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The impact of leadership and other factors on successful International Baccalaureate Diploma Programs in the United States

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William & Mary - School of Education

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Randi Reigel Riesbeck

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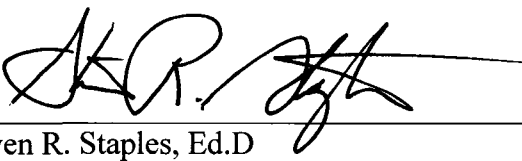
THE IMPACT OF LEADERSHIP AND OTHER FACTORS ON SUCCESSFUL
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IN THE UNITED STATES

by

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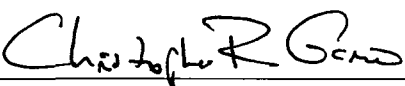
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DEDICATION

To my parents, William E. and Wava J. Reigel, who instilled in all their children the value of education, and specifically to my mother Wave who unswervingly encouraged me over many years to pursue my doctorate.

To my husband Bernie Riesbeck without whose love and support I would never have been able to accomplish this goal, and who provided me the time, space and freedom to make it happen.

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Successfully completing a doctoral dissertation requires the assistance and support of many people. I relish this opportunity to offer my sincere appreciation and gratitude to my committee for their insightful feedback and leadership throughout the dissertation process. Thank you Dr. Michael F. DiPaola, my advisor and committee chair, for your dependable guidance and forthright assurances. Dr. Steven R. Staples I am grateful to you for your encouragement and for providing a role model to which to aspire. And thank you Dr. Christopher R. Gareis for your direction and exemplary instruction, not only in this dissertation but also in many courses.

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ABSTRACT

International Baccalaureate (IB) Diploma Programs in the United States were quantitatively studied to determine possible sources of their success. Success was measured by each school's IB Diploma pass rate. Variables studied included leadership, organizational, personnel, and school demographics. Seven leadership domains were defined as supporting behaviors, instructional leadership, public relations, shared decision-making, role modeling, cosmopolitan leadership, and IB commitment. IB teachers were surveyed about their IB coordinator and principal using the IB Leadership Survey, and additional data were collected about each school's organization, personnel, and student demographics through public sources. Results revealed a significant correlation between IB pass rate and total school enrollment. Leadership domains of supporting behaviors, public relations, and IB commitment were identified as the most significant to IB school success.

The Impact of Leadership and Other Factors on Successful International

Baccalaureate Diploma Programs in the United States

Chapter 1

The Problem

Introduction

Mankind has a long history of striving to improve – improve our lot in life,

improve our working conditions, improve ourselves. From Ralph Waldo Emerson's

better mousetrap to Jane Fonda's self-help workout videos, the search for better quality,

higher goals, enhanced results, and expanded capabilities appears to be a basic part of the

human condition. This drive leads us to continue to seek out better ways to accomplish

more or achieve greater outcomes in more efficient ways. It has led educators to

investigate the means to improve schools through numerous approaches. In the past

thirty years alone, educational researchers have explored a panoply of factors they posit

contribute to school success. Instruction, climate, learning, leadership, home

environment, nutrition, brain development, even the schoolhouse itself have all been

relentlessly studied in an attempt to improve education. Many studies in these areas and

others have been undertaken as a result of U.S. mandates for excellence and effectiveness

(DuFour & Eaker, 1998, pp. 2-14).

Of the many variables studied, Effective Schools' research pointedly notes that

the leadership of effective schools is a salient feature. Ronald Edmonds (1979), an early

theorist of effective schools, found in his research that "administrative behavior, policies,

and practices in the schools appeared to have a significant impact on school

effectiveness" (p. 16). As other researchers drew the same conclusions about educational

leadership, a large body of research confirmed Edmonds' findings. A meta-analysis of this research, conducted by Marzano, Waters and McNulty (2005), corroborated this conclusion noting, "Leadership is considered to be vital to the successful functioning of many aspects of a school" (p. 5).

As many educational leadership researchers have noted, however, leadership has, at best, only an indirect connection to student achievement (Barth, 2001; Cotton, 2003; Leithwood et al., 2004; Marzano et al., 2005). Leithwood et al. (2004) succinctly conclude in their meta-analysis of leadership and student achievement, "Mostly leaders contribute to student learning indirectly, through their influence on other people or features of their organizations" (p. 13). Most of these studies and reviews proceed to identify specific ways in which leaders influence teachers, plainly establishing a bridge between the indirect effect of school leadership and the direct impact of teachers on student achievement. Teachers' impact on student achievement is well established in the literature, and the work of researchers Wright, Horn and Sanders (1997) represents the now common understanding, "…the results of this study well document that the most important factor affecting student learning is the teacher" (p. 63). How these links between teacher and school leader are established varies from study to study. Whether researchers are comparing staff development practices, teacher support and recognition, teacher self-efficacy, or a host of other variables, a connection is drawn that clearly, but indirectly, ties the school leader, through the teacher, to the student achievement data, a major measure of a school's effectiveness.

If leadership is essential to effective schools, then effective leadership must be defined. Many educational theorists have undertaken this task, and their work draws

extensively on the research of leadership in general. Leadership gurus like Burns (1978), Gardner (1990), Bennis and Nanus (1985, 1997), Bolman and Deal (1991), and Kouzes and Posner (1995) have explored the characteristics of effective leaders in a variety of fields, such as business, politics, and religion. Each of these authors has contributed to our knowledge about the traits of effective leadership. Expanding on this knowledge base, experts in the field of educational leadership have furthered our understanding about leadership as it applies to the general school setting. Some have even delved into the idiosyncrasies of leadership in specialized schools. It is from this base of knowledge that we may draw to discern the qualities of effective leaders in one particular type of educational program – an International Baccalaureate (IB) Diploma program.

IB Diploma Program. The IB Diploma program is a comprehensive, two-year program for students in their final years of secondary education. Its purpose is to prepare high school students for the rigors of post-secondary education. Headquartered in Geneva, Switzerland, the IB Organization (IBO) endeavors to meet the standards of institutions of higher learning in a multitude of different countries throughout the world. This international perspective, along with the challenging curriculum, makes the IB program attractive to schools that wish to offer their students an academically well rounded program of study that is recognized by universities throughout the world.

To accomplish this, the IBO establishes curricula for each of its subject areas with externally created and scored examinations. Students earn an IB Diploma by passing all of these exams at a prescribed level of competency, along with completing several other requirements. Together, the scores for these evaluations determine whether an IB Diploma candidate earns an IB Diploma. The IB Diploma score for each school then

consists of an average of all of the IB pass rates of every IB Diploma candidate in the school for a particular examination session. The IBO then reports an IB pass rate for each school. Obviously, IB pass rates vary from school to school, leaving the question of whether the leadership, among other factors, in IB schools influences the variations in IB pass rates of IB schools.

Statement of the Problem

Although a plethora of research has been conducted about the characteristics of effective leaders in general and educational leaders in particular, little effort has been made to correlate this research to the unique leadership requirements inherent in an IB Diploma program. As a result of the international roots of the program, IB programs in the U.S. may face unique challenges in finding leaders with the skills that address the distinctive international flavor of the IB program. In an effort to inform IB leadership practice and selection, this study will attempt to compare key leadership qualities found predominantly in top decile IB Diploma programs in the United States to establish a research base for possible hiring and training practices. Since leadership is but one factor that influences student outcomes, other school features will also be compared to determine their impact on the success of IB Diploma programs. The dearth of research dedicated specifically to IB Diploma programs clearly indicates a need for further study, especially when coupled with the significant growth of IB Diploma programs worldwide. Any effort to learn more about the factors that contribute to the creation of successful programs could be a boon to effective educational practice. This knowledge can also serve to enhance efforts by other schools to create successful IB Diploma programs.

Purpose of the Study

In a society that is becoming increasingly more intertwined on a global scale, the importance of this study cannot be overemphasized. As countries explore ways to remain competitive in a global market, they turn to education, as they often have in the past, to bolster their ability to compete. Countries also rely on education to foster intercultural communication and understanding. Research that can ultimately lead to improving education and preparing students to contribute in a global society is essential to these goals. The IB Diploma program presents an exceptional opportunity to advance strong academic standards and internationalism in a single curriculum. The success of such programs would enhance the education students receive as well as prepare them to contribute in substantive ways in an international environment. Therefore, research that facilitates the creation of successful IB Diploma programs can significantly contribute to society, both locally and globally.

Because it has been thoroughly documented through prior research that leadership has a significant impact on an organization (Edmonds, 1979; Marzano et al., 2005), the purpose of this research is twofold. The leadership characteristics of effective leaders in IB Diploma programs in the United States will first be identified, and then the impact of effective IB Diploma program leadership, along with the impact of organizational, personnel, and school demographic variables will be compared to determine the level of influence each variable has on IB Diploma programs. To this end, a reliable and valid survey instrument has been created to plumb the perceptions of the major informants of that leadership: IB teachers. IB teachers are well situated to assess the characteristics exhibited by the IB leaders in their schools. By surveying IB Diploma teachers in IB

schools across the U.S. with both top decile and bottom decile IB Diploma pass rates, correlations may be drawn that highlight the relationships between the leadership characteristics employed by administrators in these schools and the level of effectiveness of these programs. In addition, publicly available data about each IB school's organizational, personnel, and school demographic variables have been gathered. Three research questions guided this study:

1. To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?

2. Is there a significant difference in the leadership of IB leaders based on the perceptions of IB teachers between programs identified as "top decile" and those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?

3. Are there other variables that correlate with the success of top decile IB Diploma programs in the U.S.?

    A. Are there organizational variables?

    B. Are there personnel variables?

    C. Are there school demographic variables?

Limitations and Delimitations of the Study

Research studies can be constrained in two different ways. One way is through their limitations, and the other is through delimitations. Limitations, according to Rudestam and Newton (2001), are "restrictions in the study over which you have no control" (p. 90). Several aspects of this study could be construed to restrict it. One of the most apparent of these limitations is the variation in the local responsibilities of the IB coordinator at each school. As such, some of the IB coordinators serve only part-time in

this capacity, often teaching classes as well. Other IB coordinators may be teachers or building-level administrators fulfilling the responsibilities of managing the IB program on a full-time basis. Responses within this study may fluctuate due to these variations.

The perceptions of others, like the perceptions of teachers used in this study, may also restrict the accuracy of the results because perceptions are opinions, rather than facts. One way this limitation is moderated in this study is to query respondents who "have sufficient knowledge and understanding to express a meaningful opinion about the topic" (Gall, Gall & Borg, 2003, p. 229). Using a purposive sample of IB teachers and including a question that determines each teacher's length of tenure in an IB Diploma program may address this concern by providing the researcher with a means of identifying such participants.

Another limitation of this study is the lack of control over whether participants respond to the questionnaire. According to Gall et al. (2003), "volunteer subjects are likely to be a biased sample of the target population" (p. 182). This limitation can be somewhat mitigated by increasing the sample size, which allows for subgroup analysis, or by gathering data "to determine whether the volunteers are representative of the non-volunteers" (Gall et al., 2003, p. 186).

In addition, this study also contains some delimitations. Delimitations are defined as "limitations on the research design that you have imposed deliberately" (Rudestam & Newton, 2001, p. 90). The following delimitations impact this study and should not be discounted when reviewing the results.

1. This study is comprised only of IB Diploma programs in the United States.

2. The study relies on program data provided by IB North America (IBNA) to identify IB Diploma program pass rates for schools only in the May 2006 testing session.

3. The definitions for "top decile" and "bottom decile" IB Diploma programs are constructs created by the author in consultation with the IBNA.

4. Because IB coordinators or principals at each sampled site facilitate the electronic dissemination of the web-based survey instrument, the study relies on the IB coordinators or principals to provide the total number of teachers receiving the survey or each IB teacher's e-mail address.

5. This study's reliance on the research connecting effective leadership in magnet schools to effective leadership in IB programs can be considered another delimitation because of the implied assumption that magnet schools and IB programs are similar.

6. The use of IB teachers in only some IB schools limits the ability to generalize this study's findings to teachers of other IB schools. This effect is compounded by the fact that the sample used will be from schools in the United States, whereas the IB program is an international program prevalent in many countries.

As a result of these limitations and delimitations, conclusions advanced by this study must be considered carefully and within the specific contexts described. Generalizing these results to all IB Diploma schools must be done cautiously, especially to schools outside the U.S.

Definition of Key Terms

An understanding of several terms specific to this study will be helpful to comprehending this research. These terms and their definitions are listed below.

1. International Baccalaureate (IB) Diploma Program - a comprehensive, two-year program for students in their final two years of secondary school.

2. International Baccalaureate Organization (IBO) - a non-profit, educational foundation that promotes academic excellence and global intercultural understanding through a prescribed curriculum with audited, comprehensive examinations.

3. International Baccalaureate North America (IBNA) - a regional branch office of the IBO headquartered in New York City, New York, USA. Officials of this branch oversee the IB schools in North America and the Caribbean.

4. IB pass rate - a percentage reported to IB Diploma schools by the IB Organization that is derived by dividing the number of IB Diploma candidates at each school who earn an IB Diploma by the total number of IB Diploma candidates at that school pursuing the IB Diploma in a given testing session. The IB Organization reports a pass rate for every IB Diploma school each year and can then compute an annual worldwide average IB Diploma pass rate.

5. IB Diploma candidate - a student who is enrolled in the IB Diploma program and is, therefore, taking at least six IB courses, one from each IB subject area, sitting the IB exam for each course, and completing the community service

(CAS) component required of all IB Diploma candidates, and submitting an original research project called the Extended Essay.

6. Top Decile IB Diploma Program - for the purpose of this study, a successful IB Diploma Program is defined as an IB school with an IB Diploma pass rate in the top 10% of those IB schools in the U.S. that also have an IB Diploma candidate enrollment of 30 or more students, as reported by the IBNA.

7. Bottom Decile IB Diploma Program - again, for the purpose of this study only, a bottom decile IB Diploma Program is defined as an IB school with an IB Diploma pass rate in the bottom 10% of those IB schools in the U.S. that also have an IB Diploma candidate enrollment of 30 or more students, as reported by the IBNA.

8. IB Coordinator - is the person at a school who is tasked with directly overseeing the administration of the IB program in that one school. This person serves as the liaison between the school and the IB Organization. The role of the IB coordinator is further delineated at the local level, which results in a very diverse job description. For example, some IB programs in the United States have IB coordinators who are teachers and fulfill their IB responsibilities on a part-time basis, while other U.S. schools employ full-time IB coordinators who may be administratively endorsed. Regardless of how local schools define the position, IB coordinators have in common their leadership role in delivering the IB program at their schools.

9. Head of School - is the principal or chief administrator of the school where an IB program is offered. "Head of school" is terminology that the IB

Organization developed to span the various nomenclatures used in educational systems throughout the world (IBO, 2005, p. 4).

10. IB Leadership Team - a term derived by the author of this study to identify both the IB coordinator and the head of school or principal in an IB school. The IB coordinator, together with the principal or head of school, form the IB leadership team in a school.

11. Creativity, Action and Service (CAS) Coordinator - the school-based IB professional in charge of overseeing completion and documentation of IB Diploma candidates' community service requirement.

12. Schools of Choice - term used to describe schools that serve as an option to traditional public schools in the U.S., such as magnet schools, schools-within-schools, academy programs, and charter schools.

13. Global vs. International - A vital distinction in terminology must be made between the words "global" and "international" and their derivatives due to the connotations these terms carry. While many authors use these terms interchangeably, certain political movements necessitate a clarification here. A current political movement toward creating a globalist society, one that envisions a world without national borders, can give rise to conflicting beliefs and policies that are neither endorsed nor taught in the IB program. The IB Organization, an apolitical entity, espouses an educational philosophy that is more in line with the definition of internationalism, which emphasizes understanding and acceptance of diverse cultures. While this study uses these

terms synonymously, they should be taken in the context of internationalism, rather than the more polarizing connotation supported by globalism.

Chapter one provides an introduction to the problem that will be undertaken within this study. The study's purpose is identified, and three research questions are advanced. The limitations and delimitations of the proposed study are detailed, and terms unique to the study are defined. Chapter two offers an examination of prior research upon which this study relies. Connections between the extant research base and the assertions of this study will be drawn, and conclusions will be presented.

Chapter 2

Review of Relevant Literature

When a contractor builds a structure, like a home or a school, they begin with a blueprint of their vision. That blueprint or floor plan illustrates a general picture of the structure, such as the number of rooms, their sizes and how they are juxtaposed. From this broad overview, the building plans are fleshed out to incorporate the inner workings of the structure; the electrical and mechanical infrastructures are integrated into the blueprints. As features are added to the building plans, like lighting fixtures and wall finishes, a more detailed picture grows from the drawings; until finally, an in-depth image of the finished product emerges.

Reviewing the literature in preparation for the construction of a process designed to examine International Baccalaureate (IB) Diploma program leadership and other factors that may have contributed to program success followed a similar progression. The blueprint upon which a project of this specificity was built had to begin with an overview of the research on leadership in general followed by a review of effective educational leadership and then the research on other factors that may have impacted program success. Because of the plethora of available research conducted on leadership, educational leadership, and contributing factors, only a sampling of that research was reviewed for this project. Once this overarching research had been reviewed and a general floor plan envisioned, a more detailed perspective was pursued.

In an effort to uncover the inner workings of the leadership of an International Baccalaureate program, the focus of this research turned to studies of leadership at magnet schools. These studies provided insight into IB leadership because the schools and programs reviewed were comparable to the IB Diploma programs in the United States, which existed most often as optional programs within comprehensive high schools. These studies added the infrastructure to this research, paving the way for even more specialized studies of leadership.

Like the selection of carpeting or crown molding for an elegant building where specific qualities were matched to the needs of the structure, leadership characteristics beyond those normally identified with school leaders were explored. This feature of the blueprint led to research into cosmopolitan leadership. This field of study identified traits associated with a leader who had a global perspective, and these qualities well complemented the philosophical underpinnings of an international curriculum like the IB program. These studies added depth to the seemingly flat caricature of the blueprint of an IB leader.

Finally, in an effort to create a complete picture of the qualities of an IB leader, all research specifically related to IB leadership was perused. Unfortunately, this body of research was very limited. There was little explicit research regarding IB leaders; however, some researchers had tangentially touched on the subject when studying other aspects of the IB program. As a result, much work needs to be done in this area, and this construction project was desperately needed to expand our knowledge base in both educational leadership as a whole and, more specifically, in International Baccalaureate program leadership.

History of the International Baccalaureate Program

The International Baccalaureate Organization (IBO) was established as a non-profit, educational foundation that promoted academic excellence and global intercultural understanding (IBO, 2002a; IBNA, n.d.; IBNA, 2005). Originally created to provide a common college preparatory experience to secondary students pursuing university admission in a variety of European countries, the IB credential has become a standard by which many countries and universities worldwide have compared and evaluated students for post-secondary education. The IB Organization's emphasis on critical thinking and lifelong learning set the stage for a curriculum with an external evaluation system that has been identified as both academically demanding and culturally inclusive.

From its beginning in Europe in 1968, the IBO expanded its curriculum from college preparatory courses to include middle school-aged students as well as elementary school children, creating a three-tiered curriculum which addressed the education of students across the primary and secondary years of school (IBO, 2002b). Beginning with the IB Diploma Program for prospective university students in the final two years of their secondary education, the IB Organization then developed the IB Middle Years Program for students aged 11 to 16, or what was commonly considered middle school and the first two years of high school in the United States. Following extensive study in several subject areas, IB Diploma candidates sat comprehensive examinations that required them to synthesize and analyze the knowledge they had acquired into a written product. IB Middle Years Program students completed their studies with a culminating project.

After the curricula for these two groups were established, the IBO created a curriculum for elementary-aged students. With the creation of the IB Primary Years

Program, the IB Organization had in place an international educational program for students aged three through nineteen. As of May 2004, the IBO included 1,300 member schools in 110 countries worldwide (IBO, 2002a). Over 900 of these IB schools were authorized to offer at least one of the three IB programs in North America, and there were 505 IB schools in the United States (IBNA, n.d.). For the purpose of this study, only the 382 IB Diploma Programs in the United States have been discussed (IBNA, 2004).

Each of these 382 U.S. International Baccalaureate Diploma Programs was overseen by a two-tiered administrative team at the local school level. Every IB Diploma school was required to employ an IB Coordinator who answered directly to the school's head or principal and was responsible for direct oversight of the IB program at that school (IBNA, 2005). These two administrators comprised the IB leadership in a school and had a substantial impact on the success of an IB Diploma program; therefore, it was vital that they provided effective leadership. To do this, an IB leader must have brought to the job skills sometimes beyond the scope of good leadership at a non-IB school. These competencies included securing additional funding, salesmanship and marketing expertise, and a global or cosmopolitan mindset. Establishing and maintaining a successful IB Diploma program required money for new textbooks, training of teachers and administrators, and a plethora of instructional supplies not often encountered in traditional U.S. high school curricula. Obviously, all of this required additional funds, which meant that a school leader needed the ability to leverage additional funding for his or her school. The novelty of the IB program in the United States, due to its European roots, also had implications for a school leader's marketing prowess. Introducing a completely new program to a community, especially a program that may have inherent

ideological differences from the community's norms, required a talent with which few school administrators may have had experience.

An IB program brought with it an expanded role for school leaders, a role that required a new skill set for administrators or a means by which school divisions could target specific qualities of leadership when hiring IB administrators. In order to discern which leadership characteristics best facilitated the successful management of an IB school, a study beyond the existing body of research on school leadership was essential. To facilitate such a study, a survey instrument was constructed that focused specifically on leadership characteristics necessary to the oversight of a successful IB program. These leadership characteristics were discerned through a review of the relevant literature on effective leadership. The review began with an overview of effective leadership in multiple settings, such as business, politics, and religion. From this base, a review of Effective Schools research ensued, culminating in a review of effective educational leadership since the Effective Schools era. Characteristics of effective educational leadership were determined, and these were compared to the research on leadership in magnet schools in an effort to draw a correlation between magnet school leadership and IB Diploma program leadership. The result was a set of effective leadership characteristics for leaders of IB Diploma programs in the U.S.

Overview of Effective Leadership

General Leadership

Within the broad landscape of leadership research, a variety of blueprints existed for identifying successful leadership. Many of the early modern theorists in the field of leadership relied on the groundbreaking distinction made by James MacGregor Burns

between *transactional* leaders and *transformational* leaders, leaders who bargained for desired outcomes versus those who inspired mutually agreed upon goals (Burns, 1978). Gardner (1990), Bolman and Deal (1991), Kouzes and Posner (1995), and Bennis and Nanus (1997) incorporated Burns' transformational leadership into their concepts of effective leadership. Kouzes and Posner (1995) provided an example of this characteristic in leaders by asserting that "The most admired leaders speak unhesitatingly and proudly of mutual ethical aspirations" (p. 133). With this perspective of leadership, theorists advanced the study of leaders from management skills and inborn personal traits to an in-depth investigation of effective practices.

One of the oft repeated characteristics found in effective leaders was the ability to inspire a shared vision among the members of an organization. Bennis and Nanus (1985) described vision aptly as "a target that beckons" (p. 89). Others also emphasized that vision was a forward-looking goal. Kouzes and Posner (1995) defined vision as "an ideal and unique image of the future" (p. 95). Similarly, Bolman and Deal (1991) described vision as a "persuasive and hopeful image of the future" (p. 442). These authors' understanding of vision also spoke to the need for vision to be shared among an organization's constituents. Gardner (1990) discussed vision as "shared goals" (p. 12), Bennis and Nanus (1997) articulated the importance of disseminating the vision widely, and Kouzes and Posner (1995) noted that vision "must appeal to all of those who have a stake in it" (p. 111). Interestingly, these perspectives on vision all began exclusively with the leader, a rather top-down view, but one that set the stage for further development of the concept of vision.

Not surprisingly, leadership theorists also explored the concept of power as an essential ingredient of leadership. Often referencing Machiavellian understandings of power, modern leadership theorists extended the concept by incorporating the more recent research put forth by human behavioral scientists like Maslow and Kohlberg (Bennis & Nanus, 1997; Bolman & Deal, 1991; Gardner, 1990). These leadership theorists understood power as an element of the ways in which members of an organization could be influenced by their leaders. For example, Bolman and Deal (1991) described power in terms of political prowess. Their political frame for leadership asserted that power was directly tied to the control of available resources within the organization (Bolman & Deal, 1991). Bennis and Nanus (1997) viewed power as a vehicle for furthering an organization's vision. They extended Bolman and Deal's definition of power by adding the component of sustainability (Bennis & Nanus, 1997). Ultimately, however, Kouzes and Posner (1995) identified what they described as the "paradox of power" when they expressed their understanding of organizational power, "*we become the most powerful when we give our own power away*" (p. 185, emphasis in original). This perspective of power demonstrated an understanding of leadership within the context of the give-and-take of human relations and led to explorations of shared decision-making.

Each of these theorists also established the leaders' role in managing the culture within an organization. Whether they referred to organizational culture as culture or, as Bennis and Nanus (1997) did, as "social architecture," the concept embodied the same components. The characteristics of organizational culture were many and diverse. At its most basic level, culture included the norms, values, and beliefs of the people within an

organization (Bolman & Deal, 1991; Gardner, 1990; Bennis & Nanus, 1997; Kouzes &

Posner, 1995). Theorists elaborated on this basic definition of culture to convey its often

elusive meaning. Gardner (1990) noted that culture was an internal human concept that

was manifested in a variety of ways within an organization:

It exists in the minds of its members, in their dreams, in their

unconscious. It can be discerned in their legends, in the art and drama

of the day, in religious themes, in their history as a people, in their

seminal documents, in the stories of their heroes. (p. 165)

Bolman and Deal (1991) spoke of the symbols, rituals, practices, shared traditions,

artifacts, and celebrations that comprised an organization's culture. Two authors felt the

importance of organizational culture so strongly that they wrote distinct books about

culture. Kouzes and Posner (1999) penned the stand-alone monograph *Encouraging the*

Heart, and Bolman and Deal (1995) published *Leading with Soul,* which further

explicated their beliefs about the role of culture in organizations and reinforced the

significance of attending to this intangible component of leadership. Each organization's

culture evolved based on the ideals members of the organization shared and valued and

upon the organization's own history. A leader influenced that culture and as a result,

carried a responsibility that could never be overlooked.

These basic aspects of leadership have been applied to many diverse fields, from

business to religion. Examples from government and education were also provided by

theorists to show the universality of the elements of leadership. In an effort to focus the

lens of leadership on the qualities of effective leadership in schools and to flesh out the

floor plans of our construction, a review of the research on effective school leadership was appropriate.

Educational Leadership

From the foundation laid by experts in the field of leadership, educational theorists began to piece together a blueprint for school leadership. Much of the educational leadership research undertaken in the last 35 years was tied to the Effective Schools research begun in the late 1960s and early 1970s. A review of the Effective Schools research revealed an evolving understanding of building-level leadership in education. From Edmonds' (1979) research into effective schools to Marzano et al.'s (2005) meta-analysis of effective school leadership, many studies have documented the connection between effective schools and effective leadership.

While the early research into Effective Schools focused primarily on teachers and their impact on student achievement, some researchers included glimpses of how the leadership in these schools contributed to their overall effectiveness. Edmonds (1979) noted in his research of effective schools, "Administrative behavior, policies, and practices in the schools appeared to have a significant impact on school effectiveness" (p, 16). He asserted that administrators facilitated teachers' efforts in high-achieving schools by providing support, especially through materials and resources. Delving deeper into the influence of school leaders on the effectiveness of their schools, Levine and Lezotte (1990) explored effectiveness in groups of schools and identified a specific type of support provided by effective leaders. In an article summarizing their findings, Levine (1991) asserted that by providing teachers with substantive professional development, school administrators aided the effectiveness of their schools. These early forays into the

leadership component of Effective Schools research led to a much greater explication of the school leader's impact on a school's success.

Continuing to cement the relationship between school leadership and school effectiveness forged during the Effective Schools era, a number of researchers further studied this connection. DuFour and Eaker (1998), in their seminal work about professional learning communities, found that principals in highly effective schools evinced several common traits. The model of school development DuFour and Eaker (1998) proposed clearly enumerated five main characteristics identified as necessary to the effective leadership of professional learning communities.

- Principals of professional learning communities lead through shared vision and values rather than through rules and procedures.

- Principals of professional learning communities involve faculty members in the school's decision-making processes and empower individuals to act.

- Principals of professional learning communities provide staff with the information, training, and parameters they need to make good decisions.

- Principals of professional learning communities establish credibility by modeling behavior that is congruent with the vision and values of their school.

- Principals of professional learning communities are results-oriented. (pp. 184-195)

Reinforcing the concept of shared decision-making, Blase and Blase (2001), in their study of successful principals, found that "shared governance–including involvement of staff, parents, *and students*–lies at the heart of successful principals' practice" (p. 3). Whether the discussion mentioned effective or successful leadership, the implications for

leadership were the same. Leithwood et al. (2004) noted in their review of leadership influences, "So 'effective' or 'successful' leadership is critical to school reform" (p. 4). Others have looked at effective leadership in specific areas.

Within the context of change, Fullan (2001) studied the characteristics of effective leadership and their impact on an organization. He identified five components of leadership and three traits that enabled leaders to effectively oversee an organization that was facing change. From his research, Fullan (2001) concluded that "leaders will increase their effectiveness if they continually work on the five components of leadership—if they pursue moral purpose, understand the change process, develop relationships, foster knowledge building, and strive for coherence—with energy, enthusiasm, and hopefulness" (p. 11).

The impact of effective leadership was also the subject of two comprehensive studies. In her extensive review of the literature concerning building-level leadership and student achievement, Cotton (2003) compiled 25 practices of effective principal leadership. Marzano et al. (2005) conducted a meta-analysis of the research base over the previous 35 years and determined, "Given the perceived importance of leadership, it is no wonder that an effective principal is thought to be a necessary precondition for an effective school" (p. 5). As a result of their study, Marzano et al. (2005) grouped the characteristics of effective educational leaders into 21 leadership responsibilities.

The research into effective school leadership clearly established the connection between effective schools and effective leadership. While some researchers identified a short list of effective leadership characteristics, others presented a more discrete accounting of these traits. As was demonstrated in the studies on effective educational

leadership, the characteristics of leadership may be grouped in general categories of similar traits. Fullan (2001) grouped his leadership characteristics into five categories, framed by the personal leadership traits of energy, enthusiasm, and hopefulness. As noted above, DuFour and Eaker (1998) also consolidated their list of effective leadership characteristics into five categories. Following their lead, I have assigned the traits of effective leadership to six categories or domains. The six leadership domains are listed below.

- supporting behaviors

- instructional leadership

- public relations

- shared decision-making

- role modeling

- school culture

The research supporting these categories of effective educational leadership characteristics was reflected in the matrix in Figure 1. Most of the leadership characteristics found in larger lists, like Marzano et al.'s (2005) list of 21 characteristics, could be found incorporated within these six categories. Descriptions and supporting research for each category of leadership characteristics shown in the matrix has been detailed in the following section.

The significant commonality among all the lists created by general leadership theorists and educational leadership researchers was their reliance on comprehensive institutions of public education. Since one purpose of this study was to compare the characteristics of leaders in successful and unsuccessful IB Diploma programs in the

U.S., the following section explored the research on effective educational leadership in

general and in magnet schools. The U.S.

Figure 1. Six categories of effective educational leadership characteristics.

LEADERSHIP DOMAIN	Supporting Behaviors	Instructional Leadership	Public Relations	Shared Decision-making	Role Modeling	School Culture
STUDY*						
Bennis & Nanus (1985, 1997)	●		●			●
Blank, Dentler, Baltzell, Chabotar (1983)		●		●		
Blank (1986)		●		●		●
Blase & Blase (2000, 2001)	●	●	●	●	●	
Bolman & Deal (1991)	●			●		●
DuFour & Eaker (1998)	●			●	●	●
Edmonds (1979)	●					
Fullan (2001)	●	●	●	●		●
Gardner (1990)			●		●	●
Glickman, Gordon & Ross-Gordon (2001)	●	●		●		●
Hipp (1997)	●			●	●	●
Kouzes & Posner (1995)	●			●	●	●
Levine (1991)	●					
Lezotte & Taylor (1989)		●	●	●		●
Marzano, Waters & McNulty (2005)	●	●	●	●	●	●
Sergiovanni (1992)	●			●		●

* Empirical studies are in bold-faced font.

Department of Education (n.d.) defined magnet schools as schools which "are designed to attract students from diverse social, economic, ethnic, and racial backgrounds. They focus on a specific subject, such as science or the arts; follow specific themes, such as business/technology or communications/humanities/law; or operate according to certain models, such as career academies or a school-within-a-school." While most IB programs existed as schools-within-schools, some were free-standing schools, like magnet schools. It is my contention that magnet schools served as a bridge between the research on effective leadership in traditional or comprehensive school settings and the effective leadership of IB Diploma programs. As such, similarities and differences within the research about leadership in traditional schools and leadership in magnet schools brought us closer to an understanding of the leadership needs of IB Diploma programs.

Characteristics of Effective Educational Leaders

To facilitate understanding the elements of each of the six categories of leadership characteristics, each category was presented below, its components defined, and its inclusion in the list of leadership domains substantiated through a review of the relevant research noted in the matrix in Figure 1. This review incorporated an examination of effective general educational leadership, that which could be found in a traditional or comprehensive school setting, and the leadership research for magnet schools. By doing so, a connection was established between the similarities and differences in leadership characteristics of traditional or comprehensive schools and the leadership in magnet schools, which in turn, helped establish the link between magnet schools and IB Diploma programs since the IB programs often operated in a capacity similar to magnet schools.

Supporting behaviors

Supporting behaviors defined. Supporting behaviors of effective educational leaders encompassed a broad array of traits and practices. They included being responsive to constituents' needs, both emotional and tangible. For example, listening to and encouraging an employee when he was struggling with either personal or professional issues and providing the materials and resources necessary to do one's job both described this characteristic (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Leithwood et al., 2004; Marzano et al., 2005; Sergiovanni, 1992). Celebrating the successes of an individual or group also described a supporting behavior of leaders, as did providing professional development and ongoing learning (Cotton, 2003; DuFour & Eaker did, 1998; Edmonds, 1979; Fullan, 2001; Hipp, 1997; Leithwood et al., 2004; Levine, 1991; Marzano et al., 2005; Sergiovanni, 1992). Encouraging and protecting teachers' instructional risk-taking was another example of an effective leader's supporting behavior (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Hipp, 1997; Marzano et al., 2005; Sergiovanni, 1992). Yet another aspect of this leadership category was the ability to communicate effectively with internal constituents. Effective school leaders demonstrated this by their ability to convey needed information to their employees and by being accessible to all stakeholders (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Marzano et al., 2005; Sergiovanni, 1992). In addition to these supporting behaviors, effective educational leaders demonstrated support of the school or program through their ability to promote it and garner support for it with the

central administration of the school system (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Marzano et al., 2005).

Supporting behaviors explored. Much of the research on educational leadership documented being responsive to constituents' needs, celebrating successes, providing professional development, encouraging and protecting instructional risk-taking, communicating effectively, and garnering support for the school or program as a characteristic of effective educational leadership. Whether the support came in the form of staff development, a school leader's responsiveness to staff needs, or other means, this characteristic of effective school leadership was well represented in the literature pertaining to traditional schools and magnet schools.

In studies of traditional schools and magnet schools, researchers often agreed that effective school leaders exhibited supporting behaviors. These behaviors manifested themselves in numerous ways. Provision for professional development was fairly common among effective school leaders in traditional as well as magnet school settings (Boyd & Hord, 1994; Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Hausman & Goldring, 2001; Leithwood et al., 2004; Louis, 1994; Sergiovanni, 1992). DuFour and Eaker (1998) emphasized that supporting teachers required that they "receive the training to master skills" (p. 186). Fullan (2001) concurred with this belief; however, he asserted that providing professional development was just one aspect of several that needed to be addressed. In their empirical study of magnet school leadership, Hausman and Goldring (2001) found, "Principals who serve as stewards of professional growth (i.e., enhance teacher opportunity to learn) are rated as more effective by their teachers" (p. 416). This finding was mirrored in Boyd and Hord's (1994) qualitative study of a magnet school

involved in a change process. One principal of the school maintained the goal of "freeing teachers to devote their attention to professional development and innovative practices for children" (Boyd & Hord, 1994, p. 26). Providing professional development was just one aspect of the supporting behaviors effective leaders evinced in traditional and magnet schools.

Another supporting behavior of effective leaders was identified as providing resources, such as time and materials. In regards to time, principals who were able to protect teachers from the time-consuming demands of administrative duties and paperwork were viewed by their staffs as effective (Boyd & Hord, 1994; Hausman & Goldring, 2001; Marzano et al., 2005; Sergiovanni, 1992). In his theoretical work about school leadership, Sergiovanni (1992) referred to this protection as "removing obstacles" and "taking care of the management details" (p. 43). Magnet school teachers who felt their principals protected them from "burdensome paperwork and red tape" rated their school leaders higher than those who did not buffer their staffs in this way (Hausman & Goldring, 2001, p. 415). Hausman and Goldring (2001) also found, "Magnet teachers appear to appreciate being buffered from additional paperwork and policies that come with magnet schools" (p. 416). Boyd and Hord's (1994) study confirmed this practice of effective leadership noting that by "proactively streamlining procedures and processes, she [the principal] was able to reduce administrivia and other distractions" (p. 26).

In addition to safeguarding the resource of teachers' time, effective school leaders demonstrated the ability to garner material resources for their schools and managed them efficiently (Boyd & Hord, 1994; Cotton, 2003; Fullan, 2001; Hausman & Goldring, 2001; Leithwood et al., 2004; Marzano et al., 2005; Sergiovanni, 1992). In exploring factors

that improved the work environment for teachers, Leithwood et al. (2004) determined in their extensive review that "adequate equipment and other resources in the classroom" reflected positively on their administrators (p. 58). Boyd and Hord (1994) echoed this sentiment when they spoke of the magnet school leader's responsibility for "managing the resources" (p. 26) and for supporting teachers by providing "as many good reading materials as possible" (p. 28).

Beyond supporting staff through time and materials, effective school leaders also demonstrated supporting behaviors by empowering teachers' instructional risk-taking (Boyd & Hord, 1994; Cotton, 2003; Hipp, 1997; Louis, 1994). In her case studies of exemplary schools, Louis (1994) found that "individuals in the schools feel supported and empowered to experiment within the agreed-upon framework, and perceive this support for risk-taking as freedom" (p. 71). She attributed this atmosphere of support for risk-taking to the principals of the schools she studied noting that world-class schools emerged, in part, because their principals were "protecting risk-taking teachers" (Louis, 1994, p. 74). Similar results were expressed by Hipp (1997) in her empirical study of principals' leadership and teacher efficacy. Boyd and Hord (1994) discovered comparable parallels in their reflections about the magnet school they studied, where "Teachers are encouraged to innovate" (p. 27). As a result of supporting instructional risk-taking in schools, teachers in these schools felt supported by their school leaders, and school leaders were considered effective by their staffs.

Further administrative support was perceived through a variety of communicative behaviors, such as celebrating staff successes, providing necessary information, emotional support, accessibility, and listening. Many researchers found positive

correlations between leaders' publicly celebrating their staff's successes and their teachers' self-efficacy (Cotton, 2003; Glickman et al., 2001; Hipp, 1997; Marzano et al., 2005; Sergiovanni, 1992). These forms of communication sometimes appeared in the research as the leader's responsibility for repeatedly conveying the vision or mission of the school to staff (Lezotte & Taylor, 1989; Marzano et al., 2005). Internal communications of this specific type was discussed further in relation to school culture. The skill of listening, another side of expressions of communications, was often found in effective school leaders. Glickman et al. (2001) described this proactive, nonverbal support as "*purposeful* behavior" (p. 125). Internal communications was also described as "cheerleading and bringing about bonding of faculty and children" (Boyd & Hord, 1994, p. 26).

Finally, educational leaders who could garner support for their schools from their superiors were also considered effective. By lobbying their central administration, effective school leaders were able to provide resources as well as positive regard for their schools. Blase and Blase (2001) referred to this capacity as "boundary spanning" (p. 102), and Marzano et al. (2005) included "Being an advocate of the school with central office" as one of their "outreach" characteristics of effective school leadership (p. 58).

Instructional leadership

Instructional leadership defined. The concept of instructional leadership encompassed several aspects of effective educational leadership. School leaders who were knowledgeable about teaching and learning and conveyed that knowledge were considered effective leaders (Blase & Blase, 2001; Cotton, 2003; Edmonds, 1979; Fullan, 2001; Glickman et al., 2001; Leithwood et al., 2004; Marzano et al., 2005). School

leaders demonstrated this, for example, by conducting professional development themselves and also by participating in their teachers' professional development workshops. Instructional leadership was also demonstrated by leaders who were capable of engaging teachers in discussions of classroom instructional and curricular issues (Blase & Blase, 2001; Cotton, 2003; Marzano et al., 2005).

Instructional leadership explored. Extensive research had been undertaken regarding the instructional leadership of effective school leaders, and that was reflected in the literature on effective schools and magnet schools. As early as the 1970s, Edmonds (1979) reported in his review of effective schools, that effective educational leaders assisted teachers with instructional strategies. Having the knowledge to do so was a leadership characteristic emphasized by Blase and Blase (2001) in their empirical study of the effects of shared governance and by Marzano et al. (2005) in their meta-analysis of effective leadership. Marzano et al. (2005) determined that effective principals were "knowledgeable about current curriculum, instruction, and assessment practices" (p. 43). Putting that knowledge to work by engaging teachers in discussions about instruction and curriculum and planning with them identified effective leaders as well. In her meta-analysis of the link between effective leadership and student achievement, Cotton (2003) concluded that effective principals, "establish an environment in which they and their staffs learn, plan, and work together to improve their schools" (p. 70). Blase and Blase (2001) found that effective principals, "Talk openly and freely with teachers about teaching and learning" (p. 71). The research into effective magnet schools found similar effective leadership requirements.

In his early empirical study comparing magnet and non-magnet school leadership characteristics, Blank (1986) discovered that a "higher proportion of magnet school principals also had high ratings on 'planning with staff' and on 'making core curriculum decisions'" (p. 13). Blank (1986) confirmed that the two variables of "planning with staff" and "making core curriculum decisions" were relevant to instructional leadership when he later noted, "To develop an innovative, quality magnet school, many districts appoint a principal who has demonstrated outstanding leadership characteristics, and often, the principal is knowledgeable in the subject area of the magnet theme" (p. 18). Hausman and Goldring (2001) cited Blank's extensive study to buttress their research on instructional leadership in schools of choice. Lezotte and Taylor (1989) clearly stated the connection between Effective Schools research and instructional leadership in schools of choice when they remarked in their article about magnet schools and the Effective Schools model, "In the Effective School, the principal acts as a strong instructional leader" (p. 27). Instructional leadership was again identified with a leader's knowledge of curriculum when Louis (1994) reported that effective principals "spend more time... nurturing a host of curriculum innovations" (p. 75).

Public relations

Public relations defined. Effective school leaders exhibited successful skills in public relations. Public relations skills were defined as the ability to promote a school, program or concept to an external audience (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Leithwood et al., 2004; Marzano et al., 2005). For example, an effective principal was one who could secure positive regard for the school or program through advertising, organizing and speaking at information events, inviting

the press to publish articles or broadcast stories about the school, or speaking publicly to community groups, like the Rotary Club.

Public relations explored. Public relations in traditional, comprehensive schools required leaders to reach beyond the schoolhouse to parents and the community. Marzano et al. (2005) and Cotton (2003) referred to this as "outreach," and identified a variety of stakeholders and how they could be involved. Cotton (2003) noted, "Principals of successful schools conduct vigorous outreach to parents and community, including those who are traditionally underrepresented in parent involvement programs. They seek and support parent/community involvement in both instruction and governance" (p. 69). Marzano et al. (2005) confirmed Cotton's assessment and listed parents, central office, and the "community at large" as groups with whom the effective principal advocated for his school, sharing the school's accomplishments and goals.

The research base for effective school leadership in magnet schools overwhelmingly emphasized the entrepreneurial aspect of the effective leader (Boyd & Hord, 1994; Crow, 1992; Hausman, 2000; Hausman & Goldring, 2001). This facet of public relations was directed to external stakeholders. Boyd and Hord (1994) reported that "when the school was in need of enrollment, the principal and staff and parents went out to the community to solicit interest and participation" (p. 25). They also noted that principals improved the communications with their external audiences by designing and distributing informational brochures (Boyd & Hord, 1994). Crow (1992) spoke of school administrators' responsibilities in terms of "matching organizational and client preferences" (p. 170). This led him to determine, "Such responsibilities intensify the public relations tasks with external constituents" (Crow, 1992, p. 170). Hausman (2000)

posited in his study of principal roles in magnet schools, "Presumably, since principals of schools of choice do not have access to guaranteed student enrollments, they must market their schools to attract students" (p. 28).

Shared decision-making

Shared decision-making defined. Another trait of effective school leadership was shared decision-making. Leaders who empowered their staff by involving them in the decision-making process fell within this category (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Leithwood et al., 2004; Marzano et al., 2005). Shared decision-making was also defined as a readiness on the part of a leader to accept and implement the ideas of others or the willingness to make changes. This characteristic also described leaders who promoted leadership in others (Blase & Blase, 2001; Hipp, 1997; Leithwood et al., 2004).

Shared decision-making explored. Empowering others through shared decision-making was well documented in the research on effective school leadership in general. Cotton (2003) summed up her review of effective leaders when she stated, "The most successful principals engage their staffs and constituents in participative decision making" (p. 69). In addition to the other leadership characteristics they studied, Blase and Blase (2001) noted that "principal leadership is the most important factor that contributes to teachers' empowerment" (p. 14). Sergiovanni (1992) stated it simply: "In successful schools, consensus runs deep" (p. 73). Promoting leadership in others was evident in numerous studies and reports of successful leadership and was one aspect of shared decision-making evinced by school leaders. Whether it was called collaborative leadership, distributive leadership, or another name, empowering others to lead was at the

heart of shared decision-making (Blase & Blase, 2001; Hipp, 1997; Leithwood et al., 2004).

The magnet school research concerning leadership was replete with references of shared decision-making and the importance of its support by effective school leaders (Blank, 1986; Boyd & Hord, 1994; Crow, 1992; Hausman, 2000; Lezotte & Taylor, 1989; Louis, 1994). Louis (1994) captured the gist of this when she pointed out, "Principals are no longer the 'sole leaders' of the school, but one among many sources of inspiration and problem solving" (p. 74). Teacher empowerment, a positive outcome of shared decision-making, was touted by several researchers (Boyd & Hord, 1994; Hausman, 2000; Hausman & Goldring, 2001; Louis, 1994). The concept of "leadership substitutes" was broached by Hausman and Goldring (2001) as providing positive effects similar to shared decision-making. This alternative to principal leadership through teacher leaders was substantiated in the educational leadership research by Leithwood et al. (2004) and Sergiovanni (1992).

Role modeling

Role modeling defined. Effective educational leaders exhibited the traits of the role modeling domain through a panoply of behaviors. At its essence, this category described leadership behaviors others admired and emulated. Good interpersonal skills and professional behavior served as examples of effective leadership characteristics included in the category of role modeling (DuFour & Eaker, 1998; Hipp, 1997; Marzano et al., 2005). Leaders who conveyed their expectations for teachers' behavior and modeled these behaviors themselves were appropriate examples of this category, as was consistent behavior on the part of the leader (Cotton, 2003; DuFour & Eaker, 1998;

Leithwood et al., 2004; Marzano et al., 2005). In addition to these examples of role modeling, effective educational leaders demonstrated this trait by handling conflict well (Blase & Blase, 2001; DuFour & Eaker, 1998). Whether the conflict laid between teachers, among students, between teachers and students or parents, the effective leader exhibited the ability to resolve it.

Role modeling explored. The research into effective school leadership often discussed a variety of traits, individually and in groups, that was categorized as role modeling. DuFour and Eaker (1998) touched on modeling in regards to establishing credibility and trust. They included an extensive description of leadership behaviors that effective leaders modeled (DuFour & Eaker, 1998):

> They [principals] deliver on promises. They impose on themselves the highest standard of congruence between their words and deeds. They are consistent and predictable.... They model the attitudes, behaviors, and commitments that they call upon others to demonstrate. They admit mistakes and change their behavior when necessary. They maintain their composure and respond professionally even in times of crisis or heightened emotions. They demonstrate competence in fulfilling the various responsibilities of their position. (p. 194)

The concept of congruence was expressed by DuFour and Eaker was echoed by Cotton (2003) in her commentary on principals' conduct. She noted that "what the staff clearly admire most is that their principals, 'walk their talk,' serving as valuable role models for the behavior they wish to instill in others" (Cotton, 2003, p. 41). Additional research noted the ability of school leaders to effectively manage conflict and model this behavior.

Blase and Blase (2001) found that successful principals "understand and even welcome and embrace conflict" as a means of addressing differences (p. 29).

The explicit research regarding effective magnet school leadership in this category was limited, but it was implicitly described in some sources. Boyd and Hord (1994) noted in their study that "principals modeled and emphasized a focus on academic achievement" (p. 28). While the traits modeled by effective school leaders varied from study to study, their modeling usually expressed the shared goals and expectations of the school community. Louis (1994) noted that principals furthered teachers' commitment to the change process by "modeling the values that are important" to that process (p. 75). Hausman and Goldring (2001) implied leadership role modeling in their discussion of "goal congruence" and the "clear guidelines about what teachers are to emphasize in their teaching" (p. 415).

School culture

School culture defined. Chief among the aspects of school culture were the shared norms, values and beliefs of an institution (Cotton, 2003; DuFour & Eaker, 1998; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Leithwood et al., 2004; Marzano et al., 2005; Sergiovanni, 1992). An organization's vision also represented a major feature of a school's culture (Cotton, 2003; DuFour & Eaker, 1998; Hipp, 1997; Leithwood et al., 2004; Marzano et al., 2005; Sergiovanni, 1992). Other examples of a leader's supporting behavior apparent in school culture included the leader's role in the common practices, rituals, stories and traditions of the school, as well as serving as a symbol of the institution (Cotton, 2003; DuFour & Eaker, 1998; Hipp, 1997; Marzano et al., 2005).

These factors all fortified the sense of community members experienced within their

organizations.

School culture explored. The research into effective leadership in traditional or

comprehensive schools was rife with references to the principal's impact on a school's

culture. DuFour and Eaker (1998) identified the shaping of school culture as a primary

focus in establishing professional learning communities; the first four of their 10

leadership guidelines were directly related to a school's culture. They also noted, "A

staff will come to regard mission, vision, values, and goals as meaningful and important

only if the principal pays attention to them on a daily basis" (DuFour & Eaker, 1998, p.

196). Other general educational leadership researchers explained school culture as

purpose, including Fullan's (2001) "moral purpose," Glickman's et al. (2001) "common

purpose," Hipp's (1997) "group purpose," and Marzano et al.'s (2005) underlying

"purpose." Cotton (2003), DuFour and Eaker (1998), Hipp (1997), and Marzano et al.

(2005) spoke to the rituals, traditions, stories, and celebrations that exemplified culture in

schools. Cotton (2003) explained the purpose of these outward representations of school

culture when she stated, "Effective principals make use of school rituals and ceremonies

to honor tradition, instill pride, recognize excellence, and strengthen a sense of affiliation

with the school on the part of all those connected to it" (p. 69). Culture in magnet

schools served a similar purpose, though each institution may have had different goals.

The culture in magnet schools varied from institution to institution because of the

assortment of goals, the diversity of their communities, and different degrees of support.

The most common element of school culture documented in the literature was that school

stakeholders possessed a shared vision (Boyd & Hord, 1994; Crow, 1992; Lezotte &

Taylor, 1989; Louis, 1994). Boyd and Hord (1994) described the leader's role in shared

vision most eloquently when they explained how teachers in a magnet school discussed

curricular options, "but always in light of their vision, held as a beacon by the principal"

(p. 29). While the research revealed a variety of goals from school to school, high

expectations for student success and achievement or high standards were a common

theme among effective school leaders (Blank et al., 1983; Hausman & Goldring, 2001;

Lezotte & Taylor, 1989; Louis, 1994). The norms, symbols, and rituals of an

organization were another aspect of school culture discussed by some of the researchers

(Crow, 1992; Louis, 1994). Crow summed up the school leader's role in the culture of a

magnet school: "The issue for leadership in this type of organization becomes one of

defining and maintaining commitment to the community through the management of

shared values and symbols" (p. 168). He continued by emphasizing the principal's role

in shaping and managing the school's sense of community, what he called a

"consciousness of kind" that served to help maintain "goal consensus" (Crow, 1992, p.

171). This was very similar to Hausman and Goldring's (2001) discussion of community

and "goal congruence" (p. 403).

Leadership Characteristics Unique to IB Programs

Cosmopolitan leadership

The studies reviewed above examined the leadership in both magnet and non-

magnet schools. These studies contributed to our knowledge of leadership in traditional

as well as magnet school settings, providing a glimpse of the inner workings of both

types of schools. To further our understanding of leadership in IB Diploma programs, we

needed to look to specific features of leadership that were relevant and provided texture to our building plans.

Cosmopolitan leadership defined. An added dimension of leadership for school administrators involved in internationally-based programs or schools necessitated a review of the literature relevant to both educational leadership and internationalism. Internationalism, as it was applied to people, was defined as "a willingness and ability to understand and respect the concerns, attitudes, and ways of life of other countries" (Encarta Dictionary, 2005). It was often used interchangeably with the concept of globalism, which actually had more political, rather than social, ramifications because globalists strived for a world without any national boundaries. The term cosmopolitan hailed from the Greek *kosmopolitês*, which translated well to "citizen of the world." Webster's dictionary (Guralnik & Friend, 1968) defined a cosmopolitan person as someone "belonging to the whole world; not national or local; not bound by local or national habits or prejudices; at home in all countries or places" (p. 334). The implications for school leadership appeared to apply in several areas, including curriculum and school culture, as well as personal characteristics.

The concept of cosmopolitanism was first conceived by ancient Greek cynics Antisthenes and Diogenes (Vertovec & Cohen, 2003). In their contemporary world view, Antisthenes and Diogenes described a cosmopolitan as a person with no ties to a particular city or community. Theirs was a completely novel idea for their era, and one that gave birth to many ideas and philosophies down through history. Cosmopolitanism had its first resurgence with the writings of Immanuel Kant in the late 1700s (Vertovec & Cohen, 2003). Kant's treatment of cosmopolitanism was an effort to alert others to the

dangers of nationalism, and the wars that doctrine inspired. This view of cosmopolitanism was rooted in politics and law, rather than in any individual belief or mindset. The contemporary view of cosmopolitanism was originally nurtured by academics and by the business world.

Cosmopolitan leadership explored. Sociologist Alvin Gouldner (1957) was the first to apply modern statistical analysis to the cosmopolitan concept in an organizational setting. His seminal study of social roles at a small liberal arts college defined the two organizational roles, cosmopolitan and local, and informed subsequent research on this topic for decades. Gouldner (1957) posited that people's identification as a cosmopolitan or a local could be determined by assessing three particular role characteristics; these were loyalty to the organization, commitment to professional skills, and reference group orientation. As a result of this study, Gouldner (1958) described six categories within the two organizational roles. Two of the categories fell within the cosmopolitan designation, while the other four Gouldner (1958) considered characteristic of the local role. Of particular interest in this study were the attributes ascribed to cosmopolitans by Gouldner's research. From the first analysis of his data, Gouldner (1957) concluded that cosmopolitans "were more likely to feel that there were very few people around the college with whom they could share their professional interests, showed less organizational loyalty than locals, had published more than locals, [and] knew fewer faculty members at [the] College than did locals" (pp. 295-296). Following a factor analysis of his data, Gouldner (1958) offered these further conclusions about cosmopolitans: They

- have relatively little integration in either the formal or informal structure of the organization

- have relatively low participation and influence in the formal structures of the organization, nor do they wish more

- have little loyalty to the organization and do not intend to remain with it permanently

- would not stay if their salary was lowered, and they would leave to take a job at Harvard or Princeton even at a lower salary

- are more highly committed to their specialized skills

- tend to be oriented toward an outer reference group

- are likely to be keeping an eye on outside possibilities [of employment].

Professionals with these cosmopolitan characteristics were often referred to as "experts" by Gouldner (1958). Organizations hired them for their specific skills or knowledge to address a particular need within the organization.

Following Gouldner's construct of cosmopolitan and local roles, several other researchers attempted to replicate his results. In a study of the faculties of 46 business schools, Berger and Grimes (1973) found that their results supported only two of Gouldner's three role characteristics. A year later, Flango and Brumbaugh (1974), in what they described as a "quasi-replication" of Gouldner's study, corroborated Berger and Grimes' results. Both sets of researchers determined that organizational loyalty and commitment to a specialized role were supported by their data while Gouldner's third role characteristic, reference group orientation, was not significant.

Other academics also explored the concept of cosmopolitanism. American philosopher Martha Nussbaum wrote extensively in support of cosmopolitanism as a principle upon which political organizations and policies should be based. Her essay "Patriotism and Cosmopolitanism," first published in *The Boston Review*, sparked heated debate about the merits and limitations of nationalism (Nussbaum, 1994). Within that monograph, Nussbaum (1994) promoted the need for cosmopolitan education:

> Through cosmopolitan education, we learn more about ourselves. One of the greatest barriers to rational deliberation in politics is the unexamined feeling that one's own current preferences and ways are neutral and natural. An education that takes national boundaries as morally salient too often reinforces this kind of irrationality, by lending to what is an accident of history a false air of moral weight and glory. By looking at ourselves in the lens of the other, we come to see what in our practices is local and non-necessary, what more broadly or deeply shared. Our nation is appallingly ignorant of most of the rest of the world. I think that this means that it is also, in many crucial ways, ignorant of itself. (p. 5)

Nussbaum evoked the classical Greek concept of cosmopolitanism in her writings. She advanced the concept of a world community without abandoning local or national ties. Though Nussbaum did not directly speak to these characteristics in leaders, Vertovec and Cohen (2003) credited her with offering the only suggestions for practical implementation and instruction in cosmopolitanism.

David Held, a contemporary of Nussbaum, also endorsed the cosmopolitan

philosophy. Held (2003), however, distinguished between "cultural" and "political"

nationalism. The former was rooted in individual identity and history, while the latter

was tied to national identity and goals. Held acquiesced that cultural nationalism was

unlikely to change because it represented closely held and ardently felt values and beliefs,

but he asserted that political nationalism could be subsumed by cosmopolitanism,

especially in the current global worldview. Extending this concept, Held (2003)

proffered a theory of cultural cosmopolitanism that "should be understood as the capacity

to mediate between national cultures, communities of fate and alternative styles of life"

(pp. 57-58). He based this concept on the growing interconnectedness of people, nations,

commerce, and the environment.

Like Nussbaum and Held, other academicians shared their hope for a

cosmopolitan globe free of war, diasporas and racism. Vertovec and Cohen (2003) edited

a compilation of essays from current thinkers regarding cosmopolitanism. On the whole

these essays suggested the positive ramifications for a world that would embrace a

cosmopolitan mindset. As the editors averred, "The theory and practice of

cosmopolitanism have at least the potential to abolish the razor-wired camps, national

flags and walls of silence that separate us from our fellow human beings" (Vertovec &

Cohen, 2003, p. 22). Merely one year later though, Rattansi (2004), in a review of

cosmopolitan literature, took the authors of these essays to task for painting an overly

rosy picture of cosmopolitanism that was highly theoretical, and would therefore, he

asserted, look very different in reality. Regardless, Vertovec and Cohen (2003) compiled

a creditable set of traits that characterize a cosmopolitan:

> Ulf Hannerz (1990, as sited in Vertovec & Cohen,
>
> 2003)…distinguishes true cosmopolitans from merely globally mobile
>
> people – tourists, exiles, expatriates, transnational employees and
>
> labour migrants. The 'true' cosmopolitans exhibit a culturally open
>
> disposition and interest in a continuous engagement with one or other
>
> cosmopolitan project. … In addition to a specific disposition, John
>
> Tomlinson (1999, as sited in Vertovec & Cohen, 2003) also insists that
>
> real cosmopolitans should have a sense of commitment to belonging to
>
> the world as a whole. (p. 8)

While the literature regarding cosmopolitanism was extensive, there was scant research connecting educational leadership with cosmopolitanism. Roxana DellaVecchia (1996) undertook a study that drew the connections between cosmopolitanism and school curriculum. Like Nussbaum, in her paper DellaVecchia presented the need for students in American society to expand their thinking beyond the classroom and out into the world, to study other cultures and differing perspectives in preparation to live in a global society. "To be members of the global community requires training students to be cosmopolitan -- CITIZENS OF THE WORLD" (DellaVecchia, 1996, p. 2). Another author, David Elkind (2000), touched on cosmopolitanism through multiculturalism. Elkind (2000) echoed the need for multicultural education with one caveat:

> All too often, however, the curricular focus on difference undermines
>
> the real goal of multiculturalism. Emphasizing differences, without
>
> making a serious effort to help children value them, may have the
>
> wrong effect. Children may unwittingly associate being different with

being bad or inferior (Elrich, 1994, as cited in Elkind, 2000). True

multiculturalism emphasizes our common humanity. (p. 14)

Elrich believed that preparing students to thrive in a cosmopolitan society required more

than just curricular changes; it also necessitated social and moral innovations (Elkind,

2000).

One study that explored educational leadership indicated a direct relevance to

cosmopolitanism. In 1961, Richard Carlson conducted a secondary analysis of data

gathered from 792 superintendents in the United States. From these data, Carlson (1961)

distinguished between two types of superintendents, what he labeled "insiders" and

"outsiders." Insiders were superintendents who were hired from within the school

division, and outsiders were not currently employed by the school system where they

became superintendents. While the author did not speak directly to the concept of

cosmopolitanism within his text, he did reference the work of Alvin Gouldner when he

noted that the traits he found in superintendents who were hired from outside a school

division resembled those that Gouldner described as cosmopolitans (Carlson, 1961, p.

212, footnote 3). Carlson (1961) described outsider superintendents as "career-bound;

they put career above place of employment" implying that they were more mobile than

insiders (p. 226). Carlson also found that outsider superintendents served in their roles

for shorter periods of time than did insiders. Outsiders were also paid more and were

usually hired when change was desired; as such, they were often considered experts or

specialists who were hired to address a particular issue in a school system (Carlson,

1961). In this study, "outsiders" had many of the qualities associated with Gouldner's

(1958) cosmopolitans. Like Gouldner's cosmopolitans, Carlson's career-bound

superintendents were loyal to their skills and their profession, rather than to a single organization. Carlson's study provided a direct connection between cosmopolitanism and K-12 educational leadership at the highest level.

Cosmopolitan leadership and IB programs. The research into cosmopolitanism, while not often specific to school leadership, did suggest some common themes that could guide educational leaders in developing a cosmopolitan perspective or in hiring leaders with cosmopolitan traits. Three main characteristics repeatedly surfaced in the research. The first attribute that defined cosmopolitans was their inclusive perception of human beings as belonging to one world community, regardless of national origin or ethnicity. Closely tied to this global view was the second trait commonly gleaned from the literature about cosmopolitans, a cultural openmindedness. This was represented by low levels of ethnocentrism and the ease with which cosmopolitans moved within and between diverse cultures, seeing the value in each culture. Thirdly, cosmopolitans often exhibited a preference for their role or their expertise, rather than for a place or an organization. As such, this mindset usually resulted in high mobility for cosmopolitans and a reputation as a specialist or an authority. In the educational setting, the cosmopolitan perspective has emerged as a possible answer to the increased ethnic and cultural diversity in schools, an excellent fit for an internationally-based program, like the International Baccalaureate.

As the mobility of our society increased and the multiculturalism in our communities expanded to include ever greater diversity, the need for a cosmopolitan perspective in our schools became more apparent. Authors of cosmopolitan studies in education stressed the need for school curriculum to support the concepts of

multiculturalism, ethnic pluralism and/or internationalism, and school leaders would be instrumental in insuring not only the cosmopolitan curricular perspective but also the cosmopolitan mindset. One way schools could address this need was through a curricular and programmatic change that embraced internationalism, such as the International Baccalaureate Diploma program. The concepts of cosmopolitanism and multiculturalism were already prevalent in the International Baccalaureate program curricula; therefore, all that remained were for teachers and administrators of this program to support and provide the role models for a cosmopolitan mindset in their schools. Adding these components to our blueprint provided the fixtures and coverings needed to supplement the internal design of our structure. Only one final piece was needed to complete our plans.

IB commitment

Once the walls were painted and the carpet laid, a newly constructed building was all but finished. All that remained was to furnish the structure for the people who would soon populate it. In order to successfully carry this out, the type of people who would be using the structure were further investigated. Focusing the research specifically on IB leadership, the need for leadership characteristics similar to those in traditional, comprehensive schools and in magnet schools became evident, but also apparent in the literature was another leadership trait necessary to the success of an International Baccalaureate Diploma program—commitment to the IB program.

IB commitment defined. Commitment to the specialized International Baccalaureate Diploma program was demonstrated by several specific traits or skills in educational leaders. IB commitment was reflected in school leaders' knowledge about the IB program, making it possible for them to promote it to their various constituencies

(Berkey, 1995; Glashan, 1991). IB commitment was also evinced by leaders' financial and material support of the program, which could be seen in a variety of ways. School leaders who sent their teachers to IB training and provided for the specialized instructional needs of the IB program encouraged the success of their programs (Berkey, 1995; Glashan, 1991; Marnholtz, 1994). School leaders who attended IB training themselves were also thought to be supportive of the program, as were leaders who sponsored IB teacher training workshops at their schools (Glashan, 1991).

IB commitment explored. While much had been written in the last decade about the IB program, most of the literature concentrated on individual programs and their correlations to student success on IB measures, comparisons of the IB curricula to other curricula, as well as the implementation of IB programs in a variety of settings. Within some of these studies, however, questions of leadership sometimes arose. One such study, undertaken in 1997, explored the IB Diploma program through the lens of school change. Gilliam's (1997) study touched on the necessity of effective school leadership during the implementation phase of a new IB program, as the role of the change agent during this process was comparable to other school change initiatives. In her conclusion, Gilliam (1997) noted that "results also showed that what made IB work in an organization was the commitment of leadership in the roles of the administrator and the IB coordinator working together" (p. 229).

Another snapshot of leadership in IB programs came from a compilation of case studies of "world-class" schools. Marnholtz (1994) studied the IB Diploma program at one high school in the United States and briefly described its administrative needs and responsibilities. The author noted that IB leaders needed to provide training to teachers

and financially support the program, which could be expensive for some schools. Marnholtz further observed that an IB program required some marketing to make students and parents aware of the program and to facilitate students' course planning in preparation for matriculating in the program. This public relations skill required IB leaders to be knowledgeable about the IB program and how it impacted students' schedules and their future education. Marnholtz (1994) also noted the cosmopolitan nature of the program itself when she commented, "At a time when school reformers are stressing the need to prepare young people for global success, the IB program seems especially relevant" (p. 67).

Several leadership components were evident in Berkey's (1995) dissertation regarding IB programs in North America. According to IB coordinators in his empirical study of IB schools, Berkey determined that successful IB programs garnered support from their administrators and others within and outside the school. Promoting their programs also facilitated the success of their IB programs. Berkey (1995) also identified commitment to the program as vital to its success when he noted, "The coordinator also acts as the chief advocate for the program and addresses the questions and concerns of the school management team and the governing board" (p. 30).

In his ethnographic study of school culture at one IB Diploma program in Canada, Glashan (1991) emphasized the importance of the school leader's commitment to the IB through several means. He demonstrated one principal's commitment to IB teacher training by sharing that nine teachers were sent to training in a variety of venues in North America over a period of 14 months, and this was made possible because the principal "found the necessary funding to cover their travel and workshop expenses" (Glashan,

1991, p. 149). In addition, the principal in Glashan's study also sponsored at his school an official IB-sanctioned teacher training workshop for the entire province, further evidence of his commitment to the program. Glashan (1991) repeatedly noted the principal's efforts to promote the international flavor of his school and expose his students to the "realities of the world" (p. 125).

Because the IB leaders' commitment to the IB program was evident in the extant literature on IB leadership, it demonstrated the importance of this leadership characteristic to IB schools and their leadership. The fact that references to cosmopolitanism and a global perspective were also apparent in this literature made cosmopolitan leadership for IB schools an important leadership characteristic, as was shown in the matrix of leadership characteristics represented in the literature from magnet schools and IB schools (see Figure 2). Though the literature was not manifold, it was evident to this researcher that both leadership traits, cosmopolitanism and IB commitment, made a profound, yet very specific impact on leaders of IB programs and should be included in any listing of qualities necessary to the effective leadership in these schools.

Figure 2. Leadership characteristics matrix from research on magnet schools and IB schools.

LEADERSHIP DOMAIN	Supporting Behaviors	Instructional Leadership	Public Relations	Shared Decision-making	Role Modeling	School Culture	Cosmopolitan Leadership	IB Commitment
STUDY*								
Berkey (1995)	●		●	●				●
Blank (1986)		●		●				
Blank, Dentler, Baltzell & Chabotar (1983)	●	●	●	●		●		
Boyd & Hord (1994)	●		●	●	●	●		
Cotton (2003)	●	●	●	●	●	●		
Crow (1992)			●	●		●		
DellaVecchia (1996)					●	●		
Gilliam (1997)		●		●				●
Glashan (1991)	●		●	●	●	●	●	●
Hausman (2000)		●	●	●				
Hausman & Goldring (2001)	●	●	●	●		●		
Leithwood, Louis, Anderson & Wahlstrom (2004)	●	●	●	●		●		
Louis (1994)	●	●	●	●	●	●		
Marnholtz (1994)			●			●		●

* Empirical studies are in bold-faced font.

Summary of Leadership Characteristics Influencing Successful IB Diploma Programs

Of the eight leadership characteristics identified in all of the research, the studies specifically focusing on IB schools were most telling. While research into magnet school leadership was informative and provided some insight into the leadership of specialized

schools, it could not pinpoint leadership qualities that only IB leaders would need or even know to expect.

In all, the supporting behaviors practiced by effective school leaders exhibited a wide range of practices that positively impacted their schools. Whether school leaders were providing staff development and encouraging innovation or protecting teachers' time and supplying materials, leaders who engaged in supporting behaviors were considered effective. These findings illustrated the commonality of the effect of this leadership trait among all types of schools and programs.

Shared decision-making provided expansive school leaders with leadership resources they might not otherwise have been able to access, such as more minds directed to solving school problems, greater staff buy-in to school goals, and other collaborative pursuits. Effective leaders of magnet schools found this particularly useful with the added responsibilities of leadership they encountered in these non-traditional schools. Several researchers expressed concern over the growing demands placed on leaders of magnet schools, and some of them speculated about the impact this had on the schools (Crow, 1992; Hausman & Goldring, 2001; Louis, 1994). Like magnet schools and their special concerns, IB leaders were likely to face similar issues.

The impact of the role modeling characteristic of effective school leadership had implications beyond those for leaders of traditional schools. While leaders in all effective schools modeled the traits congruent with the school's goals and values, IB leaders faced the additional weight of learning and displaying characteristics either unfamiliar to them or for which they may have had little expertise. For example, IB leaders were called

upon to guide their teachers in curriculum development, a skill some leaders may not have possessed. As a result, additional leadership training may have been needed.

The culture in non-traditional schools was similar to that which existed in traditional schools; however, it differed in at least one significant way. The canvas upon which the culture was wrought in non-traditional schools was likely to be more extensive than in a typical school because of the greater involvement of teachers, students, and parents with the school. This required school leaders in specialty schools, like magnet schools and IB programs, not only to have been cognizant of their entire school community, external as well as internal, but also to have framed goals, expectations, and stories in terms that were easily understood by all stakeholders. This added dimension to the role of effective leaders in magnet schools was imparted succinctly by Louis (1994) in her discussion of school culture, "these schools demand more from teachers and administrators than do typical schools" (p. 73). IB leaders likely faced comparable challenges.

While the findings of these studies confirmed the instructional leadership role of effective principals, the statistical results of one study found that no significant difference existed between the instructional leadership assessed at magnet and non-magnet schools, leading that researcher to surmise that the additional responsibilities of magnet school leaders made it more difficult to perform this role along with the other additional duties he ascribed to leaders in these schools (Hausman, 2000). In his study, Glashan (1991) confirmed this finding for IB leaders, noting that the principal he studied had to rely on other school leaders to deliver specific instructional expertise. While these findings served to illuminate the assertion that leaders of effective schools shared some common

traits, in light of the other research on instructional leadership in effective schools,

Hausman's (2000) general remark about the "additive" nature of the principal's role

portended a leadership role in IB schools more unwieldy and specialized than that in

traditional schools.

The implications of these findings on the leadership category of public relations in

schools suggested an even greater role for effective school leaders. Their findings about

promoting a school publicly caused Hausman and Goldring (2001) to comment about the

impact of that leadership requirement on magnet school leaders:

> First, more permeable boundaries characteristic of magnet schools may
>
> compel magnet principals to allocate additional time to external
>
> management–marketing the school, forging business and community
>
> partnerships to support the school's theme, and greater parent involvement
>
> because the parents are from higher socioeconomic backgrounds and had
>
> chosen the school. (p. 416)

The extensive public relations requirement of effective specialty schools, like magnet

schools and IB programs, required school leaders in these institutions to acquire or

improve upon this set of leadership skills.

When the components of cosmopolitan leadership and IB commitment were

included in the list of characteristics of effective leaders, a more complete picture of IB

leadership emerged. A cosmopolitan outlook evinced by the leadership in an

international program like the IB established a global tone for staff, students, parents, and

the community, facilitating the IB Organization's goal of intercultural understanding.

The IB Organization's (IBNA, 2006) mission statement summed up the importance of

this characteristic:

> The International Baccalaureate Organization aims to develop
>
> inquiring, knowledgeable and caring young people who help to create a
>
> better and more peaceful world through intercultural understanding and
>
> respect.
>
> To this end the IBO works with schools, governments and international
>
> organizations to develop challenging programmes of international
>
> education and rigorous assessment.
>
> These programmes encourage students across the world to become active,
>
> compassionate and lifelong learners who understand that other people,
>
> with their differences, can also be right. (p. 5)

Along with cosmopolitanism, IB leaders who demonstrated a commitment to their IB

programs were likely to fulfill the mission of the IB Organization and lead successful IB

schools.

Because many factors impact student success, and leadership has been identified

as an indirect factor on student success, other school factors needed to be reviewed for

their impact on the success of IB Diploma programs.

Other Factors Impacting the Success of IB Diploma Programs

As was established by many leadership researchers, the influence of school

leaders on student achievement was indirect at best (Barth, 2001; Cotton, 2003;

Leithwood et al., 2004; Marzano et al., 2005). Cotton (2003) summed it up well when

she noted, "Principals' behaviors have little direct impact on student outcomes but substantial indirect impact—that is impact mediated through teachers and others" (p. 73). Therefore, numerous other factors, with more direct influence on student outcomes, were studied to determine to what degree, if any, they impacted a school's success. These background variables were grouped into three categories: organizational variables, personnel variables, and school demographic variables.

Organizational variables

Organizational factors influenced numerous aspects of a school. Even in Weber's (as cited in Hoy & Miskel, 2001), 1947 scientific, closed-system model of organizations, a variety of variables within the institution impacted the functionality of the organization. Since that pioneering work on organizational dynamics, newer, open-systems models, like Hoy and Miskel's (2001) Social-systems Model or Senge's (1990) Learning Organization, added external factors to the mix of influences on an organization. Organizational factors included the composition of the school, its grade-level structure, and whether it was a public or private school. For example, the financial aspects of a school, among other things, were impacted by whether it was a public or private entity. Many studies of schools and school systems were undertaken that provided insight into the myriad of organizational factors that were compared and correlated to determine the level of their influence on an establishment and its students (Brookover et al., 1979; Coleman, 1998; Goldstein, 1984; Hallinan, 1994).

Many other organizational variables upon which school success was judged were gleaned from the research. For example, Goldstein (1984) discussed the differences in student outcomes between grammar schools and comprehensive schools in England.

Looking at the disparities between types of schools and how their grade levels were structured was well within the scope of organizational variables when comparing overall school effectiveness. Other studies incorporated tracking and student access to programs as variables. Hallinan (1994) noted:

> Schools employ different criteria in making track assignments. Some schools rely exclusively on objective measures of achievement, such as standardized test scores, prior grades, and previous track assignment to make track placements. Other schools also may employ subjective criteria, such as teacher evaluations and parental or student choice. (p. 801)

The type of school also accounted for organizational differences that influenced student achievement. Whether a school was public or private, housed grades 9-12 or kindergarten through 12th grade, or operated as a magnet school or school-within-a-school impacted student outcomes (Brookover et al., 1979; Coleman, 1998; Goldstein, 1984; Hallinan, 1994).

Personnel variables

Personnel variables within a school encompassed an array of factors that most commonly linked teacher characteristics to the success of a school. These characteristics were often represented in the research by studies that tied teacher traits to student achievement or other student outcomes (Brookover et al., 1979; Darling-Hammond et al., 2001; Fidler, 2002; Ingersol, 1999). For example, some empirical studies reviewed the effect of teacher experience on student success (Brookover et al., 1979; Fidler, 2002).

Researchers explored a variety of teacher variables, linking them to an assortment of student outcomes.

A cursory review of the literature on the impact of personnel variables on student achievement revealed an array of perspectives and methods. This mixed bag of studies and results was, no doubt, indicative of the vast number of variables that were considered to pinpoint definitive correlations. One area where most experts appeared to agree was that teachers were central to student achievement (Brookover et al., 1979; Darling-Hammond, 2000; Darling-Hammond et al., 2001; Fetler, 1999; Fidler, 2002; Goldhaber & Anthony, 2003; Goldhaber & Brewer, 2001; Ingersol, 1999; Wright et al., 1997). How and to what extent teachers influenced student outcomes varied from study to study.

Several studies investigated the connection between student achievement and teacher experience (Brookover et al., 1979; Fetler, 1999; Fidler, 2002; Fowler & Walberg, 1991). In Brookover's et al. (1979) landmark study of school variables and student achievement, the authors found small but positive correlations between mean years of teaching experience and student achievement. Likewise, Fidler (2002) noted in his findings about teacher characteristics and student outcomes, "This means that teachers who were credentialed and experienced had students who made the largest adjusted gains in reading, mathematics, and language" (p. 28). Fidler's study also pointed to another personnel variable: Teacher licensure. In his study of teacher effects on student achievement, Saha (1983) identified a positive correlation between teacher credentialing and student achievement. This factor was also explored by Darling-Hammond (2000).

Among variables assessing teacher "quality," the percentage of

teachers with full certification and a major in the field is a more

powerful predictor of student achievement than teachers' education

levels (e.g., master's degrees). This finding concurs with those of other

studies cited earlier. It is not surprising that master's degrees would be

relatively weaker measures of teacher knowledge, given the wide

range of content they can include, ranging from specialist degrees in

reading or special education that are directly related to teaching to

fields like administration and others that have little to do with

teaching." (Conclusions and Implications section, ¶ 2)

The research of others, like Fetler (1999) corroborated Darling-Hammond's findings, but

only after factoring out the student variable of poverty. This showed that in addition to

personnel variables, school demographic variables also played a role in student success.

School demographic variables

In addition to organizational and personnel variables, school demographic

variables were also contributing factors in assessing student achievement. For the

purpose of this study, school demographic factors included student enrollment, school

location, pupil-teacher ratio, student socio-economic status, and ethnicity. The research

base that supported including such variables in a study of school effectiveness was vast

and has been highlighted below.

Prior to a review of specific demographic variables, it must be noted that school

quality was defined through a variety of outcome variables. Some researchers compared

school and community variables to graduate earning capacity (Betts, 1995; Boozer et al.,

1992; Card & Krueger, 1992; Rutter, 1983), while others explored the connections to

standardized test scores (Loeb & Bound, 1996; Fowler & Walberg, 1991; Watkins, 1982;

Wheelan & Kesselring, 2005). Early studies into school quality identified societal and social factors, rather than school and teacher variables as the source of student success (Saha, 1983).

During the past 20 years a number of major research findings have

called into question the assumption that school characteristics

generally, and teacher quality in particular, make a significant positive

contribution to the academic performance of students. The Coleman

report[2] in 1966 is seen as having launched a decade of studies dealing

with factors relating to educational performance and other outcomes. [3]

Coleman's conclusion regarding the little effect of school inputs on

differences in student performance was later supported by Jencks and

his colleagues, [4] who in 1972 stated that the most important factor in

explaining outputs was the input, namely the characteristics of the

entering students themselves. For Jencks, "everything else–the school

budget, its policies, the characteristics of the teachers–is either

secondary or completely irrelevant." [5] (p. 70)

These early findings were later offset by studies detailing the impact that schools had on student achievement (Brookover et al., 1979; Rutter, 1983). Rutter (1983) had somewhat mitigated his earlier harsh finding by noting that there was much that schools could do, but that society and "family variables" had a larger impact (p. 4).

Student enrollment information had been used extensively in prior research to suggest a link between school quality and student outcomes (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Fowler & Walberg, 1991; Rutter, 1983). Student

enrollment was counted in multiple ways, by school, by school system, or by state. In studies of public schools, this statistic was commonly available as a school, a school system, or a state reporting category; whereas in private schools, enrollment information was most often available as individual school or state data. Regardless of the student outcome measured or at which level this data was obtained, many researchers found student enrollment to be significantly related to school quality (Betts, 1995; Borland & Howsen, 2003; Fowler & Walberg, 1991; Rutter, 1983). In fact, Betts (1995) declared student enrollment or the size of the school, "is the sole measure of school 'quality' which this study has found to be significantly related to students' subsequent earnings" (p. 241). Fowler & Walberg's (1991) finding of an inverse relationship between school size and student outcomes suggested that smaller schools were more effective. Borland and Howsen's (2003) finding of a non-linear relationship between student enrollment and academic achievement revealed a range of positive effects bounded on one end by costs (small schools) and on the other by interpersonal factors (large schools).

Many of the school demographic variables were so intimately connected that one could not be discussed without also discussing aspects of the others. Such was the case with school location as it was defined in a variety of studies. School location referred to the rural, urban, or other settings of schools. Depending on the study, comparisons were drawn between rural and urban schools (Wheelan & Kesselring, 2005), between rural, small town, and metropolitan schools (Watkins, 1982), and between schools in highly rural or highly urban locales and areas of moderate population density (Borland & Howsen, 1999). As many researchers noted, a school's total student enrollment was often a result of its location, implying that schools in large cities usually had large student

numbers (Betts, 1995; Borland & Howsen, 1999; Fowler & Walberg, 1991; Rutter, 1983).

The size of the population and the economic region from which a school drew its enrollment appeared to drive several school factors, including the number and diversity of courses schools were able to offer students, the number and quality of teachers the school attracted, the funds available for instructional supplies, the extracurricular offerings available to students, and the funds to hire school specialists (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Fowler & Walberg, 1991; Rutter, 1983). These were the advantages that accrued to large schools in urban centers. However, the research also delineated the advantages that could be found in small schools, such as interpersonal connections between students and teachers, the greater opportunity for students to be involved in extracurricular activities and experience leadership roles, and the data supporting better student behavior and fewer dropouts (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Fowler & Walberg, 1991; Rutter, 1983).

Also tied very closely to student enrollment and school location was the pupil-teacher ratio. Simply stated, this ratio represented the number of students divided by the number of teachers within a school; therefore, schools with high numbers of students likely had higher pupil-teacher ratios. Many studies found a significant relationship between pupil-teacher ratios and student outcomes (Betts, 1995; Boozer et al., 1992; Brookover et al., 1979; Card & Krueger, 1992; Fowler & Walberg, 1991; Loeb & Bound, 1996). In their study on school quality and graduate earnings, Loeb and Bound (1996) found, "Results presented here estimate that a decrease in student-teacher ratio of 10

students increases effectiveness of schools on raising achievement scores by over 20%" (p. 660).

Another school demographic variable that had been extensively studied in relation to school effectiveness was socio-economic status (SES). Brookover et al. (1979) determined that low SES was not directly connected to student achievement because some students in low SES schools in their study had been high achievers. Fowler and Walberg (1991) eventually countered Brookover and his associates when their study found district SES the most significant and positive variable among the 18 variables they correlated. Betts' (1995) investigation of graduate earnings, also revealed that low SES had a positive correlation to low graduate earnings. Similarly, Conduit et al. (1996) established a "clear inverse relationship between deprivation and exam performance" in their study of English local educational authorities (p. 202).

Researchers also analyzed ethnicity, its impact on school success, and whether it correlated to any other school variables (Brookover et al., 1979; Boozer et al., 1992; Fowler & Walberg, 1991). Brookover et al. (1979) used ethnicity as one of several variables they examined, and while they attributed a significant amount of "explained variance in mathematics and reading achievement... to either the socio-economic and racial composition of the student body," they also cautioned readers about the interconnectedness of these and other "social climate variables" (p. 140). In a historical review of ethnicity and segregation in U.S. schools, Boozer et al. (1992) traced school variables and their trends over four decades (1950-1989). Ethnicity appeared to be a demographic variable that was used in many studies of educational outcomes (Boozer et al., 1992; Brookover et al., 1979; Fowler & Walberg, 1991).

As the literature revealed, a variety of variables earned their place in the analysis of schools and education. Over the decades, assumptions and theories rose and later fell at the hands of steadily improved research methods, the availability of data, and the natural building of new research on that which had come before it. Attempts to tease out finer and finer distinctions resulted in more specific and more highly focused studies, often requiring many variables or more refined aspects of some variables. The focus here on organizational, personnel, and school demographic variables was an effort to add to the research base on education by determining whether these factors impacted student success in IB Diploma programs.

Conclusion

In studying educational leadership, it was very nearly impossible to divorce leadership from the multitude of other factors that impacted the successful operation of schools. While the main focus of this study was leadership, no thorough examination of schools and school leadership could have been complete without the interplay of other variables within a school, especially in light of the fact that a school leader's influence on student outcomes was rarely direct (Barth, 2001; Cotton, 2003; Leithwood et al., 2004; Marzano et al., 2005). As a result, this study incorporated school leadership and several other contributing factors in an effort to bring the knowledge base further along its path to understanding school and student success.

Chapter two shared the foundational research that allowed conclusions to be made about leadership in general and IB leadership in particular. The chapter also touched on the research of a variety of other contributing factors in assessing schools' success. Chapter two clearly drew the connections between the research and the author's

assertions. In the following chapter, the research questions have been reviewed, and the methodology for collecting data presented. The instrumentation and its field testing have also been discussed, along with the procedures used for data analysis. Finally in chapter three, ethical safeguards for the study's participants have been described.

Chapter 3

Methodology

This chapter further explicates the data, how it was collected and analyzed in the study, and how the results will answer the research questions first identified in chapter one. The next section begins by revisiting the research questions, and then looking at the sample sets for the study and how these were established. The procedures being used to gather the data are examined, as is the instrumentation for this study. Then explanations of how the data have been analyzed and how the study insured for the ethical treatment of all participants are provided.

In preparation to conduct meaningful research about successful International Baccalaureate Diploma programs in the United States, the research division of IB North America (IBNA) provided the data for exploring and comparing IB Diploma programs in the U.S. The IBNA data from the May 2006 testing session on all of the IB Diploma schools in the United States was used to statistically identify the top and bottom IB Diploma programs in the U.S. These data were ultimately used to label IB Diploma programs in the top decile and the bottom decile of IB schools in the U.S. for this study.

Research Questions

Three research questions guided this study:

1. To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?

2. Is there a significant difference in the leadership of IB leaders based on the perceptions of IB teachers between programs identified as "top decile" and those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?

3. Are there other variables that correlate with the success of top decile IB Diploma programs in the U.S.?

    A. Are there organizational variables?

    B. Are there personnel variables?

    C. Are there school demographic variables?

Data Collection

Sample

From the original data set, all the IB Diploma schools in the U.S. in the 2006 examination session, it was possible to identify the top 10% and the bottom 10% of IB Diploma schools in the U.S. This process began with all 426 IB Diploma schools in the U.S. in the May 2006 testing session. From those 426 IB Diploma schools, the schools with fewer than 30 IB Diploma candidates were removed, so that the data was not skewed by schools with high IB Diploma pass rates but only a few IB Diploma candidates. This left a total sample set of 145 eligible IB schools, schools with 30 or more IB Diploma candidates. These 145 schools were then sorted by their IB Diploma pass rates to yield the top 10% and the bottom 10% of IB Diploma schools in the U.S. The top 10% and the bottom 10% of these eligible schools provided a list of 14.5 schools at each decile, which was rounded to 15 schools at both the top and bottom deciles. Data from these top and bottom decile schools were used to conduct a purposive survey of correlational design of the IB teachers in top decile and bottom decile IB Diploma

programs in the U.S. in an effort to identify the leadership characteristics and other factors that impacted successful IB Diploma programs.

Using a purposive sample, IB teachers, the participants for this study were divided into two distinctive groups with two different selection criteria. The first group was IB Diploma program teachers from top decile IB schools. As noted in chapter one, the pass rate for an IB school was defined as the number of students earning an IB Diploma divided by the number of students attempting to earn an IB Diploma. The second sample set was comprised of IB Diploma teachers from bottom decile IB schools.

Procedures

In preparation to assess which leadership characteristics had a statistically significant impact on IB Diploma programs, a survey was created that reflected the research on Effective Schools leadership and the research on IB schools in particular. The survey was field tested to determine its validity and reliability at IB schools that closely resembled those within the sample set but were just outside the eligible sample due to student numbers, so that the sample was not contaminated. Once permission to proceed with this study was given, approval was sought and acquired from the Protection of Human Subjects Committee at the College of William and Mary so that participants could be contacted and data collected.

Following this preliminary work, the IB coordinator, the principal, and the necessary school system research approval department of the identified schools were contacted, and permission to conduct the research involving IB teachers was secured. Each IB coordinator was contacted to ascertain the number of IB Diploma teachers at each school and each IB teacher's e-mail address or permission for the IB coordinator to

electronically forward a request to each IB teacher to participate that provided informed consent. If provided e-mail addresses, a master list of each teacher's e-mail address was maintained by the researcher for sorting purposes. Once permission was granted to survey the IB teachers, an electronic cover letter that included a direct link to the survey, asked participants to complete the survey within two weeks, and assured teachers' confidentiality or anonymity was sent to each IB Diploma teacher (Gall et al., 2003). Responses were sorted by the set of top decile and the set of bottom decile schools. Since the surveys were submitted via a web-based survey service, following up directly with non-respondents was only possible with teachers whose e-mail addresses were acquired. This tracking provided the researcher with a means of determining who had not yet completed the survey, and the ability to target reminders to specific teachers, based on their e-mail addresses. Otherwise, reminders to complete the questionnaire were sent to all participants through the IBC. At least two follow-up reminder e-mails with another direct link to the web-based survey were sent to IB teachers, the first, a few days after the end of a two-week deadline period and another request one week later to facilitate a high rate of return of the surveys. The goal was to have at least 80% of participants respond to the survey; however, a 60% response rate was considered acceptable.

Instrumentation

Field test #1. Following an extensive review of effective educational leadership, an original instrument was created that specifically targeted concepts identified through the creation of a research matrix (see Appendix A), with special emphasis placed on the literature relevant to IB leadership. In addition, a table of specifications was created to identify the leadership concept addressed by each survey item (see Table 1). An original

survey instrument was created because none of the existing educational leadership surveys captured the unique characteristics of leadership in an IB school. These unique characteristics included knowledge about and support of the IB philosophy and the program. This survey, developed in the College of William and Mary's EPPL 765, an Educational Policy, Planning and Leadership (EPPL) course for Independent Research in EPPL classes, was field tested in the fall of 2005 at an IB Diploma school outside the eligible sample for this study because it had only 28 IB Diploma candidates. After receiving approval from the college's Protection of Human Subjects Committee and the IB school's administration, all 37 of the IB teachers at the selected school received a paper copy of the questionnaire along with a cover letter requesting their participation and guaranteeing their anonymity. Participants were also given a pre-addressed, stamped envelope for returning the completed survey. A copy of the questionnaire that was sent to each of the IB teachers appears in Appendix B. In addition to this sample, a second group of participants also provided input about the survey.

Table 1

Original IB Leadership Table of Specifications

Leadership domains	Survey item number on the original IB Leadership Survey
Supporting behaviors	1, 2, 6, 7, 11, 15, 20, 29, 30, 32
Instructional leadership	3, 9, 16, 25
Public relations	6, 14, 17, 18, 21, 26
Shared decision-making	5, 12, 24, 31
Role modeling	8, 13, 28, 33
School culture	1, 5, 8, 9, 10, 12, 13, 15, 19, 20, 23, 24, 25, 27, 28, 29, 31, 32
Cosmopolitan leadership	3, 4, 8, 13, 22, 25, 26, 31
IB commitment	4, 10, 19, 22

Note. Leadership domains were developed from effective leadership practices as cited in

Bennis and Nanus, 1985, 1997; Berger and Grimes, 1973; Blase and Blase, 2000 & 2001;

Bolman and Deal, 1991; Bolman and Deal, 1995; Boyd and Hord, 1994; Burns, 1978;

Carlson, 1961; Cotton, 2003; Crow, 1992; DellaVecchia, 1996; DuFour and Eaker, 1998;

Edmonds, 1979; Elkind, 2000; Flango and Brumbaugh, 1974; Fullan, 2001; Gardner,

1990; Gilliam, 1997; Glashan, 1991; Glickman et al., 2001; Gouldner, 1957; Greenleaf,

1977; Hausman and Goldring, 2001; Hausman, 2000; Held, 2003; Kouzes and Posner,

1995; Kouzes and Posner, 1999; Leithwood et al., 2004; Levine, 1991; Lezotte and

Taylor, 1989; Louis, 1994; Marnholtz, 1994; Marzano et al., 2005; Nussbaum, 1994;

Portin, Schneider, DeArmond, and Gundlach, 2003; Sergiovanni, 1992; Vertovec and

Cohen, 2003.

This second group of participants comprised an expert panel. As Gall et al.

(2003) pointed out, "The use of experts to make judgments about the worth of an

educational program is a time-honored and widely used method of evaluation" (p. 567).

However, they also note that the validity derived from their input was directly related to

their expertise (Gall et al., 2003). With that in mind, the expert panel was chosen

carefully with particular attention paid to each person's experience in education, IB, and

in one case, with statistics. The panel was composed of two sitting principals of IB

Diploma schools, two current IB coordinators, one retired high school principal with no

IB experience, one current IB Creativity, Action and Service (CAS) coordinator, and one

school teacher with a statistics background. Each of these seven expert panelists was

personally contacted by the researcher and asked to participate in the evaluation of a new

survey instrument created to uncover the characteristics of effective IB leaders. They

each received a paper copy of the questionnaire and a pre-addressed, stamped return

envelope.

Field test participants were not asked to respond to the questionnaire itself, but

rather to respond "yes" or "no" to the two questions about each survey item on the

questionnaire and answer four open-ended questions about the instrument, its ease of use,

and suggestions to improve it. The field test consisted of 33 survey items, to which

participants were asked whether each statement was clear and whether they felt the

content was relevant to IB leadership. Analysis of the field test data began with a

quantitative assessment of the responses. A frequency distribution of the responses to

each of the two questions about each item in the questionnaire was charted (see Appendix

C). Appendix C also showed ordered frequency distributions in two additional tables.

Because the total number of responses to each question varied, the relative frequency and the percentage frequency for each item were also established, so that meaningful comparisons could be drawn from the data (Kiess, 2002). This mathematical evaluation allowed for a quantitative statistical analysis of the data. A qualitative analysis followed.

The qualitative analysis of the data, using an interpretivist paradigm, allowed the researcher to logically evaluate the questionnaire data (Rossman & Rallis, 2003). Analysis began by creating a data table of the "yes-no" responses to each item of the survey for IB teachers and for expert panelists (see Appendix D). While not all of the same items fell near the bottom of the ordered frequency tables in Appendix C, all of the items below the 90th percentile in both Tables 3 and 4 were also found highlighted in the IB Leadership Questionnaire Data Table in Appendix D. This revealed a correlation between the quantitative and the qualitative data gathered through this validation process.

The purpose of this IB Leadership Questionnaire Data Table was to facilitate a cross-case analysis of the data, enabling the researcher to easily pinpoint similarities and differences among the responses (Rossman & Rallis, 2003). Ultimately, this search uncovered common themes among the responses, which emerged visually when the researcher color coded the responses horizontally across all respondents. These common themes were then used to make a logical decision about whether to retain, remove, refer, or revise each survey item. Employing a quasi-quantitative approach, the researcher determined that a response would be discounted for any item which received fewer than 3 negative responses. In addition, extra weight was given to the expert panelist responses when those responses differed significantly from the IB teachers' responses. Four themes

or categories were identified from these data. According to these findings, each item was

described by using one of the following categories.

- Clear and relevant

- Unclear but relevant

- Unclear and irrelevant

- Clear but irrelevant

A decision matrix (see Figure 3) helped to clarify the action taken for survey items that

fell into each category.

Figure 3. IB leadership field test questionnaire decision matrix.

	Clarity	
	Yes	No
Relevance Yes	Retain	Revise
Relevance No	Refer	Remove

Survey items identified by both IB teachers and expert panelists as both clear and

relevant fell in the top left quadrant of the decision matrix and were retained. Those

items described as unclear but relevant to IB leadership were situated in the top right

quadrant of the matrix and were reviewed using input from the respondents and the

Original IB Leadership Table of Specifications (see Table 1), and they were either

reworded and retained in the final version of the survey or removed if they were found to

be redundant or the domain they represented in the table of specifications was adequately

addressed through other items. The clear but irrelevant survey items were located in the lower left quadrant of the decision matrix and labeled Refer, which signified that the item's importance to the overall survey would first be checked by referring to the table of specifications to determine if the item was needed to support the leadership domain which it represented in the survey. If these items were not needed, they would be removed; however, if they were needed to provide further triangulation of a theme, they would be retained in their current, clear form as an alternative source of data (Gall et al., 2003). Finally, all survey items that respondents deemed to be both unclear and irrelevant represented the lower right quadrant of the matrix and were removed from the survey.

Through the review process, decisions were made regarding each survey item. All 21 of the items that were identified as both clear and relevant were retained for the revised version of the survey. The seven survey items judged unclear and irrelevant by respondents were removed from the survey and did not appear in the revised version. The one clear but irrelevant item (#29) was also removed from the survey. Of the four items coded unclear but relevant, three were reworded and retained for the revised version of the survey, while one was removed from the future draft of the survey. Item #2 was reworded, and item #9 was moved directly above the newly phrased second item to facilitate its clarity. Item #18 was removed after a study of the table of specifications revealed that four other items in the survey also addressed the same domain, and the item appeared redundant beside two of the other items in the domain. Rewording of item #13 made it possible to retain it, and item #26 was reworded and retained because only two other items in the survey addressed the same leadership domain. Three final revisions

were made to the survey based on some of the written comments. The words "by circling a number" were added to the survey directions, and extra white space was added under each item for comments. At the end of the revised survey, respondents were invited to record additional comments on the back of the survey.

Field test data analysis continued with the transcription of all written responses. These fell into two categories: Open-ended prompt responses to the questions about the survey at the end of the questionnaire (see Appendix E) and unsolicited comments written next to items within the questionnaire (see Appendix F). These data were examined holistically and coded thematically (Rossman & Rallis, 2003). Again, these data were also divided by type of respondent, either IB teacher or expert panelist. They provided additional data used to support a respondent's opinion and, eventually, aided the researcher in refining some of the survey items. The revised survey instrument has been shown in Appendix G.

Field test #2. After the validity of each survey item was established, the reliability of each valid item was tested. The revised version of the IB Leadership Survey was electronically sent to 30 current IB Diploma program teachers from two different schools outside the main sample set. From their responses to the valid questionnaire items, a factor analysis was undertaken using Statistical Product and Service Solutions (SPSS) software. According to George and Mallery (2003), "Factor analysis is most frequently used to identify a small number of factors that may be used to represent relationships among sets of interrelated variables" (p. 246). The purpose here was twofold. In addition to testing the reliability of each item, all of the valid survey items were correlated in an effort to determine whether some items could have been eliminated

and whether any of the eight leadership domains first identified in chapter two could have been collapsed.

The SPSS factor analysis provided data that lead to several interpretations. After splitting the data file by Principal and IB coordinator (IBC), the factor extraction using the Principal-component Analysis identified seven components extracted for the Principal and six components extracted for the IBC. A review of both the Principal and the IBC correlation matrixes revealed extremely low factor loadings on three survey items.

- Our IB leadership provides pertinent and useful staff development opportunities.

- Our IB leaders attend the IB functions at our school.

- Our IB leaders attended an IB orientation or training seminar/session.

Each of these items showed no loading greater than .5 on the factor analysis for Principal, and only one of the three items had more than four loadings greater than .5 for the IBC. As a result, these three items were removed from the survey.

Further, three additional survey items presented questionable reliability because they shared somewhat lower factor loadings for both the Principal and the IBC. These items included the following.

- The IB leadership supplies me with the material resources I need to do my job effectively.

- I know our IB leaders' vision or mission for our program.

- Our IB leaders are able to gain central office support for our IB program.

The loadings for the Principal on the first of these items showed only four with factors greater than .5, while the IBC had six items greater than .5. Analysis of the second item revealed that five factors for both the Principal and the IBC fell above the .5 range. The

final item drew six .5 or higher loadings for the Principal but only two items above a .5 for the IBC. As a result, these three items were also removed from the survey.

In addition to influencing individual survey items, the factor analysis also impacted the eight leadership domains originally identified through a review of the literature. With only seven and six components extracted from the factor analysis for Principal and IBC respectively, a careful examination of the survey items represented in each of the original domains revealed that one of the eight domains, School Culture, contained only two representative survey items following the factor analysis. It was also determined that the domain of School Culture was well represented by other survey items within the remaining domains, and it was, therefore, removed. Instructional Leadership, another of the leadership domains, was also represented by only two survey items following the factor analysis and subsequent culling of items. However, this domain was retained because the researcher deemed its content vitally substantive to the research. All the remaining leadership domains contained at least three survey items following the factor analysis and were retained.

It must also be noted at this time that one of the domains shared survey items with one or another domain. This was the domain of Cosmopolitan Leadership. This domain shared items because of its congruence with other domains. In other words, the characteristics evinced by a cosmopolitan leader may also be construed by observers as IB Commitment or Role Modeling for instance. "Supporting the IB philosophy," for example, could represent the domains of both IB Commitment and Cosmopolitan Leadership. The same could also have been said about a leader who was "willing to make changes," which could be included in the domains of Shared Decision-making and

Cosmopolitan Leadership. Consequently, the interpretation of the factor analysis data caused the researcher to compress the original leadership domains into seven, while eliminating six survey items.

Revised survey instrument. Following the field tests, a final, revised version of the survey was created. The revised, validated draft of the instrument has been replicated in Appendix H. The Original IB Leadership Table of Specifications was also updated to reflect the revised instrument (see Table 2).

Table 2

Revised IB Leadership Table of Specifications

Leadership domains	Survey item number on the revised IB Leadership Survey
Supporting behaviors	1, 9, 16
Instructional leadership	10, 15
Public relations	8, 11, 13
Shared decision-making	6, 14, 17
Role modeling	3, 5, 7, 18
Cosmopolitan leadership	2, 7, 15, 17
IB commitment	2, 4, 12

Notes. The leadership domains were developed from effective leadership practices as

cited in Bennis and Nanus, 1985, 1997; Berger and Grimes, 1973; Blase and Blase, 2000

& 2001; Bolman and Deal, 1991; Bolman and Deal, 1995; Boyd and Hord, 1994; Burns,

1978; Carlson, 1961; Cotton, 2003; Crow, 1992; DellaVecchia, 1996; DuFour and Eaker,

1998; Edmonds, 1979; Elkind, 2000; Flango and Brumbaugh, 1974; Fullan, 2001;

Gardner, 1990; Gilliam, 1997; Glashan, 1991; Glickman et al., 2001; Gouldner, 1957;

Greenleaf, 1977; Hausman and Goldring, 2001; Hausman, 2000; Held, 2003; Kouzes and

Posner, 1995; Kouzes and Posner, 1999; Leithwood et al., 2004; Levine, 1991; Lezotte

and Taylor, 1989; Louis, 1994; Marnholtz, 1994; Marzano et al., 2005; Nussbaum, 1994;

Portin, Schneider, DeArmond, and Gundlach, 2003; Sergiovanni, 1992; Vertovec and

Cohen, 2003.

The revised questionnaire was converted to a web-based version and distributed

to participants through the online survey service SurveyMonkey™. Based on the

feedback from the field test respondents, the revised questionnaire, an online instrument,

also contained a neutral response "No basis for judgment" and five personnel

demographic questions to allow the researcher to gather additional information relevant to the study. The personnel demographic questions for this survey were listed below.

- I have been teaching school for
    - o 0-3 years.
    - o 4-6 years.
    - o 7-10 years.
    - o more than 10 years.
- I have taught IB classes for
    - o 0-3 years.
    - o 4-6 years.
    - o 7-10 years.
    - o more than 10 years.
- My highest level of education is a
    - o Bachelor's Degree.
    - o Master's Degree.
    - o Master's +30.
    - o Doctoral Degree.

If respondents answered with Master's Degree or above, they were asked the following question as well.

- My advanced degree is in
    - o the subject area I teach.
    - o Education.
    - o Other (Please specify)

All respondents were also asked to respond to the following.

- I am licensed to teach by my state's Department of Education.

    o Yes

    o No

Data Analysis

The SurveyMonkey™ online survey service was used to gather the teachers' responses to the questionnaire. As completed questionnaires were received, they were sorted by responses to each question for each type of school. Responses were tallied, frequencies, sample means, and standard deviations were calculated, and these descriptive statistics were compared to the IB pass rates for each type of school (top or bottom decile) using descriptive, comparative, and correlational statistics in a quantitative design. A MicroSoft Excel® spreadsheet of the data obtained through SurveyMonkey™ was loaded into SPSS, a powerful data analysis computer program, for analysis. Further descriptive quantitative data were obtained by analyzing the data for each survey item (independent variable) from the two disparate groups studied in an effort to learn what effect the variables had, if any, on the IB pass rates (dependent variable) of students in IB Diploma programs in the U.S. From these data, conclusions were drawn about which leadership characteristics supported top decile IB Diploma programs in the U.S.

The data the questionnaires derives was initially sorted by survey item, so top and bottom decile schools, each as a group or set of schools, had one mean aggregate score for each of the 18 leadership survey items based on all of the IB teachers' responses to the survey. This allowed for comparisons of each survey item between the group of all top decile schools and the group of all bottom decile schools. Additionally, the

questionnaire item scores for the top decile were combined to generate a total top decile

mean score that was correlated to the same total mean score for each survey item from

schools in the bottom decile. These correlations told to what extent, if any, each

leadership characteristic (independent variable) could have predicted IB pass rates

(dependent variable).

Additional correlations were drawn between aggregated top and bottom decile

schools based on the organizational, personnel, and school demographic variables. From

the information gathered from publicly available local, state, and national databases and

the five teacher self-report survey items, comparisons were made between the set of top

decile schools and the set of bottom decile schools using the IB pass rate as the dependent

variable. A crosswalk between each research question and the data analysis used was

provided in Figure 4. Additional comparisons were also pursued when noteworthy

correlations become evident. As the data were processed, other unanticipated results

were also explored.

Figure 4. Research question crosswalk.

Research Question	Data Collection	Data Analysis
"For this question...	**data was collected this way...**	**and the data was analyzed by..."**
1. To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?	Survey IB teachers about IB Diploma program leadership on 18 leadership variables.	Quantitative statistical analysis using descriptive statistics, including frequency distributions, mean, and standard deviation for each leadership variable for the principal, for the IBC, and for the IB leadership team (principal & IBC) by the set of top decile and the set of bottom decile schools and by all schools surveyed.
2. Is there a significant difference in the leadership of IB leaders based on the perceptions of IB teachers between programs identified as "top decile" and those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?	Survey IB teachers from the 15 top decile and the 15 bottom decile IB Diploma schools and tally their responses by the set of top and the set of bottom decile schools in light of IB leadership and IB Diploma pass rate.	Use the independent-samples t-test to compare the means of each leadership variable for the principal, for the IBC, and for the IB leadership team (principal & IBC) between the set of top and the set of bottom decile schools.
3. Are there other variables that correlate with the success of top decile IB Diploma schools in the U.S.? A. Are there organizational variables? B. Are there personnel variables? C. Are there school demographic variables?	Compile data from U.S. Census Bureau data, state Department of Education data, school district/division data, individual school data, and from IB teacher self-report survey items.	Use the Pearson correlation coefficient (r) to measure the linear relationship of each organizational, personnel, and school demographic variable between the set of top and the set of bottom decile schools at the interval level, using IB pass rate as the dependent variable.

Ethical Safeguards

Procedures in this study were designed to protect the confidentiality or anonymity of the participants. The electronic cover letters assured participants of this and afforded them the option of not responding. The survey did not request any personal identifying information, and the participants' e-mail addresses, when acquired from the IB coordinators, only matched their responses to a particular type of school (top or bottom decile) and were destroyed immediately following the study. Permission to survey the IB teachers was requested and acquired from the College of William and Mary's Protection of Human Subjects Committee, and permission from all required IB school's central administration research committees was also requested. No data collection commenced until approvals were granted. Any procedures in place by these organizations were meticulously followed.

Chapter 4

Results

Introduction

In this chapter, the data collected from multiple sources have been analyzed in an effort to answer the three research questions. First, the research questions have been reviewed. Then the two samples, the International Baccalaureate (IB) Leadership Survey sample and the Background Variables sample, have been fully described, along with a synopsis of the survey process. Response rates for the IB Leadership Survey have also been provided. Finally, data for each research question have been presented, and noteworthy results highlighted for later discussion in chapter five.

Research Questions

Three research questions guided this study:

1. To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?

2. Is there a significant difference in the leadership of IB leaders based on the perceptions of IB teachers between programs identified as "top decile" and those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?

3. Are there other variables that correlate with the success of top decile IB Diploma programs in the U.S.?

    A. Are there organizational variables?

    B. Are there personnel variables?

    C. Are there school demographic variables?

The Samples

Two distinct sample sets were necessary to protect the anonymity of the IB teachers and the IB schools involved in this study. The first sample set was comprised of IB Diploma teachers from the 15 top and the 15 bottom deciles of the IB schools in the United States in the May 2006 examination session. This sample was formed to respond to research questions one and two through a survey about leadership characteristics. The second data set included each of the 30 IB Diploma schools from both deciles. Data collected about this sample were used to answer research question three.

IB Leadership Survey Sample

This purposive sample was derived from the IB pass rates of all IB Diploma schools with at least 30 IB Diploma candidates in the U.S. in the May 2006 examination session. Within these parameters, the top 10% and the bottom 10% of IB schools were identified for surveying.

Permission to survey the IB teachers was required of the central administration or school system in 13 of the 30 cases. Applications requesting permission to survey school staff were sent to school systems between June 2007 and November 2007, and permission was granted in 12 of the 13 cases. Each principal was contacted by telephone to solicit his or her permission to survey the IB Diploma teachers at each school. This was a stipulation of the central administration of the school systems that required prior central permission. Following these contacts, each IB coordinator was contacted, either by telephone or by e-mail, based upon the principal's preference, except in one case where the principal chose to manage all correspondence. The IB coordinators either forwarded the researcher's letter to the IB Diploma teachers in their schools inviting

teachers to take the survey, or the IB coordinators sent the researcher their teachers' e-mail addresses, and the researcher sent the invitations to take the survey directly to teachers. The initial requests to survey were followed up by two reminders to take the online survey. The first reminder was sent two weeks after the original request, and the second reminder was sent a week later. A copy of the electronic letter requesting teachers to take the online survey has been provided in Appendix I.

Survey data were divided by top and bottom decile schools by sending teachers in the top decile a unique URL to access the online survey and sending teachers in the bottom decile a different URL. While both surveys were identical, the responses were maintained separately. The survey data were comprised of Likert scaled responses from 1 to 4, where 1 was "strongly agree," 2 represented a response of "agree," 3 was "disagree," and 4 stood for "strongly disagree." As a result, when comparing means between the two deciles, the lower the mean score meant the stronger the teachers agreed with the description of their leadership.

Survey Response Rates. Six IB Diploma schools declined to participate in the survey, two schools from the top decile and four from the bottom decile schools. A total of 476 letters inviting IB teachers to take the surveys were sent electronically, either directly from the researcher or forwarded to the teacher through the IB coordinator or, in one case, through the principal. Of those 476 requests, 271 were made of teachers at top decile schools, while 205 requests were sent to teachers at bottom decile schools. Teachers from the 13 top decile schools returned 169 surveys, a 62.4% return rate. Alternatively, 205 survey requests were sent to IB teachers at the 11 participating bottom

decile schools, and 57 responses were collected from teachers at these IB Diploma schools, a return rate of 27.8%.

Background Variables Sample

Three groups of background variables were selected for this study (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Card & Krueger, 1992; Coleman, 1998; Darling-Hammond et al., 2001; Fidler, 2002; Fowler & Walberg, 1991; Goldstein, 1984; Hallinan, 1994; Ingersol, 1999; Loeb & Bound, 1996; Saha, 1983). They were organizational variables, personnel variables, and school demographic variables. The three groups of background variables were identified and researched through a variety of sources, including school websites, state department of education websites, and the International Baccalaureate Organization website. To protect teacher and school confidentiality, those websites have not been identified.

Within the group of organizational variables, three different variables were identified. These variables included the grade-level structure of each school, whether the school was a public or private entity, and whether each school admitted students to its IB program through an open policy or an application process (see Table 3).

While the majority of schools in this study (83%) were comprised of grade levels 9-12 or senior high schools, five of the schools or approximately 17%, used an alternative grade-level structure. Three schools, all private schools, housed kindergarten or pre-school through grade 12 programs, and two public schools were structured with grades 7-12 at one site. Seven of the 30 IB Diploma schools were private (23%), while 77% of the schools were public. Twenty-four of the IB schools in this study (80%) employed an

application process for admission into the IB program, while six schools (20%) offered

open enrollment to students.

Table 3

School Organizational Variables by School

School	Grade-level structure	Public or private	IB admissions policy
1	9-12	Public	Open
2	9-12	Public	Application
3	9-12	Public	Application
4	9-12	Public	Application
5	9-12	Public	Application
6	9-12	Public	Application
7	9-12	Private	Application
8	9-12	Public	Open
9	K-12	Private	Application
10	9-12	Private	Application
11	9-12	Public	Application
12	9-12	Public	Application
13	9-12	Public	Open
14	PS-12	Private	Application
15	9-12	Public	Application
16	K-12	Private	Application
17	9-12	Public	Open
18	9-12	Public	Application
19	9-12	Public	Application
20	7-12	Public	Application
21	9-12	Public	Application
22	9-12	Private	Application
23	9-12	Public	Application
24	9-12	Public	Open
25	9-12	Public	Open
26	9-12	Public	Application
27	9-12	Public	Application
28	9-12	Public	Application
29	7-12	Private	Application
30	9-12	Public	Application

Five distinct personnel variables were identified among the group of background

variables. These variables specifically focused on teachers, and they were labeled as

overall teacher experience, IB teacher experience, teacher state certification or licensure,

teacher maximum level of education, and the area of advanced degrees of teachers.

These data were gathered as a self-report option of the IB Leadership Survey. The

sample included 226 respondents with no missing values. Because this information was

collected in a strictly confidential manner, data were disaggregated by top and bottom

deciles, not by individual schools. Frequency distributions of each of the five personnel

variables by top and bottom deciles have been displayed in Tables 4-8.

Table 4

Frequency Rates of Years Teaching by Decile of IB Achievement

Years	Top decile			Bottom decile		
	f	N	$\%f$	f	N	$\%f$
0-3	14	169	8.3	10	57	17.5
4-6	18	169	10.7	7	57	12.3
7-10	33	169	19.5	11	57	19.3
>10	104	169	61.5	29	57	50.9

Notably 81% of top decile teachers and 70.2% of bottom decile teachers had

seven of more years of teaching experience. Bottom decile schools were comprised of

29.8% of teachers with less than seven years of instructional experience, compared to

19% of top decile teachers (see Table 4).

The frequency distributions regarding years of teaching IB courses were relevant

only in conjunction with a school's years as an IB Diploma school. Without that

information, these data could only be viewed superficially. While both top and bottom

decile schools had more teachers in the 0-3 year range than any other category, three of

the schools studied, all in the bottom decile of schools, had only been IB schools for three

years (see Table 5).

Table 5

Frequency Rates of Years Teaching IB by Decile of IB Achievement

Years	Top decile			Bottom decile		
	f	*N*	*%f*	*f*	*N*	*%f*
0-3	58	169	34.3	28	57	49.1
4-6	41	169	24.3	12	57	21.1
7-10	31	169	18.3	10	57	17.5
>10	39	169	23.1	7	57	12.3

The maximum level of education attained by IB teachers has been displayed in

Table 6. A significant difference in frequency between top and bottom decile schools

was apparent. Of all teachers with a credential above a bachelors' degree, 81.1% taught

in top decile schools, while 66.7% worked in bottom decile IB schools (see Table 6).

Table 6

Frequency Rates of Teacher Maximum Educational Level by Decile of IB Achievement

Degree	Top decile			Bottom decile		
	f	*N*	*%f*	*f*	*N*	*%f*
BA	32	169	18.9	19	57	33.3
MA	64	169	37.9	26	57	45.6
MA+30	62	169	36.7	11	57	19.3
DR	11	169	6.5	1	57	1.8

Note. BA = Bachelors degree; MA = Masters degree; MA+30 = Masters degree + 30

hours; DR = doctoral degree.

Table 7

Frequency Rate of Subject Area of Teacher Advanced Degree by Decile of IB

Achievement

Field	Top decile			Bottom decile		
	f	*N*	*%f*	*f*	*N*	*%f*
Subj. teaching	69	169	40.8	16	57	28.1
Education	44	169	26.0	13	57	22.8
Other	22	169	13.0	7	57	12.3
Missing	34	—	20.1	21	—	36.8

Note. The 55 missing values are comprised of 51 teachers without advanced degrees and

four non-respondents with advanced degrees.

As depicted in Table 7, the majority of advanced degrees in both deciles were in

the subject areas the teachers were currently teaching (50%). The discrepancy between

Tables 6 and 7 regarding the number of advanced degrees at each decile and the subject

areas pursued by teachers with advanced degrees was explained by the non-responses of

two teachers at each decile regarding the subject areas of their advanced degrees. The

remainder of the missing values in Table 7 was explained by the teachers without

advanced degrees.

The rate of state licensed teachers in the 30 IB schools studied showed a

comparable frequency between top and bottom decile schools (see Table 8).

Table 8

Frequency Rate of Teacher State Licensure by Decile of IB Achievement

Licensed	Top decile			Bottom decile		
	f	*N*	*%f*	*f*	*N*	*%f*
Yes	161	169	95.3	54	57	94.7
No	8	169	4.7	3	57	5.3

The final group of background variables studied was school demographics, and this group was categorized by five distinct variables. These variables included school location, total school enrollment, school pupil-teacher ratio, low student socio-economic status (SES), and student ethnicity (see Table 9). Due to the study design, which included only schools with at least 30 IB diploma candidates, all of the IB schools in the study were located in either urban or suburban population centers. This design had a similar effect on the total school enrollment of the sample. Where available, low SES was comprised of a percentage of all of the students at each school who received free or reduced meals. The descriptors for student ethnicity reflected the U.S. Census Bureau's basic divisions where possible. The American Indian category included American Indians, native Alaskans, and native Hawaiians. The interconnectedness of school demographic variables was clearly evident in the results of this study (see Table 9).

Table 9

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School Demographic Variables by School

| School | Decile | School location | Total enrollment | Pupil-teacher ratio | Percent low SES | Student ethnicity percentages | | | | |
						White	Black	Asian/ Pacific Islander	Hispanic	American Indian
				Top decile						
1	Top	Urban	1,900	21.0:1	6.10	87	1	7	4	<1
2	Top	Suburban	2,383	16.0:1	49.00	27	46	4	20	<1
3	Top	Urban	1,944	12.2:1	14.20	46	16	22	16	<1
4	Top	Urban	2,184	16.0:1	57.50	44	19	12	21	2
5	Top	Urban	2,323	22.8:1	3.90	29	1	41	14	<1
6	Top	Urban	2,990	—	40.00	19	12	10	57	1
7	Top	Suburban	1,653	25.0:1	—	85	<1	3	11	<1
8	Top	Suburban	1,924	20.0:1	1.80	93	<1	3	3	<1
9	Top	Urban	650	—	—	62	<1	2	32	<1
10	Top	Urban	1,750	22.0:1	—	—	—	—	—	—
11	Top	Urban	2,327	25.0:1	25.00	59	27	8	3	<1
12	Top	Urban	2,110	12.3:1	19.10	64	22	7	5	<1
13	Top	Urban	1,498	24.0:1	7.50	80	6	8	5	<1
14	Top	Urban	344	15.0:1	—	—	—	—	—	—
15	Top	Suburban	606	—	.03	52	4	41	3	<1

(table continues)

Table 9 *(continued)* 98

School	Decile	School location	Total enrollment	Pupil-teacher ratio	Percent low SES	Student ethnicity percentages				
						White	Black	Asian/ Pacific Islander	Hispanic	American Indian
Bottom decile										
16	Bottom	Urban	400	12.0:1	—	—	—	—	—	—
17	Bottom	Urban	1,738	23.9:1	31.00	32	34	6	21	<1
18	Bottom	Urban	1,270	19.0:1	45.00	33	49	10	4	<1
19	Bottom	Urban	1,255	16.0:1	54.00	12	73	2	12	<1
20	Bottom	Urban	1,128	11.7:1	59.10	8	82	3	7	<1
21	Bottom	Urban	1,658	17.7:1	41.90	26	24	6	43	<1
22	Bottom	Urban	1,350	—	—	—	—	—	—	—
23	Bottom	Urban	3,187	23.0:1	44.30	1	81	1	16	1
24	Bottom	Urban	3,176	24.4:1	42.25	9	11	11	61	6
25	Bottom	Suburban	1,037	19.7:1	16.34	74	22	<1	3	<1
26	Bottom	Urban	3,597	26.1:1	28.30	34	18	3	41	<1
27	Bottom	Urban	1,607	21.0:1	57.40	28	66	<1	4	<1
28	Bottom	Urban	3,014	19.3:1	47.00	5	70	3	20	<1
29	Bottom	Urban	2,271	22.0:1	37.00	3	92	<1	2	<1
30	Bottom	Urban	1,222	13.2:1	76.00	<1	99	<1	<1	<1

The Results

The results of this study have been presented below by each research question. The method of analysis for each question has first been discussed, and then the results provided. Statistical Product and Service Solutions (SPSS) software was used in analyzing these data.

Research Question 1 Results

Research Question 1: To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?

Quantitative data answering this question were gathered from IB Diploma teachers in the U.S. using the IB Leadership Survey (see Appendix H). IB teachers responded to 18 questions about their principal or head of school and their IB coordinator. These data were analyzed by the set of top and the set of bottom decile schools using descriptive statistics. The mean and standard deviation for each survey item were calculated for principal, IB coordinator, and for the IB leadership team as a whole. The mean score of each survey item revealed the extent to which each leadership characteristic was evident in the principal, the IB coordinator, or the IB leadership team, keeping in mind that a lower mean score represented stronger agreement. For example, when teachers strongly agreed with a survey item, the mean score was closer to 1.0.

The statistics for the principal have been displayed in Table 10. Table 11 contains the same analyses for the IB coordinator, and Table 12 depicts the combined statistics for the IB leadership team. The IB leadership team was comprised of the principal and the IB coordinator.

Table 10

IB Leadership Characteristics: Descriptive Statistics for Principal

Survey item	Top decile			Bottom decile		
	N	Mean	SD	N	Mean	SD
1. Our IB leaders are responsive to my needs.	153	1.85	0.71	49	1.92	0.73
2. Our IB leadership supports the IB philosophy.	150	1.75	0.74	49	1.74	0.67
3. The IB leaders at my school demonstrate good interpersonal skills.	154	1.75	0.76	52	1.83	0.76
4. The IB leaders actively work to keep students in our IB program.	133	1.71	0.69	48	1.75	0.64
5. Our IB leaders deal well with conflict.	144	1.84	0.75	43	1.86	0.74
6. Our IB leaders involve teachers in the decision-making process.	139	2.10	0.78	47	2.23	0.89
7. Our IB leaders model professional behavior.	153	1.54	0.62	51	1.59	0.57
8. Our IB leaders promote our IB program to the public.	146	1.64	0.67	48	1.73	0.68
9. Our IB leaders celebrate teacher successes.	149	1.87	0.79	51	2.00	0.75
10. Our IB leaders understand the demands the IB curriculum places on teachers and students.	147	2.18	0.91	49	2.18	0.81
11. Our IB leaders promote our IB program to our central administration.	128	1.76	0.78	42	1.71	0.67
12. The IB leadership is enthusiastic about our IB program.	152	1.69	0.78	47	1.58	0.54
13. Our IB leaders exhibit good public relations skills.	152	1.55	0.63	48	1.71	0.62
14. The IB leadership accepts and implements ideas suggested by faculty members.	125	2.07	0.77	43	1.95	0.60
15. Our IB leaders discuss instructional issues with teachers.	121	2.23	0.82	42	2.17	0.88
16. The IB leadership lets faculty know what is expected of them.	139	1.83	0.73	48	1.90	0.69
17. The IB leadership is willing to make changes.	126	2.04	0.76	39	1.90	0.64
18. The IB leadership's behavior is consistent.	142	1.88	0.74	45	1.78	0.60

Table 11

IB Leadership Characteristics: Descriptive Statistics for IB Coordinator

Survey item	Top decile			Bottom decile		
	N	Mean	SD	N	Mean	SD
1. Our IB leaders are responsive to my needs.	161	1.32	0.54	52	1.60	0.67
2. Our IB leadership supports the IB philosophy.	161	1.23	0.44	52	1.39	0.53
3. The IB leaders at my school demonstrate good interpersonal skills.	160	1.53	0.79	52	1.58	0.70
4. The IB leaders actively work to keep students in our IB program.	159	1.33	0.54	50	1.42	0.50
5. Our IB leaders deal well with conflict.	151	1.63	0.76	47	1.75	0.64
6. Our IB leaders involve teachers in the decision-making process.	151	1.71	0.74	50	1.94	0.79
7. Our IB leaders model professional behavior.	157	1.40	0.64	52	1.58	0.67
8. Our IB leaders promote our IB program to the public.	153	1.26	0.47	49	1.49	0.51
9. Our IB leaders celebrate teacher successes.	153	1.63	0.73	51	1.82	0.71
10. Our IB leaders understand the demands the IB curriculum places on teachers and students.	158	1.49	0.66	50	1.62	0.83
11. Our IB leaders promote our IB program to our central administration.	143	1.37	0.53	42	1.52	0.55
12. The IB leadership is enthusiastic about our IB program.	158	1.21	0.44	52	1.39	0.53
13. Our IB leaders exhibit good public relations skills.	155	1.42	0.58	51	1.67	0.62
14. The IB leadership accepts and implements ideas suggested by faculty members.	142	1.69	0.62	45	1.76	0.61
15. Our IB leaders discuss instructional issues with teachers.	148	1.69	0.67	45	1.87	0.79
16. The IB leadership lets faculty know what is expected of them.	153	1.54	0.57	49	1.84	0.72
17. The IB leadership is willing to make changes.	143	1.76	0.70	43	1.74	0.54
18. The IB leadership's behavior is consistent.	150	1.68	0.76	46	1.67	0.52

Table 12

IB Leadership Characteristics: Descriptive Statistics for the Combined IB Leadership Team

Survey item	Top decile			Bottom decile		
	N	Mean	SD	N	Mean	SD
1. Our IB leaders are responsive to my needs.	314	1.59	0.37	101	1.76	0.23
2. Our IB leadership supports the IB philosophy.	311	1.49	0.37	101	1.56	0.25
3. The IB leaders at my school demonstrate good interpersonal skills.	314	1.64	0.16	104	1.70	0.18
4. The IB leaders actively work to keep students in our IB program.	292	1.52	0.27	98	1.59	0.23
5. Our IB leaders deal well with conflict.	295	1.74	0.15	90	1.80	0.08
6. Our IB leaders involve teachers in the decision-making process.	290	1.91	0.28	97	2.09	0.21
7. Our IB leaders model professional behavior.	310	1.47	0.10	103	1.58	0.01
8. Our IB leaders promote our IB program to the public.	299	1.45	0.28	97	1.61	0.17
9. Our IB leaders celebrate teacher successes.	302	1.75	0.17	102	1.91	0.13
10. Our IB leaders understand the demands the IB curriculum places on teachers and students.	305	1.84	0.48	99	1.90	0.40
11. Our IB leaders promote our IB program to our central administration.	271	1.56	0.27	84	1.62	0.14
12. The IB leadership is enthusiastic about our IB program.	310	1.45	0.34	99	1.48	0.13
13. Our IB leaders exhibit good public relations skills.	307	1.49	0.09	99	1.69	0.03
14. The IB leadership accepts and implements ideas suggested by faculty members.	267	1.88	0.27	88	1.86	0.14
15. Our IB leaders discuss instructional issues with teachers.	269	1.96	0.38	87	2.02	0.21
16. The IB leadership lets faculty know what is expected of them.	292	1.68	0.21	97	1.87	0.04
17. The IB leadership is willing to make changes.	269	1.90	0.20	82	1.82	0.11
18. The IB leadership's behavior is consistent.	292	1.78	0.14	91	1.73	0.07

Research Question 2 Results

Research Question 2: Is there a significant difference in the leadership of IB leaders

based on the perceptions of IB teachers between programs identified as "top decile" and

those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?

Using the data gathered from the IB Leadership Survey, it was possible to answer

this question by running independent samples *t*-tests. The *t*-tests were performed for each

leadership item in the survey using the decile as the grouping variable for the test. The

initial test of the descriptive statistics identified the means for each item at both the top

decile and the bottom decile (see Table 13 or see Appendix J for complete table). While

Levene's Test for Equality of Variances identified nine survey items with a significance

level less than .05, only five of these items also met Levene's first criteria by having the

mean of the top decile lower than the mean of the bottom decile. Accordingly, the null

hypothesis was rejected in these five comparisons because a significant difference existed

between the top and bottom decile schools' variances, the variances were assumed to be

unequal, and the bottom row of the *t*-test for Equality of Means was used. The remaining

27 items met Levene's Test for homogeneity, and the top row of the *t*-test results were

used to determine the significance of the means. Table 14 depicts the five leadership

characteristics that were identified as having significantly different means with $p < .05$

(see Appendix K for complete table).

Table 13

Means and Standard Deviations for Significant Leadership Characteristics

Variable	Top decile			Bottom decile		
	N	Mean	SD	*N*	Mean	SD
IBC Responsive to Teacher Needs	161	1.3230	0.54317	52	1.5962	0.66449
IBC Promotes Program to Public	153	1.2549	0.46636	49	1.4898	0.50508
IBC Enthusiastic about IB Program	158	1.2089	0.43791	52	1.3846	0.52966
IBC Good Public Relations Skills	155	1.4194	0.57964	51	1.6667	0.62183
IBC Clear Faculty Expectations	153	1.5359	0.57384	49	1.8367	0.71726

Table 14

Independent-samples t-*tests for Significant Leadership Characteristics*

Variable	*t*	*df*	Sig. (2-tailed)	Mean Difference
IBC Responsive to Teacher Needs	-2.689	74.29	.009	-.2732
IBC Promotes Program to Public	-2.885	76.00	.005	-.2349
IBC Enthusiastic about IB Program	-2.162	75.29	.034	-.1758
IBC Good Public Relations Skills	-2.595	204	.010	-.2473
IBC Clear Faculty Expectations	-2.997	200	.003	-.3008

Research Question 3 Results

Research Question 3: Are there other variables that correlate with the success of top

decile IB Diploma programs in the U.S.?

    A. Are there organizational variables?

B. Are there personnel variables?

C. Are there school demographic variables?

Answering these questions required measuring the linear relationship between the various data and the dependent variable, the IB Pass Rate, using the Pearson correlation coefficient (r) through a bivariate correlation test in SPSS. Data from the second sample set, Background Variables sample, were used to respond to sub-questions A and C about organizational variables and school demographic variables. Personnel variables, sub-question B of research question three, used the teacher self-report questions from the first sample, the IB Leadership Survey, to determine whether significant correlations existed among the variables of the successful IB programs, those in the top decile. Findings for each sub-question have been presented separately, except where correlations between various sub-groups have been identified.

Sub-question A: Are there organizational variables that correlate with the success of top decile IB Diploma programs in the U.S.? A correlation matrix responding to the first sub-question about organizational variables has been rendered in Table 15. In addition to the three organizational variables, this table included the dependent variable, IB Pass Rate, and the school demographic variables of total school enrollment, Asian/Pacific Islander enrollment, and American Indian enrollment due to significant correlations found between the organizational variables and these three school demographic variables. Total school enrollment and whether a school was a public or private institution saw a moderately significant negative correlation in the top decile of IB schools ($r = -.57$, $p < .05$). Since public schools were labeled in SPSS with a value of one and private schools with a value of two, the inverse relationship identified by the

negative correlation implied that public schools in this study were more likely to have a larger student enrollment than private schools in the top decile.

In the bottom decile schools, a moderate, positive correlation was found between Asian/Pacific Islanders and IB admissions ($r = .59$, $p < .05$). This correlation implied that schools with an open enrollment practice for admission into their IB programs were also slightly more likely to have a relatively large Asian/Pacific Islander student population. A similar, though stronger, relationship was identified by a positive correlation between American Indians and IB admissions among the bottom decile schools ($r = .65$, $p < .05$). No other significant correlations relevant to this study were identified among the organizational variables in either decile.

Table 15

Correlation Matrix of IB Pass Rate, Organizational Variables, Total School Enrollment, Asian/Pacific Islander, and American Indian

Variable	1	2	3	4	5	6	7
				Top decile			
1. IB Pass Rate	1	-.23	-.35	.14	.53*	-.26$_b$	.04$_b$
2. Public/ Private		1	-.29	-.30	-.57*	-.34$_b$	-.17$_b$
3. Grade-level Structure			1	.00	-.26	.59$_b$*	.00$_b$
4. IB Admissions				1	.00	-.29$_b$	-.22$_b$
5. Tot. School Enrollment					1	-.16$_b$	.36$_b$
6. Asian/ Pacific Islander						1	-.05$_b$
7. American Indian							1
				Bottom decile			
1. IB Pass Rate	1	.36	.27	.14	-.36	.47$_b$	-.01$_b$
2. Public/ Private		1	.22	-.17$_a$	-.42	—	—
3. Grade-level Structure			1	-.15$_a$	.12	.36$_b$	.27$_b$
4. IB Admissions				1	.24$_a$	.59$_c$*	.65$_c$*
5. Tot. School Enrollment					1	.15$_b$	.44$_b$
6. Asian/ Pacific Islander						1	.57$_b$*
7. American Indian							1

$n = 15.$ $^a n = 14.$ $^b n = 13.$ $^c n = 12.$ $^d n = 11.$
*$p < .05$ (two-tailed)

Sub-question B: Are there personnel variables that correlate with the success of top decile IB Diploma programs in the U.S.? Though four significant relationships were identified using SPSS bivariate correlations, none of the personnel variables related to the IB Pass Rate. These four correlations have been shown in Table 16.

Table 16

Correlation Matrix of IB Pass Rate and Personnel Variables

Variable	1	2	3	4	5	6
			Top decile (*n* = 169)			
1. IB Pass Rate	1	-.06	.00	.00	.00	-.08
2. Years Teaching		1	.53	.22	.07	.01
3. Yrs. IB Teaching			1	.19*	.16*	.02
4. Max. Ed. Level				1	-.11	-.19*
5. Licensed					1	.04
6. Adv. Degree						1
			Bottom decile (*n* = 57)			
1. IB Pass Rate	1	-.24	.00	-.12	.00	.00
2. Years Teaching		1	.57	.18	-.01	-.38*
3. Yrs. IB Teaching			1	.16	.02	-.12
4. Max. Ed. Level				1	.14	-.05
5. Licensed					1	.23
6. Adv. Degree						1

*$p < .05$ (two-tailed)

Sub-question C: Are there school demographic variables that correlate with the success of top decile IB Diploma programs in the U.S.? Table 17 depicted a correlation matrix of the school demographic variables and the dependent variable, the IB Pass Rate. The single significant correlation with IB Pass Rate in the study was discovered between the Pass Rate and total school enrollment. This was a moderately positive correlation in the top decile of IB schools ($r = .53, p < .05$). This correlation showed that the IB Pass Rates of successful schools were linked to their total enrollment, and therefore both numbers increased simultaneously. The implication of that correlation was that success in the IB Diploma program occurred more often in large schools.

Though not relevant to this study, of some note were the strong, positive correlations among the top decile schools between low SES and both Black ($r = .73, p < .05$) and American Indian ethnicities ($r = .72, p < .05$). This meant that the number of Blacks and American Indians increased alongside the number of students identified as coming from a low socio-economic stratum. Though only peripherally related to this study, the strength of these correlations was noteworthy.

The bottom decile also contained several significant correlations. A strong, positive correlation existed between students of Hispanic ethnicity and total school enrollment ($r = .62, p < .05$). The strength of this correlation demonstrated the tie between school size and the number of Hispanic students at low performing IB schools. This positive correlation showed that when school size increased, the number of Hispanic students did as well. In addition, low SES revealed two negative relationships among bottom decile schools. A moderately negative correlation between low SES and school location was evident ($r = -.56, p < .05$). Given that a value of one in SPSS identified

urban schools, and a value of two represented suburban schools, this inverse relationship showed that a school with a high percentage of students in the low socio-economic group was likely to be an urban school. The second significant correlation with low SES was a strong, negative correlation with pupil-teacher ratio ($r = -.67, p < .05$). This inverse relationship implied that when a school's rate of low SES students increased, the pupil-teacher ratio in the school decreased. No other meaningful correlations were identified among the school demographic variables.

Chapter four presented the results of the study. After reviewing the research questions, the two distinct samples were described, and their data were presented. Several tables depicting the statistical analyses of the data were provided. Results of the analyses were presented and explained for each research question. Some noteworthy results were highlighted and will be discussed further in chapter five.

Table 17 111

Correlation Matrix of IB Pass Rate and School Demographic Variables

Variable	1	2	3	4	5	6	7	8	9	10
					Top decile					
1. IB Pass Rate	1	.05	.53*	$.32_d$	$-.14_c$	$-.16_b$	$.29_b$	$-.26_b$	$.20_b$	$.04_b$
2. Location		1	-.11	$-.11_d$	$.13_c$	$.20_b$	$.03_b$	$-.01_b$	$-.25_b$	$-.27_b$
3. Total School Enrollment			1	$.59_d$	$.09_c$	$-.44_b$	$.47_b$	$-.16_b$	$.33_b$	$.36_b$
4. Low SES				1	$-.37_f$	$-.57_d$	$.73_d*$	$-.40_d$	$.59_d$	$.72_d*$
5. Pupil/Teacher Ratio					1	$.39_e$	$-.46_e$	$-.03_e$	$-.43_e$	$-.24_e$
6. Caucasian						1	$-.50_b$	$-.43_b$	$-.64_b*$	$-.38_b$
7. Black							1	$-.21_b$	$.08_b$	$.15_b$
8. Asian/ Pacific Islander								1	$-.13_b$	$-.05_b$
9. Hispanic									1	$.49_b$
10. American Indian										1

$n = 15.$ $^a n = 14.$ $^b n = 13.$ $^c n = 12.$ $^d n = 11.$ $^e n = 10.$ $^f n = 9.$
*$p < .05$ (two-tailed)

(table continues)

Table 17 *(continued)*   112

Variable	1	2	3	4	5	6	7	8	9	10
				Bottom decile						
1. IB Pass Rate	1	-.16	-.36	$-.15_b$	$-.18_a$	$.14_b$	$-.26_b$	$.47_b$	$.15_b$	$-.01_b$
2. Location		1	-.24	$-.56_b$*	$.03_a$	$.78_b$	$-.33_b$	$-.28_b$	$-.24_b$	$-.10_b$
3. Total School Enrollment			1	$-.28_b$	$.77_a$	$-.31_b$	$-.23_b$	$.15_b$	$.62_b$*	$.44_b$
4. Low SES				1	$-.67_b$*	$-.68_b$	$.69_b$	$-.14_b$	$-.29_b$	$-.05_b$
5. Pupil/Teacher Ratio					1	$.22_b$	$-.54_b$	$.23_b$	$.49_b$	$.36_b$
6. Caucasian						1	$-.65_b$*	$.03_b$	$-.05_b$	$-.21_b$
7. Black							1	$-.58_b$*	$-.71_b$	$-.40_b$
8. Asian/ Pacific Islander								1	$.62_b$*	$.57_b$*
9. Hispanic									1	$.67_b$*
10. American Indian										1

$n = 15$. $^a n = 14$. $^b n = 13$. $^c n = 12$. $^d n = 11$. $^e n = 10$. $^f n = 9$.
*$p < .05$ (two-tailed)

Chapter 5

Conclusions

In this chapter, the results presented in chapter four are discussed following a review of the research questions that have guided this study. After a discussion of the findings, the implications of those findings for professional practice are presented, recommendations for further research are broached, and some final thoughts are imparted.

Introduction

Along the way to uncovering the factors that contribute to successful IB Diploma programs, much information has been reviewed and data collected. Leadership at successful IB schools has been assessed and compared with leadership at less successful IB Diploma schools. Because leadership is often an elusive or indirect factor in assessing an educational program, other factors, such as teacher characteristics, student demographics, and school structure, have also been reviewed and compared to discover the foundations for successful IB Diploma programs (Barth, 2001; Cotton, 2003; Leithwood et al., 2004; Marzano et al., 2005).

Three research questions have guided this study:

1. To what extent are effective leadership characteristics evident in IB leaders as perceived by IB teachers?

2. Is there a significant difference in the leadership of IB leaders based on the perceptions of IB teachers between programs identified as "top decile" and those programs defined as being in the "bottom decile" of IB pass rates in the U.S.?

3. Are there other variables that correlate with the success of top decile IB Diploma programs in the U.S.?

    A. Are there organizational variables?

    B. Are there personnel variables?

    C. Are there school demographic variables?

The first question has helped to determine the extent to which effective leadership characteristics are evident in the perceptions of IB teachers. The second research question has facilitated a comparison of teachers' perceptions of leadership between successful and less successful IB programs based on these schools' IB pass rates. Finally, the third research question has led to the identification of other aspects of IB schools that can be tied to their success. Together, answers to these questions provide insight into developing successful IB Diploma programs.

Discussion of Findings

The purpose of this study was to unearth factors that contribute to successful IB Diploma programs. To that end, this study has generated some important and significant results. Looking first at the findings derived from each individual research question provides one path to the answers, but looking next at how the results combine to address the eight leadership domains offers another, richer avenue to the answers. Understanding how the leadership domains have been represented by the results of the survey

administered as part of this study is instructive to learning more about leadership in IB

Diploma programs.

The first research question requires reviewing the descriptive statistics provided

by the mean scores of teacher perceptions about IB leadership and discovering to what

extent effective leadership characteristics are evident. Tables 10, 11, and 12 (Chapter 4)

reveal that IB teachers perceive several leadership characteristics more keenly than others

in their IB leaders. Keeping in mind that the Likert scale used in surveying the IB

teachers reveals a stronger agreement with each statement about leadership when the

mean is lower or closer to 1.0, there are several characteristics that teachers in the top

decile, bottom decile, or in both deciles feel their leaders strongly exhibit.

Principals of top decile or successful IB schools display four traits most strongly,

according to their IB teachers. These characteristics include the following.

- modeling professional behavior

- promoting their IB programs to the public

- being enthusiastic about their IB programs

- exhibiting good pubic relations skills

Teachers in bottom decile or low performing schools concur with teachers in successful

IB schools in the perception that their principals also model professional behavior and are

enthusiastic about their IB programs. In fact, principal enthusiasm for IB programs is

even more evident in low performing schools, according to teacher perceptions. This

may be the result of principals who readily "lead the charge" for their programs publicly

and are good general spokespersons, but find they must leave the day-to-day

administration of their IB programs to their IB coordinators, or it may suggest principals

in these low performing schools are attempting to deflect the negative image their schools have because of their lack of success on IB assessments.

Also of note is the perception by teachers in all the IB schools included in this study that principals do not greatly involve teachers in the decision-making process, nor do teachers feel that principals keenly understand the demands the IB curriculum places on teachers and students, or discuss instructional issues with teachers. These perceptions may be attributable to what Hoy and Miskel (2001), citing Barnard, term the zone of indifference, when "Subordinates accept some decisions without question because they are indifferent to them" (p. 341). Accordingly, teachers may not expect their principals to be directly involved with instructional issues, especially considering the size of many of the schools studied and the expertise required of effective IB teachers. Teachers' perceptions of principals at both high and low performing IB schools appear to be very similar, with almost identical ranges of mean values. Clearer differences between the deciles do not appear until one compares the mean values of the leadership characteristics of the IB coordinators.

Teachers perceive IB coordinators as more efficacious than principals overall in regards to their leadership of the IB program. This suggests that IB coordinators are more closely involved with the IB program and its teachers than are the principals, which intuitively makes sense, given that a teacher's immediate supervisor is typically closer to the day-to-day activities of that teacher than is the principal, and the IB coordinator is often an IB teacher's immediate supervisor. According to IB teachers, IB coordinators in successful IB schools exhibit the following traits most strongly.

- responding to teachers' needs

- supporting the IB philosophy

- promoting the IB program to the public

- being enthusiastic about their IB program

A review of the mean values for each leadership characteristic also shows that teachers in both high and low performing schools perceive that IB coordinators are enthusiastic about their IB programs and promote their programs to the public as do principals.

The mean averages of teacher perceptions of leadership characteristics for the combined IB leadership team, comprised of both the principal and the IB coordinator, clarify which traits teachers perceive most strongly in their leaders. Of the 18 leadership characteristics identified, teachers in successful IB schools perceive five traits most strongly in their IB leadership team.

- supporting the IB philosophy

- modeling professional behavior

- promoting their IB programs to the public

- being enthusiastic about their IB programs

- exhibiting good public relations skills

Teachers in low performing schools, however, perceive only one characteristic keenly in their IB leadership team. This trait is enthusiasm about their IB programs. This implies that successful IB schools, with their much higher IB pass rates, have more effective leadership in at least four areas.

- supporting the IB philosophy

- modeling professional behavior

- promoting their IB programs to the public

- exhibiting good public relations skills

These implications suggest that leaders who expertly and actively lead their IB programs have successful programs. It is worth noting at this point that the IB coordinator's mean scores drive the strength of the IB leadership team's mean scores. Since the strength of these combined means comes from the noticeably stronger mean averages of the IB coordinators, it appears that the most important person in the leadership of IB Diploma programs is the IB coordinator.

The second research question asked whether differences in teachers' leadership perceptions at successful and less successful IB schools are significant. Statistical testing shows that five leadership characteristics are significantly different between successful IB schools and bottom performing IB schools. These leadership characteristics include the following.

- responding to teacher needs

- promoting the IB program to the public

- being enthusiastic about the IB program

- exhibiting good public relations skills

- letting faculty know what is expected of them

This suggests that some leadership characteristics may impact student success, even in IB programs. All five significant differences are relevant to the leadership characteristics of the IB coordinator, again supporting the notion of a closer relationship between IB coordinators and IB teachers and a stronger, more meaningful leadership role for IB coordinators, rather than principals in IB schools.

The third research question asked whether other variables, such as organizational, personnel, and school demographic variables, correlate with the success of top performing IB Diploma schools in the U.S. Among the three sets of variables, several significant correlations emerged, and each is discussed below.

School size and achievement. Of the significant correlations in this study, one meaningful correlation exists. This correlation reveals a relationship between the IB pass rates of successful schools and those schools' total enrollment ($r = .53, p < .05$). While a causal link cannot be assumed, this correlation suggests that student achievement is related to school size. This relationship could imply that larger schools are better able to supply students with needed instruction and accompanying materials due to their greater resources, as suggested by several prior studies, which propose that economies of scale are at work in larger schools (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Fowler & Walberg, 1991; Rutter, 1983). At first glance, this correlation does imply that larger schools are more successful than smaller schools in helping students earn IB diplomas; however, closer examination of Table 9 (Chapter 4) reveals the error of that broad generalization. The four largest schools in the study are in the bottom decile of schools, alternatively suggesting that the law of diminishing returns may be at play. This result also intimates that an optimal school size or size limit may exist for student success in IB programs.

All other significant correlations identified through statistical processing are meaningless to this study, but a few of the correlations bring out some interesting connections between a variety of factors. These factors take on contextual relevance when considering that the IB programs at the vast majority of the schools studied (90%)

exist as school-within-a-school programs. Whether a school is a standalone IB school or its IB program exists as a school-within-a-school program, the data represent entire schools and their total student bodies. As such, the IB students and their results are representative of the entire student population at each school. For example, the data for a school's low SES students reflects the entire student body, so interpretations about SES and student achievement, as defined as a school's IB pass rate, must be made with caution since the IB students at each school are the only students contributing to the pass rate, but they are not necessarily the only students contributing to the low SES statistic. This correlation and others are discussed below.

Socio-economic status and achievement. As noted above, student achievement in this study is identified with the IB pass rate. Taken more holistically, success in this study can be determined by which decile, top or bottom, each school inhabits. Schools in the top decile have an average IB pass rate of 97%, so their students can be considered successful. This study finds a correlation between low SES and some student ethnic groups. In top decile IB schools, the relationship between the SES of the entire student body and all students identified as either Black ($r = .73, p < .05$) or American Indian ($r = .72, p < .05$) reveals two strong positive correlations. These relationships suggest that when there are more low SES students in a successful IB school, there are more Blacks and more American Indian students in that school. While not a direct correlation to achievement, this connection reveals an interesting relationship to some ethnic groups and student achievement in top decile IB schools.

Socio-economic status and pupil-teacher ratio. Consistent with the literature, this study shows a strong, negative correlation between low SES and pupil-teacher ratio ($r = -$

.67, $p < .05$). However, this significant relationship exists only in the bottom decile of IB schools. This implies that as the number of low SES students increases, the ratio of students to teacher drops. That this apparent trend is happening at low-performing IB schools is encouraging, though puzzling. Its cause, of course, is not attributable within this study, but one can speculate that because top decile schools have fewer low SES students and their achievement rates are higher, they do not feel as urgent a need to reduce class sizes (see Table 9 in Chapter 4).

School size and ethnicity. Also of note is the significant, positive correlation between school size and the Hispanic ethnic group ($r = .62, p < .05$) within the bottom decile of IB schools. According to the U.S. Census Bureau (2006, May), Hispanics are and continue to be the nation's largest and fastest growing minority. Their population increased by 3.3%, almost half of the nation's total population growth, between July 2004 and July 2005. The Census Bureau (2005) also confirms that nearly half of the U.S. Hispanic population resides in urban areas. These population statistics alone help to clarify this correlation. That the four largest schools in the study fall into the bottom decile of IB schools, are in urban areas, and all have large Hispanic student populations further explains why this correlation produced a significant result. The connection between school size and Hispanic ethnicity also supports the concept of the law of diminishing return similar to that found between school size and achievement. This is noteworthy because three of the four schools with the largest Hispanic populations in this study are in the bottom decile, which gives this correlation an indirect relationship to low student achievement as well. Another element of this correlation that may also impact student achievement is the number of Hispanics that may have limited English

proficiency. Since no cause and effect relationships can be assumed from correlations, one is left only with speculations.

IB admissions and ethnicity. The category of IB Admissions is labeled in SPSS with a "1" for schools that use an application process to determine admissions and with a "2" when a school has an open admissions policy. The fact that both the Asian/Pacific Islander and the American Indian ethnic groups show significant, positive correlations to IB Admissions is quite interesting. The correlation between Asians/Pacific Islanders and IB Admissions is moderate ($r = .59, p < .05$), while the American Indians' correlation to IB Admissions is strong ($r = .65, p < .05$). Both correlations occur in the bottom decile of IB schools. That both of these correlations are positive implies that an open admissions policy may favor these two ethnic groups, at least at bottom decile schools. This may be the result of schools attempting to increase the diversity of the students in their IB programs by allowing everyone the opportunity to take these courses. It could also be a way of deflecting accusations of elitism in school's IB programs.

Socio-economic status and school location. Of little note is the moderate, negative correlation in the bottom decile between low SES and a school's location ($r = -.56, p < .05$). This negative correlation is partly explained by the labeling in SPSS of urban centers as "1" and suburban areas as a "2." As a result, a lower score for an urban school is in direct opposition to a higher SES rate. The fact that only one school in the bottom decile is in a suburban area and four urban schools in that group have an over 50% low SES rate may account for this correlation, especially when compared to the four suburban schools and only one urban school with a low SES rate over 50% among the top

decile schools. This is really just a reflection of US economic statistics; more of the nation's poor tend to reside in urban areas (U.S. Census Bureau, 2005).

Leadership domains supported. Central to this study is how the results of research questions one and two support specific leadership domains identified in the Revised IB Leadership Table of Specifications (see Table 2 in Chapter 3). Supporting behaviors, public relations skills, and IB commitment are the leadership domains most strongly supported by the data. In question one, public relations skills and IB commitment are the domains with the strongest mean values. In question two all three of these leadership domains appear as the most significant of the eight domains. It comes as no surprise that the domain of supporting behaviors is among those rising to the top in this study because, as in most effective schools, IB leaders who demonstrate these behaviors have successful programs. The literature supports this finding with a plethora of studies that identify supporting behaviors as a trait of effective leaders (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Edmonds, 1979; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Leithwood et al., 2004; Levine, 1991; Marzano et al., 2005; Sergiovanni, 1992).

Characteristics Unique to IB leadership. While the domain of supporting behaviors is not unique to IB leadership, the extent to which a leader exhibits good public relations skills and IB commitment are unique IB leadership traits. The emphasis on the public relations leadership domain is, however, consistent with the research on magnet schools leadership (Blase & Blase, 2001; Boyd & Hord, 1994; Cotton, 2003; Crow, 1992; DuFour & Eaker, 1998; Fullan, 2001; Hausman, 2000; Hausman & Goldring, 2001; Leithwood et al., 2004; Marzano et al., 2005). Though scant research exists about IB

leaders and their commitment to their IB programs, the results of this study bear out the importance of that leadership characteristic to IB leaders through the overwhelming agreement among teachers about their IB leaders' enthusiasm for their programs, even in low performing schools.

In addition to the traits necessary to IB leaders in successful IB Diploma programs, are those leadership characteristics noted in the literature in recent leadership meta-analyses that do <u>not</u> appear to characterize IB leaders. This study shows that IB teachers do not perceive a need for instructional leadership from their IB leaders, regardless of decile. Given the sometimes highly specialized instructional expertise required in some IB subject areas, IB teachers may feel that they are the experts in their fields and are beyond the assistance of non-specialists. This may be where cosmopolitan leadership takes place in IB schools – in the classroom.

Another leadership characteristic that is well supported in the literature but that IB teachers in both deciles do not perceive in their IB leaders is shared decision-making. Closer scrutiny of the data in Tables 10, 11, and 12 (Chapter 4) helps clarify this phenomenon to some extent, but not entirely. These data reveal that IB coordinators, though perceived positively by teachers in most categories, garner some of their worst scores in shared decision-making. Principals' scores in this category are even worse, making this an entire leadership team issue. These weaker scores may suggest that IB teachers feel more strongly about being involved in the decisions that affect them, so they may only slightly agree that their leaders involve them the decision-making process, rather than strongly agree. The fact that the average means for the shared decision-making category are sometimes stronger (44%) in bottom decile schools suggests that

shared decision-making may be more important to top decile teachers who signify its absence more loudly.

As a result of the limitations and delimitations of this study, as delineated in chapter one, conclusions advanced by this study must be considered carefully and within the specific contexts described. Generalizing these results to all IB Diploma schools must be done cautiously, especially to schools outside the U.S.

Implications for Professional Practice

The results of this study can translate readily into practice in the field of education in several ways. Apparently, teachers at successful IB schools perceive that their leaders demonstrate certain characteristics that teachers at low performing IB schools do not see as strongly in their IB leaders. Leaders at successful IB schools are perceived as exhibiting strong supporting behaviors, such as being responsive to teachers' needs, celebrating teachers' successes, letting faculty know what is expected of them, and communicating effectively. This result mirrors the traits of effective school leaders found in the literature. (Blase & Blase, 2001; Cotton, 2003; DuFour & Eaker, 1998; Edmonds, 1979; Fullan, 2001; Glickman et al., 2001; Hipp, 1997; Leithwood et al., 2004; Levine, 1991; Marzano et al., 2005; Sergiovanni, 1992).

In addition to supporting behaviors, teachers at successful IB schools have also identified good public relations skills as a trait they associate with their leaders. In other words, these teachers feel their IB leaders effectively promote their IB programs to those outside the school. This may take the form of public information nights, brochures or pamphlets, or speaking to community groups about the program. Furthermore, IB teachers at successful IB schools perceive in their leaders a commitment to their IB

programs. This perception is conveyed through a leader's knowledge of and enthusiasm for the IB program, through the leader's active efforts to keep students enrolled in the program, through a leader's willingness to financially support the program and provide the specialized training IB teachers' require, or through attending IB training themselves (Berkey, 1995; Gilliam, 1997; Glashan, 1991; Marnholtz, 1994).

These teacher perceptions offer opportunities upon which leaders or their school systems may capitalize. Knowing that these areas of expertise have been identified in leaders of successful IB Diploma programs can serve to guide other IB leaders to assess those skills within themselves and change or hone their own leadership practices. Not only can these results provide leaders with specific areas to focus their own professional growth, but this study can also suggest to their supervisors avenues to pursue for these leaders' professional development. School systems might also consider these leadership characteristics in their future hiring practices for IB schools, especially in regards to the IB coordinator position.

Partnering new or struggling IB schools and their leaders with successful IB schools and their leaders is another way this type of information can be used. Affiliations with successful IB schools could provide a leader insight into a variety of the positive aspects that comprise successful IB programs. The connection could also provide role models or mentors for IB leaders.

Recommendations for Further Research

While the field of leadership is well researched, study of International Baccalaureate programs cries out for extensive, further research. IB leadership, in particular, is a topic that would benefit from further study. This is especially true when

considering that this small study has focused only on IB schools in the U.S., and the IB program spans the world. Therefore, an expanded study including more IB schools in the U.S. and ultimately schools in other countries is strongly urged. A study that includes IB schools with fewer IB diploma students should also be considered so that IB schools in rural areas could be studied as well.

The significant correlation between school size and achievement suggests another area for further research. Though many studies have undertaken this topic in a variety of ways, none have explored the unique characteristics that an IB program brings to the mix (Betts, 1995; Borland & Howsen, 2003; Brookover et al., 1979; Fowler & Walberg, 1991; Rutter, 1983). A study that attempts to identify the optimum size for effective schools with IB programs would well serve communities, school systems, and students.

As mentioned earlier, some intriguing correlations, of little consequence to this study, should be pursued by others. These include the correlations involving the type of IB admissions practices employed by schools. For example, whether a school uses an open admission practice or an application process for their IB admissions and how each affects different ethnic groups is worthy of study. This was very evident in the strong, positive correlations found between students of both Asian/Pacific Islander origin ($r = .59, p < .05$) and students with American Indian ethnicities ($r = .65, p < .05$) and IB admissions. The reason for these strong correlations found only in low performing IB schools and only in these ethnic groups should be explored.

Perceptions about IB leadership from others in IB schools might also reveal more about the leadership in these schools. IB students and their parents as well as IB leaders themselves could be surveyed, and their responses compared with each other as well as to

the perceptions of IB teachers. Incorporating numerous perspectives can only help create a clearer picture of the role of the IB leader and its impact on students.

Final Thoughts

This study has sought to focus the lens of research on leadership and on International Baccalaureate Diploma programs. The concept of leadership has been widely studied, while research on IB Diploma programs has a small but burgeoning extant research base. Studying these concepts together has yielded data that increases our understanding of both. According to the perceptions of teachers, this study's findings confirm that, however indirect, leadership impacts student educational success, even in IB Diploma programs. The findings suggest that effective leadership of the IB Diploma programs studied required leaders who were supportive of their IB teachers, had good public relations skills for the marketing of these programs, and conveyed a commitment to their IB programs. This study also revealed that as long as an IB program has a principal who is enthusiastic about the program and can promote it to the public, the leadership of the IB coordinator is the most important administrative factor to the success of an IB program. With the increasing number of IB programs, the implications for schools are especially important. The educational needs of students in our ever-shrinking world deserve no less than our most informed practice on their behalf.

Appendix A

Relevant Leadership Research Matrix

Appendix A

Relevant Leadership Research Matrix

LEADERSHIP DOMAIN	Supporting Behaviors	Instructional Leadership	Public Relations	Shared Decision-making	Role Modeling	School Culture	Cosmopolitan Leadership	IB Commitment
STUDY*								
Bennis & Nanus, 1985 & 1997	●		●			●		
Berkey, 1995	●		●	●				●
Blank, 1983		●		●				
Blank, 1986		●		●		●		
Blase & Blase, 2000 & 2001	●	●	●	●	●			
Bolman & Deal, 1991 & 1995	●			●		●		
Boyd & Hord, 1994	●		●	●	●	●		
Cotton, 2003	●	●	●	●	●	●		
Crow, 1992			●	●		●		
DellaVecchia, 1996					●	●		
DuFour & Eaker, 1998	●			●	●	●		
Edmonds, 1979	●	●				●		
Fullan, 2001	●	●	●	●		●		
Gardner, 1990			●		●	●		
Gilliam, 1997		●		●				●
Glashan, 1991	●		●	●	●	●	●	●
Glickman, Gordon & Ross-Gordon, 2001	●	●		●		●		

Hausman, 2000		●	●	●				
Hausman & Goldring, 2001	●	●	●	●		●		
Hipp, 1997	●			●	●	●		
Kouzes & Posner, 1995 & 1999	●			●	●	●		
Leithwood, Louis, Anderson & Wahlstrom, 2004	●	●	●	●		●		
Levine, 1991	●							
Lezotte & Taylor, 1989		●	●	●		●		
Louis, 1994	●	●	●	●	●	●		
LoVette & Watts, 2002			●			●		
Marnholtz, 1994			●			●		●
Marzano, Waters & McNulty, 2005	●	●	●	●	●	●		
Sergiovanni, 1992	●			●		●		

* Empirical studies are in bold-faced font.

Appendix B

IB Leadership Field Test #1 Survey

Appendix B

IB Leadership Field Test #1 Survey

DIRECTIONS: IB leadership at the local school level is comprised of the principal or head of school and the IB coordinator. The following are statements about the principal and IB coordinator at your school. Please indicate the extent to which you agree with each statement along a scale of Strongly Agree (4) to Strongly Disagree (1) for **each** IB leader.

IB teacher, would you please respond to the questions following each survey item? You need not respond to the actual survey items. Thanks!

	PRINCIPAL					IB COORDINATOR			
	Strongly Agree			Strongly Disagree		Strongly Agree			Strongly Disagree
1. Our IB leaders are responsive to my needs.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
2. The IB leadership supplies me with the resources I need to do my job effectively.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
3. Our IB leaders are experts on teaching and learning.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
4. Our IB leadership supports the IB philosophy.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
5. I know our IB leaders' vision or mission for our program.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
6. Our IB leaders attend the IB functions at our school.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				

7. The IB leaders at my school demonstrate good interpersonal skills.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
8. Our IB leaders set an example by working hard themselves.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
9. Our IB leadership provides pertinent and useful staff development opportunities.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
10. The IB leaders actively work to keep students in our IB program.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
11. Our IB leaders deal well with conflict.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
12. Our IB leaders involve teachers in the decision-making process.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
13. Our IB leaders are good role models.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
14. Our IB leaders promote our IB program to the public.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
15. Our IB leaders celebrate teacher successes.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					
16. Our IB leaders understand the demands the IB curriculum places on teachers and students.	1	2	3	4		1	2	3	4
Is the statement clear?				**Y or N**					
Is the content relevant to IB leadership?				**Y or N**					

Statement	1	2	3	4		1	2	3	4
17. Our IB leaders promote our IB program to our central administration.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
18. Our IB leaders communicate effectively.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
19. The IB leadership is enthusiastic about our IB program.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
20. The IB leadership hires good teachers for our school.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
21. Our IB leaders exhibit good public relations skills.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
22. Our IB leaders attended an IB orientation or training seminar/session.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
23. Our IB and non-IB teachers work together collegially.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
24. The IB leadership accepts and implements ideas suggested by faculty members.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									
25. Our IB leaders discuss classroom issues with teachers.	1	2	3	4		1	2	3	4
Is the statement clear? **Y or N** **Is the content relevant to IB leadership? Y or N**									

26. Our IB leaders are able to influence the actions of their central office superiors.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
27. The IB leaders treat all faculty members as their equals.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
28. The IB leadership lets faculty know what is expected of them.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
29. Our IB leaders are friendly and approachable.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
30. Teachers are protected from unreasonable community and parental demands.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
31. The IB leadership is willing to make changes.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
32. Red tape is not a problem in our school.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				
33. The IB leadership's behavior is consistent.	1	2	3	4		1	2	3	4
Is the statement clear?					**Y or N**				
Is the content relevant to IB leadership?					**Y or N**				

Thank you for your input about these survey items! Please take just another minute and respond to the four questions on the next page.

Were the directions for the actual survey clear?

Yes _____
No _____

If not, do you have a suggestion to improve them?

Are there any other leadership characteristics that you think should be included in this survey?

Knowing that the two questions following each item on this survey would not be a part of the final instrument, would you be inclined to complete the final version of this survey?

Yes _____
No _____

If no, can you please tell me why?

Did you like the format of this survey?

Yes _____
No _____

If no, can you please tell me why?

Appendix C

IB Leadership Field Test #1 Frequency Distributions

Appendix C

IB Leadership Field Test #1 Frequency Distributions

Table 1.
Item Clarity Frequency Distribution

Item #	f	N	rf	%f
1	24	25	0.96	96
2	23	26	0.88	88
3	21	25	0.84	84
4	26	26	1.00	100
5	26	26	1.00	100
6	26	26	1.00	100
7	26	26	1.00	100
8	23	26	0.88	88
9	26	26	1.00	100
10	24	26	0.92	92
11	24	26	0.92	92
12	25	26	0.96	96
13	22	26	0.85	85
14	25	25	1.00	100
15	26	26	1.00	100
16	26	26	1.00	100
17	23	25	0.92	92
18	20	25	0.80	80
19	25	26	0.96	96
20	21	25	0.84	84
21	24	25	0.96	96
22	24	25	0.96	96
23	23	26	0.88	88
24	24	26	0.92	92
25	24	26	0.92	92
26	22	25	0.88	88
27	23	26	0.88	88
28	25	26	0.96	96
29	26	26	1.00	100
30	20	27	0.74	74
31	26	26	1.00	100
32	18	25	0.72	72
33	24	26	0.92	92

Table 2.
Item Relevancy Frequency Distribution

Item #	f	N	rf	%f
1	24	25	0.96	96
2	25	25	1.00	100
3	21	24	0.88	88
4	25	25	1.00	100
5	25	25	1.00	100
6	25	25	1.00	100
7	24	25	0.96	96
8	22	25	0.88	88
9	25	25	1.00	100
10	23	23	1.00	100
11	24	24	1.00	100
12	25	25	1.00	100
13	22	23	0.96	96
14	24	25	0.96	96
15	25	25	1.00	100
16	25	25	1.00	100
17	25	25	1.00	100
18	25	25	1.00	100
19	25	25	1.00	100
20	21	24	0.88	88
21	23	23	1.00	100
22	24	24	1.00	100
23	19	24	0.79	79
24	25	25	1.00	100
25	25	25	1.00	100
26	24	24	1.00	100
27	19	24	0.79	79
28	25	25	1.00	100
29	23	25	0.92	92
30	22	25	0.88	88
31	25	25	1.00	100
32	15	20	0.75	75
33	23	25	0.92	92

Table 3.
Ordered Item Clarity Frequency Distribution

Item #	f	N	rf	$\%f$
4	26	26	1.00	100
5	26	26	1.00	100
6	26	26	1.00	100
7	26	26	1.00	100
9	26	26	1.00	100
14	25	25	1.00	100
15	26	26	1.00	100
16	26	26	1.00	100
29	26	26	1.00	100
31	26	26	1.00	100
1	24	25	0.96	96
12	25	26	0.96	96
19	25	26	0.96	96
21	24	25	0.96	96
22	24	25	0.96	96
28	25	26	0.96	96
10	24	26	0.92	92
11	24	26	0.92	92
17	23	25	0.92	92
24	24	26	0.92	92
25	24	26	0.92	92
33	24	26	0.92	92
2	23	26	0.88	88
8	23	26	0.88	88
23	23	26	0.88	88
26	22	25	0.88	88
27	23	26	0.88	88
13	22	26	0.85	85
3	21	25	0.84	84
20	21	25	0.84	84
18	20	25	0.80	80
30	20	27	0.74	74
32	18	25	0.72	72

Table 4.
Ordered Relevancy Frequency Distribution

Item #	f	N	rf	$\%f$
2	25	25	1.00	100
4	25	25	1.00	100
5	25	25	1.00	100
6	25	25	1.00	100
9	25	25	1.00	100
10	23	23	1.00	100
11	24	24	1.00	100
12	25	25	1.00	100
15	25	25	1.00	100
16	25	25	1.00	100
17	25	25	1.00	100
18	25	25	1.00	100
19	25	25	1.00	100
21	23	23	1.00	100
22	24	24	1.00	100
24	25	25	1.00	100
25	25	25	1.00	100
26	24	24	1.00	100
28	25	25	1.00	100
31	25	25	1.00	100
1	24	25	0.96	96
7	24	25	0.96	96
13	22	23	0.96	96
14	24	25	0.96	96
29	23	25	0.92	92
33	23	25	0.92	92
3	21	24	0.88	88
8	22	25	0.88	88
20	21	24	0.88	88
30	22	25	0.88	88
23	19	24	0.79	79
27	19	24	0.79	79
32	15	20	0.75	75

Appendix D

IB Leadership Field Test #1 Questionnaire Data Table

Appendix D

IB Leadership Field Test #1 Questionnaire Data Table

Survey Item Number	Is the statement clear?				Is the content relevant to IB leadership?			
	Yes Response		No Response		Yes Response		No Response	
	Teacher	Expert	Teacher	Expert	Teacher	Expert	Teacher	Expert
1	17	7	1	0	17	7	1	0
2	17	6	2	1	18	7	0	0
3								
4	19	7	0	0	18	7	0	0
5	19	7	0	0	18	7	0	0
6	19	7	0	0	18	7	0	0
7	19	7	0	0	17	7	1	0
8								
9	19	7	0	0	18	7	0	0
10	18	6	1	1	17	6	0	0
11	17	7	2	0	17	7	0	0
12	18	7	1	0	18	7	0	0
13	18	4	1	3	17	5	1	0
14	19	6	0	0	17	7	1	0
15	19	7	0	0	18	7	0	0
16	19	7	0	0	18	7	0	0
17	18	5	1	1	18	7	0	0
18	16	4	3	2	18	7	0	0
19	19	6	0	1	18	7	0	0
20	16	6	2	1	14	7	3	0
21	18	6	0	1	17	6	0	0
22	18	6	1	0	18	6	0	0
23	17	6	2	1	14	5	4	1
24	18	6	1	1	18	7	0	0
25	18	6	1	1	18	7	0	0
26	19	3	0	3	18	6	0	0
27	18	5	1	2	15	4	3	2
28	18	7	1	0	18	7	0	0
29								
30	16	4	3	4	18	7	3	0
31	19	7	0	0	18	7	0	0
32	15	3	4	3	16	2	4	1
33	18	6	1	1	17	6	1	1

Coding: WHITE = clear and relevant (21 items)
     5% Shading = unclear but relevant (4 items)
     25% Shading = unclear and irrelevant (7 items)
     50% Shading = clear but irrelevant (1 item)

Appendix E

IB Leadership Field Test #1 Questionnaire Open-ended Prompts

Appendix E

IB Leadership Field Test #1 Questionnaire Open-ended Prompts

Were the directions for the actual survey (in black) clear?

The vast majority of respondents, both teachers and expert panelists, responded in the affirmative regarding this prompt. Only two IB teachers marked "No" to this prompt, but one of these teachers did so because he or she felt that the font needed to be larger, rather than any confusion over the wording of the directions. One teacher neglected to respond to this prompt, while another who responded in the positive offered the following suggestion for improving the directions, "You could add: circle the number of your choice."

Are there any leadership characteristics that you think should be included in this survey?

IB Teachers
- A question about whether or not the IB leadership is provided (by the county) or uses adequate funds to support the program would be useful information.
- Humor, personable
- Address the time issue. Does the IB leadership allow an appropriate amount of time when requesting input/reports?
- Positive attitude
- The IB Principal and Coordinator are well covered. The frustration in our program comes from the change in position and support from the central office. This is the leadership that impacts FTEs, professional leave, and so much more.
- More questions about the ability to influence the actions of central office. More questions about whether central office understands and supports the program, especially with respect to funding and class size – and not just class size of IB classes, but how lack of full support of the IB program impacts the entire school program, especially with regards to FTEs and class size. Also, a question about avoiding combination (IB/non-IB) classes. They should be avoided!
- Has the principal or IB coordinator taught any IB classes?
- I would like more questions about funding and central administration.

Expert Panelists
- IB leaders work together to integrate IB faculty, students, and programs into the entire school program. (No elitism, all work together, etc.??)
- You might want to qualify how long the evaluator has been in his/her position & the same for the leaders.
- Some of the questions – 1, 2, 4, etc. discount or don't allow feedback on the huge impact central office support and financial backing have on the (local) IB leadership to do their job effectively.
- Honesty, integrity

Knowing that the two questions following each item on this survey would not be a part of the final instrument, do you think teachers will be inclined to complete the final version of this survey?

Only two teachers responded in the negative to this prompt. Their reasons for doing so were that either the questionnaire was "too long" or "Many questions are too vague to be valuable." Another teacher who responded positively added the comment, "because I am told to by my school." This same respondent noted beside the unchecked "No" response, "time issue. IB is a great program, so give me time for it." While all of the expert panelists replied "Yes" to this prompt, one panelist made the following plea, "but please attach a comment sheet."

Do you like the format of this survey?

Four teacher respondents marked "No" to this prompt, while the remaining 16 teachers and all of the expert panelists checked "Yes."

If no, can you please tell me why?

- No neutral choice
- Many questions need a place to comment.
- I don't like strongly in the choices.
- It seems unimportant. I do not understand the data you're trying to collect (i.e. Who cares about whether the IB coordinator is strong or not. There's much more to everything...)

Two teachers who replied in the positive also made comments about the format. Their comments follow.

- but a comment section by each question would be helpful
- There are some questions that I would answer differently based on whether the leader was the principal or the coordinator. That would make it hard to decide <u>how</u> to respond. (These comments were crossed out and under them the following was written.) Never mind – I've just read the directions more carefully. Sorry!

Other comments:

In addition to the comments made in response to the prompts and those made beside some survey items, the following is a list of other general comments written on the last page of the survey form.

<u>IB Teachers</u>

- Perhaps some questions regarding budgets $$$ for program
- This survey took ½ hour of my planning time, which I will have to make up by using ½ hour more of my private time. While I find this survey important, this is an inherent problem to the IB curriculum. How will I add the extra responsibilities to an already too full job description? Devise a question as to work load, please.

<u>Expert Panelist</u>

- Some questions were not clear because of vague terms (e.g. good). Qualifying the terms might clarify the statements.

Appendix F

IB Leadership Field Test #1 Questionnaire Item Comments

Appendix F

IB Leadership Field Test #1 Questionnaire Item Comments

IB Teachers
Item #1:
- What kind of needs?
Item #2:
- Monetary/funding?
- Is time a supply?
- Does not work scheduling out for ideal situation – due to lack of funding by county.
Item #3:
- Can provide instructional advice
- Of course, but what are you implying? IB so different from old.
- Very subjective – What's "expert" They don't have to be experts – they do need to understand IB
Item #7:
- ? with whom?
Item #8:
- Working hard at what? How do we define working hard?
- In general or in IB program?
Item #9:
- Staff devel. yes, IB specific hardly
- Give checklist of specific types!
Item #10:
- Again, use a checklist of possibilities
Item #11:
- Student/teacher or teacher/teacher or parent/teacher
- There are many <u>kinds</u> of conflicts – schedules, grades, etc.
Item #12:
- What kind of decisions?
Item #13:
- As learners!
Item #14:
- But give a checklist
- Could do a much better job
Item #17:
- checklist of possibilities
Item #18:
- with whom?
- to teachers? to parents? to students? 3 questions would be better
- Communicate what and to whom? Too broad
Item #20:
- Recruits teachers with certain IB traits....
- In place of "good" – use "knowledgeable"

- Hiring might not always be the IB leaders' choice
- Responsibility for hiring is not limited to coordinator & IB leader/principal –
Perhaps this wording could be changed to "seeks competent teachers" for the
program.
Item #21:
- not as strong a question as the others
- too negative in presentations
Item #22:
- Any? IB training or a specific one? Or training in all 6 areas? And how would
respondents know?
Item #23:
- Collegially?
- Of course! Usually they are one and the same...
Item #24:
- Which faculty members – IB or non-IB?
- When there is time
Item #25:
- with IB teachers?
Item #26:
- This might be difficult to answer. Teachers are not always aware of attempts to
influence central office, nor of their level of success.
Item #27:
- I imagine different respondents would assign varying importance to this – the
question will tell you whether there is a perception of equality, but it may be more
important to assess whether "equality" is a desired goal.
- Equals in what? Someone has to make final decisions.
Item #28:
- entire faculty or IB faculty?
- But often <u>late</u>
- Insert "members" after "faculty"
Item #30:
- IB teachers?
- By whom?
- What does "protected" mean? If shielded, would we know? Perhaps adjust to
say "leaders address...rather than the teachers"
- Sorry misunderstood. I thought it meant that I am protected from unreasonable
demands on my job and my family. I am not. The added demands because of the
IB responsibilities on me and my family are horrendous.
Item #32:
- What type of red tape? Checklist
- Should ask this without the "not"

<u>Expert Panelists</u>
Item #2:
- "resources" may have a wide range of meaning
Item #3:
- "experts"
- "Experts" may skew your data. Well-grounded? Add "practices" at end of sentence.
Item #8:
- Add "in their positions at our school" to end of sentence.
- "working hard" to…?
Item #10:
- Insert "capable" before "students" in sentence.
Item #13:
- For our school? IB?
- For whom? What?
Item #14:
- Insert "effectively" before "promote" in sentence?
Item #17:
- Add ", receiving adequate funding and support." to end of sentence?
Item #18:
- with all publics, with teachers, with students, or just in general?
- Who is the audience?
- With whom?
Item #20:
- "good"
- "good" is subjective
Item #21:
- What are you asking?
Item #22:
- Add to end of sentence "and keep up with current IB issues/training"? One session in 10 years wouldn't be good!
- Would all know? What are you really asking?
Item #23:
- How is this related to leaders? Leaders encourage collegiality?
- Unsure (of relevancy)
Item #24:
- IB faculty or all?
Item #25:
- IB teachers or all?
Item #26:
- In gaining support for the program or addressing concerns?
Item #27:
- Not sure what you mean.
- Unsure (of relevancy)
Item #28:
- all faculty?

Item #30:
- "unreasonable demands by the community or parents"
- Add to beginning of sentence "As much as possible,"
Item #31:
- Add "relevant" before "changes."?
- What kind (of changes)? Justified, necessary, mandated…???
Item #32:
- "Red tape"
- ??? Red tape is a problem EVERYWHERE!!!
- Unsure (of relevancy)
Item #33:
- Consistent with what?

Appendix G

Revised IB Leadership Survey

Appendix G

Revised IB Leadership Survey

DIRECTIONS: IB leadership at the local school level is comprised of the principal or head of school and the IB coordinator. The following are statements about the principal and IB coordinator at your school. Please indicate the extent to which you agree with each statement along a scale of Strongly Agree (4) to Strongly Disagree (1) by circling a number for **each** IB leader. If you are uncertain or do not know the answer to any question, you may respond by circling "N" for No Basis for Judgment.

	PRINCIPAL						IB COORDINATOR				
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Basis for Judgment		Strongly Agree	Agree	Disagree	Strongly Disagree	No Basis for Judgment
1. Our IB leaders are responsive to my needs.	1	2	3	4	N		1	2	3	4	N
2. Our IB leadership provides pertinent and useful staff development opportunities.	1	2	3	4	N		1	2	3	4	N
3. The IB leadership supplies me with the material resources I need to do my job effectively.	1	2	3	4	N		1	2	3	4	N
4. Our IB leadership supports the IB philosophy.	1	2	3	4	N		1	2	3	4	N
5. I know our IB leaders' vision or mission for our program.	1	2	3	4	N		1	2	3	4	N
6. Our IB leaders attend the IB functions at our school.	1	2	3	4	N		1	2	3	4	N
7. The IB leaders at my school demonstrate good interpersonal skills.	1	2	3	4	N		1	2	3	4	N
8. The IB leaders actively work to	1	2	3	4	N		1	2	3	4	N

keep students in our IB program.										
9. Our IB leaders deal well with conflict.	1	2	3	4	N		1	2	3	4	N
10. Our IB leaders involve teachers in the decision-making process.	1	2	3	4	N		1	2	3	4	N
11. Our IB leaders model professional behavior.	1	2	3	4	N		1	2	3	4	N
12. Our IB leaders promote our IB program to the public.	1	2	3	4	N		1	2	3	4	N
13. Our IB leaders celebrate teacher successes.	1	2	3	4	N		1	2	3	4	N
14. Our IB leaders understand the demands the IB curriculum places on teachers and students.	1	2	3	4	N		1	2	3	4	N
15. Our IB leaders promote our IB program to our central administration.	1	2	3	4	N		1	2	3	4	N
16. The IB leadership is enthusiastic about our IB program.	1	2	3	4	N		1	2	3	4	N
17. Our IB leaders exhibit good public relations skills.	1	2	3	4	N		1	2	3	4	N
18. Our IB leaders attended an IB orientation or training seminar/session.	1	2	3	4	N		1	2	3	4	N
19. The IB leadership accepts	1	2	3	4	N		1	2	3	4	N

and implements ideas suggested by faculty members.										
20. Our IB leaders discuss instructional issues with teachers.	1	2	3	4	N		1	2	3	4	N
21. Our IB leaders are able to gain central office support for our IB program.	1	2	3	4	N		1	2	3	4	N
22. The IB leadership lets faculty know what is expected of them.	1	2	3	4	N		1	2	3	4	N
23. The IB leadership is willing to make changes.	1	2	3	4	N		1	2	3	4	N
24. The IB leadership's behavior is consistent.	1	2	3	4	N		1	2	3	4	N

Any additional comments may be added on the back. Thank you for your input on this survey!

Appendix H

Final IB Leadership Survey

Appendix H

Final IB Leadership Survey

DIRECTIONS: IB leadership at the local school level is comprised of the principal or head of school and the IB coordinator. The following are statements about the principal and IB coordinator at your school. Please indicate the extent to which you agree with each statement along a scale of Strongly Agree (4) to Strongly Disagree (1) by circling a number for **each** IB leader. If you are uncertain or do not know the answer to any question, you may respond by circling "N" for No Basis for Judgment.

	PRINCIPAL						IB COORDINATOR				
	Strongly Agree	Agree	Disagree	Strongly Disagree	No Basis for Judgment		Strongly Agree	Agree	Disagree	Strongly Disagree	No Basis for Judgment
1. Our IB leaders are responsive to my needs.	1	2	3	4	N		1	2	3	4	N
2. Our IB leadership supports the IB philosophy.	1	2	3	4	N		1	2	3	4	N
3. The IB leaders at my school demonstrate good interpersonal skills.	1	2	3	4	N		1	2	3	4	N
4. The IB leaders actively work to keep students in our IB program.	1	2	3	4	N		1	2	3	4	N
5. Our IB leaders deal well with conflict.	1	2	3	4	N		1	2	3	4	N
6. Our IB leaders involve teachers in the decision-making process.	1	2	3	4	N		1	2	3	4	N
7. Our IB leaders model professional behavior.	1	2	3	4	N		1	2	3	4	N
8. Our IB leaders promote our IB program to the public.	1	2	3	4	N		1	2	3	4	N

9. Our IB leaders celebrate teacher successes.	1	2	3	4	N		1	2	3	4	N
10. Our IB leaders understand the demands the IB curriculum places on teachers and students.	1	2	3	4	N		1	2	3	4	N
11. Our IB leaders promote our IB program to our central administration.	1	2	3	4	N		1	2	3	4	N
12. The IB leadership is enthusiastic about our IB program.	1	2	3	4	N		1	2	3	4	N
13. Our IB leaders exhibit good public relations skills.	1	2	3	4	N		1	2	3	4	N
14. The IB leadership accepts and implements ideas suggested by faculty members.	1	2	3	4	N		1	2	3	4	N
15. Our IB leaders discuss instructional issues with teachers.	1	2	3	4	N		1	2	3	4	N
16. The IB leadership lets faculty know what isexpected of them.	1	2	3	4	N		1	2	3	4	N
17. The IB leadership is willing to make changes.	1	3	3	4	N		1	3	3	4	N
18. The IB leadership's behavior is consistent.	1	3	3	4	N		1	3	3	4	N

Appendix I

IB Teacher Invitation to Survey

Appendix I

IB Teacher Invitation to Survey

Dear IB Teacher,

I am conducting IB research for my doctoral dissertation. In consultation with IB North America, I have focused this research on the impact of leadership on IB Diploma programs in the United States.

Your input, as an IB teacher, would greatly inform this research. To that end, I am asking you to please respond to a questionnaire about IB teachers' perceptions of IB leadership. IB leadership at the school level is comprised of your principal and your IB coordinator. The online survey takes about ten minutes to complete. Just click on the link below, and it will take you directly to the survey.

http://www.surveymonkey.com/s.aspx?sm=WrghjkWZJg_2b4...

Let me assure you that both your principal and your IB coordinator are aware of my research and have graciously allowed me to include you and your school in this study. Because of job turnover, however, I ask that you respond to the survey about the IB leaders with whom you are most familiar, not necessarily your current leadership.

In addition, I personally assure your complete anonymity in this voluntary national study. Neither you, your school, nor your school division will be identified by name. All resulting information gathered from the questionnaires will be presented in an anonymous manner as aggregated national data in my final report.

Please accept my deepest appreciation for your participation in this project. I know well that teaching in an IB program is a very demanding and time-consuming job.

Should you have any questions or concerns, please do not hesitate to contact me or my dissertation advisor, Dr. Michael DiPaola, at 757-221-2344. You may also report any dissatisfaction with any aspect of this study to the Chair of the Protection of Human Subjects Committee, Dr. Michael Deschenes at 757-22-2240 or mrdes@wm.edu.

Again, thank you for taking this survey by October 5, 2007.

Sincerely,

Randi R. Riesbeck
Doctoral Candidate
Virginia Beach, Virginia
757-618-1082
Randi.Riesbeck@yahoo.com

This project was found to comply with appropriate ethical standards and was exempted from the need for formal review by the College of William and Mary Protection of Human Subjects Committee (Phone 757-221-3966) on 2007-05-22 and expires on 2008-05-22.

Appendix J

Means and Standard Deviations for All Leadership Characteristics

Appendix J

Means and Standard Deviations for All Leadership Characteristics

	Top decile			Bottom decile		
Variable	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Prin. Responsive to Teacher Needs	153	1.8497	0.71425	49	1.9184	0.73134
Prin. Supports IB Philosophy	150	1.7467	0.74353	49	1.7347	0.67006
Prin. Good Interpersonal Skills	154	1.7532	0.76108	52	1.8269	0.75980
Prin. Keeps Students in IB Program	133	1.7143	0.69163	48	1.7500	0.63581
Prin. Deals Well with Conflict	144	1.8403	0.75413	43	1.8605	0.74263
Prin. Involves Teachers in Decision-making Process	139	2.1007	0.78292	47	2.2340	0.88986
Prin. Exhibits Professional Behavior	153	1.5425	0.61758	51	1.5882	0.57189
Prin. Promotes Program to Public	146	1.6438	0.67200	48	1.7292	0.67602
Prin. Celebrates Teacher Successes	149	1.8725	0.79090	51	2.0000	0.74833
Prin. Understands IB Demands	147	2.1769	0.91188	49	2.1837	0.80812
Prin. Promotes Program to Central Administration	128	1.7578	0.78114	42	1.7143	0.67302
Prin. Enthusiastic about IB Program	152	1.6908	0.78254	47	1.5745	0.54152

Appendix J *(continued)*

Variable	Top decile			Bottom decile		
	N	Mean	Standard Deviation	*N*	Mean	Standard Deviation
Prin. Good Public Relations Skills	152	1.5526	0.62814	48	1.7083	0.61742
Prin. Implements Faculty Ideas	125	2.0720	0.77435	43	1.9535	0.68846
Prin. Discusses Instruction	121	2.2314	0.82422	42	2.1667	0.88115
Prin. Clear Faculty Expectations	139	1.8273	0.73157	48	1.8958	0.69158
Prin. Willing to Make Changes	126	2.0397	0.76316	39	1.8974	0.64051
Prin. is Consistent	142	1.8803	0.73882	45	1.7778	0.59882
IBC Responsive to Teacher Needs	161	1.3230	0.54317	52	1.5962	0.66449
IBC Supports IB Philosophy	161	1.2298	0.43658	52	1.3846	0.52966
IBC Good Interpersonal Skills	160	1.5313	0.78445	52	1.5769	0.69582
IBC Keeps Students in IB Program	159	1.3333	0.53565	50	1.4200	0.49857
IBC Deals Well with Conflict	151	1.6291	0.76259	47	1.7447	0.64160
IBC Involves Teachers in Decision-making Process	151	1.7086	0.73566	50	1.9400	0.79308

Appendix J *(continued)*

	Top decile			Bottom decile		
Variable	*N*	Mean	Standard Deviation	*N*	Mean	Standard Deviation
IBC Exhibits Professional Behavior	157	1.3949	0.63809	52	1.5769	0.66704
IBC Promotes Program to Public	153	1.2549	0.46636	49	1.4898	0.50508
IBC Celebrates Teacher Successes	153	1.6340	0.73226	51	1.8235	0.71291
IBC Understands IB Demands	158	1.4937	0.65566	50	1.6200	0.83029
IBC Promotes Program to Central Administration	143	1.3706	0.52646	42	1.5238	0.55163
IBC Enthusiastic about IB Program	158	1.2089	0.43791	52	1.3846	0.52966
IBC Good Public Relations Skills	155	1.4194	0.57964	51	1.6667	0.62183
IBC Implements Faculty Ideas	142	1.6901	0.62095	45	1.7556	0.60886
IBC Discusses Instruction	148	1.6892	0.66855	45	1.8667	0.78625
IBC Clear Faculty Expectations	153	1.5359	0.57384	49	1.8367	0.71726
IBC Willing to Make Changes	143	1.7552	0.70428	43	1.7442	0.53865
IBC is Consistent	150	1.6800	0.76255	46	1.6739	0.51873

Appendix K

Independent-samples *t*-tests for All Leadership Characteristics

Appendix K

Independent-samples *t*-tests for All Leadership Characteristics

Variable	t	df	Sig. (2-tailed)	Mean Difference
Prin. Responsive to Teacher Needs	-0.583	200	0.561	-0.06869
Prin. Supports IB Philosophy	0.100	197	0.920	0.01197
Prin. Good Interpersonal Skills	-0.604	204	0.547	-0.07368
Prin. Keeps Students in IB Program	-0.313	179	0.755	-0.03571
Prin. Deals Well with Conflict	-0.155	185	0.877	-0.02019
Prin. Involves Teachers in Decision-making Process	-0.914	71.597	0.364	-0.13332
Prin. Exhibits Professional Behavior	-0.466	202	0.641	-0.04575
Prin. Promotes Program to Public	-0.762	192	0.447	-0.08533
Prin. Celebrates Teacher Successes	-1.007	198	0.315	-0.12752
Prin. Understands IB Demands	-0.046	194	0.963	-0.00680
Prin. Promotes Program to Central Administration	0.324	168	0.747	0.04353
Prin. Enthusiastic about IB Program	1.148	110.543	0.253	0.11632

(table continues)

Appendix K *(continued)*

Variable	*t*	*df*	Sig. (2-tailed)	Mean Difference
Prin. Good Public Relations Skills	-1.503	198	0.134	-0.15570
Prin. Implements Faculty Ideas	0.890	166	0.375	0.11851
Prin. Discusses Instruction	0.431	161	0.667	0.06474
Prin. Clear Faculty Expectations	-0.567	185	0.571	-0.06850
Prin. Willing to Make Changes	1.054	163	0.293	0.14225
Prin. is Consistent	0.846	185	0.398	0.10250
IBC Responsive to Teacher Needs	-2.689	74.29	.009	-.2732
IBC Supports IB Philosophy	-1.909	74.692	0.060	-0.15480
IBC Good Interpersonal Skills	-0.375	210	0.708	-0.04567
IBC Keeps Students in IB Program	-1.014	207	0.312	-0.08667
IBC Deals Well with Conflict	-0.940	196	0.348	-0.11554
IBC Involves Teachers in Decision-making Process	-1.890	199	0.060	-0.23139
IBC Exhibits Professional Behavior	-1.763	207	0.079	-0.18202
IBC Promotes Program to Public	-2.885	76.00	.005	-.2349

(table continues)

Appendix K *(continued)*

Variable	*t*	*df*	Sig. (2-tailed)	Mean Difference
IBC Celebrates Teacher Successes	-1.611	202	0.109	-0.18954
IBC Understands IB Demands	-0.983	69.404	0.329	-0.12633
IBC Promotes Program to Central Administration	-1.640	183	0.103	-0.15318
IBC Enthusiastic about IB Program	-2.162	75.29	.034	-.1758
IBC Good Public Relations Skills	-2.595	204	.010	-.2473
IBC Implements Faculty Ideas	-0.619	185	0.537	-0.06541
IBC Discusses Instruction	-1.495	191	0.137	-0.17748
IBC Clear Faculty Expectations	-2.997	200	.003	-.3008
IBC Willing to Make Changes	0.109	89.300	0.913	0.01106
IBC is Consistent	0.062	109.837	0.951	0.00609
IB Pass Rate	334,763.368	224	0.000	68.52000

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RzPSZwX3B2PSZwX2N2PSZwX3BhZ2U9MSZwX3NlYXJjaF90ZXh0PWRlZ

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