in education?
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

7. Total years in present educational position?
   - Less than 5 years
   - 5 – 10 years
   - 11 – 15 years
   - More than 15 years

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits your Leader. Use the following rating scale:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

8. Provides me with assistance in exchange for their efforts.
   - 0  1  2  3  4

9. Re-examines critical assumptions to questions whether they are appropriate.
   - 0  1  2  3  4

10. Fails to interfere until problems become serious.
    - 0  1  2  3  4

11. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards.
    - 0  1  2  3  4

12. Avoids getting involved when important issues arise.
    - 0  1  2  3  4

13. Talks about their most important values and beliefs.
    - 0  1  2  3  4
Appendix E

Email Invitation to Area Center Principals
Email Invitation to Area Center Principals

Dear Area Center Principal:

I am doing my Dissertation research in CTE with my advisor, Dr. Carl A. Woloszyk, WMU Professor Emeritus. You have been selected from an email listing of Area Technical Program Administrators provided by Michigan's Department of Labor & Economic Growth to participate in the first ever Michigan study regarding leadership styles of CTE Area Principals.

Upon completion of this study, the data will be used in the completion of a dissertation titled Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates and for presentation to the Area Center Principals during an Office of Career and Technical Preparation Quarterly Update offered by Michigan's Department of Labor and Economic Growth. Names of individuals or any form of identification related to participants will not be used in any presentation.

To learn more about this survey and to decide if you would like to participate, please click on the following secure web link:

http://www.surveymonkey.com/s.asp?u=22007477542
(Note to HSIRB: The u=code number is assigned by the independently contracted web administrator)

Thank you in advance for your participation in this study.

Alan D. Papendick
WMU Doctoral Candidate
Educational Leadership in CTE
Appendix F

Informed Consent Document for Area Center Principals
Dear CTE Administrator,

Michigan's Office of Career and Technical Preparation furnished your email address after receiving approval of Ms. Patty Cantu, Director and Dr. Joann Mahoney. You are being invited to participate in a research project entitled *Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates*. This study is designed to analyze the leadership styles of CTE Principals through the administration of the Multifactor Leadership Questionnaire to CTE building leaders in Michigan. Dr. Carl A. Woloszyk and Mr. Alan D. Papendick will conduct this study through Western Michigan University's Department of Teaching, Learning, and Leadership. This research is being conducted as part of the dissertation requirements for Alan D. Papendick.

The Multifactor Leadership Questionnaire – the Leader Form you are being invited to complete is comprised of 53 multiple-choice statements/questions and will take approximately 15 minutes to complete. Your replies will be completely confidential. You may choose to not respond to any statement and simply leave it blank. You may choose not to participate in this survey by selecting the *Non-Acceptance* button below.

To participate in this survey and enter the web site, select the *Acceptance* button. You will be able to leave and return to the survey only once. If you exit the survey, you will be requested to indicate either *exit and save for return* or *exit and do not save*. Should you select *exit and not save*, the web site will take this as your indication of choosing not to participate. Completion and submitting the survey indicates your consent for the data you have supplied to be used. If you have any questions, you may contact Dr. Carl A. Woloszyk at 616-771-9470, Alan D. Papendick at 989-774-7692, the Human Subjects Institutional Review Board (269-387-8293), or the Vice President for Research (269-387-8298).

This consent document was approved for use for one year by the Human Subjects Institutional Review Board on May 26, 2004. You should not participate in this project after September 28, 2004.

Thank you for your participation in the successful completion of this survey and dissertation.

Sincerely,

Alan D. Papendick
Appendix G

Email Non-Respondent Reminder to Area Center Principals
Dear Area Center Principal:

Recently you received an email invitation announcing your selection to participate in the first ever Michigan study regarding leadership styles of CTE Area Principals. Your participation is very important and I hope you will take 15 minutes to complete the survey. Your responses will help in establishing a leadership style inventory of Area Center Principals.

Upon completion of this study, the data will be used in the completion of a dissertation titled *Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates* and for presentation to the Area Center Principals during an Office of Career and Technical Preparation Quarterly Update offered by Michigan’s Department of Labor and Economic Growth.

You can be assured of confidentiality as names of individuals or any form of identification related to participants will not be used in any presentation.

To learn more about this survey and to decide if you would like to participate, please click on the following secure web link:

http://www.surveymonkey.com/s.asp?u=22007477542

(Note to HSIRB: The u=code number is assigned by the independently contracted web administrator)

Thank you in advance for your participation in this study.

Alan D. Papendick
WMU Doctoral Candidate
Educational Leadership in CTE
Appendix H

Email to Selected Subordinates of Area Center Principals
Email to Selected Subordinates of Area Center Principals

Dear Area Center Employee:

I am doing my Dissertation research in CTE with my advisor, Dr. Carl A. Woloszyk, WMU Professor Emeritus. You have been selected from an employee listing to participate in the first ever Michigan study regarding leadership styles of CTE Area Principals. You are one of seven individuals selected from your school to contribute data to this study. This survey allows you a confidential opportunity to evaluate the leadership qualities of your Area Center Principal and your participation is voluntary.

Upon completion of this study, the data will be used in the completion of a dissertation titled Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates and for presentation to the Area Center Principals during an Office of Career and Technical Preparation Quarterly Update offered by Michigan’s Department of Labor and Economic Growth. Names of individuals or any form of identification related to participants will not be used in any written document or presentation.

To learn more about this survey and to decide if you would like to participate, please click on the following secure web link:

http://www.surveymonkey.com/s.asp?u=22007477542
(Note to HSIRB: The u=code number is assigned by the independently contracted web administrator)

Thank you in advance for your participation in this study.

Alan D. Papendick
WMU Doctoral Candidate
Educational Leadership in CTE
Dear CTE Building Staff Member,

Your email address was selected from a listing provided by the administration office of your Area Center. You are being invited to participate in a research project entitled *Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates*. This study is designed to analyze the leadership styles of CTE Principals through the administration of the Multifactor Leadership Questionnaire to CTE building employees in Michigan. Dr. Carl A. Woloszyk and Mr. Alan D. Papendick will conduct this study through Western Michigan University’s Department of Teaching, Learning, and Leadership. This research is being conducted as part of the dissertation requirements for Alan D. Papendick.

The Multifactor Leadership Questionnaire – Rater Form you are being requested to complete is comprised of 52 multiple-choice statements/questions and will take approximately 15 minutes to complete. Your replies will be completely confidential. You may choose to not respond to any statement and simply leave it blank. You may choose not to participate in this survey by selecting the Non-Acceptance button below.

To participate in this survey and enter the web site, select the Acceptance button. You will be able to leave and return to the survey only once. If you exit the survey, you will be requested to indicate either exit and save for return or exit and do not save. Should you select exit and not save, the web site will take this as your indication of choosing not to participate. Completion and submitting the survey indicates your consent for the data you have supplied to be used. If you have any questions, you may contact Dr. Carl A. Woloszyk at 616-771-9470, Alan D. Papendick at 989-774-7692, the Human Subjects Institutional Review Board (269-387-8293), or the Vice President for Research (269-387-8298).

This consent document was approved for use for one year by the Human Subjects Institutional Review Board on May 26, 2004. You should not participate in this project after October 8, 2004.

Thank you for your participation in the successful completion of this survey and dissertation.

Sincerely,

Alan D. Papendick

Acceptance

Non-Acceptance
Appendix J

Email Non-Respondent Reminder to Rater
Email Non-Respondent Reminder to Rater

Dear Area Center Employee:

Recently you received an email invitation announcing your selection to participate in the first ever Michigan study regarding leadership styles of CTE Area Principals by evaluating your Area Center Principal. Your participation is very important and I hope you will take 15 minutes to complete the survey. Your responses will help in establishing a leadership style inventory of Area Center Principals. You are one of seven individuals selected from your school to contribute data to this study.

Upon completion of this study, the data will be used in the completion of a dissertation titled *Leadership Styles Inventory of Michigan Area Center Principals as Perceived by Their Subordinates* and for presentation to the Area Center Principals during an Office of Career and Technical Preparation Quarterly Update offered by Michigan’s Department of Labor and Economic Growth.

This survey allows you a confidential opportunity to evaluate the leadership qualities of your Area Center Principal and your participation is voluntary. You can be assured of confidentially as names of individuals or any form of identification related to participants will not be used in any presentation.

To learn more about this survey and to decide if you would like to participate, please click on the following secure web link:

http://www.surveymonkey.com/s.asp?u=22007477542

(Note to HSIRB: The u=code number is assigned by the independently contracted web administrator)

Thank you in advance for your participation in this study.

Alan D. Papendick
WMU Doctoral Candidate
Educational Leadership in CTE
Appendix K

Email Letter of Appreciation to Area Center Principal
Dear Participant,

Thank you for taking the time to respond to the statements in the Multifactor Leadership Survey. The data you submitted will assist me in the determination your leadership style and the predominate styles of Michigan’s Area Center Principals. The effectiveness of the leader as perceived by the buildings’ educational staffing will be determined.

Sincerely,

Alan D. Papendick
Appendix L

Email Letter of Appreciation to Rater
Dear Participant,

Thank you for taking the time to respond to the statements in the Multifactor Leadership Survey. The data you submitted will assist me in the determination the leadership styles of Area Center Principals. The effectiveness of the leader as perceived by the buildings' educational staffing will be determined.

Sincerely,

Alan D. Papendick