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## How Ohio's career technicalvocalational high schools with teachers' unions fared in salaries and benefits when compared with Ohio's career technicalvocalational high schools without unions

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HOW OHIO'S CAREER TECHNICAL/VOCATIONAL HIGH SCHOOLS WITH  
TEACHERS' UNIONS FARED IN SALARIES AND BENEFITS WHEN  
COMPARED WITH OHIO'S CAREER TECHNICAL/VOCATIONAL  
HIGH SCHOOLS WITHOUT UNIONS

DISSERTATION

SUBMITTED TO

The School of Education and Allied Professions

THE UNIVERSITY OF DAYTON

In Partial Fulfillment of the Requirements for

The Degree

Doctor of Philosophy in Educational Leadership

Michael J. Jernigan B.S., M.S., M.B.A., M.Ed.

THE UNIVERSITY OF DAYTON

DAYTON, OHIO


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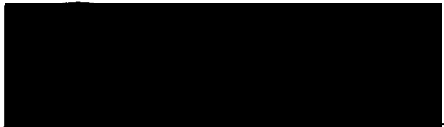
How Ohio's Career Technical/Vocational High Schools with  
Teachers' Unions Fared in Salaries and Benefits When  
Compared with Ohio's Career Technical/Vocational  
High Schools without Unions

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ABSTRACT

Public employee unions are the largest organized labor system in the United States (U.S. Department of Labor, 2009). As teachers flock to join local, state, and national organizations, questions arise as to whether unionized public school teachers earn better salaries and benefits than their non-unionized peers.

This study examined whether teachers employed by Ohio's unionized career technical/vocational school districts receive higher salaries and better benefits than peers similarly situated at Ohio's non-unionized systems. The lack of research in the knowledge base coupling salary and benefits to union status provided the backdrop for this study. Studies on attitudes toward unionization (Martinkus, 1971; McGrath, 1985; Olsen, 1971; Perrotta, 1993; Russo, 1989), union contract language (Johnson, Nelson, &

Potter, 1985), single district case studies (Renner, 2004), and cost per student with respect to test scores and teacher salaries (Eberts & Stone, 1986) completed previously lack the direct connection between union status and salary with benefits for teachers.

Limiting the population of this study to Ohio's 49 joint vocational school districts enabled the researcher to control/eliminate some extraneous variables while focusing on the research question. The researcher sent a survey to each district's superintendent or treasurer requesting data on salary and benefits for the school years 2004-2009. The return rate was exceptional with 47 of 49 or 96% of districts responding; results revealed that 42 or 89% of the schools were unionized while 5 or 11% did not have unions, a disparity that was unforeseen. The lack of a substantial number of non-union districts limited the results of the data analysis when considering whether union teachers fared better in salary and benefits than their non-unionized peers.

The evaluation of the data lacked statistical power due to the disparity in union versus non-union districts. The inconclusive data revealed a disconnection during analyses in starting salaries across the 47 responding districts, resulting in approximately a \$12,000 difference between the highest and lowest paying systems. Analysis also revealed a connection between district location and metropolitan areas within commuting distance as the closer systems were to metropolitan areas, the more likely their starting salaries would be higher than in districts located in non-metropolitan areas.

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## **Chapter I**

### **Introduction**

Strike! This word is known to invoke fear and uneasiness in the minds of many school boards and educational leaders whether in public or nonpublic schools when employees stop working in an attempt to gain increased salary and/or benefits from their employers. Strike is a legitimate outcome when collective bargaining fails to reach an agreement.

Consistent with state laws throughout the country, the Ohio Revised Code (ORC) defines strike, in part, to mean “willful absence from one’s position; or stoppage of work in whole from the full, faithful, and proper performance of duties of employment, for the purpose of inducing, influencing, or coercing a change in wages, hours, terms, and other conditions of employment” (ORC 4117.01, (H), 2002). Interestingly, the ORC specifically lists wages instead of generically referring to all items as ‘conditions of employment.’

In apparently the first reported case on point, in 1951 the Supreme Court of Errors of Connecticut ruled that teacher strikes were illegal (*Norwalk Teachers’ Association v. Board of Education*, 1951). Yet, since the advent of teacher unions and activism in the early 1960s, coupled with the first successful teachers’ strike in New York City, the right of school employees to organize work stoppages or slow downs seems to be the single

prevalent image conjured up in most people's minds when unions or collective bargaining are mentioned (Kerchner & Mitchell, 1988).

The strike of New York City teachers in 1962 illustrates how teachers across the country would view their role in representation for salary and benefits (Kerchner & Mitchell, 1988). Unifying workers toward common goals ranging from recognition, improving work environment, increasing wages and benefits, defining work hours, specifying work limits, and other related advancements have long been the calling cards of unions (Renner, 2004). Gregory (1988) goes even further, elevating unionization from a constitutionally protected right to a fundamental human and civil right.

The principle of unity for the common benefit that was applied initially to industrial settings has been extended to service industries, including public employees (Kerchner & Mitchell, 1988). Even so, the application of the industrial labor relations model may not be appropriate for service industries, especially education. The industrial model's focus was on salary, a day's pay for a day's labor. Initially, the emphasis for teacher organization was recognition as professionals and the respect associated with professionalism according to Renner (2004). Thus, a question can be raised about the viability of this model even though it is widely employed in the US.

Renner noted the gender difference in education with predominantly female teachers contrasted with the male dominated administrators governing education. This disparity, some believed (Hannaway & Rotherham, 2006; Lieberman, 1993), fueled the lack of recognition due to the male attitude at the time that women were not the equal of men nor did they deserve treatment as professionals (Bascia, 1998; Lieberman, 2000; Renner, 2004). Others (Hannaway & Rotherham, 2006; Keane, 1996; Kerchner &

Koppich, 1993; Kerchner, Koppich, & Weeres, 1998; Kerchner & Mitchell, 1988; Lieberman, 1997, 2000; Urban, 1982) wrote that the move to unionization was primarily over money. As teacher organizations continued to mature, they accomplished the recognition they sought and their focus turned to wages and benefits.

Unions promised teachers improvements in working conditions, wages, and benefits along with recognition as professionals. According to Renner (2004), Hannaway and Rotherham (2006), Herman and Megiveron (1993), Lieberman (1997), Urban (1982), and Urbanski, (1998), the formation of professional associations initially developed between 1900 and 1920 for teachers (and administrators). After almost a century of unionization, albeit not across all states or school districts, the question is whether unions deliver what they promise. Teacher unions represent members from a variety of different types of school districts ranging from the traditional comprehensive high schools, career technical/vocational school districts, private religiously affiliated, private non-religiously affiliated, and charter schools.

The subject of this study, career technical/vocational school districts, provides students the opportunity to pursue vocational job training along with college preparatory coursework. Students then have an option at graduation to pursue employment immediately or attend higher education. Career technical/vocational school districts differ from traditional comprehensive school districts.

Historically, career technical/vocational school districts are tasked with preparing students to transition to the workforce following completion of a vocational program. Although this task has changed for vocational districts in recent decades, their primary focus has remained the same. Career technical/vocational districts have added college

preparatory and paraprofessional programs to their curriculums in addition to the traditional programs such as auto mechanics, agriculture, and office support. Career technical/vocational high schools seem to provide students with a wide array of post-secondary choices. The composition of the teaching staffs at career technical/vocational schools consist of traditional academic teachers along with a large contingent of vocational teachers possessing experience in their chosen vocations. This contingent of vocational teachers adds a different flavor to the historic career educator based staffs of comprehensive school districts.

A familiarity with unions and unionism accompanies these vocational teachers that is attributable to the association of their vocations with industry-based unions. The focus of workforce preparation, coupled with industry partners, has enabled career technical/vocational districts to change and/or modify vocational offerings more quickly than comprehensive districts to match the job market. Additionally, in studying career technical/vocational school districts that have unions, it is unclear whether there is an appreciable difference in what teachers have gained in salary and benefits when compared with career technical/vocational school districts without unions. The industry-related experience and perhaps union affiliation for some vocational teachers may influence or change school district environments. The 'union' mentality, described as strength and safety in numbers, may become increasingly present with vocational teachers that have union experience who may, in turn, influence younger, more impressionable, new teachers. These and other factors discussed later may benefit the union districts. The investigation into these and other factors completed by this researcher begins with a brief review of the status of unionization.

## **Background**

History teaches most Americans about the industrial revolution in the United States. The ability to produce large quantities of consumable goods and services is what helped the United States attain its status as a world power. However, the industrial revolution was not without its own growing pains. Unscrupulous owners of businesses and industries exploited workers in pursuit of the almighty dollar (Kerchner & Mitchell, 1988; Lieberman, 2000). Government intervention was sparse at best as some workers toiled to scrape out a meager life while jeopardizing their health.

Following decades of labor strife, Congress enacted the National Labor Relations Act (NLRA), also known as the Wagner Act, in 1935. The NLRA affected only private sector's ability to organize, form unions, and bargain collectively under First Amendment rights. These rights include the right to organize, join a labor organization of one's choosing, and bargain collectively. The NLRA also established the National Labor Relations Board (NLRB) to oversee all union activities in private industry. Later, Congress passed the Taft-Hartley Act of 1947 and the Landrum-Griffin Act of 1959. Both of these Acts served to amend the NLRA by clarifying which groups were covered by the NLRA, set requirements for union self-governance, and allowed the federal government, through the judicial system, to issue injunctions against unions for prohibited activities.

As early as 1959, the Wisconsin legislature "passed one of [the] nation's first collective bargaining laws for public employees" (Wisconsin Labor History Society, 2010, p. 34). Federal employees began unionization in 1962 after President John F. Kennedy's Executive Order 11888 that began a federal policy of recognizing unions



representing government employees (Executive Order No. 11988, 1962). Still, public employees' rights to form unions and bargain collectively are governed by state laws and constitutions. Each state sets particular requirements for union recognition as the representative of a group of employees.

Right-to-work laws and state constitutions identify both whether unions are permitted and whether collective bargaining is required (Russo, 2002). According to the Department of Labor (DoL), 23 jurisdictions have right-to-work laws and state constitutional amendments (U.S. Department of Labor, 2009). In states allowing collective bargaining or unions, there are three mechanisms that can be employed unless otherwise restricted. The three mechanisms are closed shop, open shop, and agency/fair share fee arrangements. Details of each type and allowable organizations are discussed in Chapter II.

Unions, then, have historically provided a method of bringing workers together by fighting for better salary, benefits, working conditions, and to be recognized as human beings, not machines. As unions exercised power through work slowdowns and stoppages, companies realized that without workers no products or profits would result (Herman & Megiveron, 1993; Kerchner & Mitchell, 1988; Lieberman, 2000; Renner, 2004). Although an oversimplification, unions did, in fact, provide an avenue for worker appreciation and a fair day's pay for a fair day's work that eventually made its way into the world of education. While not minimizing the struggle of labor and management, the facts of the struggle are well documented.

The power struggles that occurred in education paralleled those in industry, but were delayed chronologically. The turbulent 1960s provide vivid images of teachers

protesting lack of pay and respect while burdened with the substantial responsibility of educating this country's youth. Teachers became increasingly outspoken against school boards that did not accord them the recognition that they believed they were due for the substantial contribution that they made towards helping society. As noted, the federal and state governments enacted legislation affecting employers and employees. These laws affected public and private workplaces. Federal and state legislatures passed laws that substantially changed the balance of power in the workplace as described in the following paragraph.

Government intervention substantially reduced the autonomy and power employers exerted over their workers. Safety standards, fair labor standards, minimum pay standards, and other items are government mandated requirements of employers (Herman & Megiveron, 1993). The government, whether federal or state, now acts to protect employees. For example, the Federal Labor Relations Authority (FLRA, 2008) and Occupational Safety and Health Administration (OSHA, 2008) are tasked with oversight of employers through legislation that provides workers with avenues to pursue appropriate pay and safe working conditions/environments. Moreover, the FLRA investigates unfair labor practices while OSHA's mission is to ensure safe working conditions and practices (FLRA, 2008; OSHA, 2008). States may increase the restrictions identified by these federal bureaucracies, but may not remove or relax restrictions.

While national development of teachers' unions occurred during the 1970s and 1980s, Ohio's legislature did not establish a State Employment Relations Board (SERB) until 1983 to resolve labor disputes at the state level (Ohio Revised Code (ORC) Chapter

4117, 2002). The SERB has oversight for all public collective bargaining within the state including teachers' unions. Moreover, the SERB determines the legality of a strike providing the labor union has followed the State legislation regarding strike procedures. Ohio has a specific sequence and defined circumstances for an educational labor union to legally declare a strike (ORC, Chapter 4117, 2002). The state's responsibilities for fair and equitable employment along with educating its citizenry require a delicate balance to achieve state goals. In this regard, an argument can be made that permitting strikes by teacher unions undermines the education of the states' youth, but allows educators to exercise their First Amendment right.

Local school boards whether in Ohio or elsewhere must exercise caution when negotiating with unions because ultimately the public supports the outcome through tax dollars. Boards authorize tax levies in support of district requirements including teachers' salaries and benefits. The public determines the success or failure of proposed levies through voting. The fiscal responsibility required by school boards entrusted by the public dictates frugal use of all tax dollars awarded to the district. To the contrary, unions look to improve salary and benefits for their members, not necessarily what is best for students or their communities. Unions solicit support from members by highlighting the professional benefits of membership that improve the teachers' financial well-being and benefits. Most of the efforts expended by union officials are aimed at increasing membership.

Unions advocate the importance of membership and the strength in numbers, justifying themselves as providing protection from employers and negotiating benefits for workers that would otherwise be unattainable (Herman & Megiveron, 1993; Kerchner &

Mitchell, 1988; Lieberman, 2000). Teacher unions identify changes in classroom environments such as school day length, class size, and number of classes taught as benefits obtained through unionization. Further, some teacher unions list concessions from school boards such as dental, vision, tuition reimbursement, supplemental life insurance, and other related non-standard benefits as resulting directly from the union's ability to negotiate on behalf of a large number of teacher members.

As membership in public unions increases, predominately teacher unions including in career technical/vocational school districts, and decreases in private sector unions, perhaps unions have performed so well in their mission and/or purpose as to make their existence inconsequential. Unions have driven federal and state legislators to enact laws and regulations for employers whereby now they are essentially organizations whose original purpose may no longer be valid. Thus, this situation presents the question: "Did employee organizations (unions) deliver on their promise of improved salaries and benefits for teachers of school districts that unionize?"

### **Research Hypothesis**

The research hypothesis for this study is

The increase in salary and benefits as measured in a percentage change for salary and percentage of board contribution for benefits is significantly higher for teachers of career technical/vocational high school districts that are currently unionized when compared to teachers of career technical/vocational high school districts that are non-union.

In other words, the hypothesis asks whether teachers in schools with unions have fared better with regard to salary increases and benefits than their peers in non-union schools.

As noted, employee unions advocate for recognition of workers, strength in numbers, improvements in working conditions, camaraderie, and increases in salary and benefits. The focus of employee unions was initially on the first four elements, but now the researcher believes their main purpose is to maximize salary and benefits for their members.

In order to determine the validity of the hypothesis, this study sought answers to the following questions:

1. What portion of Ohio's career technical/joint vocational high school districts are union and non-union?
2. Are starting salaries in union career technical/vocational high schools significantly different than in non-union schools?
3. Have union career technical/vocational high schools' salaries significantly outpaced non-union school salaries when looking at percentage change from year-to-year?
4. Is there a substantial difference in benefits offered in union career technical/vocational high schools when compared to non-union schools?
5. Do union career technical/vocational high school boards of education contribute a greater portion of benefit costs when compared to non-union schools?
6. Can another factor be attributed to a difference in salary and benefits at Ohio's career technical/joint vocational school districts while considering the entire population?

The significance level for this study was initially set at  $\alpha = 0.05$  for each test conducted. The researcher used this level of significance because it allowed the researcher to draw a conclusion if a significant difference existed between the salaries and benefits of teachers in union and non-union career technical/vocational high schools. Further, this level establishes an acceptable risk for a Type I error that is appropriate in education policy studies. A Type I error consists of rejecting the null hypothesis, finding that no relationship exists when in fact the null hypothesis is correct (Heiman, 2003).

### **Purpose of the Study**

The purpose of this study was to evaluate the financial advantage of being a union member at a career technical/vocational high school in Ohio. To this end, the research question was "Do union members at Ohio's career technical/vocational high schools receive higher salaries and better benefits when compared to teachers of school districts which are non-union?" The researcher employed an electronic survey via e-mail (See Appendix A) to solicit information from the 49 career technical/vocational high schools in Ohio. A primary objective of the study was the ability to predict overall performance of all schools within the population. In order to predict performance of the population the researcher identified four purposes discussed below.

The results of this study filled four purposes. The first purpose of this study was to inform teachers whether a correlation exists by unionization. The second goal of this study was to inform boards of education and administrators of the relationship unions have on negotiations for salary and benefits. The third intent was to provide a study documenting the outcome of collective bargaining at similarly situated schools and whether better results meaning higher pay exist at unionized schools. Finally, the results

of this study revealed whether an expansion of this investigation to public high schools in Ohio, other states, or nationally should be completed. This study targeted a specific population to allow for a comprehensive look at the distinction between union and non-union career technical/vocational school districts. This targeting resulted in delimitations for the research as described in the following section.

### **Delimitations**

There are five delimitations identified for this quantitative study. The first is limiting the population for this study to the 49 Ohio joint career technical/vocational school districts currently in operation. This limitation allows the researcher to eliminate some variables that may exist if the population is too diverse. By selecting a group whose members are similarly situated, from the same socio-economic environment, and comprised of the same diverse group of teachers, vocational and academic, the researcher tailored the survey instrument to collect the data to investigate the research hypothesis.

Ohio currently has 94 school districts offering career technical/vocational education (ODE, 2010b). School districts with enrollment of 1,500 students or greater in ninth through 12<sup>th</sup> grades are permitted to offer vocational education at the high school, join an area vocational district, or participate with other schools supporting joint vocational school districts in their regions. Districts with enrollment less than 1,500 must participate in a joint vocational school district (Shoemaker & Parks, 2007). The 49 joint vocational school districts selected consist of stand-alone career technical/vocational high schools providing academic as well as vocational education for high school students and after completion of the curriculum, high school students can receive certification and/or licensure in several vocational fields. The remaining 45 school districts that offer career

technical/vocational education are comprised of comprehensive/community high schools with some vocational programs or combined area vocational districts (Shoemaker & Parks, 2007).

The population selected allowed for a study with boundaries. Since the other school districts offering career technical/vocational education are considered comprehensive/community high schools located throughout Ohio, the schools' locations, environments, and clientele may vary dramatically. Utilizing the 49 joint vocational districts creates a homogeneous population removing variables that are unique to some districts, especially those located in urban areas. The researcher contacted the superintendent through electronic media, e-mail, at each school to gather information needed to answer the questions stated with the study's hypothesis. Data were limited to the past 5 school years with no extenuating circumstances to limit data collection such as non-availability of accurate data or protected information pending the outcome of employee union/school board votes.

Career technical/vocational high schools that are directly connected to or part of comprehensive/community high schools are not included in this study since these schools have limited vocational offerings and do not receive Carl D. Perkins funds. By way of background, career technical/vocational education funding began with the National Vocational Education Act (Smith-Hughes) of 1917 followed by the George-Barden Act (20 U.S.C. 15h *et seq.*) about 30 years later that expanded federal support. The National Defense Education Act of 1958 (NDEA, 1958) provided additional funding for vocational education related to training for national defense. The NDEA is discussed further in Chapter II. The Vocational Education Act (20 U.S.C. 2301 *et seq.*), signed into



law in 1963, increased federal support for career technical/vocational education, training, research, and demonstration programs related to vocational education. In 1968 the Vocational Education Amendments (20 U.S.C. 2301 *et seq.*) modified existing vocational programs and established the National Advisory Council on Vocational Education (Shoemaker & Parks, 2007). The Vocational Education Act was renamed the Carl D. Perkins Vocational Education Act in 1984. The Carl D. Perkins Vocational Education Act emphasized job skill acquisition through vocational and technical education. The Act also addresses access to vocational education for special populations. Later Amendments have modified/changed the act over the past 2 decades with the latest, occurring in 2006, known as Perkins IV. Perkins IV provides direction to states with specific restrictions regarding receipt of federal funds. Under this law, each state must submit a plan for approval prior to receiving Perkins IV funds for career technical/vocational education (Congressional Research Service, 2005).

The U.S. Department of Education approved Ohio's career technical/vocational education plan on July 1, 2008, detailing Ohio's Five Year Plan for Career-Technical and Adult Education. The plan allows Ohio's career technical/vocational districts financial support from the federal government in the form of Carl D. Perkins funds; the state of Ohio delineated the requirements in House Bill 282 (ORC §3306.052, 2002). This bill differentiates school systems offering vocational/career technical education so that funds can be provided as specified by federal legislation (Ohio Department of Education, 2010a). Only career technical/vocational districts that met the following criteria of operating with separate boards of education, superintendents, administrations, and receive Carl D. Perkins funds were part of the population for this study. These restrictions

resulted in a homogeneous population that was compared and contrasted since all are similarly situated, organized, operated, funded, and regulated (ODE, 2010b).

The second delimitation involved the collected data related to benefits. In order to allow comparisons between school districts, this study examined benefits that were in common in the majority of districts. Initially, the benefits reviewed were medical insurance, dental insurance, and vision plans. If another benefit such as tuition reimbursement was present in the majority of responses, set at 67% or greater, then it would have been added to the list for evaluation and comparison.

The third delimitation is the number of years used for data collection. This study surveyed the previous 5 school years, 2004-05 through 2008-09. The Ohio Revised Code (ORC) limits original agreements between school boards and employee organizations to 3 years. Extensions of original agreements are permitted, but do not affect the expiration date of the original documents (ORC 4117.09 E), 2002). During the 5 previous years, each school renegotiated/renewed/extended the teachers' original agreement at least once. Some boards wrote single year agreements which involved annual negotiations while others revisited existing agreements for the purpose of extending, amending, and/or revising some portions. This analysis included agreement duration and frequency of negotiations for each of the responding school districts.

The fourth delimitation acknowledged the researcher's inability to verify responses provided by each career technical/vocational school district. The researcher assumes honesty and accuracy in all responses that he received.

The final delimitation was the data collection instrument. The questionnaire was distributed via e-mail in the spring of 2009 and the results were presumed to represent the

actual salary and benefits received by the teachers for the current and 4 previous school years. In addition to this presumption, the researcher acknowledged the inability to control environmental factors such as the downturn in the economy. The current changes in the economy increase the need for a study of this type as discussed further in the following section.

### **Significance of the Problem**

Due to legislation and the public outcry for accountability, school boards examine cost associated with their operations. Other than facility costs for boards, whether new or major renovations, the items which garner the largest portion of any district's budget are salaries and benefits (Lieberman, 2000). Illustrative of this is the fact that in southwestern Ohio, during the 2006-2007 school year, teachers in three school districts voted to strike if their unions and boards were unable to reach agreements (Elliot & Picard, 2006; Turay, 2006; Warren, 2006). Each of these employee unions followed Ohio state laws for strike notification. Two of the three boards reached agreements with their employee organizations while the third resulted in a one week strike by teachers. Still, the strike seemed to divide the community. Some residents sympathized with the teachers while others were aggravated by the need to provide care for children not in school (Turay, 2006; Warren, 2006). The actions of the teachers, although self-serving, were portrayed by the media in a sympathetic manner. Banners and buttons displayed by teachers proclaimed, 'I don't want to strike, but I will.' Fundamentally, the strike issues were salary and benefits.

Striking can prove to be a deal maker or alienate teachers from their constituencies. In each case the employees voted to strike due to salary and benefit issues

in their proposed contracts. The strikes did end with agreements by teachers and administration, but for only one year. This meant that at the conclusion of the current school year, the existing contracts expired and the boards found themselves in the same situation unless their employee unions, teachers, and administrators took proactive steps to avoid further labor conflict.

Early dialog and an understanding of current funding levels from both sides could alleviate some of the pressure during negotiations prior to the beginning of the next school year. Consistent with labor relations throughout the United States, the Ohio Revised Code requires boards of education to bargain with a single representative organization or entity that is recognized by the state:

(A) Public employers shall extend to an exclusive representative designated under section 4117.05 of the Revised Code, the right to represent exclusively the employees in the appropriate bargaining unit and the right to unchallenged and exclusive representation for a period of not less than twelve months following the date of certification and thereafter, if the public employer and the employee organization enter into an agreement, for a period of not more than three years from the date of signing the agreement. For the purposes of this section, extensions of agreements shall not be construed to affect the expiration date of the original agreement.

(B) A public employer shall bargain collectively with an exclusive representative designated under section 4117.05 of the Revised Code for purposes of Chapter 4117 of the Revised Code. (ORC § 4117.04, 2002)

Since negotiations must take place between school boards and the state recognized teacher bargaining unions, the two parties must be willing to begin negotiations early and prepare to accept what is fiscally responsible.

The unionization of public education professionals still presents an interesting dilemma. On the one hand teachers may be considered professionals while on the other hand unions are historically associated with blue collar workers (Bascia, 1998; Russo, 2009). Others have classified teachers as semi-professionals due to their role as civil servants that are predominantly female (Cooper, Fusarelli, & Randall, 2004).

Unions helped workers gain better recognition as valuable assets to the company along with increases in wages, benefits, and improved working conditions. These same arguments are used for teachers. Looking at salary and benefits data may provide insight as to whether unions have helped teachers in career technical/vocational high schools in Ohio gain an advantage over their non-union counterparts.

While the issue of minimum working conditions seems to be handled by state requirements for new, remodeled, and existing facilities along with ongoing operations, this research focused on salaries and benefits. More specifically, this study attempted to evaluate whether a significant difference exists in salary and benefits between teachers who are unionized compared to similarly situated teachers who are not unionized.

After making contact with each school district's superintendent or treasurer and collection of data related to union status, salary, and benefits for the past 5 school years, the researcher employed a quantitative statistical procedure to evaluate changes in wages and benefits for successive years. These data were compared based on union status to

study whether a significant difference existed based on descriptive statistics, correlations, and regression analysis.

Union negotiations can vary greatly when looking at school districts or time frames; the particular methods of negotiation such as meet and confer or win-win were not considered. Even so, the outcome of the negotiations was the area of interest that produced the contractual obligation between the teachers' union and school board. Different types of union negotiations utilized historically and currently are identified by a variety of sources (Herman & Megiveron, 1993; Kerchner & Mitchell, 1988; Sharp, 2003). These negotiations may produce substantially different outcomes. Evaluating whether there is a significant difference between types of negotiation and contractual obligations is left for another study and discussed further in Chapter V's recommendations for further study. A brief summary of each stage in the development of negotiations is described in the subsequent paragraph.

Kerchner and Mitchell (1988) categorize these types as Meet-and-Confer, Good-Faith Bargaining, and the Unexpected Crisis. Meet and Confer amounts to a discussion between the teachers and administration with the administrators deciding contract terms. Most states, including those without unions, use Good-Faith bargaining which is characterized by mutual respect where each party approaches the negotiations with the intent to resolve all issues equitably. The Unexpected Crisis is the beginning of the end for collective bargaining due to the adversarial posturing of administrators and teachers. The unexpected crisis method of collective bargaining can have detrimental results since neither party is willing to compromise or negotiate an equitable outcome (Herman & Megiveron, 1993).

Others agree in principle to these ideas, but consider the evolution of collective bargaining initially as adversarial, followed by good-faith and moving towards win-win (Herman & Megiveron, 1993). If one considers win-win as a methodology in collective bargaining, according to Sharp (2003), each team looks at the available resources and agrees to terms that are amenable to both sides. This is compromise in its truest form. The result is less stressful due to the agreement to find a settlement both sides can live with. This methodology is finding increasing acceptance and implementation throughout public education (Sharp, 2003).

### **Summary/Conclusions**

The importance of this study can be characterized using one word, money. Recent elections have resulted in numerous school levies going down in defeat ("Election Results," 2008, 2010). Public schools in Ohio, including those with career technical/vocational education, are funded by property taxes. The assessed value of real property is used as the basis to evaluate how much will be awarded to school boards within voting jurisdictions. School boards have had difficulty passing levies for operating expenses and new facilities. While teacher unions may play a role in supporting school levies, an argument can be made that it appears that their focus is for their members, not students. At the same time, employee unions collect dues from the teachers that result in reductions in pay. If teacher unions do not provide significant differences when negotiating teacher salaries and benefits, then their dissolution may in effect provide an instant increase in salary for both teachers who are employee union members and those who pay fair share fees since they will not have to expend these monies.

As fiscal responsibility for school systems becomes more important due to the availability of information through the Freedom of Information Act (FOIA, 2002), school boards must streamline operations, reduce overhead, and still produce successful students at graduation. The FOIA allows citizenry access to records not protected by the Privacy Act. The records for public entities are available to private citizens through written request as identified in the FOIA. Records available include state, local, and municipal governing body board meeting minutes, legislative proposals, ordinances, policies, and other documentation related to operations. This access includes all records, not otherwise protected. The availability of information related to public schools detailing salary and benefits lends this topic to investigation. Although other studies have been conducted as described in Chapter II, studies related to unionism and financial advantage are few.

No previous study has been conducted in Ohio or elsewhere linking employee unions to improved salary and benefits. If a link exists, then perhaps the move towards unionism at all schools is inevitable. If no link exists, then perhaps boards of education and teachers can meet with the purpose of formulating a contract that the public, teachers, and the school systems can function within for the success of students.

## **Overview**

Chapter II includes a literature review of relevant documents that provide historical information about vocational education in the United States and Ohio including teachers' organizations, unions, and collective bargaining. A chronological description along with any related studies are included in the literature review. After the literature review, Chapter III explains and describes data sources, collection, methodology, and completed data analyses. Chapter IV presents the results of this study and finally in



Chapter V is a summary of the research along with a discussion of conclusions and recommendations.

## **Chapter II**

### **Review of Related Research and Literature**

#### **Introduction**

This chapter presents the results of a focused literature review based on two topics, collective bargaining in education and career technical/vocational education high schools. The researcher conducted an extensive search of the knowledge base in locating prior studies related to collective bargaining or career technical/vocational high schools. Unfortunately, none of the earlier studies found covered both.

The educational knowledge base contains many articles and books on collective bargaining organizations or unions that began during the industrial revolution. Most of these works discuss reasons for worker unification, from the “us versus them” perspective to the strength in numbers slogan (Cooper, Fusarelli, & Randall, 2004; Herman & Magiveron, 1993; Kerchner & Mitchell, 1988; Renner, 2004). While an ample supply of literature focused on collective bargaining exists in education, a search for similar research did not reveal any studies directly related to this study’s research questions. There are studies involving comprehensive high schools (Bacharach & Mitchell, 1983; Crisci & Giancola, 1986; Eberts & Stone, 1986; Jessup, 1981; Johnson, Nelson, & Potter, 1985; Renner, 2004) and religiously affiliated non-public schools (Perrotta, 1993; Russo, 1989), but none specifically targeting career technical/vocational school districts and collective bargaining.

This chapter contains seven sections following the introduction. The first section presents a historical perspective of career technical/vocational education in the United States in general followed by career technical/vocational education in Ohio in particular. This review is followed by an examination of unions and collective bargaining in general ending with emphasis on teacher unions at Ohio's career technical/vocational high schools. Finally, this chapter examines previous studies and concludes with a discussion of the significance of the studies as identified by the researcher(s).

### **Career Technical/Vocational High Schools**

Secondary or high school career technical/vocational education draws its roots from federal legislation passed into law in 1917 known as the Smith-Hughes Act (Hocklander, Kaufman, Levesque, & Houser, 1992). Other career technical/vocational education legislation was passed earlier, but affected post-secondary education such as the Morrill Act (1862) and its subsequent reauthorizations (Scott & Sarkees-Wircenski, 2004).

Early in American history the need to educate the population in skills was a predominate theme in public schools. The United States began as an agricultural based economy, transformed into an industrial economy, and seems to be headed in the direction of being an information/technology/service economy (Hendricks-Lee & Mooney, 1998). Throughout these changes in the American economy, career technical/vocational education has kept pace by changing its curriculum to match the current workforce needs. Career technical/vocational education maintains cooperative relationships with business and industry. Business and industry, which are driven by profit with technology providing a method to streamline a variety of processes, need

employees trained in the newest technologies or an understanding of the newest technologies. The partnership with career technical/vocational education allows business and industry the opportunity to help shape the curriculum to enable these schools to produce productive employees with an understanding of the latest innovations in a variety of careers.

Business and industry provided the impetus to establish career technical/vocational education at the turn of the 20<sup>th</sup> century and continue to shape career technical/vocational education. The state of Ohio has transitioned from agriculture to manufacturing but appears to be lagging in its change to information/technology/service at the majority of public school districts. Yet, Ohio's 49 career technical/vocational school districts have led the way in helping Ohio change its workforce to match the needs of the current economy (Shoemaker & Parks, 2007).

### **Ohio's Career Technical/Vocational High Schools**

Ohio's career technical/vocational education programs began in 1918 after the Federal Board for Vocational Education had approved Ohio's vocational education plan in December of the previous year. Shortly thereafter, the Ohio General Assembly enacted career technical/vocational education legislation making it possible for school districts to join together in order to meet federal laws regarding career technical/vocational education. This state legislation, the nation's first, enabled all of Ohio's youth the opportunity to study/pursue career technical/vocational education. Charged with meeting the needs of youth, career technical/vocational education was also responsible for adult education and retraining. Ohio's career technical/vocational schools managed to meet the needs of business and industry by training/retraining adults along with returning

veterans from World War I and World War II. Even so, there was a new 'threat' looming in the future as the decade of the 1950s drew to a close (Shoemaker & Parks, 2007).

The Soviet Union's launch of Sputnik in 1957 sent a wave of change throughout the United States and education in particular. Congress passed the National Defense Education Act of 1958 (NDEA, 1958) to provide funding for schools to focus on mathematics, science, foreign language, technical knowledge and skills. The NDEA strengthened career technical/vocational education in the United States.

Following the enactment of the NDEA federal support of secondary career technical/vocational education began with the Vocational Education Act (VEA) signed into law in 1963. The VEA provided federal funding for career technical/vocational education, training, research, and demonstration programs related to vocational education. In 1968, the Vocational Education Amendments (20 U.S.C. 2301 *et seq.*) modified existing vocational programs and established the National Advisory Council on Vocational Education. The VEA was renamed the Carl D. Perkins Vocational Education Act in 1984 (Shoemaker & Parks, 2007). The Perkins Act emphasized job skill acquisition through vocational and technical education while also addressing access to vocational education for special populations. Later amendments changed the Perkins Act with the most recent occurring in 2006 known as Perkins IV. Perkins IV provides instructions to states with specific restrictions regarding receipt of federal funds. Under Perkins IV, each state must submit a plan for approval prior to receiving federal funds for career technical/vocational education (Congressional Research Service, 2005).

Ohio's career technical/vocational education leaders realized that many smaller communities and school districts could not provide financial support or adequate

numbers of students to meet the requirement that all of Ohio's students have the opportunity to choose career technical/vocational education. Ohio thus adopted a plan to form joint career technical/vocational school districts to serve the needs of many school districts. The joint career technical/vocational school district was first tried in Pike County, Ohio, and after its successful operation, the Ohio General Assembly reviewed, revised, and passed legislation in 1963 establishing conditions for joint career technical/vocational school districts.

By 1967 Ohio had 17 joint career technical/vocational school districts and currently has 49 (Shoemaker & Parks, 2007). Under state law, school districts with enrollment of 1,500 students or greater in ninth through 12<sup>th</sup> grades are permitted to offer career technical/vocational education at the comprehensive high school, join an area career technical/vocational district, or participate with other schools supporting a joint career technical/vocational school district in the region. Schools with enrollments of less than 1,500 must participate and support joint career technical/vocational school districts (Shoemaker & Parks, 2007).

The 49 joint career technical/vocational school districts in Ohio consist of stand-alone career technical/vocational high schools providing academic as well as a wide range of vocational education for high school students. After completion of the curricula, high school students can receive certification and/or licensure in an array of vocational fields. However, these school boards do not grant high school diplomas. Instead, students receive their diplomas from the school districts that are associated with particular joint career technical/vocational school districts (ODE, 2010b).

## **Collective Bargaining, Teacher Unions**

The evolution of unionization in education has paralleled its development in business and industry during the early years of industrialization (Cooper, Fusarelli, & Randall, 2004; Herman & Magiveron, 1993; Kerchner & Mitchell, 1988; Renner, 2004; Sharp, 2003). Currently, the two seemed to have diverged as private sector business and industry have seen a decline in union representation while public education has seen an increase (Sharp, 2003). The move towards greater participation in employee associations/unions by teachers triggered this study.

In an effort to gain an understanding of teacher employee associations/unions and the benefits associated with membership, a study was needed to consider whether a significant difference exists between salary and benefits of association/union teachers and non-association/non-union teachers. Additionally, if Herman and Megiveron (1993) and Sharp (2003) are correct about win-win collective bargaining, it is unclear what representation is necessary for financial benefit. School boards implement collective bargaining to negotiate with recognized representatives of the teachers of their districts when those representatives are duly elected by majorities of teachers. While many organizations may represent teachers, two large associations with historic pasts represent most teachers in the majority of states with collective bargaining. These two educational organizations are the National Education Association (NEA) and the American Federation of Teachers (AFT).

The NEA traces its origins to 1857 in Philadelphia, Pennsylvania, where it started as the National Teachers Association (NTA) with membership restricted to gentlemen. The formation of the NTA resulted when all state associations organized into a single

united voice (Holcomb, 2009). In 1866, the NTA opened up membership to women. By 1870, combining the American Normal School Association, the National Association of School Superintendents, the Central College Association, and the NTA, the NEA was formed. The transformation would continue when the first collective bargaining law for public employees was passed in Wisconsin in 1959 (Holcomb, 2009). The NEA represents approximately 3.2 million members with over 200,000 in higher education.

The NEA changed, eliminating most administrators from the organization, during the turbulent 1960s when civil unrest and public discontent with the Vietnam conflict were at their heights. The NEA has affiliates in most states and in 2000 formed a partnership with the AFT. The two organizations, NEA and AFT, function and operate separately, but work jointly towards mutually beneficial goals supporting education (AFT, 2009; NEA, 2009). A discussion of the AFT follows along with further details of the partnership.

The AFT began in April 1916 at the City Club on Plymouth Court in Chicago, Illinois. Teachers met to form a new national union and within a month the union received its charter from the American Federation of Labor (AFL). During the tumultuous 1960s, the AFT grew from under 60,000 members to more than 200,000 by 1970. The AFT continued its growth and expansion outside of education through its connection to labor. The AFT maintains state affiliates while its membership has grown to 1.5 million members with over 125,000 in higher education (AFT, 2009).

The NEA and AFT represent the largest population of organized educators. Their state affiliates composed of delegates represent the interests of each state, district, and local organization at national meetings. The cooperative partnership between the NEA



and AFT provides the two organizations with a common front to deal with critical educational issues impacting their members (NEA, 2009). Details identifying state associations connected to the national organizations and categories of school associations/unions along with fees related to membership follow in subsequent paragraphs.

### **Teacher Unions at Ohio's Career Technical/Vocational High Schools**

The Ohio Education Association (OEA), a state affiliate of the NEA, which actually pre-dates the parent organization, was established in 1847 to advocate for public education. The OEA represents some of Ohio's career technical/vocational school districts, but not all. The districts not represented by OEA are represented by the Ohio Federation of Teachers (OFT) or local association/union organizations.

The OFT began in 1934 in Springfield, Ohio (OFT, 2009). The OFT's link to organized labor has enabled it to continue to grow in areas outside of education. The national backing by the AFT coupled with the AFL-CIO allows local affiliates a voice in state and national politics (OFT, 2009). The earlier confrontation between the two national and state organizations has been replaced by a spirit of cooperation in advancing education along with member salary and benefits. This connection may have far-reaching influence in tough economic times. The two state organizations may have been adversarial when competing for the same constituents, but now may produce a synergistic effect when called upon to voice a concern together.

The Ohio Revised Code (ORC) Section 4117 identifies the requirements for employee associations/unions to become the exclusive representatives of the bargaining employees in school districts. Additionally, approval by Ohio's State Employment

Relations Board (SERB) indicates compliance with state laws requiring boards of education to negotiate with the sole representatives of their district's employees (ORC, 2002). Section 4117 also clearly delineates matters subject to collective bargaining. These include "wages, hours, or terms and other conditions of employment and the continuation, modification, or deletion of an existing provision of a collective bargaining agreement" (ORC § 4117.08, 2002). In addition, ORC § 4117.08 (C) distinguishes matters inherent to management as not subject to collective bargaining. These include areas related to: managerial policy; direct, supervise, evaluate or hire employees; suspend, demote, discipline, or discharge employees; determining adequacy of work force; determine overall mission of the employer; lay off, assign, transfer, promote, or retain employees; efficiency and effectiveness of operations; unless agreed upon by management and included in an agreement.

As fiscal responsibility continues to be a public priority, spending tax dollars for the purpose of salary and benefits for teachers will receive scrutiny by the media and taxpayers. The ability of unions on behalf of their members to negotiate effectively for increases in salary and benefits may be limited. The researcher speculates that this feeling of ineffectiveness or lack of presence may explain the increase in establishment of employee unions and in particular why teachers join.

Local teacher unions need membership to continue their work and efforts at gaining increases in salary and benefits for their members. State and national affiliates need funds, too. Funding for all of these organizations comes in the form of membership dues. A portion of the dues amounts is determined by the national organizations and passed down through state organizations to local affiliates. Local employee associations/

unions include fees in the dues needed for them to continue to function and offer their services to all members. The total of all the amounts results in the cost or dues for membership in employee associations/unions. Since Ohio law permits two of the three types of associations/unions: open shop and agency/fair share shop, the amount paid by non-members will vary. Discussed in the next paragraph are fine points that include court related cases interpreting these approaches to union shop types.

School employee unions operate with three different mechanisms: closed shops, agency shops also known as fair share shops, and open shops (Walters, 2001). The ORC § 4117.09 C prohibits closed shop. Closed shops require employee union membership as a condition of employment while agency or fair share shops call for non-union members to pay a portion of association/union dues. This portion known as an agency or fair share fee is that amount of the union dues attributable to contract negotiations with regard to salary, benefits, and other items directly affecting employees (ORC § 4117.09, 2002).

An exemption from membership or financial support of employee unions is available to individuals in Ohio who provide proof of their religious conviction in opposition to membership that is submitted to and approved by their school boards is allowed by ORC § 4117.09 (C). However, employees can be required to pay amounts equal to the fair share fees to non-religious charitable funds that are mutually agreed on by individuals and the unions at their schools. Individuals must submit written receipts to union representatives and the school board evidencing payment to the agreed upon charitable organizations in order to satisfy the fair share agreement (ORC § 4117.09 C, 2002). Although exempted individuals do not pay a fair share fee to employee unions, the individuals' net salaries remain at a level equal to that of full fair share paying

members. Thus, not paying the fair share fees does not provide individuals with increases in pay since they contribute the same amount to charitable organizations. Clearly, these contributed funds cannot go towards political candidates, controversial political issues, or state/national employee associations/unions.

The significance of agency or fair share fees is reflected by virtue of the fact that the Supreme Court has addressed this issue on four occasions related to education. The first case involving agency or fair share fees that the Supreme Court decided was litigated in 1977. In *Abood v. Detroit Board of Education* (1977) and later in *Lehnert v. Ferris Faculty Association* (1991), a case in higher education, the Supreme Court held that the fees charged non-members meet three guidelines (Russo, 2007). The three guidelines are: first, fees must be germane to collective bargaining activity; second, fees must be justified; and lastly, collectively, these monies must not add significantly to the burdening of free speech (Russo, Gordon, & Miles, 1992). The Court also disapproved of a rebate system whereby non-members paid the full dues and received a rebate because this system did not avoid the risk that non-member funds might be temporarily used for improper purposes (*Chicago Teachers Union, Local No. 1, AFT, AFL-CIO v. Hudson*, 1991).

The Supreme Court ruled in *Davenport v. Washington Education Association* (2009) that unions must have affirmative authorization from non-union members prior to spending or forwarding to state and national affiliates, agency or fair share fees for political purposes.

In its most recent case, *Ysursa v. Pocatello Education Association* (2009), the Supreme Court reversed an earlier order allowing payroll deductions by local employers

for unions in support of political activities. The Idaho legislature passed the Voluntary Contribution Act (VCA) that allowed payroll deduction for union dues but prohibited deductions for union political activities. In upholding the VCA as constitutional, the Court found the ban of payroll deductions for political activities furthered Idaho's interest in keeping separate and avoiding any appearance of preferential treatment towards a political entity.

Turning to Ohio law, non-members of agency or fair share unions are required to request breakdowns of union dues in writing to identify what portions must be paid (ORC § 4117.09 (C), 2002). Ohio law specifies that the agency/fair share fees paid by non-members cannot exceed the amounts paid by members. Further, Ohio law includes language that permits non-members to challenge the amounts of agency or fair share fees charged by associations/unions if they deem some parts of the fees arbitrary or capricious. Non-members have 30 calendar days from the date the unions provide the breakdown of fees as requested in writing from the non-member (ORC§ 4117.09 (C), 2002). Open shops do not require membership or payment of any portion of dues by non-members. In order to identify what type career technical/vocational school districts exist in Ohio, the researcher conducted a preliminary study as described in the next section.

A preliminary study that was conducted as part of this dissertation found that some of Ohio's career technical/vocational high schools began without unions and converted to having unions while others were unionized from the time that they opened. The researcher discovered that some of Ohio's career technical/vocational high schools are still completely non-union. The preliminary study data support the notion that

currently agency/fair share, open, and non-union districts exist in Ohio's career technical/vocational high schools. The existence of non-union school districts indicates there is still the opportunity to change from non-union to union while existing union districts could change from open to agency/fair share and vice versa.

Career technical/vocational high schools in Ohio saw their greatest growth in the early 1970s. The vocational nature of schools draw experienced workers from industry to teach trades to high school students (Shoemaker & Parks, 2007). Some of these vocational teachers may have backgrounds familiar with unionism. This connection could provide insight as to the motivation behind actions to become or remain as union represented schools. The construction of the survey instrument allowed it to collect this information to evaluate whether interactions occurred between the number of vocational teachers and their membership unions. A discussion of other studies that investigated teacher unions follows in the next section.

### **Previous Doctoral Studies**

The most recent examination of unions conducted in Ohio was a case study by Renner (2004) chronicling the teacher's strike in the Village of Mariemont located east of Cincinnati and subsequent dismissal of the teachers for conducting an illegal strike. Renner noted that even after a significant time passed, more than 20 years, hard feelings still existed between participants. The strike and dismissal of all the involved teachers created hard feelings between the school board, community and teachers' union. Attempts to reconcile and bring about understanding for all parties were part of Renner's reasoning for conducting the study as he began his tenure as a school administrator.

Other studies involving teacher unions at public and private schools are present in the knowledge base. Since no study could be found that involves vocational schools and teacher unions in Ohio or elsewhere a review of seven of the most relevant studies is, presented in chronological order.

Olsen (1971) who conducted the first national study on collective bargaining albeit in religious schools uncovered a favorable attitude toward collective bargaining supported by lay teachers and religious educators at Catholic schools. Olsen noted differences with respect to gender, role, type of school, and school organization that may need consideration prior to entering into the collective bargaining process (Olsen, 1971). Russo (1989) also examined attitudes toward collective bargaining but only at New York State's 146 Roman Catholic high schools. Russo's study and two others, by Martinkus (1971) investigating Chicago's Catholic schools, and McGrath (1985) expanding to include all Catholic secondary schools in Illinois, examined attitudes toward collective bargaining building from the research completed by Olsen and not the effect of collective bargaining on salary and benefits for teachers.

Perrotta (1993), building on Russo's (1989) research in New York State, considered attitudes toward collective bargaining at the nation's Jesuit high schools. The researcher utilized a questionnaire to solicit response from school presidents, principals, religious teachers, and lay teachers. He employed an analysis of variance to evaluate whether a significant difference existed between and among the different groups. The results revealed differences existed between lay and religious respondents' attitudes toward collective bargaining. Perrotta thus concluded that based on the consistency of

differences that emerged, collective bargaining may not presently be compatible with the spirit of collaboration that is an integral part of a Jesuit school.

### **Other Educational Research Studies**

Jessup (1981) conducted a two-phase study of teacher unions in three small school districts in southern New York State. The study's duration was a 10-year span to investigate changes within the union movement and assess the impact of unionization on the school systems. The researcher found that over time internal and external constraints restricted the scope and direction of union activity, concluding that for these districts the impact of unionization was beneficial. Specifically, the study revealed that in the areas of greater teacher participation in decision making and administrators' fears of unions protecting incompetent workers were largely imaginary since contracts clarify rights and responsibilities while enhancing communication.

Bacharach and Mitchell (1983) researched attitudes toward collective bargaining across school district hierarchies using a random sample of 83 school boards in New York State. Returned surveys from district superintendents, central office administrators, school board members, teachers, and principals revealed a graduated shift in attitudes as one moves up the district hierarchy. The teachers favored more union participation while school board members wanted unions to decrease involvement in all areas. Moreover, the teachers thought that empowerment from unionization strengthened their position while administrators felt a loss of control.

Johnson, Nelson, and Potter (1985) investigated teacher unions, staffing, and reform in school districts from 11 states. The first section of the two-part study was based on a random stratified sample consisting of analyzing district contracts. The



second part was an in-depth look at five districts from the larger sample. The study utilized three methods of data collection: document analysis, intensive interviewing, and transient observation. The researchers stated that their complex findings found neither comprehensive nor prescriptive language that some individuals believed existed. According to these authors, contract provisions intended to advance teachers' interests were non-existent or sparse, much of the contract language consisted of management prerogatives. The contract language increased standards for staff beyond those prescribed by law; lacked discussion of seniority, and those included provisions did not drive staffing practices. Finally, principals' rights to manage the staffing of their schools were not clearly defined. Overall, the contracts constrained management's discretion in determining layoffs and involuntary transfers while least constrained were hiring, assignments, tenure, promotions, and dismissals.

Crisci and Giancola (1986) analyzed 411 of Ohio's 614 public school districts with master contracts on file at Kent State University. The researchers conducted a chi square analysis to examine the relationships, positive or negative, between control gains. Control gains were defined in the study as "a contract item wherein direct compensation is not the result, but wherein some control over management, teachers or some aspect of the work environment is given to the union" (p. 25). The results showed that generally when one control gain is negotiated into a master agreement, others are also negotiated.

Eberts and Stone (1986) studied the effects of teacher unions on education in Michigan and New York using data from three sources in a multivariate regression to examine relationships. Among the study's findings were that teachers covered by collective bargaining received higher salaries, taught smaller classes, and spent less time

instructing while having more time for preparation. Additionally, the study discovered that per pupil costs were 15% higher in union districts than non-union systems but that average student test scores in the former were only 5% higher on standardized tests. Finally, the researchers determined that teachers in union districts appeared to make greater use of traditional classroom instruction time than their peers in systems without unions, but this did not lead to significant gains in standardized test scores.

The studies show some general trends. First, three of the studies (Bacharach & Mitchell, 1983; Perrotta, 1993; Russo, 1989) focused on analyzing attitudinal data along with other studies discussed within each of these studies. Second, two of the studies (Crisci & Giancola, 1986; Johnson, Nelson, & Potter, 1985) involved analyzing contract language. Third, two studies (Jessup, 1981; Renner, 2004) can be categorized as case studies. Lastly, one study examined teachers' salary, cost per pupil, and student scores. Eberts and Stone (1986) looked at salary and unionization; they did not investigate benefits along with salary. Their focus was not solely based on unionization versus non-unionization relative to salary and benefits, but instead towards cost and student performance while considering union status of the district.

Since none of these studies or others in the knowledge base investigated a relationship between districts with union representation and better salaries/benefits when compared to non-union districts, the current study is needed since it is unique in its purpose. While Eberts and Stone (1986) concluded that unionization increased salaries of unionized teachers by 7 to 15% by the late 1970s, their research did not include teacher benefits and the accompanying change. This conclusion is used as one of three effects that explain why union districts spend more per pupil than non-union districts.

Eberts and Stone focused on student achievement and whether teacher unions contributed in a significant way to gains. Finally, Eberts and Stone noted that even though union school districts' average students perform significantly better than non-union districts' average students, union districts are indistinguishable from non-union districts when comparing significantly above or below average students.

The variety of studies shows that much work is still needed in the area of teacher unions to gain some insight into the effect, rather subtle or demonstrative, that these labor organizations have on school systems, administrators, teachers, students, and their communities. The studies, as a whole, seem to suggest that unions may add value but it is unclear whether this value is an asset to all or only those served by the unions. In an effort to broaden the research base, this study examined a portion of how unions contribute to education by investigating whether a relationship exists between unions and higher salaries/better benefits.

### **Summary**

As noted earlier, no study can be found linking union districts with a significant difference in salary and benefits when compared to non-union school systems. Other studies investigated different aspects of unionism with a variety of outcomes and conclusions discussed previously. Career technical/vocational high school districts present public schooling in the traditional academic sense with the opportunity for high school students to learn a trade. Further, career technical/vocational school districts in Ohio present a unique population to study the impact of unions without becoming unwieldy.

This researcher examined whether a relationship exists between union districts and higher salaries and better benefits at Ohio's career technical/vocational high schools when compared to non-union districts. Additionally, the research included collecting data from schools to see whether a correlation exists between school location relative to metropolitan areas where competition for quality teachers may affect salaries and benefits. The details of these additional data collection options are discussed in Chapter III.

## **Chapter III**

### **Data Source and Methods**

#### **Introduction**

This study surveyed Ohio's joint vocational school districts to evaluate whether a difference exists between salary and benefits for teachers when comparing union and non-union schools. This chapter first presents a description of the population, setting, and context. Followed by the research design, sampling procedure, and data collection instrument with validity and reliability in detail, the chapter concludes with a discussion of the statistical analyses, rationale, and additional analyses completed.

#### **Population**

The population for this study consisted of the 49 joint vocational school districts offering academic and career technical/vocational education in Ohio out of the total of 94 school districts providing career technical/vocational education options as identified by the state of Ohio Department of Education (ODE) website (2010b). As noted, there are three types of career technical/vocational high schools: vocational schools housed in comprehensive high schools, vocational schools providing only the vocational component of education with no delivery of academic subjects usually operating on a half-day schedule for students, and joint vocational school districts offering a complete education for students but do not issue high school diplomas, only certificates of completion for particular vocational programs.

The population for this study was limited to the third type of career technical/vocational high school (joint vocational school district) operating independent of comprehensive high schools providing students' academic and vocational education. This selection was based on the need to control as many variables as possible. These school districts are similarly situated, funded, and draw students from a pool of feeder schools. Comparing these districts allows a comprehensive look at the entire state of Ohio since legislation requires all students be afforded the opportunity to attend a vocational high school.

The joint vocational school districts derive resources from surrounding school systems that are financially unable to provide vocational education within their own districts. The Ohio legislature allowed this provision to help small and/or financially strapped school districts the means to comply with the vocational education requirements of the state. Further details describing the composition of vocational districts follow in the next section.

### **Setting**

Approximately 52% of Ohio's career technical/vocational high schools are located in rural and suburban areas. Rural is defined as outside the city limits of a metropolitan area (U.S. Census Bureau, 2010a) while suburban means adjacent to or within commuting distance of a metropolitan area, but existing as a separate city, township, or other designation operating its own school district (Suburban, n.d.). The remaining 48% are broken down into 24% located in urban areas, most of which are strongly affiliated with comprehensive city high schools. The final 24% consist of a combination of city school affiliation, multiple school districts forming a consortium, and

career technical/vocational school districts offering only the vocational component (ODE, 2010b). The population 49 school districts and sample for this study are all located in rural or suburban settings (See Tables 1 and 2).

Table 1

*Ohio's Joint Vocational School Districts Alphabetically by County A through L*

County	School Name	Address	City
Allen	Apollo	3325 Shawnee Rd	Lima
Ashland	Ashland County-West Holmes	1783 State Route 60	Ashland
Ashtabula	Ashtabula County	1565 State Route 167	Jefferson
Athens	Tri-County Career Center	15676 State Route 691	Nelsonville
Belmont	Belmont-Harrison	110 Fox Shannon Place	Saint Clairsville
Brown	Southern Hills	9193 Hamer Road	Georgetown
Butler	Butler Tech	3603 Hamilton Middletown Rd	Hamilton
Clark	Springfield-Clark County	1901 Selma Road	Springfield
Clermont	U.S. Grant	718 W Plane Street	Bethel
Columbiana	Columbiana County	9364 State Route 45	Lisbon
Coshocton	Coshocton County	23640 Airport Road	Coshocton
Cuyahoga	Cuyahoga Valley	8001 Brecksville Road	Brecksville
Cuyahoga	Polaris	7285 Old Oak Blvd	Middleburg Height
Delaware	Delaware Area Career Center	4565 Columbus Pike	Delaware
Erie	EHOVE	316 Mason Road W	Milan
Franklin	Eastland-Fairfield Career/Tech	4300 Amalgamated Pl Ste 150	Groveport
Gallia	Gallia-Jackson-Vinton	PO Box 157	Rio Grande
Greene	Greene County Career Center	2960 W Enon Road	Xenia
Hamilton	Great Oaks Institute of Technology	3254 E Kemper Road	Cincinnati
Henry	Four County	22900 State Route 34	Archbold
Jefferson	Jefferson County	1509 County Highway 22A	Bloomington
Knox	Knox County Career Center	306 Martinsburg Road	Mount Vernon
Lake	Auburn	8140 Auburn Road	Painesville
Lawrence	Lawrence County	11627 State Route 243	Chesapeake
Licking	C-TEC	150 Price Road	Newark
Logan	Ohio Hi-Point	2280 State Route 540	Bellefontaine
Lorain	Lorain County	15181 State Route 58	Oberlin

Table 2

*Ohio's Joint Vocational School Districts Alphabetically by County M through W*

County	School Name	Address	City
Madison	Tolles Career & Technical Center	7877 US Highway 42 S	Plain City
Mahoning	Mahoning County Career & Tech Center	7300 Palmyra Road	Canfield
Marion	Tri-Rivers	2222 Marion Mount Gilead Rd	Marion
Medina	Medina County	1101 W Liberty Street	Medina
Miami	Upper Valley	8811 Career Drive	Piqua
Montgomery	Miami Valley Career Tech Center	6800 Hoke Road	Clayton
Muskingum	Mid-East Career & Tech Centers	400 Richards Road	Zanesville
Pike	Pike County Area	PO Box 577	Piketon
Portage	Maplewood Career Center	7075 State Route 88	Ravenna
Richland	Pioneer Career & Technology	27 Ryan Road	Shelby
Ross	Pickaway-Ross	895 Crouse Chapel Road	Chillicothe
Sandusky	Vanguard-Sentinel	1306 Cedar Street	Fremont
Scioto	Scioto County Career Tech Center	951 Vern Riffe Drive	Lucasville
Stark	Stark County	6805 Richville Drive SW	Massillon
Summit	Portage Lakes	PO box 248	Green
Trumbull	Trumbull Career & Tech Center	528 Educational Highway NW	Warren
Tuscarawas	Buckeye	545 University Drive NE	New Philadelphia
Van Wert	Vantage	818 N Franklin Street	Van Wert
Warren	Warren County	3525 N state Route 48	Lebanon
Washington	Washington County	21740 State Route 676	Marietta
Wayne	Wayne County	518 W Prospect Street	Smithville
Wood	Penta	9301 Buck Road	Perrysburg

**Context**

According to the Ohio Department of Education, the mission of career technical/vocational high schools is to "Provide quality programs and services to meet the lifelong career education needs of Ohio's youth and adults as well as the ever-changing demands of the present and future workplace" (ODE, 2010b, p. 3). This mission statement identifies the overall context of operation for career technical/vocational high schools. Based on the research question, study's purpose, available population, setting, and context the researcher selected an ex post facto design. Further details describing the research design follow in the next section.



## Research Design

The research completed for this study based on Campbell and Stanley (1963) design #3, "*The Static-Group Comparison*" (p. 12), looked at results of a treatment without considering a control group. The completed analysis is a quantitative method that is identified as an ex post facto design described by Campbell and Stanley (1963, p. 70). This design has a group that has experienced a factor, in this case unionization, as compared to a group that has not been exposed to this factor, non-union. An underlying assumption is that if not for this factor these two groups would have been similar. Additionally, mortality, as described by Campbell and Stanley, does not seem to confound the quasi-experimental design. Mortality does not interfere due to the fact that no evidence or documentation is available that shows any district that was unionized has dissolved its union and been restored to a non-union district.

Another description of this type of research is identified by Krathwohl (2004) as "after-the-fact natural experiments" (p. 537). Krathwohl describes this type of research as, "studies in which data are gathered retrospectively" (p. 537). In other words, the treatment occurred without control by the researcher. The idea behind ex post facto experiments is to evaluate whether a relationship can be drawn within the limits of the design. The outcome variable in this study is school status as being unionized or non-unionized.

Other variables may produce an interaction affect such as school size, staff size, year of beginning instruction, and type of union shop that may contribute to the multiple predictor variables of salary and benefit changes. The benefits under consideration as part of this study included medical, dental, vision, tuition reimbursement, life insurance

options, wellness or preventative health maintenance, and incentives. The list of descriptive items collected can be found in Table 3.

Table 3

*Descriptive Statistic Items*

Item	Format of response
School name	Alpha
School address	Alpha-numeric
Year instruction began	Numeric
Current enrollment	Numeric
School contact	Alpha-numeric
Number of certified staff	Numeric
Number of classified staff	Numeric
Employment contract length	Numeric
Collective bargaining	Yes or no
National affiliation (if applicable)	Alpha
Year collective bargaining began (if applicable)	Numeric
Union representation of certified and classified	Yes or no
Percent of certified members (if applicable)	Numeric
Percent of classified members (if applicable)	Numeric
Type of union/association	Agency (fair share) or open
Annual membership dues	Numeric
Agency fee (fair share)	Numeric

The quantitative evaluation of benefits was limited to the most common benefits attributable to the school districts (e.g., medical, dental, and vision premiums). Tables 4 through 7 identify the predictor variables analyzed. An attempt to recognize threats to internal and external validity along with the procedure follows.

Table 4

*Variables- Starting Salary and Salary Change*

Variable name	Format of response
Starting salary bachelor's only no experience	Numeric (dollars)
Salary change 2008-2009	Percent from previous year
Salary change 2007-2008	Percent from previous year
Salary change 2006-2007	Percent from previous year
Salary change 2005-2006	Percent from previous year
Salary change 2004-2005	Percent from previous year

Table 5

*Variables-Board Medical Premium Contribution*

Variable name	Format of response
Medical premiums 2008-2009	Percent board contribution
Medical premiums 2007-2008	Percent board contribution
Medical premiums 2006-2007	Percent board contribution
Medical premiums 2005-2006	Percent board contribution
Medical premiums 2004-2005	Percent board contribution

Table 6

*Variables-Board Dental Premium Contribution*

Variable name	Format of response
Dental premiums 2008-2009	Percent board contribution
Dental premiums 2007-2008	Percent board contribution
Dental premiums 2006-2007	Percent board contribution
Dental premiums 2005-2006	Percent board contribution
Dental premiums 2004-2005	Percent board contribution

Table 7

*Variables-Board Vision Premium Contribution*

Variable name	Format of response
Vision premiums 2008-2009	Percent board contribution
Vision premiums 2007-2008	Percent board contribution
Vision premiums 2006-2007	Percent board contribution
Vision premiums 2005-2006	Percent board contribution
Vision premiums 2004-2005	Percent board contribution

**Threats to Validity.** Krathwohl (2004) defines validity as “Evidence-based judgment that a test measures what it is intended to measure” (p. 694). Krathwohl discusses internal validity as linking power and external validity as generalizing power. Krathwohl distinguishes between the two powers “Linking power is the power of a study to link the variables in a causal relationship and ... generalizing power, the power of the study to show generality of the findings” (p. 128).

Campbell and Stanley (1963) break down validity into two types: internal and external. Campbell and Stanley define internal validity as “the basic minimum without which any experiment is uninterpretable: Did in fact the experimental treatments make a difference in this specific experimental instance?” (p. 5). Further they state that internal validity is “the sin qua non” (p. 5), however Shadish, Cook, and Campbell (2002) identify this characterization as applying to experimental research and not all research in general. Campbell and Stanley further describe external validity as “asks the question of generalizability: To what populations, settings, treatment variables, and measurement variables can this effect be generalized?” (p. 5). Campbell and Stanley (1963) provide

eight factors that if not controlled or recognized, pose threats to internal validity and four factors that if not controlled or recognized pose threats to external validity. Each is discussed in the following paragraphs along with the plan used to recognize and cope with each factor and its potential threat.

**Internal Validity.** Campbell and Stanley (1963) identify history, maturation, testing, instrumentation, statistical regression, selection biases, experimental mortality, and selection-maturation interaction as the eight factors posing threats to internal validity. Discussion of each of these factors along with a description of how each variable was attempted to be accounted for as a potential threat are detailed.

**History.** "History, the specific events occurring between the first and second measurement in addition to the experimental variable" (Campbell & Stanley, 1963, p. 5). Since the treatment in this study is unionization, the change in negotiations is from an individual to a representative organization. Although other factors such as changes in school board members, economic fluctuations, and state funding may affect negotiations, the change of interest is in the representation of the teachers. The researcher additionally assumed that each negotiation is handled more or less in the same manner after unionization. The researcher expected negotiations to be handled consistently from year to year at school districts that remain non-unionized. Therefore, the researcher acknowledges that major local, state, or national events may dramatically affect the outcome of contract negotiations; maintaining awareness and sensitivity to the fiscal environment may provide alternative explanations for any perceived differences.

**Maturation.** "Maturation, processes within the respondents operating as a function of the passage of time per se (not specific to the particular events), including

growing older, growing hungrier, growing more tired, and the like” (Campbell & Stanley, 1963, p. 5). The benefit of the ex post facto experiment utilizing historical records removes most of the concern regarding maturation. There is still the need to examine maturation from the standpoint of completeness of historical records. A search of Ohio’s State Employment Relations Board (SERB) online database verified the completeness of information provided by each school district’s superintendent or treasurer. School boards and administrators may have become wary of extended meetings and eventually agreed to terms and conditions not originally considered in order to avoid a strike. This awareness provided an additional critical eye when reviewing the historical data.

**Testing.** Of the possible threats to internal validity, testing provides the least potential for confounding the results. As described in Campbell and Stanley (1963), “Testing, the effects of taking a test upon the scores of a second testing” (p. 5). Since there was no pre or post testing, this variable was not a threat to evaluating non-union or union status.

**Instrumentation.** Continuing the discussion of internal validity, “Instrumentation, in which changes in the calibration of a measuring instrument or changes in the observers or scorers used may produce changes in the obtained measurements” (Campbell & Stanley, 1963, p. 5). The survey instrument utilized in this study was field tested in a pilot study involving a random selection of 25 of Ohio’s joint vocational school districts to determine if the appropriate data would be collected. The pilot study demonstrated that the data collected were usable and appropriate.

The modifications to the survey instrument included the addition of responses related to benefits and annotation of changes to salary and benefits over the previous 5

school years. The survey instrument was reviewed by subject experts. The confirmations of the survey instrument by the experts are located in Appendix B following the survey instrument.

**Statistical Regression.** A relevant threat to internal validity, Campbell and Stanley identify it as: "Statistical regression, operating where groups have been selected on the basis of their extreme scores" (1963, p. 5). This threat to internal validity does not present any adverse effects since scores are not utilized to evaluate the key variable related to salary and benefits. Placement in a group was determined solely based on whether or not unionization occurred.

**Selection Biases.** Participants in a research study selected based on preexisting conditions known to the researcher may jeopardize the results. Campbell and Stanley refer to this as selection biases and explain it as: "Biases resulting in differential selection of respondents for the comparison group" (1963, p. 5). Selection bias presents a threat to this study since the groups analyzed consisted of union schools from inception, non-union schools that changed to union, and non-union schools that remained non-union. Although the ex post facto design allows utilization of the same group as a pre-treatment or no treatment group followed by a post-treatment group, selection bias may be a threat to the validity of this study. Additionally, the participants in this study remained unchanged and other factors that may have influenced the placement of each participant in the post-treatment group were unknown to the researcher.

**Experimental Mortality.** During a study participants may be unable or unwilling to continue their participation--this is an example of experimental mortality. Campbell and Stanley discuss this consequence as: "Experimental mortality or

differential loss of respondents from the comparison group” (1963, p. 5). As stated in the previous paragraph, the participants remained unchanged. Consideration was given to events that could possibly change participants in the study, such as lack of adequate yearly progress as required by No Child Left Behind legislation that could drive a reconstitution of a particular school.

**Selection-maturation Interaction.** Throughout the investigation a researcher may note changes in the sample or population behavior/reactions which may be attributable to an interaction caused by environmental influences that cannot be controlled by the researcher. This ‘aging’ process of the sample is defined by Campbell and Stanley: “Selection-maturation interaction, etc., which in certain of the multiple-group quasi-experimental designs, such as Design 10, is confounded with i.e., might be mistaken for, the effect of the experimental variable” (1963, p. 5). This could prove to be a variable of consequence due to the number of outside influences which may or may not have affected the outcome of unionization. Politically and culturally, schools as social systems usually reflect their communities. Depending on the make-up of communities, unionization may have been welcomed or met with distaste. This important aspect occupied a preeminent position throughout the entire analysis process due to the diverse locales of the career technical/vocational school districts studied.

In sum, four internal validity factors may account for differences that emerge. Awareness of these possibilities provided the researcher with an idea of potential rival explanations which can account for what may appear as the result of the studied treatment when in reality no actual affect occurred. External validity is another area that may produce rival explanations.



**External Validity.** Campbell and Stanley (1963) identify reactive or interactive effect of testing, interaction effects, reactive effects of experimental arrangements, and multiple-treatment interference as factors that may threaten external validity. Shadish, Cook, and Campbell (2002) describe external validity as “to infer the extent to which the effect holds over variations in persons, settings, treatments, or outcome” (p. 22). Since the generalizability may be limited to other vocational or career technical school districts located in similar communities, the researcher did not attempt to expand the conclusions.

### **Sampling Procedure**

This research project was limited to the population of joint vocational school districts offering career technical/vocational programs in the state of Ohio, according to the *Industrial and Engineering Systems Health Careers Directory* (Ohio Department of Education, 2004) and the Ohio Department of Education (ODE, 2010b). The directory lists each district geographically by county along with an address and contact information. Contact with each school’s superintendent/treasurer verified the status of collective bargaining (union) or lack thereof at each district. The researcher conducted a search of the Ohio State Employment Relations Board (SERB) website confirming the initial status of each career technical/vocational school district. In addition, the SERB website maintains an archive of current collective bargaining agreements for all Ohio school districts (SERB, 2010). The researcher accessed these archives to extract data and pre-filled information for each career technical/vocational high school prior to first contact through the survey instrument. The researcher obtained additional information by accessing the NEA/OEA and AFT/OFT websites.

All of the career technical/vocational school districts are public, meaning information involving general operations, employment numbers, teacher pay scale, teacher benefits, and the minutes from past board of education meetings are public records. Information obtained from each district pertained to the entire certified/teaching staff without individual identification and excluded any personal identifiers.

Historical data submitted by each district's superintendent/treasurer provided the basis to calculate salary change as a percent compared to the previous year and benefit change characterized as the board contribution towards insurance premiums for the school years 2004-2009. The change each year in salary or benefit converted to a percentage increase, decrease, or no change based on the previous year's value provided the bases to address whether a significant difference exists between union and non-union school districts.

### **Data Collection Instrument**

The data collection instrument was an electronic survey (Appendix A) developed by the researcher and validated by a jury of experts (Appendix B). The survey instrument was attached to an e-mail with the initial request to complete the instrument sent to each joint vocational school district's superintendent. The superintendent's options included printing the survey and returning it using the postal service or completing the survey electronically and returning it via e-mail. The researcher sent a follow-up e-mail with the survey attached to non-responding districts 2 weeks later. A third contact with non-responding districts was sent 2 weeks after the second contact, but the e-mail with the survey attached was sent to district treasurers.

The survey instrument consisted of 17 items. A sample of the survey instrument is found in Appendix A. The accompanying cover letter is found in Appendix C. The first five items of the survey instrument are descriptive of the school along with a request for the name of an individual with contact information for follow-up. Item 6 requests approximate numbers of staff, item 7 allows respondents to select applicable contract length, and item 8 asks whether or not the school utilizes collective bargaining for contract negotiations with certified/licensed staff and national affiliation of the employee association, if any. Individuals who responded no to whether collective bargaining was present in their schools were directed to skip items 9-13 and continue with item 14. Item 9 requests the beginning year of collective bargaining for the school district. Item 10 asks about employee representation regarding certified/licensed and classified staffs. Current percentage membership of eligible staff along with shop type (agency or open) identified as items 11 and 12 respectively preceded a request for annual membership dues and fair share contribution completing the first page of the survey instrument with item 13.

Respondents in all districts, regardless of union status, continued responding identifying benefits available to staff item 14, item 15 requests starting salary for new teachers with a bachelor's degree and no experience, item 16 requests respondents to mark columns corresponding to no change or reduction in salary and/or percentage increase in salary compared to the previous school year. Finally, item 17 lists the three major benefits: medical, dental, and vision insurances for the previous 5 school years. Respondents provided the percentage contribution for each benefit by the school's board of education and the employee's percentage of contribution for the available benefit.

A follow-up phone call to each superintendent who failed to respond occurred 5 weeks following the initial request for survey instrument completion. Further discussion of respondents and non-respondents is left to later sections in this study. The following sections address the issues of instrument validity and reliability along with the data collection methodology and sampling explanation.

### **Validity and Reliability of Collection Instrument**

According to Leedy and Ormrod (2005), “*validity* of a measurement instrument is the extent to which the instrument measures what it is actually intended to measure” (p. 92). Leedy and Ormrod (2005) also state that “*reliability* of a measurement instrument is the extent to which it yields consistent results when the characteristic being measured hasn’t changed” (p. 93). The instrument created for this study appears to have measured the outcome variable of interest and since it is a nominal variable (Heiman, 2003) categorizing schools as union or non-union, the instrument has validity.

The instrument was used in a pilot study with success demonstrating that the instrument was valid and reliable. The pilot study results identified two types of school districts, union and non-union, along with an indication that a relationship may exist with unionism and salary. The survey instrument received a review by a panel of experts. The concurrence by each panel member is included in Appendix B with a copy of the survey instrument in Appendix A. The completed analysis methodology used to determine the outcome of this research follows.

### **Statistical Analyses**

The data were first analyzed by means of descriptive statistics including location, beginning year of instruction, total enrollment, number of teachers employed, teaching

contract length, and whether the district participates in collective bargaining with a teachers' union/employee's association (See Table 3). Completion of descriptive statistics, led to correlation, and linear regression analyses prior to evaluating results. The details of the completed descriptive, correlation and regression analyses are presented in the following paragraphs.

One variable in this study is based on a nominal scale (Heiman, 2003). The characteristic is either present (union school) or not present (non-union school). This type of outcome variable is also described as a dichotomous variable. There are other predictor variables such as school size, year of beginning instruction, staff size, type of union shop, and location that can interact, which may affect the outcome of the variables of interest, starting salary, salary change as measured in a percentage increase or decrease from the previous year's salary, and benefit changes measured in a percentage change of contribution towards premiums by the board of education. In addition, change in benefit contribution by employees as percentages of their premium costs may also affect the outcome.

The statistical analysis considered whether a relationship exists between the predictor and outcome variables. The existence of a relationship allows a linear regression equation to predict the status of the school district. Completion of correlation analyses identified whether a relationship existed between the outcome and any predictor variables and the direction of this relationship, positive or negative.

Predictor variables that revealed correlations with the outcome variable were analyzed further using standard linear regression to find a model that predicted the outcome. Standard linear regressions completed as defined by Heiman (2003) and

Shandish, Cook, and Campbell, (2002) resulted in equations suitable for predicting the outcome variable.

The predictor variable was salary or school board benefit contribution change compared to the previous year with the outcome variables consisting of union and non-union. These variables were analyzed to evaluate whether collectively they contributed to the outcome variable and if any contributed in a significant way. The data analysis was completed using the Statistical Package for the Social Sciences (SPSS) Version 17.0 software and accomplished by following the directions found in the *SPSS Survival Manual* (Pallant, 2005).

Correlation analyses describe the relative strength and direction of the relationship between two variables. The values for the relationship are found by calculating the Pearson Product-moment correlation coefficient for continuous variables or point-biserial correlation coefficient for a continuous variable and a dichotomous variable. Under this method, the calculation of any of the correlation coefficients yields values from -1 to 1. The values of 1 and -1 are perfect correlations with the positive indicating as one variable increases the other does too. A negative value tells the opposite story that as one variable increases the other decreases for the Pearson correlation coefficient. This is not true for the point-biserial correlation coefficient as discussed in the subsequent paragraphs.

Point-biserial correlation evaluation includes a dichotomous variable; therefore the order selected for calculation determines the sign of the correlation coefficient. The sign does not indicate a negative or positive correlation. The larger the value of the correlation coefficient, ignoring the sign in front of the number that distinguishes the direction, the greater the strength of the correlation (Heiman, 2003; Krathwohl, 2004).

Typically, the values of correlation coefficients fall into the following classifications: 0 to  $\pm 0.20$  very weak and probably negligible;  $\pm 0.20$  to  $\pm 0.40$  moderately strong and more common;  $\pm 0.40$  to  $\pm 0.60$  impressive, strong and less common;  $\pm 0.60$  to  $\pm 0.80$  very strong; and greater than  $\pm 0.80$  extremely strong and very unlikely (Heiman, 2003; Pallant, 2005).

A clear majority of responses was received with 47 out of 49 joint vocational school districts in Ohio replying to the request for information or about 96%. However, the results produced a small number of non-union career technical/vocational school districts, 5 out of 47 respondents, versus a clear majority of union career technical/vocational school districts, 42 of the 47 respondents.

The Ohio SERB website revealed the two non-responding school districts as union, too, increasing the overall number of career technical/vocational school districts in Ohio with unions to 44. Further analyses consisted of determining a regression equation that allows input of the variable to predict the outcome variable.

Regression analysis produces an equation that can predict outcome based on the variable input. Simple linear regression produces a linear equation between two variables. Multiple linear regression produces a linear equation between multiple input variables to predict a single output variable. A correlation coefficient is produced as part of the regression analysis. Typically, a Pearson correlation coefficient is calculated to show the strength of the relationship and the ability of the regression equation to accurately predict the outcome variable. The absolute value of the correlation coefficient identifies the strength of the relationship and provides an indication whether the regression equation can be used to determine the outcome variable (Heiman, 2003;

Krathwohl, 2004). Due to the lack of correlation coefficients showing relationships beyond expected values, discussed in detail in the next chapter, regression analysis for the outcome variable was limited. A change in the outcome variable was made to allow for additional analyses of the data to evaluate whether a correlation exists based on data collected.

### **Additional Analyses**

Additional analysis conducted on the data included standard multiple regression, a methodology to determine the contribution of variables to a model that predicts the outcome. It explains beyond a simple correlation and uncovers the interrelationship between multiple variables (Pallant, 2005; Shandish, Cook, & Campbell, 2002). The model produced by the analysis allows a prediction based on the input value to determine the output. The model also provides information about how the predictor variable explains some of the variance in the outcome variable. Statistical significance identifies results that describe the relationship and are too unlikely to be obtained by chance sampling error (Heiman, 2003; Pallant, 2005).

Further analysis of the data consisted of calculating correlation coefficients between salary and benefits versus distance from a metropolitan area. The distance from each career technical/vocational school district was determined based on the geographic location of the career technical/vocational school district's address and the distance in miles to the geographic location of one of the metropolitan areas in Ohio, Indiana or West Virginia. The analysis was completed using the correlation techniques identified in Shadish, Cook, and Campbell (2002).



Tables 8 and 9 show the distance from each career technical/vocational school district to the closest metropolitan area, the median value for these distances is 35 miles. The median value of distance from metropolitan areas resulted in 24 career technical/vocational school districts below and 23 districts above the median.

Table 8

*Ohio's Joint Vocational School Districts Within the Median Distance of a Metropolitan Area*

School name	City	Metro area	Distance-miles
Belmont-Harrison	Saint Clairsville	Wheeling, WV <sup>a</sup>	11
Butler Tech	Hamilton	Cincinnati	25
Springfield-Clark County	Springfield	Dayton	26
U.S. Grant	Bethel	Cincinnati	35
Cuyahoga Valley	Brecksville	Cleveland	16
Polaris	Middleburg Height	Cleveland	17
Delaware Area Career Center	Delaware	Columbus	28
Eastland-Fairfield Career/Tech	Groveport	Columbus	10
Greene County Career Center	Xenia	Dayton	15
Great Oaks Institute of Technology	Cincinnati	Cincinnati	0
Auburn	Painesville	Cleveland	30
Lorain County	Oberlin	Cleveland	35
Tolles Career & Technical Center	Plain City	Columbus	24
Mahoning County Career/Tech	Canfield	Youngstown	15
Medina County	Medina	Cleveland	33
Upper Valley	Piqua	Dayton	29
Miami Valley Career Tech Center	Clayton	Dayton	19
Maplewood Career Center	Ravenna	Youngstown	34
Stark County	Massillon	Akron	25
Portage Lakes	Green	Akron	11
Trumbull Career & Tech Center	Warren	Youngstown	16
Warren County	Lebanon	Dayton	27
Wayne County	Smithville	Akron	28
Penta	Perrysburg	Toledo	11

<sup>a</sup> Located in eastern Ohio, closest metropolitan area is in West Virginia.

The metropolitan areas identified were Akron, Cleveland, Columbus, Cincinnati, Dayton, Toledo, and Youngstown, Ohio; Wheeling and Charleston, West Virginia; and Fort Wayne, Indiana. The criterion variable was distance in miles from the career technical/vocational school district's address to the geographic location of the metropolitan area.

Table 9

*Ohio's Joint Vocational School Districts Outside the Median Distance of a Metropolitan Area*

School name	City	Metro area	Distance-miles
Apollo	Lima	Dayton	74
Ashland County-West Holmes	Ashland	Akron	50
Ashtabula County	Jefferson	Cleveland	59
Tri-County Career Center	Nelsonville	Columbus	61
Southern Hills	Georgetown	Cincinnati	47
Coshocton County	Coshocton	Columbus	77
EHOVE	Milan	Cleveland	58
Gallia-Jackson-Vinton	Rio Grande	Charleston, WV <sup>a</sup>	71
Four County	Archbold	Toledo	54
Knox County Career Center	Mount Vernon	Columbus	53
Lawrence County	Chesapeake	Charleston, WV <sup>a</sup>	57
C-TEC	Newark	Columbus	42
Ohio Hi-Point	Bellefontaine	Dayton	56
Tri-Rivers	Marion	Columbus	50
Mid-East Career & Tech Centers	Zanesville	Columbus	55
Pike County Area	Piketon	Columbus	68
Pioneer Career & Technology	Shelby	Akron	73
Pickaway-Ross	Chillicothe	Columbus	47
Vanguard-Sentinel	Fremont	Toledo	40
Scioto County Career Tech Center	Lucasville	Cincinnati	92
Buckeye	New Philadelphia	Akron	50
Vantage	Van Wert	Fort Wayne, IN <sup>b</sup>	42
Washington County	Marietta	Charleston, WV <sup>a</sup>	89

<sup>a</sup> Located in eastern Ohio, closest metropolitan area is in West Virginia.

<sup>b</sup> Located in north western Ohio, closest metropolitan area is in Indiana.

According to the U. S. Census Bureau (2010b) the average commute time for all workers in Ohio for calendar year 2008 was 23 minutes. Considering traffic congestion associated with metropolitan areas an acceptable commute may approach three-quarters to one full hour drive time.

### Summary

Approval from the University of Dayton's Committee for the Protection of Human Subjects (see Appendix D) confirms that no collection or use of personal data was required for the successful completion of this investigation.

The initial analyses of the data revealed two variables with possible significance. The lack of power due to small sample size in the non-union category may have

confounded the results by decreasing the chance of rejecting the null hypotheses.

Discussion of the details of the apparent significant findings and conclusions is presented in the next chapter. The researcher noted an apparent disparity during the initial analyses that was not explained by the outcome variable. This recognition served as the basis for additional analyses of the data. A description of the additional analyses conducted on the data follows in the subsequent paragraphs.

Following the determination of mileage, the researcher completed correlations to evaluate whether any of the variables predicted distance from a particular district to a metropolitan area or a rural location. The hypothesis is higher paying career technical/vocational districts with better benefits are located near metropolitan areas. This may be due to the competitive nature of obtaining and retaining highly qualified teachers at a district when rival comprehensive/city districts are located within a reasonable geographic area conducive to commuting.

Following the outcome of the correlation data analysis, regression analysis was performed on variables identified with a correlation coefficient indicating a relationship with significance existed. Details of the results from all the analyses follow the summary and descriptive statistic discussion in the next chapter.

## **Chapter IV**

### **Report of Findings**

#### **Introduction**

This study compared salaries and benefits at Ohio's unionized career technical/vocational high school districts versus non-union career technical/vocational high school districts to determine if a significant difference exists on these measures.

Specifically, this study sought to answer the following questions:

1. What portion of Ohio's career technical/joint vocational high school districts are union and non-union?
2. Are starting salaries at union career technical/vocational high school districts in Ohio significantly higher than in non-union career technical/vocational high school districts?
3. Have union career technical/vocational high school districts' salaries in Ohio significantly outpaced non-union career technical/vocational high school districts' salaries when looking at percentage change from previous year-to-current year over the past 5 school years?

4. Is there a substantial difference in benefits offered at union career technical/vocational high school districts in Ohio when compared to non-union career technical/vocational high school districts?
5. Do union career technical/vocational high school boards of education in Ohio contribute a greater portion of benefit costs when compared to non-union career technical/vocational school boards?
6. Can another factor be attributed to a difference in salary and benefits in Ohio's career technical/vocational school districts when considering the entire population?

This chapter is divided into five sections summarizing the results of the statistical analyses used to test the hypothesis and to answer the questions identified above. The results are based on data collected from 47 of the 49 Ohio career technical/vocational high school districts.

The data analyses were completed using SPSS Version 17 software (SPSS, n.d.). The simple linear regression provided results that included correlation coefficients and a regression model. The first section presents the results of the descriptive statistical analyses and the answer to the first question. The second section summarizes and discusses the predictor variables used to test the hypothesis. The third section presents the results of the correlation and regression analyses and the bases for answers to questions 2-5. The fourth section presents the additional analyses completed based on the previous results and to evaluate whether a plausible answer exists to question 6. The final section is a summary of all results, assessment of the null hypotheses, and answers to the research questions highlighting key observations. The answers to all of these

questions provide the bases to determine whether significant differences can be attributed to the status of union versus non-union in Ohio.

### **Results of Descriptive Statistical Analysis**

Tables 1 and 2 present basic information such as county, school name, and address for each of Ohio's career technical/vocational high school districts. Table 10 provides a summary of the descriptive statistics' averages for years of operations, current enrollment, and contract length.

The first career technical/vocational district began in 1957 with the 49<sup>th</sup> and final district beginning instruction in 1978 resulting in an average of 37 years of operation. The enrollment number considers only high school students at each district. Teacher contract length is limited by the Ohio Revised Code (ORC 4117, 2002) to 3 years for the original contract expiration. The ORC does permit renewal/extension without limit providing both parties agree to the terms and conditions. The last item in Table 10 provides the breakout by category from the 47 responding career technical/vocational high school districts.

Table 10

#### *Summary of Descriptive Statistics*

Item	Result <sup>a</sup>
Average years of instruction	37 years
Average enrollment	1,040
Average employment contract length	3 years
Collective bargaining	42 yes 5 no

<sup>a</sup> Numbers/averages based on 47 respondents

A clear majority of respondents, 47 out of 49 (96%) joint vocational school districts in Ohio, replied to the request for information. The descriptive statistics reported

in Table 10 are calculated from the 47 respondents. The results shown in Table 10 report preponderance toward union career technical/vocational high school districts, 42 or 89%, versus a small number of non-union career technical/vocational high school districts, 5 or approximately 11% based on 47 respondents. A search of the Ohio State Employment Relations Board (SERB) website revealed that the two non-responding school districts were also unionized. This information increases the overall number of career technical/vocational school districts in Ohio with unions to 44 out of 49 or approximately 90%. The following descriptions are based on the 42 union career technical/vocational high school district respondents and the 5 non-union career technical/vocational high school district respondents.

Ohio's career technical/vocational school districts first opened in 1957 when the legislature established guidelines and provided funding for a pilot program to begin offering vocational education to Ohio's high school students. From this early beginning, the majority 30 school districts or 64%, of Ohio's union career technical/vocational high school districts started operations in the late 1960s to early 1970s with the remainder beginning instruction by the late 1970s. There are now 49 career technical/vocational education districts since 1978.

Enrollment at Ohio's union career technical/vocational school districts range from a low of 251 high school students to a high of approximately 3,300 students with an average of 979 students attending single or multiple campuses. As shown in Table 11, unionization of all these districts did not occur during the same timeframe. A limited number, 9 of 42 (21%) career technical/vocational school districts, were unionized the year initial instruction began in these schools. As revealed in Table 11, the remainder

changed from non-union to union at some point after the first year with the last district forming a union in 1999. None of the districts have changed from union back to non-union.

Table 11

*Summary of Union Descriptive Statistics*

Item	Result
National affiliation (if applicable)	35 NEA 6 AFT 1 Other <sup>a</sup>
Year collective bargaining began	Earliest 1968 <sup>a</sup> Most recent 1999 <sup>a</sup>
Average percentage of certified members	95% at union districts <sup>a</sup>
Type of union/association	5 non-union districts <sup>b</sup> 14 open shop districts <sup>a</sup> 28 agency/fair share districts <sup>a</sup>
Annual membership dues	Low \$348.60-high \$800 annually <sup>a</sup>
Agency fee (fair share)	Low \$112.99-high \$713.50 annually <sup>a</sup>

<sup>a</sup> Numbers/averages based on 42 union respondents

<sup>b</sup> Based on 47 respondents

Continuing with descriptive statistics associated with union districts, considering national affiliation and union organizations at Ohio's career technical/vocational high school districts the vast majority, 35 of 42 districts or 83%, identify the National Education Association (NEA) as their affiliate with 6 of 42 districts or 14% associated with the American Federation of Teachers (AFT) and 1 district or less than 3% not affiliated with a national organization.

Ohio's 42 union career technical/vocational school districts average 95% membership of eligible certified staff, with a reported range from a low of 61% to a high of 100% of teachers as full members. The type of union is split with 28 of 42 or 67% reporting as agency shops requiring fair share payment and 14 of 42 or 33% reporting as



open shops. The districts providing information regarding annual membership fees and fair share fees report that 9 of 28 districts or 33% report annual membership dues and fair share fees as the same amount. This result is discussed further in Chapter V. The remainder of the agency/fair share districts reported values for fair share dues less than membership dues, two districts by a substantial amount, less than half, and 13 districts with only a small difference of \$50 or less annually.

All of Ohio's union career technical/vocational high school districts offer medical insurance to their teachers. Dental insurance at union career technical/vocational districts is available at 41 of the 42 or 98%. As far as vision insurance, 32 of the 42 or 76% of union career technical/vocational high school districts make it available to their teachers. The following paragraphs review non-union descriptive statistic results.

One of Ohio's five non-union career technical/vocational high school districts was the first career technical/vocational school district with operations beginning in 1957. This district has offered career technical/vocational education for over 53 years without unionization. The other four non-union career technical/vocational high school districts began instruction in the early 1970s.

Enrollment at Ohio's non-union career technical/vocational high school districts averages 1,541 students with a range of 319 to 3,200 students. Although the average enrollment appears to present a notable difference, the sample size for non-union school districts is so small that it tends to skew the average value when compared to the much larger union sample size. As stated earlier, the ORC restricts initial contract length, but allows for extensions and renewals. All five non-union career technical/vocational high school districts offer medical insurance with four districts offering dental insurance and

only one district offering vision insurance to its teachers. Discussion of the predictor variable results for union and non-union career technical/vocational high school districts follows in the next section.

### **Summary of Predictor Variables**

Table 12 presents a summary of the data collected from the 47 responding Ohio career technical/vocational high school districts related to starting salary. The number of union career technical/vocational high school districts is 42 of 47 or 89% and non-union is 5 of 47 or 11%. The values presented in Table 12 represent averages for each group, union and non-union.

Looking at the most recent starting salaries, union school districts range from \$28,723 to \$40,265 with an average as shown in Table 12. Non-union school district starting salaries range from \$33,278 to \$37,218 with an average as shown in Table 12. There is a difference, an average of \$763 more per year paid by non-union school districts, identification of significance follows in the *Results of Correlation and Regression Analyses* section. This difference accounts for approximately 2.4% of the average starting salaries. Comparing other years yields similar results since salary changes are based on previous year's value.

Table 12

*Summary of Variables-Starting Salary*

Variable name	Results	
	Union <sup>a</sup>	Non-union <sup>b</sup>
Starting salary bachelor's only no experience 2008-2009	\$33,766	\$34,575
Starting salary bachelor's only no experience 2007-2008	\$32,806	\$33,641
Starting salary bachelor's only no experience 2006-2007	\$31,869	\$32,629
Starting salary bachelor's only no experience 2005-2006	\$30,903	\$31,637
Starting salary bachelor's only no experience 2004-2005	\$29,955	\$30,632

<sup>a</sup> Averages based on 42 union respondents

<sup>b</sup> Averages based on 5 non-union respondents

Continuing to examine salary as a percentage change from year to year, as reported in Table 13, both groups tended to average the same amount of increase. There is one year where a percentage difference does exist, 2005-2006, and may indicate a significant difference; overall each group did not outpace the other when looking at salary changes for the other 4 school years. A discussion of significance and its possible implications follow in the *Results of Correlation and Regression Analyses* section. Individual school district percentage change values were used to calculate an average. Ranges are reported instead of a single value for all the district values. Using ranges allowed comparison across the districts. The union group consisted of 42 school districts; the average for the 2005-2006 school year fell just below the next level of 3-4% and the non-union group with only five school districts averaged just above 3%.

Table 13

*Summary of Variables-Salary Change*

Variable name	Results	
	Union <sup>a</sup>	Non-union <sup>b</sup>
Salary change 2008-2009	2-3%	2-3%
Salary change 2007-2008	2-3%	2-3%
Salary change 2006-2007	2-3%	2-3%
Salary change 2005-2006	2-3%	3-4%
Salary change 2004-2005	3-4%	3-4%

<sup>a</sup> Averages based on 42 union respondents

<sup>b</sup> Averages based on 5 non-union respondents

As noted, all of Ohio's career technical/vocational high school districts provide medical insurance. The researcher did not look at individual policies for districts to provide detailed information about options, deductibles, co-pays, or prescription benefits since the multitude of policies available to school boards varies by provider. Instead, only the contribution of the board of education to cover medical insurance premiums was compared between districts as far as union versus non-union. This narrowing of the benefit is substantiated by the ORC requirement that all school boards must meet when providing medical insurance for their employees (ORC § 9.901, 2002).

Table 14 reveals that boards in districts where teachers are unionized pay, on average, a larger contribution of the medical insurance premiums for the 4 most recent school years. The union school districts' boards of education paid an average of 4.1% more of the medical premiums for those 4 school years when compared to non-union school board premium contributions. Conversely, the contribution by non-union school boards exceeded that of the union school boards by .7% on average for the 2004-2005

school year. These differences may produce a relationship. Discussions of the correlations and whether significance occurred are presented in the next section.

Table 14

*Summary of Variables-Board Medical Premium Contribution*

Variable name	Results	
	Union <sup>a</sup>	Non-union <sup>b</sup>
Medical premiums 2008-2009	88.5%	82.6%
Medical premiums 2007-2008	88.5%	83.8%
Medical premiums 2006-2007	88.5%	85.0%
Medical premiums 2005-2006	89.5%	87.2%
Medical premiums 2004-2005	86.5%	87.2%

<sup>a</sup> Averages based on 42 union respondents

<sup>b</sup> Averages based on 5 non-union respondents

Continuing with benefits and considering dental insurance, 40 of 42 districts or 95% provided teachers with this option with 5% or 2 union districts not offering it at all. Similarly, 4 of the 5 non-union districts offer dental insurance. Table 15 reveals that for those districts offering dental insurance, board contributions toward insurance premiums appear different between the two groups. The discussions of significance are left for the *Results of Correlation and Regression Analyses* section.

Table 15

*Summary of Variables-Board Dental Premium Contribution*

Variable name	Results	
	Union <sup>a</sup>	Non-union <sup>b</sup>
Dental premiums 2008-2009	95.0%	74.3%
Dental premiums 2007-2008	95.0%	74.3%
Dental premiums 2006-2007	95.0%	74.3%
Dental premiums 2005-2006	95.4%	75.3%
Dental premiums 2004-2005	95.6%	76.3%

<sup>a</sup> Averages based on 42 union respondents

<sup>b</sup> Averages based on 5 non-union respondents

The final benefit considered is vision insurance. This benefit is provided by 32 of 42 or 76% of union school districts while only one non-union district makes this benefit available to its teachers. As to vision insurance premiums for union districts, 22 of the 32 or 69% report the board contribution of 100%. This is also true of the single non-union school district that offers vision insurance. The remainder of the union school districts', 7 of 32 or 22%, school boards pay from 85% up to 95% of the premium with three school districts collecting a flat rate payment from the teacher with the school board paying the residual amount. Data provided by respondents did not include actual percentages or dollar amounts required by teacher contribution towards flat rate payments. Results of vision premiums and a correlation with an indication of union status are reported and presented in the next section.

### **Results of Correlation and Regression Analyses**

Correlation and regression analyses addressed whether a relationship existed between starting salary, annual salary changes, and benefits offered when comparing union versus non-union career technical/vocational high school districts in Ohio. This

section presents the results of these analyses in the following order: correlations for starting salary, annual salary change, percentage of medical premiums paid by the school board, percentage of dental insurance premiums paid by the school board, and percentage of vision insurance premiums paid by the school board for those union and non-union districts.

As discussed earlier, the values of -1 and +1 are perfect correlations. Point-biserial coefficients identify which outcome is related based on assignment and input. For this study, a positive value for the point-biserial coefficient indicates union and a negative value non-union. Typically, absolute values of correlation coefficients fall into the following classifications: 0 to .20 very weak and probably negligible; .20 to .40 moderately strong and more common; .40 to .60 impressive, strong and less common; .60 to .80 very strong; and greater than .80 extremely strong and very unlikely (Heiman, 2003; Pallant, 2005). Tables 16 through 20 summarize the calculation of the point-biserial correlation coefficients with union status as the dichotomous variable as described by Heiman (2003).

Table 16

*Point-Biserial Correlation Coefficient Values for Starting Salary and Union Status*

Predictor variable	Correlation coefficient value
Starting Salary 2008-2009	.026
Starting Salary 2007-2008	.019
Starting Salary 2006-2007	.001
Starting Salary 2005-2006	-.347*
Starting Salary 2004-2005	.003

\* $p < .05$

Table 17

*Point-Biserial Correlation Coefficient Values for Salary Change and Union Status*

Predictor variable	Correlation coefficient value <sup>a</sup>
Salary Change 2008-2009	.092
Salary Change 2007-2008	.099
Salary Change 2006-2007	.096
Salary Change 2005-2006	.095
Salary Change 2004-2005	.092

<sup>a</sup> No correlation values were statistically significant.

Table 18

*Point-Biserial Correlation Coefficient Values for Board Medical Premium Contribution and Union Status*

Predictor variable	Correlation coefficient value <sup>a</sup>
Board medical premium contribution 2008-2009	.262
Board medical premium contribution 2007-2008	.202
Board medical premium contribution 2006-2007	.151
Board medical premium contribution 2005-2006	.099
Board medical premium contribution 2004-2005	.029

<sup>a</sup> No correlation values were statistically significant.

Table 16 presents a correlation coefficient for the predictor variable, starting salary 2005-2006 that falls in the moderately strong range with the negative value associating it with non-union status. The asterisk indicates the possibility of a significant relationship and the rejection of the null hypotheses for  $p < .05$  for this predictor variable. As revealed by a lack of asterisks in Table 17, none of these predictor variables produced correlation coefficient values with the possibility of more than a very weak or negligible correlation. Further discussion is left for Chapter V.



Table 19

*Point-Biserial Correlation Coefficient Values for Board Dental Premium Contribution and Union Status*

Predictor variable	Correlation coefficient value <sup>a</sup>
Board dental premium contribution 2008-2009	.135
Board dental premium contribution 2007-2008	.138
Board dental premium contribution 2006-2007	.125
Board dental premium contribution 2005-2006	.101
Board dental premium contribution 2004-2005	.104

<sup>a</sup> No correlation values were statistically significant.

Table 20

*Point-Biserial Correlation Coefficient Values for Board Vision Premium Contribution and Union Status*

Predictor variable	Correlation coefficient value <sup>a</sup>
Board vision premium contribution 2008-2009	.373
Board vision premium contribution 2007-2008	.350
Board vision premium contribution 2006-2007	.350
Board vision premium contribution 2005-2006	.329
Board vision premium contribution 2004-2005	.350

<sup>a</sup> No correlation values were statistically significant.

Continuing with coefficient values, Tables 18 and 19 present the values for medical and dental premium contributions. These correlation coefficients fall into the very weak or negligible to moderately strong range. These values are considered common and did not result in statistical significance.

Table 20 shows moderately strong relationships for all the predictor variables related to vision insurance premiums. These values show a stronger relationship than the

other calculated coefficients for medical and dental premiums. These values did not fall into the statistically significant category. This may be explained by considering the fact that only one non-union district offers vision insurance, so a correlation to union schools is an expected result.

Although the overall sample size is adequate at 47 out of 49 respondents, the disparity exists in the number of school districts in each group. The analyses based on union status did not provide any correlation coefficient values showing strong or very strong relationships with statistical significance, the researcher further analyzed the data based on observations during the initial analyses.

Detailed discussions of the conclusions based on these analyses appear in Chapter V. Previously discussed in Chapter III, starting salary required further analyses to evaluate whether correlation and regression analyses would produce a predictable outcome. The results of these additional analyses reported in the next section show some degree of relationship.

### **Results of Additional Analyses**

The data were analyzed to review whether a correlation existed between salary and benefits in relation to distance from the career technical/vocational school district to a metropolitan area. The distance from each career technical/vocational school district was determined based on the geographic location of the career technical/vocational school district's address and the distance in miles to the geographic location of one of the metropolitan areas in Ohio, West Virginia, or Indiana. The completed analysis utilized the correlation techniques identified in Heiman (2003). The metropolitan areas identified

were Akron, Cleveland, Columbus, Cincinnati, Dayton, Toledo, and Youngstown, Ohio; Wheeling and Charleston, West Virginia; and Fort Wayne, Indiana.

The variables analyzed were starting salary, salary change, medical, dental, and vision insurance premiums paid by the school boards versus distance in miles from the career technical/vocational school district's address to the geographic location of the metropolitan area.

The hypothesis is that higher paying career technical/vocational districts with better benefits are located near metropolitan areas. This could be due to the competitive nature of obtaining and retaining highly qualified teachers when rival comprehensive/city districts are located within reasonable geographic areas conducive to commuting.

Following the outcome of the correlation data analysis for the predictor variables and outcome variable, those variables showing a moderate to strong relationship were analyzed further by performing simple linear regression. The results of these analyses follow.

Point-biserial correlation coefficients were not calculated for the predictor variables compared to the distance from career technical/vocational school districts to a metropolitan area. Point-biserial correlation coefficients require one dichotomous variable for segregation. Since the outcome variable, distance, is continuous, it did not meet the requirement of dichotomy. Point-biserial is not applicable for these predictor variables due to the continuous range of distances to metropolitan areas used to evaluate the data (Heiman, 2003).

The Pearson correlation coefficients for starting salary versus distance to a metropolitan area as calculated by SPSS fall in the  $\pm.40$  to  $\pm.60$  and  $\pm.60$  to  $\pm.80$

classification, clearly demonstrating a strong impressive to very strong relationship with significance as shown in Table 21. These values led to regression analysis for starting salary. The salary change correlation coefficient values fell into the 0 to  $\pm.20$  and  $\pm.20$  to  $\pm.40$  category, which are weak or common with two indicating significance and the other three did not warrant further analysis as revealed in Table 22.

Table 21

*Pearson Correlation Coefficient Values for Starting Salary and Distance to Metropolitan Area*

Predictor variable	Correlation coefficient value
Starting salary 2008-2009	-.606***
Starting salary 2007-2008	-.592***
Starting salary 2006-2007	-.575***
Starting salary 2005-2006	-.567***
Starting salary 2004-2005	-.552***

\*\*\* $p < .001$

Table 22

*Pearson Correlation Coefficient Values for Salary Change and Distance to Metropolitan Area*

Predictor variable	Correlation coefficient value
Salary change 2008-2009	-.247*
Salary change 2007-2008	-.263*
Salary change 2006-2007	-.019
Salary change 2005-2006	-.158
Salary change 2004-2005	-.114

\* $p < .05$

Linear regression evaluated whether starting salary over the previous 5 school years predicts proximity to a metropolitan area in Ohio, West Virginia, or Indiana. Preliminary analysis confirmed no violation of the assumptions for regression analyses were present. An exception here is the multi-collinearity of the predictor variables. Since the prior year starting salary is the basis for the following year's new starting salary when calculated after the school board approves the salary change as a percentage, the researcher correctly predicted this outcome may be detected by the statistical software. This does not impact the overall results or the predictability of the variable to produce the outcome. The total variance explained by the model was 35.4%,  $F(5, 46) = 6.046, p < .001$ .

Pearson correlation coefficients for board of education contributions toward medical premiums and vision premiums resulted in values that do not lead to further investigation as presented in Tables 23 and 25. These values fall within the very weak and probably negligible range, 0 to  $\pm .20$ .

Table 23

*Pearson Correlation Coefficient Values for Board Medical Premiums and Distance to Metropolitan Area*

Predictor variable	Correlation coefficient value <sup>a</sup>
Board medical premium contribution 2008-2009	-.040
Board medical premium contribution 2007-2008	-.052
Board medical premium contribution 2006-2007	-.012
Board medical premium contribution 2005-2006	.011
Board medical premium contribution 2004-2005	.060

<sup>a</sup> No correlation values were statistically significant.

Although board of education contributions toward dental insurance premiums show some correlation in the moderately strong category,  $\pm .20$  to  $\pm .40$ , with one predictor variable indicating significance (see Table 24) the starting salary coefficients are at least double those values found for dental insurance premiums. Also in the moderately strong category with two indicating significance are the most recent salary change coefficient values. Interestingly, all these values are negative indicating the closer the proximity the higher the starting salary, higher the salary increase, and higher board contributions toward dental insurance premiums. The strong impressive to very strong relationship exhibited by the Pearson correlation coefficients for starting salary along with the significance level compelled the researcher to investigate further. This is additional analysis, not originally planned; the researcher selected only the variable with statistical significance appearing in all five predictor variables for further investigation using regression analysis.

Table 24

*Pearson Correlation Coefficient Values for Board Dental Premiums and Distance to Metropolitan Area*

Predictor variable	Correlation Coefficient value
Board dental premium contribution 2008-2009	-.295*
Board dental premium contribution 2007-2008	-.241
Board dental premium contribution 2006-2007	-.221
Board dental premium contribution 2005-2006	-.226
Board dental premium contribution 2004-2005	-.229

\* $p < .05$

The data analyses provided answers for the research questions stated at the beginning of this chapter. The next section provides a summary of these results.

Table 25

*Pearson Correlation Coefficient Values for Board Vision Premiums and Distance to Metropolitan Area*

Predictor variable	Correlation coefficient value <sup>a</sup>
Board vision premium contribution 2008-2009	-.192
Board vision premium contribution 2007-2008	-.137
Board vision premium contribution 2006-2007	-.116
Board vision premium contribution 2005-2006	-.137
Board vision premium contribution 2004-2005	-.137

<sup>a</sup> No correlation values were statistically significant.

### **Summary of Results and Findings**

The null hypotheses for each factor while considering union status were:

- H<sub>0</sub> 1 There is no significant difference between the mean starting salary for first year teachers in union versus non-union career technical/vocational high school districts in Ohio.
- H<sub>0</sub> 2 There is no significant difference between the annual salary change mean percentage for teachers in union versus non-union career technical/vocational high school districts in Ohio.
- H<sub>0</sub> 3 There is no significant difference between the mean percentage contributed by boards of education towards medical insurance premiums for teachers in union versus non-union career technical/vocational high school districts in Ohio.
- H<sub>0</sub> 4 There is no significant difference between the mean percentage contributed by boards of education towards dental insurance premiums for

teachers in union versus non-union career technical/vocational high school districts in Ohio.

- H<sub>0</sub> 5 There is no significant difference between the mean percentage contributed by boards of education towards vision insurance premiums for teachers in union versus non-union career technical/vocational high school districts in Ohio.

The regression analyses along with the calculated correlation coefficients resulted in one predictor variable out of five in that category with significance between union and non-union career technical/vocational school districts in Ohio when considering board of education contribution for medical premiums. The remaining predictor variables' correlation results did not reveal any significant differences when considering union and non-union districts. In addition the predictor variable for medical premiums did not provide a strong or moderately strong correlation coefficient, occurred 3 years earlier, and did not continue to reveal a relationship in subsequent years. These conditions result in reducing the interpretable result as strictly related to union status. Conclusions based on these findings are left for Chapter V.

The null hypotheses for each factor while considering distance to a metropolitan area were:

- H<sub>0</sub> 1 There is no significant difference between the mean starting salary for first year teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.



- H<sub>0</sub> 2 There is no significant difference between the annual salary change mean percentage for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 3 There is no significant difference between the mean percentage contributed by boards of education towards medical insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 4 There is no significant difference between the mean percentage contributed by boards of education towards dental insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 5 There is no significant difference between the mean percentage contributed by boards of education towards vision insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.

The additional analyses resulted in rejecting H<sub>0</sub> 1, H<sub>0</sub> 2, and H<sub>0</sub> 4, while failing to reject the other two null hypotheses when considering distance from a metropolitan area. Further discussions based on the results of all analyses conducted on the data collected are presented in Chapter V.

The answers to the research questions are summarized in Table 26. A clear majority of career technical/vocational school districts in Ohio are unionized. The average starting salary along with average annual salary changes are consistent across all

districts regardless of union status. These results do not support the notion that unionized teachers fare better than non-union teachers when considering salary and benefits.

However, the small number of non-union career technical/vocational school districts in Ohio reduces the statistical power of this study leading to inconclusive findings.

Table 26

*Research Questions Summary*

Research question	Results
1. What portion of Ohio's career technical/joint vocational high school districts are union and non-union?	Union: 42 of 47 or 89% Non-union: 5 of 42 or 11%
2. Are starting salaries at union career technical/vocational high school districts significantly different than at non-union career technical/vocational school districts?	No Union average: \$33,766 Non-union average: \$34,575
3. Have union career technical/vocational high school districts' salaries significantly outpaced non-union career technical/vocational high school districts' salaries when looking at percentage change from year-to-year?	No Union: 2-3% on average $N = 42$ Non-union: 2-3% on average $N = 5$
4. Is there a substantial difference in benefits offered at union career technical/vocational high school districts when compared to non-union career technical/ vocational high school districts?	Medical-all provide $N = 47$ Union: Dental 41 of 42 or 98% Vision 32 of 42 or 76% Non-union: Dental 4 of 5 or 80% Vision 1 of 5 or 20%
5. Do union career technical/vocational high school boards of education contribute a greater portion of benefit costs when compared to non-union career technical/vocational high schools?	Inconclusive, some differences noted. $N = 47$ $p < .05$
6. Can another factor be attributed to a difference in salary and benefits at Ohio's career technical/joint vocational school districts while considering the entire population?	Possible, preliminary additional analyses indicate another factor may explain some differences. $p < .05$

All career technical/vocational school districts offer their teachers medical insurance. School boards must meet Ohio Revised Code requirements for minimum medical insurance coverage; therefore, the assumption that the school boards provide a similar benefit is substantiated. District medical insurance policies with specific details regarding co-pays, coverage, pharmaceuticals, hospital stay, in-patient and out-patient care were not analyzed as part of this study. The analysis of medical insurance was limited to the board of education's contribution towards medical insurance premiums. Not all boards provide dental and vision insurance coverage. Due to the low number of non-union schools, the data analyses were inconclusive to definitively answer the research questions and reject or accept the null hypotheses.

The answer to the first question provided part of the basis for the researcher to realize that the original research hypothesis could not be properly evaluated due to the low number of non-union career technical/vocational high school districts. With an  $N = 5$  for the non-union portion of the sample the ability to address whether a significant difference exists between the two is difficult to substantiate. The lack of statistical power may explain the retention of the majority of null hypotheses related to union status. This led to further exploration of the data to evaluate whether another factor predicts the difference in salary and benefits. Preliminary analyses indicate another factor that may explain differences in some factors. Chapter V provides a detailed discussion of the conclusions based on all the data analyses as well as suggestions for further research and recommendations.

## **Chapter V**

### **Summary, Conclusions, and Recommendations**

#### **Introduction**

This chapter consists of three sections. The first section is a summary of all results from the analyses of the collected data from the 47 responding career technical/vocational school districts in Ohio. The second section presents the conclusions arrived at by the researcher based on the results of the analyses. The final section identifies areas for further study related to this study as well as areas that may warrant investigation based on some of the data collected in connection with this study.

#### **Summary**

The purpose of this study was to evaluate the financial advantage of being or becoming a union member at a career technical/vocational high school in Ohio. The research question was "Do union members at Ohio's career technical/vocational high school districts receive higher salaries and better benefits when compared to teachers of career technical/vocational high school districts that are non-union?"

In order to answer the research question, data collection consisted of an electronic survey sent via e-mail to Ohio's 49 career technical/vocational school district superintendents and/or treasurers. The collected data were analyzed for descriptive statistics, correlational relationships, and regression analysis based on union status of each district. Each of these analyses provided part of the overall answer to the research question.

The response rate was excellent with 47 out of 49 (96%) school districts providing data. However, the separation by union status resulted in 42 of 47 (89%) identified as union school districts and 5 of 47 (11%) as non-union. Since the researcher did not foresee this result, it created difficulty in correctly evaluating the null hypotheses. The difficulty may be due primarily to the lack of statistical power. This shortcoming in statistical power is attributable to the small sample size representing the non-union group of school districts. Statistical power is the probability that a statistical test will reveal a true relationship when one exists. One factor that increases power is sample size (Heiman, 2003; Pallant, 2005). The lack of statistical power may be a plausible explanation why the majority of null hypotheses failed to be rejected. Although the overall sample size is adequate at 47 out of 49 respondents, the disparity exists in the number of school districts in each group. Further discussion is left for the conclusions section.

In order to arrive at a systematic answer to the research question, the study evaluated the following five null hypotheses:

- H<sub>0</sub> 1 There is no significant difference between the mean starting salary for first year teachers in union versus non-union career technical/vocational high school districts in Ohio.
- H<sub>0</sub> 2 There is no significant difference between the annual salary change mean percentage for teachers in union versus non-union career technical/vocational high school districts in Ohio.
- H<sub>0</sub> 3 There is no significant difference between the mean percentage contributed by boards of education towards medical insurance premiums

for teachers in union versus non-union career technical/vocational high school districts in Ohio.

H<sub>0</sub> 4 There is no significant difference between the mean percentage contributed by boards of education towards dental insurance premiums for teachers in union versus non-union career technical/vocational high school districts in Ohio.

H<sub>0</sub> 5 There is no significant difference between the mean percentage contributed by boards of education towards vision insurance premiums for teachers in union versus non-union career technical/vocational high school districts in Ohio.

The researcher failed to reject the null hypotheses even though the analyses supported rejection of H<sub>0</sub> 3 for one predictor variable out of five predictor variables. The retention of H<sub>0</sub> 3 is based on the lack of sustained differences in subsequent years that would support the factor as attributable to union status. During the initial analyses this outcome was correctly predicted. No insight was gained when considering this predictor variable. Furthermore, the researcher discovered a disparity in starting salaries based on the wide range \$28,723 to \$40,265 for all career technical/vocational school districts in Ohio. The researcher thus performed further analyses to investigate this anomaly.

The additional analyses that the researcher conducted on starting salary consisted of correlation and regression analyses. A change in the outcome variable from union status to distance from a metropolitan area was utilized. This change in the outcome variable resulted in a sample size that reduced the lack of statistical power that may have affected the initial analyses. The distance from each career technical/ vocational school

district to a metropolitan area was determined based on the geographic location of the career technical/vocational school district's address and the distance in miles to the geographic location of one of the metropolitan areas in Ohio, Indiana, or West Virginia. The analyses were completed using the correlation techniques identified in Shadish, Cook, and Campbell (2002). The metropolitan areas identified were Akron, Cleveland, Columbus, Cincinnati, Dayton, Toledo, and Youngstown, Ohio; Wheeling and Charleston, West Virginia; and Fort Wayne, Indiana.

According to the U. S. Census Bureau (2010b), the average commute time for all workers in Ohio for calendar year 2008 was 23 minutes. Considering traffic congestion associated with metropolitan areas an acceptable commute could potentially approach three-quarters to one full hour drive time. Previously in Tables 8 and 9, the distance of each career technical/vocational school district to the closest metropolitan area is presented; the median value for these distances is 35 miles. The median value of distance from metropolitan areas resulted in 24 career technical/vocational school districts falling below the median value and 23 districts falling above the median distance from a metropolitan area.

Following this determination of distance from each career technical/vocational school district to a metropolitan area, correlations were run to evaluate whether any of the variables related or predicted the distance from a particular district to a metropolitan area or predicted a rural location. The hypothesis is that higher paying career technical/vocational districts with better benefits are located near metropolitan areas. This could be due to the competitive nature of obtaining and retaining highly qualified teachers at a

district when rival comprehensive/city districts are located within a reasonable geographic area conducive to commuting.

In light of the outcome of the correlation data analysis identified in Shadish, Cook, and Campbell (2002), distance from a metropolitan area, was utilized in performing regression analysis on the sorted data.

The null hypotheses for each factor while considering distance from a metropolitan area were:

- H<sub>0</sub> 1 There is no significant difference between the mean starting salary for first year teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 2 There is no significant difference between the annual salary change mean percentage for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 3 There is no significant difference between the mean percentage contributed by boards of education towards medical insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.
- H<sub>0</sub> 4 There is no significant difference between the mean percentage contributed by boards of education towards dental insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.



H<sub>0</sub> 5 There is no significant difference between the mean percentage contributed by boards of education towards vision insurance premiums for teachers employed in a career technical/vocational high school district in Ohio located near a metropolitan area versus those located further away.

The additional analyses resulted in rejecting H<sub>0</sub> 1, H<sub>0</sub> 2, and H<sub>0</sub> 4, while failing to reject the other two null hypotheses when considering distance from a metropolitan area. Conclusions based on the results of all analyses conducted on the data collected are presented in the following section.

### **Conclusions**

Based on the analyses of the data from the 47 responding career technical/vocational school districts in Ohio, five conclusions can be made.

First, a clear majority of school districts, 89%, are unionized according to the respondents. This result did not match the anticipated outcome of 80% or less assumed by the researcher based on an earlier pilot study.

Second, the factors investigated included starting salary, annual salary change expressed as a percentage, and board of education contributions toward medical, dental, and vision insurance premiums. Starting salaries are different for school districts and there is a disparity in range from lowest to highest, \$28,723 to \$40,265. Interestingly, the highest and lowest salaries are union schools with the non-union schools falling within the range. The annual change in salary appears to be very consistent with neither group outpacing the other; this may be attributable to the overall economy within the state or other unidentified influences. Also, since the State Employee Relations Board (SERB) for Ohio maintains a database of all union contracts for public employers, school board

officers can access existing contracts across the state to see what other school boards have agreed to as far as salary schedule and benefits. While all boards offer medical insurance, not all union and non-union districts offer dental or vision insurance.

Third, the majority of union schools, 83%, identify a national affiliation with the National Education Association (NEA) and the Ohio Education Association (OEA) within the state. The NEA is active in many political arenas and a portion of local union dues is sent to the state and national affiliates. The next conclusion further identifies in detail the makeup of union dues and agency/fair share fees.

Fourth, considering the majority of career technical/vocational school districts that are unionized another outcome surfaced that may be of interest and perhaps require further investigation. Union districts are subdivided into agency/fair share or open shops. The major difference between the two divisions is the requirement to pay a portion of union membership dues. Open shops do not require any payment of fees and non-members benefit equally from the union representation. Agency or fair share shops require non-union members to pay a 'fair' share of the membership dues to the union to cover costs associated with negotiations of salary and benefits. Of the 42 responding career technical/vocational school districts identified as union, 33% reported that the 'fair' share and union membership dues were the same amount. The Ohio Revised Code allows non-members to request a breakdown of union membership dues and only pay the portion attributable to negotiations for salary and benefits (ORC § 4117.09, 2002). Additional discussion of this outcome is left to the next section.

Fifth, there does appear to be a significant difference in starting salary based on school district. The range of starting salaries for the current school year is \$28,723 to

\$40,265, a disparity approaching \$1,000 per month. Since the data did not support this disparity as a consequence of union status, the researcher decided to perform further analyses to determine if some other correlation may exist. The results of these analyses did not support the hypothesis that school boards paid the same regardless of location or proximity to a metropolitan area. The analyses provided results that allowed rejection of the null hypothesis. The calculations for a relationship showed an impressive strong to very strong negative correlation. This negative correlation means that the closer a district is to a major metropolitan area the greater the starting salary and the further away the district is located the lower the starting salary. This effect may be attributed to competitive nature to employ and retain highly qualified and effective teachers. In order for career technical/vocational school systems to lure highly qualified academic and career technical teachers, higher starting salaries may be needed when competing against comprehensive high schools located in and around metropolitan areas. This result is further discussed in the next section along with other areas that may warrant further investigation.

### **Recommendations for Further Study**

This study is unique as far as its primary focus and the target population. Although studies involving teachers' unions have been conducted in the past, this dissertation tried to distinguish itself by investigating whether a relationship can be established between union status and teachers' salary and benefits at Ohio's career technical/vocational high school districts. The disparity in the number of union versus non-union school districts served to undermine the ability to draw definitive conclusions. The researcher expanded the data analysis to consider whether another factor might

contribute to the apparent starting salary disparity. The range of starting salaries, a difference of approximately \$12,000 between the highest and lowest, led the researcher to believe additional analysis was warranted and justified. An average monthly difference of \$1,000 in salary begs the question, "Why so different?" Presented in the following sections, after careful consideration of the results and conclusions, are two recommendations and six areas for further study.

### **Recommendations**

The first recommendation is to characterize the entire population of 614 public high school districts in Ohio by collecting data to identify the status of each district, union versus non-union (ODE, 2010b). This first step provides the basis to evaluate whether there are enough in each group to analyze the data and determine if a relationship does in fact exist between union status and teachers' salary and benefits. Since the Ohio Revised Code requires the SERB to maintain a database of all public employers with collective bargaining contracts, this step could be completed without contacting individual school districts. This preliminary research would provide relevant data and the basis to continue as far as data analysis for a relationship. If the data did not support further analysis along this path, then the data could be analyzed for a relationship based on location.

The second recommendation considers school type and union status. A study involving public, private, and charter schools is needed to examine how teachers fare at each of these types versus salary and benefits. Fundamentally, the idea is to investigate teacher salary and benefits along with union status at any level or type to see if teachers are better off at a union school district when compared to a non-union school district.

There is a distinct possibility that no determination can be made no matter what type of school district is considered due to a lack of sample size of each type. If this holds true, then areas for further study that are related without this specificity may be of benefit in general and are presented in the next section.

### **Further study**

The first of six suggested areas for further study consists of investigating benefits available to teachers employed by public school boards in Ohio. A review of the results of this study reveal that 17 career technical/vocational school district boards of education pay 100% of medical, dental, and vision insurance premiums. In light of the current economic downturn and the trouble other industries have experienced with regard to benefits for their employees, such a study is needed to evaluate whether current boards of education that continue to offer complete insurance premium coverage can operate conscientiously and responsibly while asking taxpayers for more financial support. School boards repeatedly place school levy issues on the ballot for community approval. The ORC Title 33 Education-Libraries (2002) limits revenue for school districts based on tax levies. Title 33 does not allow schools adjustments due to inflation for any tax levies passed subsequent to the bill's enactment. This limiting factor restricts income to schools as costs increase between passage of a levy for school funding and its eventual renewal or replacement. Financially, school boards must operate based on the initial year of levy passage and continue that level of funding for the years following and cannot expect an increase with the one-time exception allowed for new construction. The current weak economy and changes experienced by municipalities as far as the decrease in property values has a direct effect on public school districts by reducing the amount of funds

received from the state. This leads into another area suggested for further study discussed in the following paragraph that is based on some of the data collected in this study.

The second area for further study is based on the disparity uncovered for starting salaries as revealed in each school district's salary schedule. A future study should investigate actual starting salaries for teachers at Ohio's career technical/vocational school districts rather than just salary schedules. The reason for this is that superintendents, in consultation with school boards, have the authority to place beginning teachers, regardless of whether they are academic or vocational, on salary schedules commensurate with individuals' applicable work experience. The ability of superintendents and school boards at Ohio's career technical/vocational school districts to recognize work related experience when considering new teachers' beginning salaries may provide a plausible alternative explanation for the disparity in starting salaries across the 49 career technical/vocational districts.

The third suggestion for further study is to compare salary and benefits based on type of school district: public, charter, vocational, private religious and private non-religious instead of union status. Union status should be tracked, but the emphasis would be on school district type while comparing salary and benefits at each district. Again, the study should focus on starting salaries, annual salary changes, and school board contributions toward benefit premiums. Some earlier studies covered public, private religious and private non-religious schools, but due to the recent changes in public education offerings, charter schools have yet to be included.

The newest entry into the public school arena is the charter school. Charter schools employ teachers with state awarded licenses and compete for highly qualified

teachers and students. The status of charter schools as far as union or non-union could be determined and whether a move towards unionism is proceeding or if these schools are progressing without unions. According to the latest data from the U.S. Department of Labor (2009), the public sector is the largest growing union population in the country. Specifically, teacher unions see the greatest increase in membership; this may or may not include charter schools. Additionally, the national teacher associations may support a push towards unionism at all public schools in Ohio. With this in mind, membership dues and fair share may warrant further study as discussed in the next paragraph.

The fourth area in need of further study is agency/fair share fees. Agency or fair share fees are payments required by non-union members to cover that portion of the total union dues associated with the cost of negotiating salary and benefits. Union membership dues provide local, state, and national organizations the means to continue efforts of supporting their constituents. These dues are divided among the three entities with only a portion used for negotiating salary and benefits at the local level.

This portion known as an agency or fair share fee is that amount of the union dues attributable to contract negotiations with regard to salary, benefits, and other items directly affecting employees (ORC § 4117.09, 2002). An exemption from membership or financial support of an employee union can be obtained by an employee by submission of proper proof of religious conviction to the board as described in ORC § 4117.09 (C). However, employees are still required to pay an amount equal to the fair share fee to a nonreligious charitable fund mutually agreed upon by the employee and the employee union. Employees must submit written receipts evidencing payment (ORC § 4117.09 C, 2002). Although exempted employees do not pay fair share fees to their employee

unions, their financial wealth does not improve through the exemption. Clearly, these funds will not go towards political candidates, controversial political issues, or state/national employee unions as discussed in Chapter II. The significance of agency or fair share fees is reflected by virtue of the fact that the Supreme Court has addressed this issue on four occasions related to education.

Turning to Ohio law, non-members at agency or fair share unions are required to request breakdowns of union dues in writing to determine what portion they must pay (ORC § 4117.09 (C), 2002). The ORC also specifies that the agency/fair share fees paid by non-members cannot exceed the amount paid by members. Ohio law further provides language that allows non-members to challenge the amount of agency or fair share fees charged by the union if the non-member deems some part of the fees arbitrary or capricious. According to the ORC, non-members have 30 days from the date that unions provide the breakdown of fees as requested in writing to file complaints with the Ohio SERB (ORC§ 4117.09 (C), 2002).

Among the 42 responding union career technical/vocational high school districts in Ohio 14 or 33% reported agency/fair share fees equal to full union membership dues. Since the ORC permits non-members the ability to pay only the portion that covers costs associated with negotiating salary and benefits, a study of how many teachers are aware of their rights regarding agency/fair share fees should be conducted. As previously discussed, litigation has and will continue to occur in this area and awareness of legal remedies available seems to be lacking in a significant portion of the non-union population at career technical/vocational school districts in Ohio. This may lead into another study that focuses on all public school districts in Ohio that are unionized and



identified as agency/fair share should be conducted to evaluate the extent to which how many districts report agency/fair share fees as the same amount as full union membership dues.

The Ohio SERB maintains an on-line database of all public employees' collective bargaining agreements. The SERB data can provide an initial beginning in determining the number of public high school districts in Ohio that are union as well as how many are identified as agency/fair share or open shop. Actual fees may not be included in the contract copy available online, but contact with the school district or teachers' union would provide these critical data. Additionally the study could evaluate costs for union membership at each unionized public school district in Ohio. This evaluation may align with the discovery by this researcher that shows higher starting salaries seem to be related to location relative to a metropolitan area. An area for further study investigates school funding related to proximity to metropolitan areas due to the population residing within the metropolitan area that may account for disparities and is discussed in the following paragraphs.

The fifth area suggested for further study ties into the ruling of the Supreme Court of Ohio that the state's funding of public education was unconstitutional (*DeRolph v. State*, 1997). In *DeRolph v. State* (1997), the Court upheld an earlier order that the public education system was neither thorough nor efficient as required in the state constitution due to the disparities created by the funding method. Public school districts in Ohio receive funding based on real estate property values; therefore the school districts located in the areas with the best real estate values have a greater resource for funding which

appears to translate into higher/better performing school districts. These same districts have the financial resources to recruit and retain the best and most effective teachers.

The Supreme Court of Ohio revisited the funding of public schools in the state in *DeRolph* after the deadlines passed that mandated a change in funding method for public education. The court ruled again in *DeRolph v. State* (2000) and *DeRolph v. State* (2001) that state funding of public education is unconstitutional and the Court would maintain jurisdiction to review legislation enacted to remedy the Court's decision. Later, in *DeRolph v. State* (2002), the Supreme Court of Ohio vacated its *DeRolph v. State* (2001) order and affirmed *DeRolph v. State* (1997, 2000) that public school funding in Ohio was unconstitutional but did not provide a deadline for remedy. This last action removed the court's oversight of legislation that may be enacted to correct the funding problem. In May 2003 the Supreme Court of Ohio reiterated its judgment in *DeRolph v. State* (2002) and prohibited any further litigation in the case. The plaintiffs unsuccessfully turned to the U.S. Supreme Court in October 2003, but it declined to hear the case. While legislative actions have been pursued in Ohio to remedy the school funding issue, to date actual corrective action is still pending.

A proposed study should investigate salary and benefits at Ohio's public schools based on location to consider whether a genuine relationship exists between funding resources by location and if data support these apparently better funded districts that may outperform others due to the quality/caliber of teachers employed. These teachers may be selecting their place of employment based on salary and benefits available due to location and funding available for the school district. This study could also incorporate the types of benefits available to teachers and any fringe benefits unique to school

districts based on funding levels. This leads into the final recommendation for further study as discussed in the next paragraph.

The sixth area for further study is the collective bargaining agreements negotiated during and subsequent to the current economic turmoil experienced in Ohio and the nation. This researcher reviewed the most recent data available (2004-2009), for career technical/vocational school districts in Ohio for salary and benefits. The majority of these contracts were negotiated prior to the downturn in the economy. Since the Ohio Revised Code allows only a 3-year original contract length, the collective bargaining agreements reviewed in this study will be renegotiated or at a minimum extended.

A proposed study should compare collective bargaining agreements negotiated prior to the change in the economy versus the agreements negotiated during the previous timeframe. In so doing, this study should consider location, changes in salary, board of education contributions toward benefits, and any fringe benefits added or removed due to the changing economy. The study could look for a relationship between changes both positive and negative that may be attributable to the general decrease in property values and how this affected final contract provisions. Also, depending on the breakdown of union versus non-union public school districts an interesting aside would be whether union schools fared better when negotiating the contract when compared to non-union schools during the current recession.

## **Conclusion**

The results of this study did not support a definitive outcome evaluating whether teachers at union career technical/vocational school districts in Ohio fare better in salary and benefits than their non-unionized peers. Even so, the study did reveal interesting

characteristics and areas in need of further study/research. The large proportion of unionized school districts compared to non-unionized systems supports the Department of Labor's data revealing a growth in public sector unions. Overall, public teachers seem to support unionism as a part of their career field. This unionism creates an air of pseudo-professionalism not found in other career fields that have college education as a minimum entry requirement.

Hopefully teachers will review the history of previous unionized occupations and proceed in a manner that will not jeopardize their career. As members of an intellectual occupation, teachers have the unique ability to be organized and fiscally responsible in the sense that they must realize that public funds are not unlimited. Bearing in mind that public school teachers are compensated through taxpayer contributions, then, teachers must exercise social fiscal responsibility when negotiating salary and benefits. During trying economic times teachers should look to the constituents in their communities while negotiating at a level commensurate with the financial stability of the districts within which they serve.

## APPENDIX A

# Career-Technical/ Vocational High School Collective Bargaining Questionnaire



1.	School Name:	
2.	School Address:	
3.	Year Instruction began at school:	
4.	Current student enrollment:	
5.	Contact: (Person's name and phone number for follow-up information)	Phone #:
6.	Approximate Number of Certified Staff:	Approximate Number of Classified Staff:
7.	Contract length: <input type="checkbox"/> 1 year <input type="checkbox"/> 2 years <input type="checkbox"/> 3 years <input type="checkbox"/> other (please specify) _____	
8.	Does your school negotiate an employment contract through collective bargaining for certified/licensed staff? <input type="checkbox"/> Yes <sup>a</sup> <input type="checkbox"/> No <sup>b</sup>	
	<sup>a</sup> National Affiliation: <input type="checkbox"/> NEA <input type="checkbox"/> AFT <input type="checkbox"/> Other _____	
	<sup>b</sup> If no, please skip to item number 14.	
9.	Year Collective Bargaining began at the school: (Year union/association formed as representative for certified staff)	
10.	Does the union/association represent both certified and classified? <input type="checkbox"/> Yes <input type="checkbox"/> No	
11.	Percent of eligible certified staff members of union/association:      %	Percent of eligible classified staff members of union/association:      %
12.	Is the union/association: <input type="checkbox"/> agency shop (fair share payment required) <input type="checkbox"/> open shop	
13.	Current member union/association dues per year: \$  Current agency shop fee (fair share) payment per year: \$	

14. Benefits: Please indicate by placing an X in the box next to the benefit available to staff members.

Benefit	Availability		
	Yes		No (not offered)
Medical Insurance	<input type="checkbox"/>		<input type="checkbox"/>
Dental Insurance	<input type="checkbox"/>		<input type="checkbox"/>
Vision Insurance	<input type="checkbox"/>		<input type="checkbox"/>
Tuition Reimbursement	<input type="checkbox"/>		<input type="checkbox"/>
Supplemental Life Insurance	<input type="checkbox"/>		<input type="checkbox"/>
Short Term Disability Insurance	<input type="checkbox"/>		<input type="checkbox"/>
Wellness (EAP)	<input type="checkbox"/>		<input type="checkbox"/>
Technology/Fitness Allowance	<input type="checkbox"/>		<input type="checkbox"/>
Professional Organization Membership Dues	<input type="checkbox"/>		<input type="checkbox"/>

15. School Year	2008-2009	2007-2008	2006-2007	2005-2006	2004-2005
Starting Salary for new teacher Bachelor's degree only, No experience					

**If your district offers multiple choices in benefit plans please respond based on the plan selected by the majority of staff.**

16. Please indicate the percent change in salary compared to the previous school year by placing an X in the appropriate column.

Benefit Item	No Change* Or Reduction*	Percentage Increase					
		> 0% but ≤ 1%	> 1% but ≤ 2%	> 2% but ≤ 3%	> 3% but ≤ 4%	> 4% but ≤ 5%	> 5%
2008-2009 Salary							
2007-2008 Salary							
2006-2007 Salary							
2005-2006 Salary							
2004-2005 Salary							

17. Please fill in the percentage paid by the board of education and the percentage paid by the employee in the columns below.

Benefit Item	Board of Education (%)**	Employee (%)**
2008-2009 Medical Premiums		
2007-2008 Medical Premiums		
2006-2007 Medical Premiums		
2005-2006 Medical Premiums		
2004-2005 Medical Premiums		
2008-2009 Dental Premiums		
2007-2008 Dental Premiums		
2006-2007 Dental Premiums		
2005-2006 Dental Premiums		
2004-2005 Dental Premiums		
2008-2009 Vision Premiums		
2007-2008 Vision Premiums		
2006-2007 Vision Premiums		
2005-2006 Vision Premiums		
2004-2005 Vision Premiums		

\*Please provide any information to clarify no change or reductions in salary.

\*\*Please provide any information to clarify changes in percentages for premiums.

Comments:



## APPENDIX B

**MEMO**

**December 14, 2008**

**TO:** Michael Jernigan

**FROM:** Robert J. Safransky, Ph.D.

**SUBJECT:** Dissertation Questionnaire

As per your request to read and evaluate your questionnaire to teacher union members and non-union members about their satisfaction or non-satisfaction with their situation, I believe that your questionnaire will be completed satisfactorily by its recipients.

However, to aid you in analyzing your data, I would suggest that the sections that ask for response about "ATTITUDES TOWARDS COLLECTIVE BARGAINING AND TEACHER UNIONS" be given the letter "U" for "Union School Districts" and each item be numbered and the letter "N" for "Non-Union School Districts: and each item be numbered so that you can compare them.

**From:** Ralph Mawdsley <ralph\_d\_mawdsley@yahoo.com>  
**To:** jernigmj@notes.udayton.edu

**Date:** Friday, December 12, 2008 10:48AM

**Subject:** Re: Documentation

**History:** This message has been forwarded.

Mike Jernigan,

I have reviewed your questionnaire for your doctoral research and have found that it will provide the information necessary to evaluate your research hypothesis. I wish you the very best in your research.

Ralph D. Mawdsley, J.D. Ph.D.

Professor and Roslyn Z. Wolf Endowed Chair in Urban Educational Leadership  
Cleveland State University, Cleveland, Ohio

***jernigmj@notes.udayton.edu*** wrote:

Gentlemen,

I appreciate your feedback and plan to incorporate your suggestions. In order to proceed and satisfy the University of Dayton, IRB and my committee I need some documentation. If possible I would like an e-mail from each of you stating your concurrence that my questionnaire should provide the data necessary to evaluate my research hypothesis. Upon receipt I will print a copy for inclusion with my dissertation appendix. Also, if none of you object I plan on including each of you in my acknowledgement. Thanks to each of you for your help and support. I will keep all of you posted on my progress. Have a great weekend.

Sincerely,

Mike Jernigan

**From:** "Allan Osborne" <allan\_osborne@verizon.net>  
**To:** <jernigmj@notes.udayton.edu>

**Date:** Wednesday, December 24, 2008 11:30AM

**Subject:** Disserta tion

**History:** This message has been replied to.

Mike,

Thanks for giving me the opportunity to look over your questionnaire and make some comments on it.

I taught research methods in education for 10 years as an adjunct. With that background I feel confident in saying that the questionnaire will give you the information that you need to evaluate your research hypothesis. Your overall design looks excellent and I'm sure you will gather some valuable data.

Best of luck with the research, the writing, and the eventual defense of your dissertation. I'm sure that it all seems daunting at this point but, based on my own experience, I can assure you that you are entering a very exciting phase of your life. Treasure every minute and keep plugging away at it, even when you encounter some problems. The end result will be worth it.

If I can be of any further help, please don't hesitate to ask.

Allan Osborne

**From:** "Sharp, Ralph" <rsharp@ecok.edu>

**To:** <jernigmj@notes.udayton.edu>

**Date:** Monday, December 15, 2008 02:59PM

**Subject:** RE: Documentation

History: This message has been replied to.

The purpose of this e-mail is to express my concurrence that Mr. Jernigan's questionnaire should provide the data necessary to evaluate his research hypothesis for his dissertation study.

Ralph Sharp  
Education Department  
East Central University (OK)

## APPENDIX C



My name is Mike Jernigan. I am a doctoral student at the University of Dayton. Like you I am an educator in Ohio. In fact I am currently working as an academic teacher at an Ohio career technical/ vocational high school. I am conducting research on teacher salary and benefits at Ohio career technical/ vocational high schools. I am working with Dr. Charles J. Russo, Professor, Department of Educational Leadership, School of Education and Allied Professions, University of Dayton. This research is part of my doctoral dissertation. Please complete the attached questionnaire and return it via e-mail to [mjernigan@mvctc.k12.oh.us](mailto:mjernigan@mvctc.k12.oh.us). The information pre-filled was retrieved from the Ohio Department of Education website and/ or Ohio State Employment Relations Board website. Please check it for accuracy and correct if needed. The items highlighted in yellow indicate information that was not found.

If you are using MS Word 97-2003 or MS Word 2007, to mark boxes on the questionnaire complete the following steps.

- (1) Double click on the box you would like marked.
- (2) The 'Check Box Form Field Options' pops up.
- (3) Under 'Default Value' click checked, then OK.
- (4) The box will be marked with an X, repeat for all other boxes.
- (5) This can also be used to change marked boxes that are incorrect.

Alternatively you may print the questionnaire and mail your responses. Please contact me if you have any questions through e-mail or by phone at 937-320-1286. You may mail responses to me at:

Mike Jernigan  
627 Breckenridge Way  
Beavercreek, OH 45430

All participants will receive a copy of the final dissertation upon request. Finally, please provide a contact name and phone number for follow-up/ clarification information. It is my goal to provide an accurate account of teacher salary and benefits at Ohio's career technical/ vocational high schools. Please contact me if you need any additional information or help. Thank you for participating.

Mike Jernigan

## APPENDIX D





3 February 2009

Mr. Michael Jernigan  
627 Breckenridge Way  
Beavercreek, OH 45430

SUBJECT: "How Ohio's Career Technical/Vocational High Schools with Teachers' Unions Fared in Salaries and Benefits when Compared with Ohio's Career Technical/Vocational High Schools without Unions."

Dear Mr. Jernigan,

The Committee for the Protection of Human Subjects in Research has reviewed the subject proposal and has approved it for a period of one year. If the study is not completed by 3 February 2010, you are required to seek re-approval from the committee at that time. The committee must approve any changes in the protocol prior to the implementation of the change unless such a delay would place your participants at an increased risk of harm. In such situations, the committee is to be informed of the changes as soon as possible. The committee is to be informed immediately of any ethical issues that arise in your study.

Please let me know if you have any questions. Good luck with your research.

Sincerely,

A handwritten signature in black ink, which appears to read "Jon Nieberding".

Jon Nieberding  
Chair

COMMITTEE FOR THE  
PROTECTION OF  
HUMAN SUBJECTS IN  
RESEARCH

Jon Nieberding, Chair  
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