PREDICTORS OF SUCCESSFUL SCHOOL/BUSINESS

PARTNERSHIPS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

by

Mary Jo Paugh, B.S., M.A.

*****

The Ohio State University

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Dissertation Committee:
Dr. Richard Clark
Dr. J. David McCracken
Dr. N. L. McCaslin

Approved by:

[Signature]
Advisor

[Signature]
Comprehensive Vocational Education Graduate Program
DEDICATION

This research study is dedicated

...to my mother and father, who gave me the gift of confidence to do anything I set my mind to do. Who also gave me the training to persevere and do what must be done no matter how difficult things may seem. Thank you, Mom and Dad.

...to my daughters, the two most important young ladies in my life. Thank you, Jessica and Dana, for the understanding and sacrifices you have made as I pursued a personal goal. I hope I have given you the confidence you will need to do anything you set your minds to do and to persevere no matter how difficult things may seem.

and

...to my husband who also sacrificed his time and energy as I pursued this goal. But, more importantly, he prodded, pushed, and supported me during this study to achieve excellence. Without him, I would not have realized this dream. Thank you, Dean.
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And warm gratitude and fondness is extended to the wonderful new friends who inspired me and assisted me as we shared this experience: Jacquie, Larae, and Ji Yeon.
VITA

1976 . . . . . . B.S., Ohio State University, Columbus, Ohio
1980 . . . . . . M.S., Ohio State University, Columbus, Ohio
Southwestern City Schools, Columbus, Ohio
Columbus Public Schools, Columbus, Ohio
1992 - 1993 . . . . Graduate Research Assistant, The Ohio State University,
Columbus, Ohio
1993 - present . . . . Science teacher, East High School, Columbus Public
Schools, Columbus, Ohio

PUBLICATIONS

Authored four activities published in Activities to
Enhance Student Understanding of International
Agriculture. (1992)

Co-authored The History of the American Vocational
Educational Research Association - the First 25 Years
(1994)

FIELDS OF STUDY

Major Field: Vocational Education (Comprehensive)

Studies in Vocational Issues: Dr. David McCracken, Dr.
John Middleton; Studies in Vocational Education: Dr.
A.J. Miller, Dr. Dewey Adams; Studies in Leadership:
Dr. Dewey Adams, Dr. Larry Casterline, Dr. N.L.
McCaslin; Studies in Research: Dr. David McCracken,
Dr. Robert Warmbro
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CHAPTER I
INTRODUCTION

Collaboration - working together, rather than alone - has been around for years among human service, government, and community organizations. But recently it's become a much discussed topic. This movement toward collaboration has come from both formal and informal forces. Formal mandates and government initiatives have required many agencies to collaborate. However, many organizations moved themselves to collaboration as they realize the cost efficiencies possible by addressing common issues or delivering similar services together with their peers (Mattessich, 1992). More accessible and effective services are potential benefits of collaboration. Also, the quality of the results of these collaborative efforts often increases over singular efforts according to Barbara Gray in her 1989 book, Collaborating.

But what makes collaboration work? What makes the difference between success and failure in joint projects? Questions like these have motivated the development of this study. Previous research on collaboration has identified 19 factors collectively that influence successful collaboration
(Mattessich, 1992). The researcher has attempted to add to this body of knowledge regarding collaboration by investigating the collaborative efforts between education and the business community.

**Background and Setting**

"It takes an entire village to educate a child."

**African Proverb**

There is an historic relationship between business and the public schools, a relationship that weakened in the turmoil in the cities beginning in the 1960's; but, which is now seeing restoration on a number of fronts. This relationship is based on the corporate viewpoint that good schools are very important to corporations, and to the society and economy in which corporations must live, produce, and sell (Barton, 1983).

This relationship has its roots in the last century and held firmly through the first half of the present century. Since our industrial economy seemed to continuously need young entry-level workers, business took great interest in the capability of school systems to educate them. The view developed that a principal role of public education was preparing people for worklife and the involvement of business was a close one (Timpane, 1982).

In fact, according to Timpane, it is not too much to say that the business community acted as if it 'owned' the
schools until 20-25 years ago. Business felt a rapport with the schools and thought the schools were performing their tasks well as they accomplished tremendous growth after World War II while producing the recruits for business and the growing higher education system.

But the climate shifted in public education: teachers organized and mandates emanated from courts and legislatures. Business predominance eroded and schools became the subject of widespread controversy. As turmoil increased and disenchantment set in, participation by business people became less rewarding (Barton, 1983).

The deterioration that occurred proceeded to the point where more corporations realized that the whole education and community base that was critical to business was endangered. The 1970's saw a visible, if still modest, swing back to concern and involvement (Barton, 1983). The Council for Basic Education stated: "The plain truth is that hard times have driven business and the schools into each other's arms" (Lacey, 1983).

A theme running through speeches, articles, and meetings among corporate executives was that the urban corporate community was seriously afraid that unless they take some initiatives, current patterns of social and economic decline would persist to the point of crisis. Mr. Cornell C. Maier, Chairman and CEO of Kaiser Aluminum and Chemical Corporation in Oakland stated in 1983 that "our
country's survival as a land of freedom, opportunity and prosperity is at stake" and called for a "New American Revolution" in which business will help to solve problems of unemployment and education through "creative partnerships." He claimed that educators acting alone cannot solve the problem; neither can business. "But together, by involving every aspect of our joint resources, we can change the course of what is happening..." (Lacey, 1983). A series of reports and books, beginning with A Nation At Risk in 1983, by the National Commission on Excellence in Education, sounded the same alarm as Mr. Maier and made the same recommendation. A review of the literature regarding these matters can be found in Chapter II.

Because of many of the findings and recommendations of the reports and studies, federal legislation was passed to promote partnerships between schools and businesses. The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 provides support for business-labor-education partnerships (AVA, 1990). Collaboration between all stakeholders was mandated to receive funding under the School-to-Work Opportunities Act of 1994 (Hudelson, 1994).

Nine types of partnerships between schools and business are identified by Barton (1983):

1. Employers extending a helping hand in the form of the adopt-a-school movement, management advice, and joint funds in aid of public education.
2. Collaborative councils.
3. Transition to work programs.
4. Cooperative education between employers and schools.
5. Vocational education.
7. Partnerships for economic development.
8. Educational institutions contracting out of occupational training. And,
9. Industry contracting with schools to meet internal training needs.

A number of these types of partnerships have operated in public school systems for many years. For example, vocational education has received federal support since the passage of the Smith-Hughes Act in 1917. Other partnerships are more recent; for example, the Adopt-A-School program that sprang up in the 1970's in various large urban cities in the United States.

The Division of Vocational and Career Education, Ohio Department of Education, categorized business/education partnerships according to the level of impact on the educational system. The higher the level number, the greater the amount of impact on the educational system.

Level 1. Partners in Special Services

Special service partnerships provide short-term, project or student specific activities or resources to help with a specific problem or need. These
partnerships can include both financial and staff support, are short term, and are confined to one school, one teacher or one class.

Level 2. Partners in the Classroom

Classroom partners are business volunteers who improve the learning environment by bringing their business or occupational expertise directly into the classroom for students and teachers, or bringing the classroom to the business.

Level 3. Partners in Teacher Training and Development

Business involved in this area provide opportunities for school personnel to update, upgrade, or maintain their skills, or learn more about the labor market, industries and businesses in the community, workplace needs and career opportunities.

Level 4. Partners in Management

Management assistance partnerships provide school officials with management support and business expertise in a broad range of areas.

Level 5. Partners in Systemic Educational Improvement

Systemic educational improvement partnerships are those initiatives in which businesses, education officials, and other community leaders identify the need for reform or improvement in the educational system, and then work over the long term to make those major changes happen in the system.
Level 6. Partners in Policy

Policy partnerships (collaborative efforts at the national, state, or local level, among businesses, schools, and public officials that shape the public and political debate) bring about substantive changes in state or federal legislation or local school governance and affect the overall direction of the educational system.

The benefits of a successful business/education partnership can be numerous. But, are business and education successfully collaborating to improve the education of students? If the answer is yes, then what are the factors that contribute to the success of the collaborative effort? This study focused on one of the nine types of partnerships identified by Barton (1983): employers extending a helping hand in the form of the Adopt-A-School Program.

As previously stated, Adopt-A-School Programs (or Join-A-School as it is called in New York City) began forming all over the country in the 1970's. The accessible population for this study was the Adopt-A-School Program in Columbus, Ohio. It was initiated 13 years ago by a task force comprised of the Greater Columbus Area Chamber of Commerce and Columbus Public School officials. The published goals of the district-wide program are to:

* lower the drop-out rate
* help more disadvantaged children prepare for higher learning
* increase parental involvement in schools
* improve attendance
* guide students toward community learning experiences
* increase students' understanding of workplace expectations
* improve the achievement of all students

To date, there are 378 community organizations that have been partnered with 141 schools and 12 individual programs. Ohio’s governor and his wife officially issued a decree to all 33 state agencies encouraging linkage with a school. The majority have done so. In 1990-91, Adopt-A-School volunteers contributed more than 1,647,945 hours to schools and students and more that $1.5 million in goods and services (Annual Report, 1991).

Each school interested in a business linkage must complete a needs assessment. Each business interested in a linkage must complete a resource assessment. A coordinator serves as the broker to match interested businesses with a school. Many businesses contact the coordinator directly while other leads come through the Chamber of Commerce.

A comprehensive reference guide was available to the partners to assist in the development of the collaboration. It recommended the partners follow the six steps to a
Successful partnership: goal setting, negotiating, planning, implementing, and evaluating.

Selected activities of the school/business partners were:

* Tutoring
* Providing bus transportation for field trips
* Sponsoring selected programs
* Providing scholarships
* Donating equipment and supplies
* Providing training for school staff
* Providing career exploration and job training opportunities to parents and students
* Providing mentoring and shadowing experiences
* Establishing a pen pal relationship with the students

**Statement of the Problem**

To date, little is known about the success of collaborative efforts between schools and corporations. Previous research on collaborative efforts in other domains has identified 19 factors that influence the success of these collaborations (Mattessich, 1992). These factors, or those that apply, need to be quantified and confirmed in regards to school/corporation collaborations.
Purpose of the Study

The purposes of this study were to: 1) determine to what extent collaborations between schools (N=141) and corporations (N=378) are perceived as successful by the partners (outcomes), and 2) to identify those factors which contribute to the success of the collaboration (process).

Theoretical Construct

Mattessich and Monsey (1992), in an intensive review of research literature, identified 19 factors influencing successful collaboration. These factors were grouped under six categories shown in Figure 1 on page 11.

The factors listed under each category in Figure 1 on page 11 were condensed under the category heading became the six independent variables used for testing in this study:

1) ENVIRONMENT
2) MEMBERSHIP
3) PROCESS/STRUCTURE
4) COMMUNICATION
5) PURPOSE
6) RESOURCES

Research Objectives

The study was guided by the following research objectives and hypotheses.
<table>
<thead>
<tr>
<th>ENVIRONMENTAL FACTORS</th>
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<tr>
<td>History of collaboration in the community</td>
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<td>Collaborative group seen as leader in the community</td>
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<td>Political/social climate favorable</td>
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<table>
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<tr>
<th>MEMBERSHIP CHARACTERISTICS FACTORS</th>
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<tr>
<td>Mutual respect, understanding, and trust</td>
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<td>Appropriate cross section of members</td>
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<td>Members see collaboration as in their self-interest</td>
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<td>Ability to compromise</td>
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<tr>
<th>PROCESS/STRUCTURE FACTORS</th>
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<tr>
<td>Members share a stake in both process and outcome</td>
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<tr>
<td>Multiple layers of decision-making</td>
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<tr>
<td>Flexibility</td>
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<tr>
<td>Development of clear roles and policy guidelines</td>
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<td>Adaptability</td>
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<tr>
<th>COMMUNICATION FACTORS</th>
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<tr>
<td>Open and frequent communication</td>
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<td>Established informal and formal communication links</td>
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<tr>
<th>PURPOSE FACTORS</th>
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<tr>
<td>Concrete, attainable goals and objectives</td>
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<td>Shared vision</td>
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<tr>
<td>Unique purpose</td>
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<tr>
<th>RESOURCES FACTORS</th>
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<tbody>
<tr>
<td>Sufficient funds</td>
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<tr>
<td>Skilled convener</td>
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Figure 1. Factors Influencing Successful Collaboration (Mattessich and Monsey, 1992).
1. To determine if the collaborative effort is successful, and if so, the nature of this success.

2. To describe collaborative efforts between schools and businesses.

3. To quantify and confirm the six variables modified from previous research which contribute to the success of collaborative efforts.

4. To determine if the collaborative effort is viewed differently by education and corporations in collaboration.

**Hypotheses**

1. Members of the collaborative group who have a history of collaboration in the community; are seen as leaders; and are in a favorable, political/social climate will have a more successful collaborative effort than those who do not. (Variable - ENVIRONMENT).

2. Members of the collaborative group who perceive themselves to share mutual respect, understanding, and trust; have the ability to compromise; see the collaboration as in their self-interest; and are an appropriate cross section will have a more successful collaborative effort than those who do not. (Variable - MEMBERSHIP).
3. Members of the collaborative group who perceive themselves to share a stake in the process and outcome; have multiple layers of decision-making; have flexibility and adaptability; and develop clear roles and policy guidelines will have a more successful collaborative effort than those who do not. (Variable - PROCESS/STRUCTURE).

4. Members of the collaborative group who perceive themselves to have open, frequent communication; and, have established informal and formal communication links will have a more successful collaborative effort than those who do not. (Variable - COMMUNICATION).

5. Members of the collaborative group who perceive themselves as having a unique purpose; shared vision; and concrete, attainable goals and objectives will have a more successful collaborative effort than those who do not. (Variable - PURPOSE).

6. Members of the collaborative group who perceive the coalition as having sufficient funds and a skilled convener will have a more successful collaborative effort than those who do not. (Variable - RESOURCES).
Definition of Terms

Collaboration

Defining collaboration was made complex by ambiguities in practical usage and scholarly disagreement about the term. In practice, ‘collaboration’ is commonly interchanged with ‘cooperation’ and ‘coordination'. By contrast, the majority of scholars distinguished among cooperation, coordination, and collaboration. Cooperation was defined as individuals or organizations associating to accomplish a common goal; while, coordination was defined as individuals or organizations working together to accomplish a common goal (Jackson, 1992).

For the purposes of this study, the term ‘collaboration’ was defined as a mutually beneficial and well-defined relationship entered into by two or more organizations to achieve common goals. The relationship includes a commitment to: a definition of mutual relationships and goals; a jointly developed structure and shared responsibility; mutual authority and accountability for success; and sharing of resources and rewards (Mattessich, 1992).

Partnership

The term ‘partnership’ was used synonymously with collaboration in this study.
Collaborative Group

This term was used in the study to refer to the set of organizations or individuals that join together in collaboration.

Partners, Members, Contact Individuals

These terms referred to the individuals who represent collaborating organizations.

The following definitions are listed for each variable utilized in the study.

Success

This dependent variable was designed to measure the partner’s perception of the level of achievement resulting from the efforts of the individual collaboration. The operational definition was the score of a respondent on items 1 - 35 which were designed to measure perception of success based on the seven district-wide goals of the Adopt-A-School Program, Columbus Public Schools.

Environment

The independent variable was designed to measure the partner’s perception of the geographic location and social context within which a collaborative group exists. It measured, specifically, perception regarding: the level of history of collaboration or cooperation in the community; whether or not the collaborative group was seen as a leader in the community; and, whether or not the political/social climate was seen as favorable. The operational definition
was the score of a respondent on items 36 - 45 which were
designed to measure perceptions of the environment.

**Membership**

The independent variable was designed to measure the
partner's perception of the skills, attitudes, and opinions
of the individuals in the partnership, as well as the
culture and capacity of the organizations. It measured,
specifically, perception regarding: the level of mutual
respect, understanding, and trust; the appropriateness of
membership; whether or not the collaboration is in member's
self-interest; and, the ability to compromise. The
operational definition was the score of a respondent on
items 46 - 55 which were designed to measure perception of
membership characteristics.

**Process/Structure**

This independent variable was designed to measure the
partner's perception of the management, decision-making, and
operational systems of a collaborative effort. It measured,
specifically, perception regarding: whether or not members
share a stake in both process and outcome; whether or not
there were multiple layers of decision-making; whether or not
clear roles and policy guidelines existed; and, the
amount of flexibility and adaptability. The operational
definition was the score of a respondent on items 56 - 65
which were designed to measure perception of the
process/structure.
Communication

This independent variable was designed to measure the partner's perception of the channels used by collaborative partners to send and receive information, keep one another informed, and convey opinions to influence the group's actions. It measured, specifically, perception regarding: the amount of open and frequent communication and the presence of established informal and formal communication links. The operational definition was the score of a respondent on items 66 - 75 which were designed to measure perception of communication.

Purpose

This independent variable was designed to measure the partner's perception of the reasons for the development of a collaborative effort, the result or vision the collaborative group seeks, and the specific tasks or projects the collaborative group defines as necessary to accomplish. It measured, specifically, perception regarding: the existence of concrete, attainable goals and objectives; and, the existence of a shared vision and unique purpose. The operational definition was the score of an individual on items 76 - 83 which were designed to measure perception of purpose.

Resources

The independent variable was designed to measure the partner's perception of the financial and human "input"
necessary to develop and sustain a collaborative group. It measured, specifically, perception regarding: the presence of sufficient funds and the level of skill of the convener. The operational definition was the score of an individual on items 84 - 93 which were designed to measure perception of resources.

Limitations of the Study

The population was limited to the school/business contact individuals of the Adopt-A-School program of Columbus Public Schools as of February, 1994.

Basic Assumptions

It was assumed that the February, 1994, frame of 378 community partners linked with 141 Columbus Public schools was accurate as presented by the Coordinator of School-Business Partnerships, Columbus Public Schools.

It was assumed that the goals of the individual partnerships were the same as the published district goals for the Adopt-A-School program.

It was assumed that a partnership in existence for a minimum of six months had sufficient time to reach a minimal level of productivity.
Need for the Study

There are many barriers which can inhibit or prevent effective school/business partnership arrangements. Many of these barriers involve a lack of trust and understanding between the partners and a lack of common agreement related to the procedures and outcomes of the partnership. Jasso (1984) stated that:

Most often, school representatives stare at business people with dollar signs in their eyes. Many school people believe that business cannot possibly know the realities of education's problems and that if business would just hand over the dollars and get lost, 'collaboration' would be perfect. Business, on the other hand, usually thinks that any school-related project will take far too much money and staff time; that the educators are probably going to be unprofessional and unaware of and unsympathetic to business’s problems; and that schools probably just want money (pp. 83-84).

Despite the amount of attention and efforts being focused on partnership arrangements in education, there has not been a great deal accomplished through the arrangements. According to Axelrad (1989), "much that has been done in the name of 'linkage' is merely superficial public relations" (p. 5). Clark (1988) echoes this sentiment by stating that "there is little substantive business involvement in public education; rather, business involvement can be characterized as tinkering at the margin or getting involved with a classroom here and a school there" (p. 39) Regardless of shortcomings, there is widespread interest in private sector involvement in public education and the number of
collaborative efforts between the two has increased (Dawson & Dawson, 1987).

After their 1992 research review, Mattessich and Monsey recommended that the factors identified which influence successful collaboration be quantified and confirmed. They also identified a need to better define and measure what is meant by successful collaboration.

Lacey (1983) listed five recommendations for further investigation of school/business partnerships to encourage their development. One recommendation was for additional studies of the processes for developing successful partnerships, including political, social, economic and other factors.

Summary

Based on the preceding statements of fact, opinion, and research knowledge, it is evident that an in-depth understanding of the indicators of a successful school/business collaboration and the factors that contribute to the success of the collaborative effort is critical for all interested in 1) improving education by effective school/business partnerships, 2) initiating a collaborative effort, or 3) better managing a collaborative effort in progress. This study was intended to provide results in achieving this understanding.
CHAPTER II

REVIEW OF LITERATURE

Organization of Chapter

This chapter will begin with the early research findings in the field of collaboration. Following, research findings about the variables modified from the list of factors influencing successful collaboration presented by Mattessich and Monsey (1992) will be presented. Each variable will comprise a subheading of the chapter and include the important collected findings from the literature about that variable. A model of the collaborative process will be presented next. And finally, a brief overview of the literature recommending partnerships between business and industry is given; as well as, previous research specifically on Adopt-A-School programs.

Previous Research on Collaboration

In the early 1970’s, knowledge of collaboration was still at a primitive stage. No generally accepted framework, theory, or methods had emerged from research or practice (Van de Ven, 1974). Andrew Van de Ven was the first researcher to lay the foundation for assessing
collaboration or what he called interorganizational relationships (IRs). He labeled the various forms the collaborative relationship could have as pairwise, set or network. Van de Ven recommended that an IR be studied by defining and quantifying its dimensions in terms of process (resource and information flows), structure (formalization, complexity, centralization, and intensity), and ends (perceived effectiveness of interagency relationships) (Van de Ven, 1974). The research conducted by Van de Ven paved the way for later research on which this study was based.

This study relied greatly on the review and summary of research related to collaboration conducted by Mattessich and Monsey (1992). Their work had three major stages. First, all the research related to collaboration was identified. The scope of the search included the health, social science, education and public affairs arenas. From 133 studies examined, studies were screened out which were general "how-to" manuals, did not meet the definition of collaboration, or failed to meet other research criteria. After the screening, 18 studies remained.

Second, each of the 18 valid and relevant studies was carefully reviewed and a meta-analysis was conducted. Factors were identified which the studies reported as influencing the success of collaboration.
Third, the findings from the studies were blended together. As a result, 19 factors which influence the success of collaboration were identified.

The researcher included in this review of literature the results of Mattessich and Monsey's work as well as a review and summary of relevant research conducted since their results were published.

Variables

The following discussion concerns previous research involving the dependent variable of this study.

Success

The success of any collaborative effort is dependent upon the achievement of the goals and objectives set by the individual collaboration. Virtually every study of collaboration done previously employed a case study methodology, not detailed empirical methods. In the review of these case studies by Mattessich and Monsey (1992), success factors were culled by identification of a statement by the case researcher that a particular factor was something which influenced the success of the collaborative group which was studied. In addition, an outside observer had to be able to link the statement by the case researcher about the factor directly to evidence in the case study of its effect upon success (Mattessich, 1992).
Regarding success of collaborations specific to school/business partnerships, no more concrete results were found in the review of literature. A study conducted by Barton (1983) provided an overview of partnerships between corporations and schools in the United States. Barton stated that, "as extensive as these programs have become, there is no central source of information about them, how many there are, what they do, and with what results" (p. 20).

Another 1983 study by Lacey was an in-depth case study of the Adopt-A-School programs in five major cities. This study presented themes characteristic of successful partnerships (personal involvement of top level executives, networking, and systematic management); but, no indication of how to measure success. Lacey connected success of the partnerships to the caliber of the programs and the longevity of the partnerships.

The following discussion concerns previous research involving the independent variables of this study.

**Environment**

Environmental characteristics consist of the geographic location and social context within which a collaborative group exists (Mattessich, 1992). Three factors related to the environment have been identified by previous research as influencing successful collaboration: 1) the history of
collaboration or cooperation in the community, 2) the collaborative group seen as a leader in the community, and 3) the political/social climate favorable.

Of the 18 research studies in the Mattessich, Monsey (1992) review, nine identified one or more of the three factors related to environmental characteristics as influencing successful collaboration.

**History Of Collaboration Or Cooperation In The Community**


The findings indicate that a history of collaboration or cooperation in the community offers the potential collaborative partners an understanding of the roles and expectations required in collaboration and enables them to trust the process. "Community" can have a clear geographic base; but, it can also refer to a set of people or organizations with common ties based upon professional discipline, industry, ethnicity, etc. Also, the history of collaboration may not be of similar depth throughout a specific community (Mattessich, 1992).

The 1990 study by Kagan, Rivera, and Parker of 72 collaborative groups who provide child care and early childhood education concluded that because the State of
Florida has demonstrated a long-term commitment to collaboration, the state has been able to showcase exemplary collaborations to developing efforts and knowledgeable leadership has evolved. The researchers also concluded that a collaboration that is "embedded in a historically and politically supportive context is more likely to survive than one that is not" (Kagan, et al, 1990).

**Collaborative Group Seen As A Leader In The Community**

This factor was identified by three studies (Coe, 1988; Rist, et al, 1980, and Sharfman, et al, 1991) as influencing successful collaboration.

The findings indicate that if the collaborative group and the agencies in the group are perceived within the community as leaders, then the level of success of the collaborative effort increases. The perception of the agencies as leaders is only important as related to the goals and activities the group intends to accomplish (Mattessich, 1992).

The 1992 study by Sharfman, Gray and Yan of a collaborative group in the garment industry concluded that their poor reputation in the community posed a major barrier in receiving community development funds to start a job training program.
**Political/Social Climate Favorable**

This factor was identified by three studies (Harbin, et al., 1991; Kagan, et al., 1990; and McCann and Gray, 1986) as influencing successful collaboration.

The findings indicate that if political leaders, opinion-makers, persons who control resources, and the general public support or do not oppose the mission of the collaborative group, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1991 study by Harbin, Eckland, Gallagher, Clifford and Place of collaborative groups working in the public policy area concluded that those that used different strategies to develop a positive political climate gained more support for policy development.

**Membership**

Membership characteristics consist of skills, attitudes, and opinions of the individuals in a collaborative group, as well as the culture and capacity of the organizations which form collaborative groups (Mattessich, 1992). Four factors related to membership have been identified by previous research as influencing successful collaboration: 1) mutual respect, understanding and trust, 2) the appropriate cross section of members, 3) members see collaboration as in their self-interest, and 4) the ability to compromise.
Of the 18 research studies in the Mattesich, Monsey (1992) review, 17 identified one or more of the four factors related to membership characteristics as influencing successful collaboration.

**Mutual Respect, Understanding, and Trust**


The findings indicate that if members of the collaborative group share an understanding and respect for each other and their respective organizations (how they operate, their cultural norms and values, limitations, and expectations, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1983 study by Agranoff and Lindsay of six intergovernmental agencies concluded that their failure to integrate their different modes of operation into a single framework decreased the level of success of the collaborative effort.

The 1990 study by Hackstaff-Goldis, & House of the partnership between a social work-directed service of a community hospital and the probate system found that the lack of professional competitiveness among the partners,
shared values, norms, and expectations afford a natural and effective partnership.

**Appropriate Cross Section of Members**


The findings indicate that if the collaborative group includes representatives from each segment of the community who will be affected by its activities, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1988 study by Coe reported on interviews of forty community leaders in Denver. Coe stated, "They indicated the need to purposefully communicate with and cultivate relationships with the whole gamut of stakeholders..." (Coe, 1988).

The 1981 study by Horwitch and Prahalad of two "successful" (Satellite Instructional Television and the U.S. Grocery Industry) and two "failed" (American SST Program and American Coal-based Synfuels) Multi-Organizational Enterprises found that including individuals representing highly diverse backgrounds and views was one step in achieving a successful collaboration.
Members See Collaboration As In Their Self Interest

This factor was identified by six studies (Agranoff and Lindsay, 1983; Davidson, 1976; McCann and Gray, 1986; Means, et al, 1991; Rist, et al, 1980; and Sharfman, et al, 1991) as influencing successful collaboration.

The findings indicate that if collaborating partners believe the benefits of collaboration will offset costs such as loss of autonomy and "turf", then the level of success of the collaborative effort increases (Mattessich, 1992).

A 1980 study by Rist, Hamilton, Holloway, Johnson, and Wiltberger of inter-institutional collaborations among education, employment and training organizations concluded that they worked best in settings where enlightened self-interest was present.

Agranoff and Lindsay (1983) also concluded that problem solving involves perceptions of similarities and common concern in their study of intergovernmental collaborative groups.

Ability To Compromise

This factor was identified by three studies (Agranoff and Lindsay, 1983; Davidson, 1976; and Holman and Arcus, 1981) as influencing the success of collaboration.

Many decisions within a collaborative effort cannot possibly fit the preferences of every member perfectly. But, the findings indicate that if collaborating partners
are able to compromise, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1983 study by Agranoff and Lindsay of intergovernmental collaborative groups also concluded that the groups' decision to move forward slowly and deliberately in an effort to solve problems contributed to their success.

A 1981 study by Holman and Arcus describes a program involving a school board, the YWCA, the municipal health department, and the provincial social services ministry which provides education, day care, health, and counseling for adolescent mothers and their children. The researchers found that one strength of this award-winning program lies in its cooperative nature and the integration of services.

Process/Structure

Process/structure refers to the management, decision-making, and operational systems of a collaborative effort (Mattessich, 1992). Five factors related to process/structure have been identified by previous research as influencing successful collaboration: 1) members share a stake in both process and outcome, 2) multiple layers of decision-making, 3) flexibility, 4) development of clear roles and policy guidelines, and 5) adaptability.

Of the 18 research studies in the Mattessich, Monsey (1992) review, eleven identified one or more of the five factors related to process/structure as influencing successful collaboration.
Members Share A State In Both Process and Outcome

This factor was identified by six studies (Agranoff and Lindsay, 1983; Coe, 1988; Harbin, et al, 1991; Harrison, et al, 1990; Holman and Arcus, 1981; and Horwitch and Prahalad, 1981) as influencing successful collaboration.

The findings indicate that if the members of a collaborative group feel "ownership" of both the way the group works and the results of its work, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1983 study by Agranoff and Lindsay of intergovernmental collaborative groups concluded that having a "vested interest" and "joint concern" by all parties contributed to the success of the collaborative effort.

Holman and Arcus (1981) found in their study of integrated services for adolescent mothers and their children that sharing the costs, the resources, and the responsibilities incurred in responding to their needs was an important factor in the program's success.

Multiple Layers Of Decision-Making

This factor was identified by six studies (Alaszewski and Harrison, 1988; Agranoff and Lindsay, 1983; Coe, 1988; Harrison, et al, 1990; Holman and Arcus, 1981; and Rist, et al, 1980) as influencing the success of collaboration.

The findings indicate that if every level (upper management, middle management, and operations) within each
organization in the collaborative group participates in decision-making, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1981 study by Holman and Arcus of integrated services for pregnant and parenting teenagers concluded that the weekly meeting of the group composed of leaders of each of the different components contributed to its success.

Agranoff and Lindsay (1983) in their study of intergovernmental collaborative agencies concluded that political and administrative issues cannot be separated from the task of making and executing intergovernmental decisions. The power issues must be played out so that decision authority by jurisdiction is clear.

Flexibility

This factor was identified by four studies (Agranoff and Lindsay, 1983; Harrison, et al., 1990; Kagan, et al., 1990; and Rist, et al., 1980) as influencing the success of collaboration.

The findings indicate that if the collaborative group remains open to varied ways of organizing itself and accomplishing its work, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1990 study by Kagan, Rivera, and Parker of successful collaborations in the child care field gave examples of the kind of flexibility needed: holding meetings in different parts of a state to accommodate
geographic location differences, creatively addressing staffing shortages, and stretching resources to serve more than one purpose.

Agranoff and Lindsay (1983) also found that the willingness on the part of key actors to make adjustments while focusing on the narrow task at hand appeared to explain the intergovernmental agencies relatively high levels of coordination.

Development Of Clear Roles and Policy Guidelines

This factor was identified by four studies (Davidson, 1976; Harrison, et al, 1990; Isles and Auluck, 1990; and Rist, et al, 1980) as influencing successful collaboration.

The findings indicate that if the collaborating partners clearly understand their roles, rights, and responsibilities; and how to carry out those responsibilities, then the level of success of the collaborative effort increase (Mattessich, 1992).

The 1990 study by Isles and Auluck of The Community Drug Team found that the group increased its chances of success by: agreeing on defined profession-specific and generic skills, agreeing to record new referrals in a common referral book, and making an allocation of cases agreement.

Adaptability

This factor was identified by three studies (Agranoff and Lindsay, 1983; Horwitch and Prahalad, 1981; and Rist, et al, 1980) as influencing the success of collaboration.
The findings indicate that if the collaborative group has the ability to sustain itself in the midst of major changes (e.g., major goals or members), then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1990 study by Rist, Hamilton, Holloway, Johnson, and Wiltberger of the CETA/school linkage found that:

...almost without exception, what now is in place is not entirely what was anticipated nor promised when the grant application was made. The process of improvisation and of continually readjusting the goals of the program to changing political, economic, and social conditions has resulted in efforts dissimilar to those initially envisioned" (Rist, et al, 1990).

Horowitch and Prahalad (1981) concluded in their study of Multi-Organizational Enterprises (MOE) that the first step in their success is for top managers to recognize the MOE's inherent instability so that they may be able to select from a complex set of managerial techniques in order to guide the enterprise through a rough period.

**Communication**

Communication refers to the channels used by collaborative partners to send and receive information, keep one another informed, and convey opinions to influence the group's actions (Mattessich, 1992). Two factors related to communication have been identified by previous research as influencing successful collaboration: 1) open and frequent communication, and 2) established informal and formal communication links.
Of the 18 research studies in the Mattessich, Monsey (1992) review, 12 identified one or both of the two factors related to communication as influencing successful collaboration.

**Open and Frequent Communication**


The findings indicate that if the collaborative group members interact often, update one another, discuss issues openly, convey all necessary information to one another and to people outside the group, then the level of success of the collaborative effort increases (Mattessich, 1992).

A 1988 study by Coe of The Denver Partnership which established a transit/pedestrian retail mall found that frequent communication strengthened relationships. Another project of The Partnership, the development of a new convention center was not so successful, due in part to the lack of open communications.

Holman and Arcus (1981) also found in their study of a multi-agency program to provide services to adolescent mothers that one factor important was to create specific mechanisms for communicating. Major responsibility for this was given to the leaders of each of the components.
Established Informal And Formal Communication Links


The findings indicate that if the channels of communication exist on paper and if members establish personal connections, then the level of success of the collaborative effort increases. This would promote information flow and produce a better, more informed, and cohesive group working on a common project (Mattessich, 1992).

The 1981 study by Holman and Arcus also found that communication was improved by designating a particular staff person as liaison to the other members of the collaboration.

Purpose

Purpose refers to the reasons for the development of a collaborative effort, the result or vision the collaborative group seeks, and the specific tasks or projects the collaborative group defines as necessary to accomplish. It is driven by a need, crisis, or opportunity (Mattessich, 1992). Three factors related to purpose have been identified by previous research as influencing successful collaboration: 1) concrete, attainable goals and objectives, 2) shared vision, and 3) unique purpose.
Of the 18 research studies in the Mattessich, Monsey (1992) review, nine identified one or more of the three factors related to purpose as influencing successful collaboration.

**Concrete, Attainable Goals And Objectives**

This factor was identified by five studies (Agranoff and Lindsay, 1983; Bierly, 1988; Coe, 1988; Harrison, et al, 1990, Rist, et al, 1980) as influencing the success of collaboration.

The findings indicate that if the goals and objectives of the collaborative group are clear to all partners and realistically can be attained, then the level of success of the collaborative group increases (Mattessich, 1992).

The 1983 study by Agranoff and Lindsay of six public/private collaborative projects concluded that success was found by focusing on concrete, attainable goals.

**Shared Vision**


The findings indicate that if collaborating partners have the same vision, with clearly agreed-upon mission, objectives and strategy, then the level of success of the collaborative effort increases. The shared vision may exist at the outset of collaboration; or the partners may develop a vision as they work together (Mattessich, 1992).
The 1991 study by Harbin, Eckland, Gallagher, Clifford, and Place of states who implement coordinated services for families with a handicapped child concluded that "a vision of the desired service system, which is shard by multiple persons in several centers of influence is critical to progress" (Harbin, et al, 1991).

**Unique Purpose**

This factor was identified by three studies (Coe, 1988; Holman and Arcus, 1981; and Kagan, et al, 1990) as influencing successful collaboration.

The findings indicate that if the mission and goals or approach of the collaborative group differ, at least in part, from the mission and goals or approach of the member organizations, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1988 study by Coe of The Denver Partnership recommended that "the organization should not attempt to usurp the responsibilities of others but recognize others' areas of responsibility and work within that framework" (Coe, 1988).

**Resources**

Resources include financial and human "input" necessary to develop and sustain a collaborative group (Mattessich, 1992). Two factors related to resources have been identified by previous research as influencing successful
collaboration: 1) sufficient funds, and 2) skilled convener.

Of the 18 research studies in the Mattessich, Monsey (1992) review, 12 identified one or both of the two factors related to resources as influencing successful collaboration.

**Sufficient Funds**


The findings indicate that if the collaborative group has an adequate, consistent financial base to support its operations, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1990 study by Kagan, Rivera, and Parker of 72 successful collaborations around the country reported that 95 percent of the local-level collaborative groups have funding. Collaborations working for system changes in society have the most difficult time as they are distracted by the need to raise funds or write grants to support their efforts.

Agranoff and Lindsay (1983) in their study of intergovernmental agencies found that proposed reforms in the intergovernmental structure will not eliminate totally
the concept of federal assistance as a means of maintaining the federal programs. Responsibility for programming will continue to be divided among various governments and private agencies.

**Skilled Convener**


The findings indicate that if the individual who convenes the collaborative group has organizing and interpersonal skills and carries out the role with fairness, then the level of success of the collaborative effort increases (Mattessich, 1992).

The 1991 study by Harbin, Eckland, Gallagher, Clifford, and Place concluded that key people in a collaborative group who are "highly involved in providing vision and leadership contribute to progress in the development of policy".

Horowitz and Prahalad (1981) in their study of MOE’s found that the top manager must be an advocate and a champion of the MOE. This champion should possess abilities to communicate effectively with several culturally distant and distinct groups, motivate people by raising the mission of the MOE beyond selfish personal or departmental ends, and
recognize the legitimacy of dissent and change while focusing on completing the project.

A recent study, (Keith, 1993) of collaborative efforts on behalf of children, youth, and families in Michigan not included in the Mattessich, Monsey (1992) review of research literature confirms many of the factors identified. The results of the qualitative data analysis suggest that numerous common elements exist across a majority of the coalitions interviewed: leadership, unity, communication, participation by citizens and informal organizations, successful accomplishments, locality, and traits and characteristics of coalition members.

Model

Gray presents a three-phase model of collaboration: problem setting, direction setting, and implementation. Success of the collaborative effort entails understanding the steps within each phase and managing them effectively. Table 1, page 43 provides a list of the steps in each phase of the collaborative process.

Gray (1989) also presents five features that are critical to the process of collaboration: 1) the stakeholders are interdependent, 2) solutions emerge by dealing constructively with differences, 3) joint ownership of decisions is involved, 4) stakeholders assume collective
responsibility for the future direction of the domain, and
5) collaboration is an emergent process.

Table 1

The Collaborative Process

<table>
<thead>
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<tbody>
<tr>
<td>Phase 1: Problem setting</td>
</tr>
<tr>
<td>* common definition of the problem</td>
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<td>* commitment to collaborate</td>
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<tr>
<td>* identification of stakeholders</td>
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<tr>
<td>* legitimacy of stakeholders</td>
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<tr>
<td>* convener characteristics</td>
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<tr>
<td>* identification of resources</td>
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<td>---------------------------------</td>
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<tr>
<td>Phase 2: Direction setting</td>
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<tr>
<td>* establishing ground rules</td>
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<td>* agenda setting</td>
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<tr>
<td>* organizing subgroups</td>
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<tr>
<td>* joint information search</td>
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<tr>
<td>* exploring options</td>
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<tr>
<td>* reaching agreement and closing the deal</td>
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<td>---------------------------------</td>
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<tr>
<td>Phase 3: Implementation</td>
</tr>
<tr>
<td>* dealing with constituencies</td>
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<tr>
<td>* building external support</td>
</tr>
<tr>
<td>* structuring</td>
</tr>
<tr>
<td>* monitoring the agreement and ensuring compliance</td>
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<td>---------------------------------</td>
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</table>

(Gray, 1989)

Literature Recommending School/Business Partnerships

* A Nation At Risk (1983) presents the message that unless concerted initiatives are taken, eventually anyone visiting an American city will discover that "when you get there, there isn’t any there, there!"
* **Action for Excellence** (1983), a report by the National Task Force on Education for Economic Growth calls for higher standards and more effective "partnerships" between industry and the public schools.

* **Schools of the Future: How American Business and Education Can Cooperate to Save Our Schools** (1985) presents a scenario for the year 2000 when schools and corporations could be working effectively together as partners.

* **Workforce 2000: A Hudson Institute Report** (1986) cites the number one problem facing the economy which is the availability of a trained and competent workforce.

* **America's Choice: high skills or low wages: the report of the Commission on the Skills of the American Workforce** (1990) states that more than 70% of U.S. jobs will not require a four year degree by the year 2000. It calls on schools and businesses to prepare the youth for the future.

* **Megatrends 2000: ten new directions for the 1990's** (1990) presents the trends of a global economy and the rise of the pacific rim and has been quoted frequently by leaders of the Tech Prep reform movement.

* **Ohio's future at work: Action plan for accelerating the modernization of vocational education in Ohio** (1990) lists strengthening vocational education
alliances with business, industry, labor, community, and government agencies as one of its 11 imperatives.

* Tech Prep Associate Degree: A Win/Win Experience (1991) requires students to attain occupational competencies through vocational education, technical education, a youth internship program or an apprentice program.

* Smart Schools, Smart Kids (1991) names the business community as an ally with enlightened self-interest in improving public schools at all levels - local, state and national.


Previous Research on Adopt-A-School programs

Timpane’s study (1982) found that the programs in Dallas, Los Angeles, New Orleans, Memphis, and Oakland were the largest achievements as they attempted to encompass all the schools within each district. Lacey (1983) conducted an in-depth case studies of Adopt-A-Schools in Memphis, Chicago, New York City, Salt Lake City, and Boston. He
found that the school/business partnerships in these five cities varied in scale, purpose, type, quality, and maturity. To date, however, there is no central source of information about Adopt-A-School programs nationwide, how many there are, what they do, and with what results (Barton, 1983).

Summary

This study relied greatly on the review and summary of research related to collaboration conducted by Mattessich and Monsey (1992). Nineteen factors that influence the success of collaboration were identified in 18 studies. The 19 factors were grouped into the six independent variables of the study: environment, membership, communication, process/structure, purpose, and resources.

Previous research on collaboration has employed case study rather than empirical methodology; therefore, success of the collaborative efforts has not been directly measured.
CHAPTER III

METHODOLOGY

This chapter explains the methodology involved in conducting the research. The methodology is described in relation to the following: 1) population and sample, 2) research design, 3) instrumentation, 4) data collection, and 5) data analysis.

Population and Sample

The target population was the contact individuals for schools and their adopters in the Adopt-A-School program in the Columbus Public School district. Based upon the information provided by the supervisor of School-Business Partnerships, Columbus Public Schools, there were 378 community adopters partnered with 141 schools (N=519) as of February, 1994. The community adopters were comprised of government adopters, local civic associations and clubs, church groups, for-profit businesses, and others. The number of each type of adopter involved in the Adopt-A-School program is shown in Table 20, Appendix A.

In determining sample size, the desired method of analysis, multiple regression, was taken into consideration.
The total number of variables in the study was seven with the addition of demographics. Several rules of thumb have been proposed regarding the number of predictor variables relative to the sample size, ranging from 10 to 15 observations per predictor to an absolute minimum of four observations per predictor (Hair, et al, 1992). Based on the relatively conservative number of 10 observations per predictor, this study required a minimum of 80 observations. Since one of the purposes of the study was to determine if business partners viewed the collaborative effort differently than the school partners, the number of observations required was determined to be a minimum of 80 for each type of partner (160 total).

Partnerships active less than six months were eliminated from the study due to a probable lack of accomplishment. The 15 randomly selected partnerships for the pilot test were also eliminated from the study. Remaining were 103 schools which were all included in the study. Obviously, more than one community adopter was partnered with an individual school. A random selection of one community adopter per school was made to be included in the sample. The total number of participants in the study was 206, 50% (103) were school contact people; 50% (103) were business contact people.
Research Design

The design of this study as identified by Campbell and Stanley (1963) utilized both an ex post facto static-group comparison and correlational methodology. Data collection was by the survey method. In ex post facto research, it is assumed that the independent variable or variables which have already occurred are responsible for the dependent variable (Kerlinger, 1986). The design is diagrammed in Figure 2, page 49.

![Diagram](image)

Figure 2. Diagram of ex post facto static group comparison design.

In correlational research, researchers seek to determine if a relationship exists between two or more quantitative variables. Such relationships are useful in prediction and cannot prove causation (Fraenkel, Wallen, 1990).

The primary objective of the investigation was to determine the relationships among selected variables and the level of success of the collaborative efforts between school
and business. The dependent variable was Success. The six independent variables were Environment, Member, Process/Structure, Communication, Purpose, and Resources. In determining the strength of relationships, guidelines as recommended by Davis (1971) were used. They are shown in Table 2, page 50.

Research hypotheses were developed a priori. Only those variables which were expected to considerably influence the dependent variable were included in the hypotheses.

Table 2

<table>
<thead>
<tr>
<th>Coefficient</th>
<th>Description</th>
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<tr>
<td>.70 or higher</td>
<td>Very Strong Association</td>
</tr>
<tr>
<td>.50 to .69</td>
<td>Substantial Association</td>
</tr>
<tr>
<td>.30 to .49</td>
<td>Moderate Association</td>
</tr>
<tr>
<td>.10 to .29</td>
<td>Low Association</td>
</tr>
<tr>
<td>.01 to .90</td>
<td>Negligible Association</td>
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Source: Davis, 1971

Dependent Variable

The dependent variable was the perceived level of success achieved by the collaborative effort. It was considered to be an interval variable.
Major Independent Variables

The major independent variables were derived from an intensive review of research literature completed by Mattessich and Monsey (1992). The 19 factors identified by the review were organized into six categories (Figure 1, page 11). These categories became the six independent variables for this study. They are:

Instrumentation

Data were collected from a survey instrument (Appendix B) developed by the investigator. It was designed to measure the dependent variable, each of the six independent variables, and to gather demographic data. The instrument was mailed to 103 contact persons from the schools and 103 randomly selected corresponding partners from the community.

The dependent variable, perceived level of success of the collaborative effort, was measured based on seven constructs. These constructs were the district-wide goals of the Adopt-A-School program. The constructs with corresponding item numbers are as follows:

SUCCESS

Items 1 - 5  Lower the dropout rate
Items 6 - 10  Help more disadvantaged children prepare for higher learning
Items 11 - 15  Increase parental involvement in schools
| Items 16 - 20 | Improve attendance |
| Items 21 - 25 | Guide students toward community learning experiences |
| Items 26 - 30 | Increase students' understanding of workplace expectations |
| Items 31 - 35 | Improve the achievement of all students |

The following independent variables with corresponding item numbers are as follows:

| Items 36 - 45 | ENVIRONMENT - history of collaboration within the community; collaborative group seen as leader in the community; political/social climate seen as favorable |
| Items 46 - 55 | MEMBERSHIP - mutual respect, understanding, and trust; appropriate cross section of members; members see collaboration as in their self-interest; ability to compromise |
| Items 56 - 65 | PROCESS/STRUCTURE - members share a stake in both process and outcome; multiple layers of decision-making; flexibility; development of clear roles and policy guidelines; adaptability |
| Items 66 - 75 | COMMUNICATION - open and frequent communication; established informal and formal communication links |
| Items 76 - 83 | PURPOSE - concrete, attainable goals and objectives; shared vision; unique purpose |
| Items 84 - 93 | RESOURCES - sufficient funds; skilled convener |

The instrument consisted of statements about the partners' perceptions regarding each of the constructs or independent variables. Respondents were asked to indicate
their level of agreement or disagreement using a six-point, Likert-type scale. The six points on the scale were:

1 = Very Strongly Agree (VSA)
2 = Strongly Agree (SA)
3 = Agree (A)
4 = Disagree (D)
5 = Strongly Disagree (SD)
6 = Very Strongly Disagree (VSD)

Items were worded both positively and negatively to help respondents avoid response sets (Dillman, 1978). During data analysis, the recording of responses of negatively worded items was reversed to provide consistent measurement.

The questionnaire was printed in booklet form and consisted of 10 pages. The cover displayed a lamp of knowledge graphic and the logo of The Ohio State University. All mailings were printed on white paper. No questions were printed on the back cover; but, space was allotted for additional comments.

After the instrument was designed, it was submitted to a panel of experts selected by the investigator for the purpose of establishing content and face validity. The panel was comprised of ten individuals: the supervisor of School-Business Partnerships, Columbus Public Schools, two instructors in Columbus Public Schools, one individual from business, the supervisor of Education Initiatives with the Greater Columbus Chamber of Commerce, two Ohio State University faculty in Vocational Education, one Ohio State University staff member employed by the Ohio Center for Action on Coalition Development and two doctoral graduates
of vocational education from The Ohio State University currently employed by the Ohio Division of Vocational and Career Education. After examination by the panel, the recommendations and comments were integrated into the instrument where deemed necessary by the investigator.

The instrument was then pilot tested for reliability to ensure internal consistency. The pilot test was conducted by the contact individuals of 15 collaborations (15 contact individuals from the schools; 15 from the corresponding community partners for a total of 30). These partnerships were randomly selected from the frame for participation in the pilot test (Appendix C). A Cronbach’s Alpha was performed on each set of eight to ten items comprising the six independent variables. The alphas ranged from .88 to .93 (Table 21, Appendix D).

Data Collection

Dillman’s Utility Theory (1978) stated that people will respond to a survey because they feel they are helping society. And, due to the nature of this study, a low rate of non-response was expected. As indicated by Dillman (1978), the following procedures were used for mailing the survey instrument.

The survey instrument with accompanying cover letter (Appendix E) was mailed to participants (n=206) on April 29, 1994, and was requested to be returned no later than May 9,
1994, which gave the participants approximately one week to respond. The cover letter was developed to increase the credibility and importance of the study in the participants' minds and to show that the study had the support of the Columbus Public Schools. The cover letter was personalized and signed in blue ink. The researcher provided a stamped, self-addressed envelope to the respondents from business. The researcher used the inter-school mail to reach the respondents from the schools in the Columbus Public Schools. Respondents were given the phone number of the investigator in case they had questions about the questionnaire. They were assured of confidentiality since questionnaires did not request a name; but, were coded for the purpose of following up non-respondents.

A reminder/thank you postal card (Appendix F) was mailed to all participants (n=206) seven days (May 6, 1994) after mailing the initial packet as recommended by Dillman (1978): "a follow-up postcard designed as a thank you for the prompt return of the questionnaire has been found to be followed by a response burst equal to that which follows the original mailing."

A second complete packet (Appendix G) was mailed to nonrespondents seven days (May 23, 1994) after the first follow-up post card. A third full packet was mailed to the remaining nonrespondents. The researcher telephoned the nonrespondents to encourage compliance. The entire data
collection process was completed within six weeks and produced a 68% response rate \((n=137)\). Seventy percent \((72)\) of the school contact individuals responded and 63% \((65)\) of the business contact individuals responded.

Non-respondents were controlled for by drawing a random sample of ten percent of the final non-respondents and contacting them by phone for an interview requesting responses to the questionnaire. Those non-respondents were compared with respondents on all variables to determine if there was a significant difference (Table 22, Appendix H). As there was not a significant difference, non-respondents were presumed to resemble respondents, thereby permitting generalization to the target population.

All persons returning the questionnaire comprised the accepting sample \((n=137)\). Based on the comparison of respondents to non-respondents, generalization of the results were made to the 519 contact individuals in the Adopt-A-School program of Columbus Public Schools (378 community adopters partnered with 141 schools).

**Data Analysis**

The data collected were analyzed using the Statistical Package for the Social Sciences (SPSS/PC+). Descriptive statistics were used to organize, summarize, and analyze the partnerships and the differences between the school and business partners. Descriptive statistics were used to
summarize the dependent and independent variables.

Bivariate data were used to determine the variables for inclusion in the multiple regression procedure. A Fisher's z Transformation and Comparison between Independent rs was used to test the significance of the difference between the correlation coefficients obtained on the school partners and the business partners. Simultaneous multiple regression analysis was used to determine the best predictor(s) of the dependent variable, success, for the total sample, the school partners, and the business partners. Finally, a semi-partial regression analysis was used to determine the unique contribution of each variable to the dependent variable, success.

The residuals were examined and there was no evidence that the following were violated: 1) independence, 2) constant variance, 3) normal distribution, and 4) no correlation with the independent variable.

**Summary**

This chapter provided the rationale and design of the study which modified the list of factors influencing successful collaboration presented by Mattessich and Monsey (1992). The 19 factors identified were categorized by Mattessich and Monsey. The six category headings became the independent variables for this study.
The population was described as well as the procedures for data collection and the timetable that was used during the data collection process. The instrumentation process was detailed; reliability and validity test results were given. The data analysis procedures that were utilized were outlined.
CHAPTER IV

FINDINGS AND RESULTS

The purposes of this study were 1) to determine to what extent collaborations between schools and businesses are perceived as successful by the partners (outcomes) and, 2) to identify those factors which contribute to the success of the collaboration (process).

This chapter describes the collaborative efforts based on the findings compiled from collected data and summarized in the section entitled "Description of the Population." The means and standard deviations of the six independent variables and one dependent variable are described in the section entitled "Description of the Variables." In the section entitled "Relationships Among Variables," the following are described: correlations between variables; the evaluation of the differences among relationships; the prediction of the dependent variable; and the semi-partial regression analysis of success.

Description of the Population

A descriptive profile of the collaborative efforts between schools and businesses in the Adopt-A-School Program
in Columbus, Ohio, was constructed from the following characteristics:

- Type of organization of the respondent
- Type of organization of the partner
- Months in existence
- Size of the business partners' organizations
- Focus of the partnership
- Opinions about the name, "Adopt-A-School"
- Additional statements

This information provided insight into the partnership as viewed by both the school and the business combined; as well as the perspective from each individually, where applicable. Frequencies and percentages were used to describe the characteristics. Percentages were rounded to the nearest whole number in the discussion that follows.

**Type of Organization of the Respondent**

Table 3 on page 61 shows the frequency distribution of the organizations involved in the partnership. For the sample of 137 partners in the Adopt-A-School Program, 71 (52%) were school partners and 65 (47%) were industry partners. Of the school respondents, almost two-thirds (65%) were from elementary schools. The respondents from industry were fairly evenly divided between government (34%), for-profit business (40%), and other (26%) which included non-profit foundations, private colleges, schools, associations, individual doctors, psychologists, etc.
Type of Organization of the Partner

Table 4 on page 62 shows the type of organization with which the respondent is partnered. Over half (61%) of the 71 school respondents are partnered with for-profit business. For the sample of 65 business respondents, over half (62%), were partnered with elementary schools.

Table 3

Frequency Distribution of the Respondent's Organization

<table>
<thead>
<tr>
<th>Organization</th>
<th>Total (n=137)</th>
<th>School (n=71)</th>
<th>Businesses (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Elementary School</td>
<td>46</td>
<td>34</td>
<td>46</td>
</tr>
<tr>
<td>Middle School</td>
<td>15</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>High School</td>
<td>7</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Career Center</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Government Agency</td>
<td>22</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>For Profit Business</td>
<td>26</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>17</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
<td>71</td>
</tr>
</tbody>
</table>
Table 4

Frequency Distribution of the Organization of the Respondent’s Partner

<table>
<thead>
<tr>
<th>Organization</th>
<th>Total (n=137)</th>
<th>Schools (n=71)</th>
<th>Businesses (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>Elementary School</td>
<td>40</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Middle School</td>
<td>11</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>High School</td>
<td>12</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Career Center</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Government Agency</td>
<td>15</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Civic Association</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Church Group</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>For Profit Business</td>
<td>43</td>
<td>31</td>
<td>43</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
<td>71</td>
</tr>
</tbody>
</table>

Table 5

Frequency Distribution of the Months the Partnerships have Existed

<table>
<thead>
<tr>
<th>Months</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 12</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>12 - 36</td>
<td>60</td>
<td>44</td>
</tr>
<tr>
<td>37 - 72</td>
<td>38</td>
<td>28</td>
</tr>
<tr>
<td>73 - 153</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>Missing</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean = 49.2
Std Dev = 32.7
Months in Existence

For the 137 respondents collaborating in the Adopt-A-School program, the number of months that the partnership had existed ranged from two to 153. Nearly one-half (44%) of the respondents had participated from 12 to 36 months. About one-fourth (28%) had participated from 37 to 72 months while 17% had been in the program for over 73 months. The mean number of months the partnerships had been in existence was 49.2 months (standard deviation=32.7).
This data is shown in Table 5, page 62.

| Table 6 |

| Frequency Distribution of the Number of Employees of the Business Partners (n=65) |
|------------------|---|---|
| Number of Employees | f | % |
| Less than 10      | 2 | 3 |
| 11 - 100          | 14| 22|
| 101 - 1000        | 26| 40|
| 1001 - 18,000     | 21| 32|
| Missing           | 2 | 3 |
| Total             | 65| 100|

Mean: 1706.5  
Std Dev: 3302.9  
Range: 1 - 18,000
Size of the Business Partners' Organizations

Table 6 on page 63 shows that of the total business respondents, 40% were from large organizations (101-1000 employees) while almost one-third were from very large organizations (1001-18,000 employees). The number of employees in the business partners' organizations ranged from 1 to 18,000 with a mean of 1,706.5 (standard deviation=3302.9).

Focus of the Partnership

The focus of the partnerships was analyzed in two ways. First, Table 7 on page 65 shows the percentages of collaborators which focused on specific areas of collaboration. For the total respondents, three-fourths (74%) felt they were partners in special services (provide short-term, project or student specific activities or resources to help with a specific problem or need). A majority of the respondents (61%) felt they were partners in the classroom (improve the learning environment by volunteers bringing their expertise into the classroom or the classroom to the business). However, only a small number (7%) of the respondents felt that they were partners in policy (bring about substantive changes in local school governance).

The data from the school respondents was similar to that of the business respondents except in the focus areas of management and policy. Fourteen percent of the school
### Table 7
Frequency Distribution of the Focus of the Partnership
(Multiple Answers Possible)

<table>
<thead>
<tr>
<th>Focus Area(s)</th>
<th>Total (n=137)</th>
<th></th>
<th>Schools (n=71)</th>
<th></th>
<th>Businesses (n=65)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Special Services</td>
<td>102</td>
<td>74</td>
<td>53</td>
<td>75</td>
<td>49</td>
<td>75</td>
</tr>
<tr>
<td>2. The Classroom</td>
<td>84</td>
<td>61</td>
<td>43</td>
<td>61</td>
<td>41</td>
<td>63</td>
</tr>
<tr>
<td>3. Teacher Training and Development</td>
<td>27</td>
<td>20</td>
<td>13</td>
<td>18</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>4. Management</td>
<td>11</td>
<td>8</td>
<td>10</td>
<td>14</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. Systemic Educational Improvement</td>
<td>20</td>
<td>15</td>
<td>13</td>
<td>18</td>
<td>7</td>
<td>11</td>
</tr>
<tr>
<td>6. Policy</td>
<td>10</td>
<td>7</td>
<td>8</td>
<td>11</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
</tbody>
</table>

### Table 8
Frequency Distribution of the Number of Focus Areas Selected

<table>
<thead>
<tr>
<th>Number of Focus Areas Selected</th>
<th>Total (n=137)</th>
<th></th>
<th>Schools (n=71)</th>
<th></th>
<th>Businesses (n=65)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>One</td>
<td>69</td>
<td>50</td>
<td>39</td>
<td>55</td>
<td>30</td>
<td>57</td>
</tr>
<tr>
<td>Two</td>
<td>35</td>
<td>26</td>
<td>16</td>
<td>23</td>
<td>19</td>
<td>29</td>
</tr>
<tr>
<td>Three</td>
<td>14</td>
<td>10</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Four</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>6</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Five</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Six (All)</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Missing</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
<td>71</td>
<td>100</td>
<td>65</td>
<td>100</td>
</tr>
</tbody>
</table>
respondents felt they were partners in management (provide management assistance to school officials in a broad range of areas) in contrast to only 2% of the business respondents. Eleven percent of the school respondents felt they were partners in policy in contrast to only 3% of the business partners.

The second method of analyzing the focus areas of the partnerships was by the number of focus areas selected shown in Table 8 on page 65. For the 137 respondents, half (50%) felt that their partnership focused on only one area, one-fourth (26%) felt they focused on two areas and only a few (4%) felt they focused on all six areas. The data for the school respondents was similar to that of the business respondents.

Opinions about the Name, "Adopt-A-School"

Table 9 page 67 show that a majority (68%) of the partners felt that the name of the program, "Adopt-A-School" was appropriate with an additional 5% approving of the "caretaker" image projected. Only 11% of all respondents felt that the name should be changed and that the "caretaker" image is negative.

A higher percentage (72%) of the school partners felt the name was appropriate with an additional 9% approving of the "caretaker" image compared with 65% of the business partners with only an additional 2% approving of the
Table 9

Frequency Distribution of the Opinions Regarding the Name, "Adopt-A-School"

<table>
<thead>
<tr>
<th>Opinions</th>
<th>Total (n=137)</th>
<th>Schools (n=71)</th>
<th>Businesses (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>1. Appropriate</td>
<td>93</td>
<td>68</td>
<td>51</td>
</tr>
<tr>
<td>2. Conveys A Caretaker Relationship</td>
<td>15</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>3. Should Be Changed</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. Both 1 and 2</td>
<td>7</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. Both 2 and 3</td>
<td>15</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>Missing</td>
<td>5</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>100</td>
<td>71</td>
</tr>
</tbody>
</table>

Table 10

Additional Statements Made By Respondents About the Adopt-A-School Partnership (n=137)

<table>
<thead>
<tr>
<th>Additional Statements</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beneficial program in providing unique experiences, role models, and awareness.</td>
<td>31</td>
<td>22</td>
</tr>
<tr>
<td>Inactive program or limited involvement</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Change in contact individuals weaken partnerships</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Need for joint meetings, newsletters</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Assistance needed from Adopt-A-School leaders</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Not as productive as desired</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Goal is not to improve student achievement</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Business expects no immediate returns</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Recognition program needed</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Evaluation of the program is needed</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Missing</td>
<td>85</td>
<td>62</td>
</tr>
</tbody>
</table>
"caretaker" image. Only 10% of the school respondents felt that the name should be changed and/or disapproved of the "caretaker image" compared to 15% of the business respondents.

Additional Statements about the Partnerships

Table 10 on page 67 shows that almost one-fourth (22%) of the respondents wrote statements which indicated that the Adopt-A-School program was beneficial in providing unique experiences for students, role models, and awareness to all participants including career awareness. Several statements were written indicating a need for improvement or assistance: change in contact individuals weaken the partnerships (4%); a need for more assistance from the Adopt-A-School leaders in the form of training and organization (4%); a need for joint meetings with other Adopt-A-School coordinators (4%); and an evaluation of the programs is needed to assess and give direction (1%). Over one-half of the respondents (62%) did not write in additional statements.

Description of the Variables

The means and standard deviations of the six independent variables (shown in Figure 1, page 11) along with the dependent variable, success, are shown in Table 11. For all six of the independent variables, the mean scores ranged between 2.47 and 3.01 for the total respondents
(n=137), the school respondents (n=71), and the business respondents (n=65). This indicated that the respondents were between strong agreement (2.0) to agreement (3.0) with the statements about each variable. The business respondents had slightly higher mean scores than the school partners on every independent variable indicating that they were slightly less in agreement. Table 11, page 69 also shows that for all respondents the mean score for success was 2.94 (standard deviation .56) which indicated agreement (school = 2.88; business = 3.01).

Table 11

Means and Standard Deviations for Variables for All Collaborative Partners, School Partners Only and Business Partners Only

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total (n=137)</th>
<th>Schools (n=71)</th>
<th>Businesses (n=65)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication (X₁)</td>
<td>2.71 .70</td>
<td>2.61 .70</td>
<td>2.81 .70</td>
</tr>
<tr>
<td>Environment (X₂)</td>
<td>2.63 .58</td>
<td>2.47 .59</td>
<td>2.80 .53</td>
</tr>
<tr>
<td>Membership (X₃)</td>
<td>2.68 .60</td>
<td>2.56 .61</td>
<td>2.81 .57</td>
</tr>
<tr>
<td>Process/Structure (X₄)</td>
<td>2.59 .70</td>
<td>2.47 .75</td>
<td>2.73 .63</td>
</tr>
<tr>
<td>Purpose (X₅)</td>
<td>2.73 .77</td>
<td>2.60 .78</td>
<td>2.88 .74</td>
</tr>
<tr>
<td>Resource (X₆)</td>
<td>2.66 .76</td>
<td>2.47 .85</td>
<td>2.86 .61</td>
</tr>
<tr>
<td>Success (Y)</td>
<td>2.94 .56</td>
<td>2.88 .59</td>
<td>3.01 .52</td>
</tr>
</tbody>
</table>

Note: 1 = Very Strongly Agree; 6 = Very Strongly Disagree


Relationships Among Variables

This section describes the relationships among the variables in three different ways. First, the bivariate data used in determining significance of the variables for inclusion in the multiple regression analysis is presented in the section entitled "Correlations". Second, the section entitled "Evaluation of Differences among Relationships" presents a comparison of the correlation coefficients of the dependent variable and each independent variable between the school partners and the business partners. The third section, "Prediction of Success" presents the regression models for success for the total sample, the school sample and the business sample. And, the fourth section, "Semi-Partial Regression Analysis" presents the unique contribution of each variable to the dependent variable, success.

Correlations

A correlation matrix is presented for each of the three data sets: total, school, and business.

Correlations for Variables of All Collaborative Partners

Table 12 on page 71 shows that for the 137 partners, eight of the 21 relationships between the independent variables showed a very strong positive association (r
values ranged from .70 to .81). One of note is the variable, Communication, which had a very strong positive association with three variables: Membership (.75), Process/Structure (.79) and Purpose (.79).

Table 12
Correlations for Variables of All Collaborative Partners (n = 137)

<table>
<thead>
<tr>
<th>Variables</th>
<th>X₁</th>
<th>X₂</th>
<th>X₃</th>
<th>X₄</th>
<th>X₅</th>
<th>X₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication (X₁)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment (X₂)</td>
<td>.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership (X₃)</td>
<td>.75</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process/Structure (X₄)</td>
<td>.79</td>
<td>.70</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purpose (X₅)</td>
<td>.79</td>
<td>.57</td>
<td>.66</td>
<td>.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource (X₆)</td>
<td>.68</td>
<td>.63</td>
<td>.61</td>
<td>.73</td>
<td>.67</td>
<td></td>
</tr>
<tr>
<td>Success (Y)</td>
<td>.58</td>
<td>.60</td>
<td>.64</td>
<td>.67</td>
<td>.53</td>
<td>.48</td>
</tr>
</tbody>
</table>

The relationship between Process/Structure and Membership was higher than .80 (.81) which is a very strong positive association and indicates possible multicollinearity. Potential multicollinearity occurs when some or all of the independent variables are substantially
correlated with each other (Warmbrod, 1993). Warmbrod suggests as one of the solutions, the deletion from the regression equation the variable that is causing the problem. Since Process/Structure had a stronger association with the dependent variable (.67) than Membership (.64), Membership was selected as the variable to delete from the regression equation.

The r values ranged from .50 to .69 for twelve of the 21 relationships between the variables indicating a substantial positive association. The dependent variable, Success, had this association with every independent variable except, Resources; which had a moderate positive association (.48). The variable, Process/Structure had the highest correlation with Success (.67).

Correlations for Variables of School Partners Only

Table 13 on page 73 shows that for the 75 school partners, 12 of the 21 relationships between the variables showed a very strong positive association (r values ranged from .70 to .84). One of them was the dependent variable, Success, which had the highest correlation with Process/Structure (.72).

Potential multicollinearity was detected in the correlation matrix in four relationships. Communication showed a very strong positive association with Membership (.84) and Process/Structure (.81). Process/Structure showed
a very strong positive association with Membership (.81). Because of Process/Structure’s stronger association with the dependent variable (.72), Membership and Communication were selected as the variables to delete from the regression equation.

The r values ranged from .55 to .69 for nine of the 21 relationships between the variables indicating a substantial positive association. The dependent variable, Success, had the lowest correlation with Resource (.55).

Table 13

Correlations for Variables of School Partners Only
(n = 71)

<table>
<thead>
<tr>
<th>Variables</th>
<th>X₁</th>
<th>X₂</th>
<th>X₃</th>
<th>X₄</th>
<th>X₅</th>
<th>X₆</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication (X₁)</td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment (X₂)</td>
<td></td>
<td>.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership (X₃)</td>
<td>.84</td>
<td>.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process/Structure (X₄)</td>
<td>.81</td>
<td>.74</td>
<td>.81</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purpose (X₅)</td>
<td>.79</td>
<td>.62</td>
<td>.76</td>
<td>.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource (X₆)</td>
<td>.74</td>
<td>.66</td>
<td>.66</td>
<td>.77</td>
<td>.70</td>
<td></td>
</tr>
<tr>
<td>Success (Y)</td>
<td>.63</td>
<td>.63</td>
<td>.58</td>
<td>.72</td>
<td>.63</td>
<td>.55</td>
</tr>
</tbody>
</table>
Correlations for Variables of Business Partners Only

Table 14 on page 74 shows that for the 61 business partners, four of the 21 relationships between the variables showed a very strong positive association (r values ranged from .70 to .80). The dependent variable, Success, had the highest correlation with Membership (.70).

Table 14

Correlations for Variables of Business Partners Only
(n = 65)

<table>
<thead>
<tr>
<th>Variables</th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication (X1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment (X2)</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership (X3)</td>
<td>.65</td>
<td>.65</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Process/Structure (X4)</td>
<td>.75</td>
<td>.61</td>
<td>.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purpose (X5)</td>
<td>.78</td>
<td>.45</td>
<td>.52</td>
<td>.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource (X6)</td>
<td>.60</td>
<td>.49</td>
<td>.48</td>
<td>.63</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>Success (Y)</td>
<td>.50</td>
<td>.55</td>
<td>.70</td>
<td>.58</td>
<td>.37</td>
<td>.35</td>
</tr>
</tbody>
</table>

The r values ranged from .50 to .65 for 12 of the 21 relationships between the variables indicating a substantial
positive association. The dependent variable, Success, had a substantial positive association with Communication (.50), Environment (.55), and Process/Structure (.58).

Five of the 21 relationships between the variables showed a moderate positive association (r values ranged from .35 to .49). Success had this association with the variables, Purpose (.37) and Resource (.35).

The correlation matrix was examined for potential multicollinearity and none was found.

Table 15
Comparisons of the School (n=71) and Business (n=65)
Correlation Coefficients between Success and Each Independent Variable

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>r'</th>
<th>z'</th>
<th>Normal Curve Deviate z</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sch</td>
<td>bus</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>.63</td>
<td>.50</td>
<td>.74 .55</td>
</tr>
<tr>
<td>Environment</td>
<td>.63</td>
<td>.55</td>
<td>.74 .62</td>
</tr>
<tr>
<td>Membership</td>
<td>.58</td>
<td>.70</td>
<td>.66 .87</td>
</tr>
<tr>
<td>Process/Structure</td>
<td>.72</td>
<td>.58</td>
<td>.91 .66</td>
</tr>
<tr>
<td>Purpose</td>
<td>.63</td>
<td>.37</td>
<td>.74 .34</td>
</tr>
<tr>
<td>Resources</td>
<td>.55</td>
<td>.35</td>
<td>.62 .37</td>
</tr>
</tbody>
</table>

* with dependent variable (success)
Reject at Alpha Level .05
Two-tailed p
Evaluation of Differences Among Relationships

One of the research objectives of the study was to determine if the collaborative effort was viewed differently by education and corporations. The following analysis of the data fulfilled that objective.

In order to test the significance of the difference between the correlation coefficients obtained on the school sample and the business sample, Fisher's $z$ Transformation and Comparison between Independent $r$'s was used (Cohen, Cohen, 1975). The normal curve deviate was computed using the formula:

Equation 1.

$$ z = \frac{z'_{1} - z'_{2}}{sd_{r}} $$

where the standard error of $z'$:

Equation 2.

$$ sd_{r} = \frac{1}{\sqrt{n - 3}} $$

Table 15 on page 75 shows the data. The null hypothesis tested for each independent variable was: $H_0$: $r_{school} = r_{business}$. The null hypothesis for the variable, $\underline{Purpose}$, was the only variable rejected at an alpha level of .05 with $z=2.278$; $p=.024$. The correlation between purpose and
success was higher for the school partners (.63) than for the business partners (.37).

Prediction of Success

One of the purposes of the study was to identify the factor(s) which contribute to the success of the collaboration between schools and business. The following tables show the regression model for success for all of the partners, the school partners only, and the business partners only.

Regression of Success on Process/Structure and Environment for All Collaborative Partners

Table 16 on page 79 presents the regression model of success for the 137 partners in the Adopt-A-School program. After solving for multicollinearity problems, only five of the six independent variables were entered simultaneously in the first equation. After the multiple regression analysis, the data indicated that the variables, Communication (p=.4161), Purpose (p=.6429), and Resource (p=.2888) did not contribute significantly to the model for predicting success (alpha=.05). Consequently, only the variables, Process/Structure and Environment were entered simultaneously into the final regression equation.

The $R^2$ statistic is the coefficient of determination. It describes the "goodness of fit" of the regression model. Since the $R^2$ statistic on a sample tends to overestimate the
population $R^2$, the adjusted $R^2$ statistic attempts to correct
the optimistic bias of the sample $R^2$ (Warmbrod, 1993). In
the analysis of the data, the $R^2$ value is .48. This means
that 48% of the variance of the dependent variable, Success,
is explained by the linear combination of the independent

The partial regression coefficients indicated the
expected change in $Y$ associated with one unit change in $X_i$
when the other independent variables are held constant
(Warmbrod, 1993). The partial regression coefficients
reported in the data indicated that:

* for every unit change in the variable,
  Process/Structure, expect a .381 change in the
  variable, Success.

* for every unit change in the variable,
  Environment, expect a .255 change in the variable,
  Success.

The standard error of estimate is a measure of the
accuracy of predicting $Y$ from the linear combination of $X$’s
(the standard deviation of the residuals) (Warmbrod, 1993).
The standard error for the full model was .41. This meant
that:

* Approximately 68% of the cases will have observed
  values ($Y$) that lie within .41 units (one standard
  error) of the predicted values ($Y'$).

* Approximately 95% of the cases will have observed
  values ($Y$) that lie within .82 units (two standard
  errors) of the predicted values ($Y'$).

* Approximately 99.7% of the cases will have
  observed values ($Y$) that lie within 1.23 units
(three standard errors) of the predicted values ($Y^l$).

The regression equation for the full model was:

Equation 3.

$$Y^l = 1.290 + .381(X_{\text{Process/Structure}}) + .255(X_{\text{Environment}})$$

The multiple regression model was statistically significant tested at an alpha level of .05 with $F = 61.49$; $p < .001$.

**Table 16**

Regressions of Success on Process/Structure and Environment for All Collaborative Partners ($n=137$)

<table>
<thead>
<tr>
<th>Variables</th>
<th>$b$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>.381</td>
<td>5.46</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Environment</td>
<td>.255</td>
<td>3.03</td>
<td>.003</td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.290</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$R^2 = .48$

Standard Error = .41

Adjusted $R^2 = .47$

For model: $F = 61.49$; $p < .001$

**Regression of Success on Process/Structure for School Partners Only**

Table 17 on page 80 presents the regression model of success for the 75 school partners in the Adopt-A-School program. After solving for multicollinearity problems, only four of the six independent variables were simultaneously entered in the first equation. After the multiple
regression analysis, the data indicated that the variables, Environment ($p=0.0717$), Purpose ($p=0.2367$), and Resource ($p=0.5340$) did not contribute significantly to the model for predicting success ($\alpha=0.05$). Consequently, only the variable, Process/Structure was entered into the final regression equation.

In the analysis of the data, the $R^2$ value was 0.511. This meant that 51% of the variance of the dependent variable, Success, was explained by one independent variable in the model: Process/Structure.

The partial regression coefficient reported in the data indicated that:

* for every unit change in the variable, Process/Structure, expect a 0.564 change in the variable, Success.

The standard error for the full model was 0.41. This meant that:

* Approximately 68% of the cases will have observed values ($Y$) that lie within 0.41 units (one standard error) of the predicted values ($\hat{Y}$).

* Approximately 95% of the cases will have observed values ($Y$) that lie within 0.82 units (two standard errors) of the predicted values ($\hat{Y}$).

* Approximately 99.7% of the cases will have observed values ($Y$) that lie within 1.23 units (three standard errors) of the predicted values ($\hat{Y}$).

The regression equation for the full model is:

Equation 4.

$$\hat{Y} = 1.492 + 0.564(X_{\text{Process/Structure}})$$
The multiple regression model was statistically significant tested at an alpha level of .05 with \( F = 72.23; \ p < .001 \).

<table>
<thead>
<tr>
<th>Variables</th>
<th>( R^2 )</th>
<th>( b )</th>
<th>( t )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>.511</td>
<td>.564</td>
<td>8.50</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td></td>
<td></td>
<td>1.492</td>
</tr>
</tbody>
</table>

Standard Error = .41  
Adjusted \( R^2 = .50 \)  
For model: \( F = 72.23; \ p < .001 \)

**Regression of Success on Membership for Business Partners Only**

Table 18 on page 83 presents the regression model of success for the 61 business partners in the Adopt-A-School program. Since no potential multicollinearity problems existed, all six of the independent variables were entered simultaneously in the first equation. After the multiple regression analysis, the data indicated that the variables, Communication (\( p = .5170 \)), Environment (\( p = .1576 \)), Process/Structure (\( p = .9358 \)), Purpose (\( p = .6879 \)), and Resource (\( p = .7456 \)) did not contribute significantly to the model for predicting success (alpha=.05). Consequently, only the
variable, Membership was entered into the final regression equation.

In the analysis of the data, the $R^2$ value was .485. This meant that 49% of the variance of the dependent variable, Success, was explained by one independent variable in the model: Membership.

The partial regression coefficient reported in the data indicated that:

* for every unit change in the variable, Membership, expect a .641 change in the variable, Success.

The standard error for the full model is .38. This meant that:

* Approximately 68% of the cases will have observed values ($Y$) that lie within .38 units (one standard error) of the predicted values ($Y^\prime$).

* Approximately 95% of the cases will have observed values ($Y$) that lie within .76 units (two standard errors) of the predicted values ($Y^\prime$).

* Approximately 99.7% of the cases will have observed values ($Y$) that lie within 1.14 units (three standard errors) of the predicted values ($Y^\prime$).

The regression equation for the full model was:

Equation 5.

$$Y^\prime = 1.212 + .641(X_{Membership})$$

The multiple regression model was statistically significant tested at an alpha level of .05 with $F = 59.39; p < .001.$
Table 18

Regression of Success on Membership for Business Partners Only (n=65)

<table>
<thead>
<tr>
<th>Variables</th>
<th>$R^2$</th>
<th>$b$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership</td>
<td>.485</td>
<td>.641</td>
<td>7.71</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>(Constant)</td>
<td></td>
<td>1.212</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standard Error = .38
Adjusted $R^2 = .477$
For model: $F = 59.39; p<.001$

Semi-Partial Regression Analysis of Success

In each regression equation, only one or two independent variables were found to be significant. The six independent variables together explained nearly 50% of the variance in success; but, no one variable, by itself, was able to explain more than 3% of the variance in success when the contribution of other independent variables was controlled.

Table 19 on page 84 presents the semi-partial regression analysis of success on each variable for the 137 partners in the Adopt-A-School program. The variable, process/structure, made the greatest single independent contribution of all the variables to success (3%) and was followed by a 2% unique contribution by environment. The variables, purpose and communication each uniquely contributed less than .1% to success.
Table 19

Semi-Partial Regression Analysis of Success on Communication, Environment, Membership, Process, Purpose, and Resources of Adopt-A-School Partners (n=137)

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>K</th>
<th>$sR^2$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process/Structure</td>
<td>5</td>
<td>0.0289</td>
<td>2.74</td>
</tr>
<tr>
<td>Environment</td>
<td>5</td>
<td>0.0224</td>
<td>2.41</td>
</tr>
<tr>
<td>Membership</td>
<td>5</td>
<td>0.0084</td>
<td>1.47</td>
</tr>
<tr>
<td>Resource</td>
<td>5</td>
<td>0.0032</td>
<td>.91</td>
</tr>
<tr>
<td>Purpose</td>
<td>5</td>
<td>0.0007</td>
<td>.43</td>
</tr>
<tr>
<td>Communication</td>
<td>5</td>
<td>0.0006</td>
<td>.39</td>
</tr>
</tbody>
</table>

$K = $ Number of variables controlled
$R^2$ for model = .4952
t = 1.98; p<.05

The semi-partial squared multiple regression correlation coefficients of process/structure (.0289) and environment (.0224) proved significant; (process/structure - $t = 2.74; p<.05$; environment - $t = 2.41; p<.05$). The other four variables did not uniquely contribute significantly to success. Significance was established by the computation of $t$-test values using the formula (Cohen, Cohen, 1975):

Equation 6.

$$t = sr \sqrt{\frac{n - K - 1}{1 - R^2}}$$

Figure 3, page 85, showed that over three-fourths (87%) of the explained variance in success was based on the common
contribution of all six independent variables (43.1% of all variance); while the total amount of variance uniquely explained by all six variables was a minimal 6.4%.

Figure 3. Variance in Success Explained
Semi-Partial Regression Analysis
CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary of Problems and Procedures

This research utilized both an ex post facto static-group comparison and correlational methodology. The purposes were 1) to determine to what extent collaborations between schools and businesses are perceived as successful by the partners (outcomes) and, 2) to identify those factors which contribute to the success of the collaboration (process).

Problem

Much literature and numerous reports have recommended school and business collaboration. Formal mandates and government initiatives have required school and business collaboration. Many schools and businesses have begun to collaborate as they have realized the possible benefits. However, to date, little is known about the success of collaborative efforts between schools and corporations. Previous research identified 19 factors that have influenced the success of collaborations. These factors need to be quantified and confirmed in regards to school/business collaborations.
Procedures

Data for this study were collected by means of a descriptive survey instrument. A questionnaire was developed by the investigator and mailed to Adopt-A-School partners (N=519) in the Columbus Public School District. Any school partner which was active for more than six months and which was not in the pilot study was included in the sample (n=103). One adopter per school was randomly selected for the sample (n=103). Responses were received from 67% of the partners (n=206) with 70% of the school partners responding and 63% of the business partners responding.

Data were analyzed and a description of the partnerships in the Adopt-A-School program was given. Also, the six independent variables and one dependent variable (success) in the study were described. In addition, the relationships among the variables were described in three ways: 1) the bivariate data used in determining significance of the variables for inclusion in the multiple regression analysis, 2) a comparison of the correlation coefficients of the dependent variable and each independent variable between the school sample and business sample, and 3) the regression models for the dependent variable, success, for the total sample, the school sample and the business sample.
Summary and Discussion of Findings

Description of the Partnerships

The majority of the partnerships were between elementary schools and either a government organization or a for-profit business. This corresponded to the population data for the Adopt-A-School program presented in Table 1, Appendix A.

The partnerships have existed for a mean of about 49 months with nearly one-half having existed between 12 and 36 months. The length of time a partnership has been in existence is a reasonable indication of completion of the phases of the collaborative process (problem setting, direction setting, implementation) as presented by Gray, 1989. The data indicated that the partnerships have been in existence ample time to reach implementation phase and to begin to achieve results. (The researcher eliminated from the study any partnerships in existence less than six months. However, frame error caused four young partnerships to be included in the study.)

About one-half of the business partners represented large organizations (101-1000 employees) or very large organizations (1001-18,000).

The data indicated that a large majority of the partners felt they were partners in special services (Level 1) and a majority felt they were partners in the classroom (Level 2). But, only a few felt they were partners in
management (Level 4) and policy (Level 6). These levels of business/education partnerships were categorized by the Division of Vocational and Career Education, Ohio Department of Education. According to the Division, the higher the level number, the greater the amount of impact on the educational system and the greater the amount of commitment.

The name, "Adopt-A-School" for the school/business partnership to some conveys a caretaker relationship rather than an interdependent relationship as is cited as one of the five features critical to the process of collaboration (Gray, 1989). Interest was expressed by the Greater Columbus Area Chamber of Commerce, one of the initiators of the program, in whether or not the partners wished a name change for the program. The data shows that a majority feel the name is appropriate for the school/business partnership.

The respondents in the study had the opportunity on the questionnaire to write in any additional statements or comments about the partnership in which they were involved. Less than half of the respondents did so; with almost one-fourth of those emphasizing the benefits of the program. Eight percent of those writing comments explained that their partnership has become inactive or has limited involvement. Recommendations were made for improvements in the program.
Summary and Discussion of Findings Relating to Variables

Communication

This independent variable measured the partner’s perception of the channels used by collaborative partners to send and receive information, keep one another informed, and convey opinions to influence the group’s actions.

The results of the descriptive analysis indicate that the mean score for communication was 2.71 for the total sample (slightly more than "in agreement"). Communication had a substantial positive association (.58) with the dependent variable, success. There was no significant difference found between the correlation coefficients of success and communication between school and business.

Because of the potential multicollinearity with membership, communication was selected as the variable to delete from the regression equation for school partners only. Membership was deleted, also, from the regression equation for school partners only because of its high correlation with process/structure. Process/structure was found to be the only significant factor in influencing success for the school partners. Since communication and membership were highly correlated with process/structure, the findings for process/structure may also have some pertinence to them.

After the multiple regression analysis for the total and business samples, communication was found not to
contribute significantly to the model for predicting success. The semi-partial regression analysis indicated communication to have the least unique contribution (.06%) to success of all the variables for the total sample.


Environment

This independent variable measured the partner’s perception of the geographic location and social context within which a collaborative group exists.

The results of the descriptive analysis indicate that the mean score for environment was 2.63 for the total sample (slightly more than "in agreement"). Environment had a substantial positive association (.60) with the dependent variable, success, for the total sample. There was no significant difference found between the correlation coefficients of success and environment between school and business.

After the multiple regression analysis, environment was found not to contribute significantly to the model for
predicting success for the school and business partners; but, did contribute significantly to the model for predicting success for the total sample. And, environment was found to uniquely contribute the second highest percentage (2.2%) of all the variables to success for the total sample.


**Membership**

This independent variable measured the partner’s perception of the skills, attitudes, and opinions of the individuals in a collaborative group, as well as, the culture and capacity of the organizations which form collaborative groups.

The results of the descriptive analysis indicate that the mean score for membership was 2.68 for the total sample (slightly more than "in agreement"). Membership had a substantial positive association (.64) with the dependent variable, success. There was no significant difference found between the correlation coefficients of success and membership between school and business.
Because of the potential multicollinearity with process/structure, membership was selected as the variable to delete from the regression equation for the total and school partners. Process/structure was found to be significant in influencing success for both groups. These findings may pertain to membership as well.

After the multiple regression analysis for the business sample, membership was found to be the only variable which contributed significantly to the model for predicting success. The unique contribution to success made by membership was .8%, the third highest contribution of the six variables for the total sample.


Process/Structure

This independent variable measured the partner's perception of the management, decision-making, and operational systems of a collaborative effort.
The results of the descriptive analysis indicated that the mean score for process/structure was 2.59 for the total sample (slightly more than "in agreement"). Process/structure had a substantial positive association (.67) with the dependent variable, success. There was no significant difference found between the correlation coefficients of success and process/structure between school and business.

After the multiple regression analysis, process/structure was found to contribute significantly to the model for predicting success for the total sample and was the only variable in the regression equation for the school sample. The results of the semi-partial regression analysis shows that process/structure had the greatest unique contribution (2.9%) to success of all the variables for the total sample.

Purpose

This independent variable measured the partner's perception of the reasons for the development of a collaborative effort, the result or vision the collaborative group seeks, and the specific tasks or projects the collaborative group defines as necessary to accomplish.

The results of the descriptive analysis indicate that the mean score for process was 2.73 for the total sample (slightly more than "in agreement"). Purpose had a substantial positive association (.53) with the dependent variable, success. There was a significant difference found between the correlation coefficients of success and process between school (.63) and business (.37).

After the multiple regression analysis for all groups, process was found not to contribute significantly to the model for predicting success. The unique contribution of process to success was minimal (.07%), the second lowest percentage of all variables for the total sample.

Resource

This independent variable measured the partner's perception of the financial and human "input" necessary to develop and sustain a collaborative group.

The results of the descriptive analysis indicated that the mean score for resource was 2.66 for the total sample (slightly more than in agreement). Resource had the lowest correlation (.48) with the dependent variable, success, of all the independent variables. There was no significant difference found between the correlation coefficients of success and resource between school and business.

After the multiple regression analysis, resource was found not to contribute significantly to the model for predicting success for any sample. The semi-partial regression analysis shows that resource uniquely contributed .3% to success, the third lowest contribution of all variables in the total sample.

**Success**

This dependent variable measured the partner's perception of the level of achievement resulting from the efforts of the individual collaboration based on the seven district-wide goals of the Adopt-A-School program.

The results of the descriptive analysis indicate that the mean score for success was 2.94 for the total sample (slightly more than "in agreement"). The business partners perceived the collaborative efforts to be slightly less successful (3.01) than the school partners (2.88). For the total sample, success had a substantial positive correlation with every independent variable except, resources; which had a moderate positive association (.48). The variable, process/structure had the highest correlation with success (.67).

Forty-eight percent of the variance in the perceived success of the partnerships was explained by the linear combination of process/structure and environment. (Membership was highly correlated with process/structure). For the school partners only, 51% of the variance of success was explained by process/structure only. (Communication and membership were highly correlated with process/structure). And finally, for the business partners only, 49% of the variance of success was explained by membership only.

The multiple regression analysis presents the best mathematical predictor of success. However, the semi-
partial regression analysis showed that the great majority of explained variance in success (87%) could be explained by the common contribution of all six variables. Only two variables, process/structure and environment, were proven significant in their unique contribution to success and that was very minimal (3% or less).

Most previous research studies have assessed the success of collaborative efforts by using a case study methodology, not empirical methods. Unlike Lacey (1983) who connected success of the partnerships to the caliber of the programs and the longevity of the partnerships, this study attempted to empirically assess success by determining the achievement of the district-wide goals and objectives of the Adopt-A-School program.

Conclusions

The major conclusions of the researcher were:

1. The majority of the partnerships were between elementary schools and a government organization or a for-profit business, half of which were large or very large organizations.

2. The majority of the Adopt-A-School partnerships have focused on classroom activities and special services which result in low impact on the educational system.

3. The majority of the partners indicated a desire to retain the current name, "Adopt-A-School".
4. The school/business partners perceived themselves as having achieved slightly better than average success in the collaborative effort.

5. The school/business partners perceived themselves as having achieved slightly better than average levels in regards to the factors which may contribute to success (communication, environment, membership, process/structure, purpose, and resources).

6. The relationships between the perceived success of the partnerships and the factors influencing success were the same for education and business; except, for the factor, purpose. There was a significantly lower correlation between purpose and success for the business partners than the school partners.

7. The best predictors of success of the school and business partnerships were the partners' perceptions of 1) the management, decision-making, and operational systems of a collaborative effort (process/structure) and, 2) the geographic location and social context within which a collaborative group exists (environment). The partners' perception of the skills, attitudes, and opinions of the individuals in the partnership; and the culture and capacity of the organizations (membership) may also be a predictor of success due to its high correlation with process/structure.
8. The best predictor of success of the collaboration for the school partners only was the partners' perceptions of the management, decision-making, and operational systems of a collaborative effort (process/structure). The variables, membership (skills, attitudes, and opinions of the individuals in the partnership; and the culture and capacity of the organizations) and communication (channels used by collaborative partners to send and receive information, keep one another informed, and convey opinions to influence the group's actions) may also be predictors of success due to their high correlations with process/structure.

9. The best predictor of success of the collaboration for the business partners only was the partners' perception of the skills, attitudes, and opinions of the individuals in the group, as well as, the culture and capacity of the organizations which form collaborative groups (membership).

10. Process/structure and environment made a very minimal significant unique contribution to success. The greatest variance in success was explained by the common contribution of all six independent variables.

11. The six independent variables in the study derived from the 19 factors which influence success as presented by Mattessich and Monsey (1992) had a substantial to very strong association with each other.
Recommendations for Practice

From the theoretical construct formulated from the review of literature and the knowledge gained from the findings of this study, insights were formulated about how successful school/business collaborations are and what factors contribute to that success. Hopefully, these insights will aid schools and businesses currently involved in partnerships and those organization beginning their collaborative effort to increase their level of success. The following recommendations are made to school and business collaborators:

1. To influence success of the collaborations, the partners may choose to concentrate on improving the following in descending order: 1) the management, decision-making, and operational systems of a collaborative effort (process/structure); 2) the geographic location and social context within which a collaborative group exists (environment); 3) the skills, attitudes, and opinions of the individuals in the partnership and the culture and capacity of the organizations (membership); and, 4) the channels used by collaborative partners to send and receive information, keep one another informed, and convey opinions to influence the group’s actions (communication). There is no indication that improving any one factor will greatly improve success since it is
mostly influenced by the combination of all the variables.

2. It is recommended that all six variables (communication, environment, membership, process/structure, process, and structure) be considered in all phases of the collaborative process since it is their common contribution that largely influences success. Since many variables are interrelated, building one may strengthen another. To eliminate any one factor may eliminate the catalyst for the success of the collaboration.

3. In view of the findings that the success of the partnerships was slightly above average and that the schools and business differed significantly in each's relationship between success and purpose, it is recommended that each partnership reevaluate its goals: 1) to determine if they align with the seven district-wide goals of the Adopt-A-School program, 2) to verify that the school and business partners all agree on the goals, and 3) to construct them as measurable goals so that each can be evaluated. The construction of measurable goals is vital for any collaborative effort.

4. If the school/business partnerships wish to have more impact on the educational system, then they need to focus on higher levels of partnerships; for example, Systematic Educational Improvement and Policy (Level 6)
5. The name of the partnership, "Adopt-A-School" should be retained.

6. Since changes in the contact individuals representing the organizations involved in the partnership weaken the collaboration, every effort should be made to have those individuals remain constant; based on comments of individuals and previous studies.

7. Based on several statements by the partners, it is recommended that more assistance be given to the collaborators from leaders in terms of training, recognition programs, the organization of joint meetings and the publication of a newsletter to share ideas of "what works" in the partnerships.

**Recommendations for Further Research**

Few studies have been conducted on collaborations between schools and business. This study focused on one of nine types of partnerships between schools and business as identified by Barton (1983). The following are recommendations for further research.

1. Replication of this study should be made in other cities having Adopt-A-School programs; and on other partnerships in which employers extend a helping hand in the form of management advice or joint funds in aid of public education.
2. Replication of this study should be made with other cities having Adopt-A-School programs, except, eliminate those partnerships from the study that have a minimal level of involvement or impact on the educational system.

3. Replication of this study should be made on the other eight types of partnerships between schools and business: collaborative councils, transition to work programs, cooperative education between employers and schools, vocational education, experience-based career education, partnerships for economic development, educational institutions contracting out of occupational training, and industry contracting with schools to meet internal training needs.

4. Case studies should be conducted with individual partnerships to focus on each's success based on the partnership's specific goals and the factors which influence that success.

5. More research is necessary on the factors influencing success to determine: whether some are more important at certain stages than others, whether there is a minimum required level of any factor, and what the proper mix of factors is.

6. There is a need for continued research into the methods for building the factors into collaborative situations. For example, which ways are most effective to manage
the collaborative effort with specific types of people or collaborative groups?

7. New research should study more closely the pre-collaborative phase of collaboration. Are the factors which determine whether people will collaborate at all the same as those which influence success?

8. Since government and private funding agencies may decide to require collaboration as a condition of funding, additional research should study the difference between mandated collaborative projects and those which are not.

9. This study grouped the 19 factors which contribute to success into six variables. Additional studies might conduct a factor analysis instead.

10. Follow-up studies are needed on collaborative efforts to determine the long-term outcomes for the people or communities whom the collaborating organizations serve.

Collaboration is a very complex and potentially beneficial process. There is much to learn about those factors that are crucial to the success of a collaborative effort and how best to define and measure this success.
APPENDICES
APPENDIX A

Categories of Community Adopters
## Table 20

**Categories of Community Adopters**

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<thead>
<tr>
<th>TYPE</th>
<th>NUMBER</th>
<th>COMMENTS</th>
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<tbody>
<tr>
<td>Government Adopters</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Local Civic Associations &amp; Clubs</td>
<td>23</td>
<td>i.e., Kiwanis</td>
</tr>
<tr>
<td>Church Groups</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>For-Profit Business</td>
<td>179</td>
<td>Of this number 50 are individual fast food stores representing 12 companies.</td>
</tr>
<tr>
<td>Others</td>
<td>94</td>
<td>non-profit foundations, e.g., schools, private colleges, associations, individual doctors, psychologists</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>378</strong></td>
<td></td>
</tr>
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</table>
APPENDIX B

Instrument/Questionnaire
COLLABORATION BETWEEN SCHOOLS AND INDUSTRY

Paugh
East High School
1500 E. Broad Street
Columbus, Ohio 43205
Directions: On the following pages are statements about your beliefs regarding the Adopt-A-School program of which you are a partner. For each statement, show your level of agreement or disagreement with the statement by circling the answer that most nearly represents your belief.

Special Directions for School Partners Only: Please respond to the statements in regards to your partnership with______________.

Your responses should be based on the following scale:

1. VERY STRONGLY AGREE (VSA)
2. STRONGLY AGREE (SA)
3. AGREE (A)
4. DISAGREE (D)
5. STRONGLY DISAGREE (SD)
6. VERY STRONGLY DISAGREE (VSD)

EXAMPLE:

More students will pursue higher education.  

1 2 3 4 5 6

The response of 2 indicates that this individual strongly agreed with the statement.

Please begin:

PART 1: PERCEIVED SUCCESS OF ADOPT-A SCHOOL PROGRAM

As a result of the Adopt-A-School program of which you are a partner,

Level of Agreement
Circle Your Response
VSA SA A D SD VSD

1. Students' attitudes about school have become more positive.  

1 2 3 4 5 6

2. More students are likely to graduate.  

1 2 3 4 5 6

3. Students are happier in the school environment.  

1 2 3 4 5 6

4. Fewer students will become productive members of society.  

1 2 3 4 5 6
5. More students have set a personal goal of graduating from high school. 1 2 3 4 5 6

6. More disadvantaged children are prepared for higher education. 1 2 3 4 5 6

7. Fewer disadvantaged children have set a personal goal of pursuing higher education. 1 2 3 4 5 6

8. More disadvantaged children will pursue higher education. 1 2 3 4 5 6

9. Preparation of disadvantaged children for higher education remains unchanged. 1 2 3 4 5 6

10. Disadvantaged children have shown improvement in achievement. 1 2 3 4 5 6

11. More parents take an active role in their child’s education. 1 2 3 4 5 6

12. More parents are visible in the school. 1 2 3 4 5 6

13. Communication with parents is not improved. 1 2 3 4 5 6

14. More parents are interested in their child succeeding in school. 1 2 3 4 5 6

15. More parents have contact with the school for reasons other than discipline. 1 2 3 4 5 6

16. The attendance rate of students has improved. 1 2 3 4 5 6

17. More students view regular attendance in school as important. 1 2 3 4 5 6

18. More parents view regular attendance in school as important. 1 2 3 4 5 6

19. Students’ tardiness to school has increased. 1 2 3 4 5 6
20. **Fewer** students leave the school during the school day for reasons other than employment or training. 1 2 3 4 5 6
21. Students are guided toward community learning experiences. 1 2 3 4 5 6
22. More students are able to participate in community learning experiences. 1 2 3 4 5 6
23. Opportunities for community learning experiences have decreased. 1 2 3 4 5 6
24. More teachers view community learning experiences as a valuable teaching technique. 1 2 3 4 5 6
25. A variety of community learning experiences are available to the students. 1 2 3 4 5 6
26. Students are **less** aware of career opportunities. 1 2 3 4 5 6
27. More students understand the education requirements of various careers. 1 2 3 4 5 6
28. Students have a better understanding of conduct necessary for job success. 1 2 3 4 5 6
29. Students’ understanding of workplace expectations has **not** increased. 1 2 3 4 5 6
30. Students’ studies in school are related to future career opportunities. 1 2 3 4 5 6
31. Evaluations of students’ progress indicate an increase in achievement. 1 2 3 4 5 6
32. More students have a desire to earn better grades. 1 2 3 4 5 6
33. Test scores are **not** improving. 1 2 3 4 5 6
34. Students have increased their problem-solving skills.  

35. Fewer students view achievement in school as related to success in life.

PART 2: ENVIRONMENTAL FACTORS INFLUENCING COLLABORATIVE EFFORT

36. A history of collaboration existed in the community.

37. I had an understanding of the expectations required in collaboration prior to becoming an Adopt-A-School partner.

38. I trusted the collaborative process prior to becoming an Adopt-A School partner.

39. The community provided an unfavorable environment for collaboration.

40. The Adopt-A-School partners are perceived within the community as leaders.

41. The partners have a poor reputation in the community.

42. Political leaders support the mission of the partnership.

43. The general public supports the mission of the partnership.

44. The goals set by the partnership meet political requirements.

45. The goals set by the partnership meet social requirements.
PART 3: MEMBERSHIP CHARACTERISTICS FACTORS INFLUENCING COLLABORATIVE EFFORT

46. Members of the partnership understand their respective organizations. 1 2 3 4 5 6

47. Members of the partnership respect their respective organizations. 1 2 3 4 5 6

48. Members of the partnership do not trust each other. 1 2 3 4 5 6

49. People who have explicit control over relevant issues participate in the partnership. 1 2 3 4 5 6

50. Members see collaboration as in their self-interest. 1 2 3 4 5 6

51. Incentives for each partner to stay involved are built into the goals. 1 2 3 4 5 6

52. Benefits of collaborating do not offset costs such as loss of autonomy and "turf" 1 2 3 4 5 6

53. The collaborating partners are able to compromise. 1 2 3 4 5 6

54. Representatives of the participating organizations are given latitude in working out agreements among partners. 1 2 3 4 5 6

55. Partners allow time to act deliberately when reaching decisions. 1 2 3 4 5 6

PART 4: PROCESS/STRUCTURE FACTORS INFLUENCING COLLABORATIVE EFFORT

56. Members feel "ownership" of the way the group works. 1 2 3 4 5 6

57. Members do not share a stake in the outcome of its work. 1 2 3 4 5 6
58. Necessary staff from each organization are included in the partnership.  1 2 3 4 5 6

59. The partnership is open to varied ways of organizing itself.  1 2 3 4 5 6

60. The partnership is not flexible in its methods of operation.  1 2 3 4 5 6

61. The partners clearly understand their roles.  1 2 3 4 5 6

62. Employment demands of partners do not conflict with partnership demands.  1 2 3 4 5 6

63. Members' strengths were considered when making assignments.  1 2 3 4 5 6

64. The partnership has the ability to adjust its goals if new conditions develop.  1 2 3 4 5 6

65. The partnership is not adaptable.  1 2 3 4 5 6

PART 5: COMMUNICATION FACTORS INFLUENCING COLLABORATIVE EFFORT

66. The partners communicate often.  1 2 3 4 5 6

67. The partners do not discuss issues openly.  1 2 3 4 5 6

68. A system of communication was set up.  1 2 3 4 5 6

69. Incentives among partners are provided to highlight effective communication.  1 2 3 4 5 6

70. It is acknowledged that problems will occur in the partnership.  1 2 3 4 5 6

71. Selective distribution of communications is avoided.  1 2 3 4 5 6

72. Partners have established personal connections with each other.  1 2 3 4 5 6
73. Meetings among partners promote transfer of information.
74. The partnership is a cohesive group.
75. Communication links have not been established.

PART 6: PURPOSE FACTORS INFLUENCING COLLABORATIVE EFFORT

76. The goals of the partnership are clear to all partners.
77. The goals of the partnership can realistically be attained.
78. Successes of the partnership are periodically reported.
79. The partners have a shared vision.
80. The partners have agreed upon a mission.
81. The partners have agreed upon objectives.
82. The partners have agreed upon a strategy.
83. All members know the mission.

PART 7: RESOURCE FACTORS INFLUENCING COLLABORATIVE EFFORT

84. The partnership has an adequate financial base to support its operations.
85. The partnership has adequate human resources to support its operations.
86. The partnership has consistent financial resources to support its operations.
87. The partnership has consistent human resources to support its operations.

88. The partnership does not have sufficient resources.

89. The leader of the partnership has organizing skills.

90. The leader of the partnership has interpersonal skills.

91. The leader of the partnership carries out the role with fairness.

92. The leader gives serious attention to his/her role.

93. The members respect the leader.
PART 8: DEMOGRAPHICS

Please answer the following questions about your organization or the partnership.

94. The organization that you represent can best be categorized as which of the following? (Circle one number.)

1. ELEMENTARY SCHOOL
2. MIDDLE SCHOOL
3. COMPREHENSIVE HIGH SCHOOL
4. CAREER CENTER
5. GOVERNMENT AGENCY
6. LOCAL CIVIC ASSOCIATION OR CLUB
7. CHURCH GROUP
8. FOR PROFIT BUSINESS
9. OTHER (non-profit foundation, private college, school, association, individual doctors, psychologists, etc.)

95. The organization that you are partnered with can best be categorized as which of the following?

1. ELEMENTARY SCHOOL
2. MIDDLE SCHOOL
3. COMPREHENSIVE HIGH SCHOOL
4. CAREER CENTER
5. GOVERNMENT AGENCY
6. LOCAL CIVIC ASSOCIATION OR CLUB
7. CHURCH GROUP
8. FOR PROFIT BUSINESS
9. OTHER (non-profit foundation, private college, school, association, individual doctors, psychologists, etc.)

96. How would you best describe the focus of this partnership? (Circle all numbers that apply.)
1. PARTNERS IN SPECIAL SERVICES - provide short-term, project or student specific activities or resources to help with a specific problem or need.
2. PARTNERS IN THE CLASSROOM - improve the learning environment by volunteers bringing their expertise into the classroom or the classroom to the business.
3. PARTNERS IN TEACHER TRAINING AND DEVELOPMENT - opportunities for school personnel to update, upgrade, or maintain skills, or learn more about career opportunities.
4. PARTNERS IN MANAGEMENT - provide management assistance to school officials in a broad range of areas.
5. PARTNERS IN SYSTEMIC EDUCATIONAL IMPROVEMENT - identify need for reform in the system, set and achieve long term goals for making major changes.
6. PARTNERS IN POLICY - bring about substantive changes in local school governance.

97. How long has your partnership been in existence? (Write the number of months or years in the spaces below.)

______ MONTHS ______ YEARS

98. What is the size of the organization that you represent? (Write the number of employees in the space below.)

______

99. How do you feel about the name, "Adopt-A-School"? (Circle all numbers that apply.)

1. I FEEL THE NAME IS APPROPRIATE.
2. I FEEL THE NAME CONVEYS A CARETAKER RELATIONSHIP RATHER THAN A TRUE PARTNERSHIP.
3. I FEEL THE NAME SHOULD BE CHANGED.
Is there anything else you would like to tell us about collaboration between schools and business in the Adopt-A-School program? If so, please use this space for that purpose.

Your contribution to this effort is very greatly appreciated.
APPENDIX C

Cover Letter to Pilot Test Participants
PILOT STUDY

East High School
1500 E. Broad Street
Columbus, Ohio 43205
April 11, 1994

Dear Adopt-A-School Member,

You have been randomly selected from all the Adopt-A-School members in Columbus Public Schools to participate in a pilot study for a doctoral research study being conducted at The Ohio State University. The focus of this study is collaboration between school and business.

This study will provide valuable information regarding the success of the district-wide Adopt-A-School program as well as the factors that influence this success.

Your assistance is greatly needed to determine the reliability of the enclosed questionnaire. Please fill in the information completely upon receiving this letter and return it by Friday, April 15, 1994, in the enclosed envelope that is stamped and addressed. (School personnel: Please return to East High School via school mail.)

Thank you for being part of this important project. It can't be completed without your help.

Sincerely,

Mary Jo Paugh
Ohio State University

Enclosures
APPENDIX D

Results of Reliability
Table 21

Results of Reliability Tests

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Cronbach's Coefficient</th>
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<tr>
<td>Success</td>
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<td>Environment</td>
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<td>Membership</td>
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<td>Process/Structure</td>
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<td>Communication</td>
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<td>Purpose</td>
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<td>Resource</td>
<td>.91</td>
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APPENDIX E

Cover Letter to Participants - First Mailing
April 29, 1994

Dear Adopt-A-School Contact Person,

Your name was provided to me by Ray Pauken, School/Business Partnerships, Columbus Public Schools and Lisa Gray, Education Initiatives, Greater Columbus Area Chamber of Commerce. We request your participation in a study being conducted at The Ohio State University on collaboration between schools and industry, specifically the Adopt-A-School Program.

Both Columbus Public Schools and the Greater Columbus Area Chamber of Commerce are very interested in the results of this study. Your help is our only way of finding out how successful the Adopt-A-School partnerships are. Your help in this study will also assist in making recommendations for influencing the success of current and future partnerships.

Only one partnership per school has been selected; so, it is extremely important that your information be included in this study. Please help me by completing the enclosed questionnaire. If you should have any questions, please call me at 614-369-8068.

All information will be kept strictly confidential. Your name will not be written anywhere on the questionnaire. The code number appears on the questionnaire so I can follow up with people who may have forgotten to return the questionnaire.

Please fill in the information completely upon receiving this letter as it pertains to the partnership in which you are involved, regardless of the nature or age of the partnership. Please return it by Monday, May 9, 1994, in the enclosed envelope that is stamped and addressed. (School Personnel: please return to East High via school mail.)

Thank you for being part of this important project. It can’t be completed without your help. You’ve already committed yourself to the Adopt-A-School Partnership. Now, please commit yourself to its improvement. Thanks again! I’ll be waiting for your questionnaire.

Sincerely,

Mary Jo Paugh
The Ohio State
APPENDIX F

Reminder/Thank You Postal
Hello!

Last week a questionnaire seeking information about the Adopt-A-School partnership in which you are involved was mailed to you.

If you have already completed and returned it to me, please accept my sincere thanks. If not, please take a few minutes of your time and complete the survey today.

Because only one partnership per school was selected, it is extremely important that your questionnaire be included in the study so the results will be truly accurate.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me at 614-369-8068 and I will send another one to you immediately.

Sincerely,

Mary Jo Paugh
The Ohio State University
APPENDIX G

Cover Letter to Participants - Second Mailing
May 23, 1994

Dear Adopt-A-School Liaison,

Recently I mailed a confidential questionnaire to you to help me determine the level of and reasons for the success of the Adopt-A-School partnerships in Columbus Public Schools. As of today, I have not received your questionnaire.

Please recall that the results of this study are of great interest to all partnerships, Columbus Public Schools, and the Greater Columbus Area Chamber of Commerce. The results will assist in making recommendations for influencing the success of current and future partnerships.

Only one partnership per school has been selected; so, your response is extremely important. Enclosed is another copy of the questionnaire. If you have already mailed the first one to me, please disregard this one. If you have not completed the questionnaire, please take a few minutes to do so and mail it immediately in the enclosed, stamped envelope. (School personnel: please return to East High School via school mail.) I really need your response to determine accurate information. Do you have any questions? If so, call 614-369-8068.

Your cooperation is greatly appreciated. Thanks again!

Sincerely,

Mary Jo Paugh
The Ohio State University

Enclosures
APPENDIX H

Comparison of Respondents to Nonrespondents
Table 22
Comparison of Respondents to Nonrespondents

<table>
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<tr>
<th>Variable</th>
<th>Respondent (n=137)</th>
<th>Nonrespondent (n=7)</th>
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<th>p</th>
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LIST OF REFERENCES


