

## A study on the different roles' leadership and school culture within the Catholic middle schools in Taiwan

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### **Abstract**

In Taiwan, Catholic schools are now facing a crisis of leadership as the available number of priests and nuns who are able to lead these schools is declining rapidly. The question is now being asked as to whether the ministry of the Catholic school's mission can be sustained as more and more lay principals are needed and appointed to replace principals affiliated with religious orders. This basic question led to an exploration of three research questions. First, what differences, if any, are there between religious and lay middle school principals in terms of servant leadership? Second, what are the differences, if any, between religious and lay leaders in the promotion of the traditional Catholic school mission? Finally, what differences are there, if any, between school cultures in Catholic Middle Schools when led by either a religious or lay principal? Results shows that in order to continue this process it is recommended that Catholic Middle school principals should participate in servant leadership workshops and/or communications training in order to foster open communication, empower the vision and create mutual trust between principals and school staff. The goal would be to develop and maintain a school culture that reflects the Catholic heritage of the school. In addition, staff rotation and mentoring should be implemented to ensure that experienced teachers participate in school affairs and help build school spirit and culture in order that the school's educational mission can be maintained. Finally, a team should be built within the schools in order to develop servant leadership skills in all members of the school.

**Keywords:** Taiwan; lay leadership; middle school; servant leadership; school culture

## **A study on the different roles' leadership and school culture within the Catholic middle schools in Taiwan**

### **1. Introduction**

Catholic educators in Taiwan are concerned that changing the roles of leaders in Catholic schools. The change from priests or religious sisters to lay principals (Hung, 2002) hopefully will not change the schools' overall character. The beliefs regarding how lay principals maintain the school culture of the schools may change (Yau, 2008). With the same concerns and changes in the United States, Rentner researched leadership and school culture, especially the difference between the leadership styles of religious leaders and lay people (Rentner, 2010).

#### *1.1 Research Objectives*

This study explored the transformation of leadership in Catholic schools as more lay leaders become principals of the schools. First, there is a description of the history and mission of Catholic middle schools in Taiwan. The current leadership status of priests, religious sisters, and lay people, is then assessed. The particular focus is on how to preserve the basic elements and merits of Catholic middle schools through servant leadership and the extent to which such leadership helps to maintain and create the culture of Catholic schools. This is a type of leadership emphasizing a leader who serves others, and puts others' needs before the benefit of the organization resulting in followers who are healthier, more intelligent, more independent and more willing to be servants to others (Greenleaf, 1977). These characteristics help a principal to maintain and create the culture of Catholic schools. In addition, this study will explore the relationship between servant leadership and Catholic school mission in selected Catholic middle schools in Taiwan.

#### *1.2 Research Questions*

The following research questions will be examined during this study:

1. What differences, if any, are there between the servant leadership styles of religious versus lay leaders in Catholic middle schools in Taiwan?

In other words, how are these schools different once a lay leader replaces a religious leader? This question focuses on the relationship between servant leadership and the Catholic school mission and school culture in selected Catholic high schools, some of which lay principals have and some of which still have a priest or a sister as a principal. Comparisons between perceptions that stakeholders have of both lay and religious leaders are identified.

2. What differences, if any, are there in the promotion of the Catholic mission between religious versus lay leaders in Catholic middle schools in Taiwan?

In other words, how does being a lay or religious leader promote the Catholic school mission? Correlational analysis and regression analysis is used to seek to identify and predict the relationship between the principals' servant leadership and the Catholic school mission of these Catholic schools.

3. What differences, if any, are there in the school cultures led by religious versus lay leaders in Catholic middle schools in Taiwan?

In other words, how does being a lay or religious leader promote the Catholic school culture? Correlational analysis and regression analysis is used to seek to identify and predict the relationship between the principals'

servant leadership and school culture of these Catholic schools.

### *1.3 The Significance of This Study*

Because of a decreasing number of priests and nuns, the trend has been to transfer the Catholic School principal leadership from priests or sisters to lay people. In the 1950's, 35 Taiwan Catholic middle schools had principals who were priests or sisters. Now, only 4 of these schools have elevated to colleges, and 5 of 31 have priest or sister principals. In all probability, soon, none of them will have a religious priest or sister as principals. Given the change in the educational environment of Catholic schools, the most important issue in Taiwan Catholic education is the survival and maintenance of their true character and mission. The Principal is the key person to influence the development of a school (Yau, 2008; Hung, 2002). This study attempted to answer a significant and controversial question in Taiwan: Do Catholic schools still have the characters or beliefs, culture of Catholic schools when the leadership changes from a priest/sister to a lay person? What factors help the lay principals maintain the mission culture and characteristics of Catholic Schools?

## **2. Conceptual Variable Definitions**

### *2.1 Catholic School*

Catholic priests or religious sisters founded the schools as a way to educate and care for Catholic children and by proclaiming the Kingdom of God, evangelizing the Gospel, and introducing catechism in order that people may be baptized (Chang, 1995). In Taiwan, Catholics represent a minority, comprising only 1.5% of the population. However, in the 1950s; due to the national need to establish private schools, Catholic priests and nuns founded numerous Catholic schools. The purpose was to spread the Gospel through education, and to help children and teenagers, who needed to learn self-esteem, confidence, and useful skills to become contributors of society (Da Ren, 2009).

### *2.2 Catholic School Mission*

The concept and educational goals established in order to run a Catholic school depends on its mission. Although there are 31 Catholic middle schools belong to different dioceses or parishes, their main mission is to focus on humanity of people, (Lee & Lin, 2001). The "Declaration of Catholic Education", indicates that "people in any environment, any race, or any age, everyone has human dignity, and inalienable right to receive an education". As for education content, it should not only meet the goals of life but also focus on personal characteristics, cultural background, and national tradition

The educational goal of Catholic schools focuses mainly on holistic education, which enhances the importance of educating people. It helps to develop personality while putting an emphasis on the inner quality and external behavior of individuals. To sum up, the content of a holistic approach includes morality, intelligence, physical fitness, and aesthetic sense. The concept of Catholic school has always been on balanced development, normalized teaching, and getting ready to enter the next grade school. The evangelic mission of a Catholic school is completed by religious education, which contains both "software and hardware environments". The "hardware" is things like the cross on campus, statues of religious people, symbols of religion, and a church, that can help both teachers and students feel spiritual peace. On the other hand, the "software" is, for example, the content of ethics courses, which can also help students to develop and conforming to spiritual goals in both body and mind (Lee & Lin, 2001). In addition, although many religious activities can be taken part in at one's will, all of the school members should join in special celebrations, so that they all know some basic Catholic creed and ceremonies. Catholic school usually cultivate students with universal love through religious ceremonies or classes, but it comes secondary if the students are or become Catholic because it depends on their personal life experience. It is essential to provide religious education. The holistic and religious education is part of the mission of Catholic schools.

### 2.3 *Principal's Leadership*

Principals are the CEO's of the school. They lead their school according to their individual character, leadership style, and managing philosophy (Lin, 2004). Leaders have their own styles; some are strong, have foresight, clear ideas, and vision, which use rewards and punishments to encourage subordinates. Some of them trust their subordinates and fully delegate as appropriate. Some are pragmatic leaders who use other methods to motivate their subordinates and manage precisely. Nevertheless, of these styles all are models that directly manage others (Wu, 2011). Principals as leaders, play different roles depending on the situation, as the manager, the healer, the porter, the creator or the actor (Wu, 2011). They use their authority to influence the trustees, teachers, staff, students, parents and communities to accomplish the goals of the school (Hung, 2006).

### 2.4 *Servant Leadership*

Leadership is indeed the key to sustainability of any organization. Servant leadership is a form of leadership proposed by Greenleaf in the 1970s. The main theory is that the leader always has a desire to serve others with enthusiasm (Lin, 2004). The servant leaders are dedicated to serving others, based on their conscious choice. When they lead others, they always put others' needs above what would benefit the organization. Through this leadership style, the people led become healthier, more intelligent, freer, more independent, and more willing to serve others (Greenleaf, 1977, p. 13-14). The core value of servant leadership comes from the Bible story of Jesus washing his disciples' feet and is the closest leadership style to the spirit of Catholic education. In this study, the researcher included this concept to analyze the behavior of principals of Catholic schools (Lin, 2004).

### 2.5 *School Culture*

Schein (1992, 1985) offers a recognized definition of culture. It is a pattern of shared basic assumptions that a group has learned over the course of time through solving problems that has been shown to work well and proven to be valid enough to be taught to those new to the organization as the correct way to perceive, think, and feel in relation to those problems. Culture affects the way organizations operate, and it affects the way members of organizations do their work. Melrose (1995) suggests that culture "tells people *how* to do *what* they do, and it determines *how well* they do it" (p. 286). Schein (1985) and Deal and Peterson (1990) suggest that school cultures are networks of traditions and rituals that have developed over time as teachers, administrators, students, and parents work together to solve problems and celebrate accomplishments.

## 3. **Background literature**

The purpose of this study was to determine if there are differences between clergy run and lay run schools and how the relationships among principal servant leadership, Catholic school mission and school culture of Catholic middle schools in Taiwan play out. Catholic schools play an important role in Taiwan society. School principals are expected to understand various aspects of educational administration and know how to deal with curriculum, assessment, instruction, resource allocation, legal issues, personnel concerns, professional development, student services, and more (Hoy & Miskel, 1996). In addition to a strong knowledge base and background, principals are expected to effectively lead and efficiently manage their schools, while being sensitive and passionate about their schools and students (Deal & Peterson, 1999; Fullan, 2001). In Catholic schools, principals are expected to have religious sensitivities in leading the schools. Sergiovanni (2006) suggests that servant leadership well defines the role of the school principal.

Several studies have demonstrated the effect of principal leadership on school culture (e.g., Lucas, 2001; Miles, 2002; Schooley, 2005; Valentine, 2001). The focus of the current study was to explore the effect of leadership styles in Catholic schools. This chapter summarizes data from existing literature relating to Catholic middle schools in Taiwan, servant leadership, and school culture.

### 3.1 Catholic School Mission Assessment Instrument

The assessment developed by Rentner (2010) is based mainly on Catholic educational values. There are three main dimensions of Catholic educational values in his assessment process. They are holistic education, leader's model and evangelization. But the leader's model is almost the same function as the servant leadership assessment. The researcher only used the two parts, holistic education and evangelization, in his research with his assessment instrument composed of 17 questions.

The key traits associated with this theory from the perspective of the major theorists are summarized in Table 1.

**Table 1**

*Summary of Traits associated with Servant Leadership in the Key Theories (Hsu, 2011)*

Date/ Researcher	Traits
1977 Greenleaf	Listen, imagination, acceptance, empathy, dreams, contemplate, integrity, vision, cognition and comprehension, wisdom, persuasive, conceptualization, heal and serve
1991 Schwartz	Comprehension, participant, offer directions, create environment, make the right decision, brave, encourage every staff to join in
1998 Spears	Listen, empathy, heal, perception, persuasive, vision, service/management, promise, sociable
2004 Hunter	Durability, kind, humility, respect, selfless, forgiveness, honesty, trustworthy
1999 Laub	Value, growth, sociable, share leadership, offer leadership
2000 Pang & Wong	Serve members with honesty and humility; care and help members with their development. Put emphasis on technical and leading ability, such as vision, set up a goal and project at work. Share the program, build up teamwork and search for common interest in the leading progress
2001 Russell	Vision, liable, trust, service, norm, creativity, cherish, assign
2002 Russell & Stone	Functionality traits: vision, honesty, integrity, trust, serve, demonstrate, pioneer, appreciate, assign Following traits: communication, trust, management, amiable, influence, persuasive, listen, courage, assign
2003 Patterson	Agape love, humility, altruism, vision, trust, assign, persuasive
2008 Sendjaya, Sarros, & Santora	Voluntary concede: become servant, serve Truly be yourself: humble, integrity, responsible, security acceptance, useful, fair Cooperation: moral responsible and action to match words with deeds Transformed influence: vision, role model, teaching, trust, assign

### 3.2 Servant Leadership Assessment Instrument

The assessment process set up by Dennis and Bocarnea (2005) is based mainly on the servant leader theory of Patterson (2003). Their study was based on eight dimensions of servant leadership found and developed into a quantitative instrument to measure characteristics of servant leadership from the perspective of the follower, such as love, humility, vision and trust of the leader. After some revisions, the assessment instrument was finally composed of 42 questions. This current study is mainly based on Dennis and Bocarnea's assessment model.

The seven constructs of servant leadership outlined by Patterson (2003) include (1) Agape love, (2) humility, (3) altruism, (4) vision, (5) trust, (6) empowerment, and (7) service. Dennis and Bocarnea's (2005) study yielded Cronbach's alpha scores for four of the constructs: Agape love, humility, vision, and empowerment. The service construct loaded with only one item, and the trust construct loaded with two items, thus neither was included as factors because a Cronbach's alpha needs at least three items to be considered a factor (Dennis & Bocarnea, 2005).

**Agape Love** – refers to the degree to which a servant leader demonstrates love in a social and moral sense. The servant leader demonstrates meaning and purpose on the job where the employee has the ability to realize

his or her full potential as a person and feels like he or she is associated with a good and/or ethical organization. It is also the degree to which the servant leader is emotionally, physically, and spiritually present for the followers. The servant leader is forgiving, teachable, shows concern for others, is calm during times of chaos, strives to do what is right for the organization, honors people, has a genuine interest in others, and has integrity (Dennis, 2004).

**Empowerment** – is the degree to which a servant leader empowers information to others: positive emotional support, actual experience of task mastery, observing models of success, and words of encouragement. The servant leader allows for employee self-direction. Leaders encourage professional growth. The leader lets people do their jobs by enabling them to learn (Dennis, 2004).

**Humility** – is the degree to which a servant leader keeps his or her own accomplishments and talents in perspective, which includes self-acceptance, and further includes the idea of true humility as not being self-focused but rather focused on others. The servant leader does not overestimate his or her own merits, talks more about employees' accomplishments rather than his or her own, is not interested in self-glorification, does not center attention on his or her accomplishments, is humble enough to consult others to gain further information and perspective, and has a humble demeanor (Dennis, 2004).

**Vision** – this refers to the degree to which a servant leader incorporates the participation of all involved players in creating a shared vision for the organization. The servant leader seeks others' visions for the organization, demonstrates that he or she wants to include employees' visions into the organization's goals and objectives, seeks commitment concerning the shared vision of the organization, encourages participation in creating a shared vision, and has a written expression of the vision of the organization (Dennis, 2004). There are still only a few studies about servant leaders. The followings section describes some related studies for Taiwan. The objects of research on servant leaders almost are teachers or administrators in school.

**Altruism** – is defined to help others selflessly just for the sake of helping, which involves his/her sacrifice with no personal gain (Patterson, 2003). Altruism means behavior directed toward others, no external reward, and voluntary action (Monroe, 2002). It also involves going against his/her own interest to satisfy the needs of others. Altruistic behavior is intended to benefit another and is not motivated by the expectation of external reward.

**Trust** – this refers to the degree to which servant leaders are confident in or reliance on another team members, and at the same time, servant leaders help their followers toward self-actualization by trusting them. Followers are more likely to follow a leader whose behaviors are consistent and trustworthy and who can connect with their aspirations (Kouzes & Posner, 1993). The values of integrity and honesty establish interpersonal and organizational trust and lead to credibility. This trust appears to be essential in servant leadership (Story, 2002).

**Service** – means giving of his/her personal involvement and authenticity, means giving time, energy, care, compassion, and perhaps even one's belongings. (Swindoll, 1981). The act of serving includes a mission of responsibility to others; people are accountable to those they serve, whether they serve customers or subordinates (Greenleaf, 1996). The servant leader sees his or her role to the follower as one of providing the follower with what the follower needs for accomplishing his/her task.

According to the research finding, servant leaders positively influence the members and organizations by promoting employee job satisfaction (Lin, 2007, Lai, 2005) and enhancing employee trust in the organization (Li, 2009). Most of the research regarding the status of "Servant Leadership" is that it is typical of most leaders (Lin, 2009; Ho, 2007; Lin, 2009; Huang, 2008; Su, 2008). However, male employees scored higher on servant leadership measures than female employees (Lin, 2009; Lin, 2009; Yu, 2009; Huang, 2008; Su, 2008; Chuan, 2008; Liou, 2007). There is no significant difference between the male employees' perceptions and those of the female employees (Ho, 2007; Lin, 2009; Chang, 2009; Lai, 2005; Zheng, 2008). Age made no difference among

the employees (Lin, 2009; Lin, 2009; Yu, 2009; Ho, 2007; Su, 2008; Chuan, 2008; Liou, 2007). For work experience employees with longer working experience perceive it servant leadership more positively in some studies, (Lin, 2009; Yau, 2008; Lai, 2005; Chuan, 2008; Zheng, 2008), but not in other studies (Lin, 2009; Chang, 2009; Lai, 2005; Liou, 2007).

“Servant Leadership” is based on beliefs and a sense of value. Through “Love”, people are willing to accompany others, to act altruistically, and to empower others with “Trust”. All these actions help to make the followers perceive “Servant Leadership” positively. The behavior of “Servant Leadership” has a positive influence on the culture of the organization and the mission of the schools.

### 3.3 School Culture Assessment Instruments

Gruenert and Valentine (1998) studied the concepts of school culture found in the literature and developed a quantitative instrument to measure characteristics of school culture at the school level. It was initially administered to 632 teachers in the state of Missouri and factor analysis revealed six dimensions of school culture. The School Culture Survey provides insight about the shared values/beliefs, the patterns of behavior, and the relationships in the school. Each of the factor measures a unique aspect of the school’s collaborative culture (Gruenert & Valentine, 1998). These aspects are:

**Professional Development** - The degree to which teachers value continuous personal development and school-wide improvement; and teachers seek ideas from seminars, colleagues, organizations, and other professional sources to maintain current knowledge, particularly current knowledge about instructional practices (Gruenert, 1998). Professional development (Chronbach  $\alpha = .867$ ) was the third factor of school culture and indicates the degree to which teachers valued continuous individual professional development as well as school improvement (Gruenert, 1998). Included in this dimension were behaviors that led to teachers seeking ideas from seminars, colleagues, organizations, and other professional sources in order to maintain current in best practice knowledge, specifically about instructional practices. A reciprocal, supportive relationship existed between individual and organizational growth.

**Teacher Collaboration** - The degree to which teachers engage in constructive dialogue that furthers the educational vision of the school; teachers across the school plan together, observe and discuss teaching practices, evaluate programs, and develop an awareness of the practices and programs of other teachers (Gruenert, 1998). Teacher collaboration (Chronbach  $\alpha = .834$ ) describes the degree to which teachers engaged in meaningful dialogue with colleagues to support the school’s vision (Gruenert, 1998). Components of this factor of school culture include collegial planning time, peer observations, collegial dialogue of teaching practices and evaluation of programs.

**Unity of Purpose** - The degrees to which teachers work toward a common mission for the school; and teachers understand, support, and perform in accordance with that mission (Gruenert, 1998). Unity of purpose (Chronbach  $\alpha = .821$ ) was the fourth factor of school culture and describes the level at which teachers worked together to achieve the school’s agreed upon mission (Gruenert, 1998). Teachers that knew the mission of the school were those who understood, supported, and performed in accordance with the mission.

**Collaborative Leadership** - Collaborative leadership is the degree to which school leaders establish and maintain collaborative relationships with school staff. The leaders’ value teachers’ ideas, seek their input, engage them in decision-making, and trust their professional judgments. School leaders’ support and reward risk-taking, innovation, and sharing of ideas and practices (Gruenert, 1998). Collaborative leadership (Chronbach  $\alpha = .910$ ) was identified as the first factor and indicates the degree to which school leaders establish and maintain collaborative relationships with school staff (Gruenert, 1998). Valuing teachers’ ideas, seeking their input, and engaging them in school decision-making were valuable characteristics of this dimension of school culture. Administrators trusted the professional judgment of teachers and supported risk taking, innovation, and sharing of ideas and practices.

**Collegial Support** - The degree to which teachers work together effectively, trust each other and value each other's ideas, and assist each other as they work to accomplish the tasks of the school organization (Gruenert, 1998). Collegial support (Chronbach  $\alpha = .796$ ), which indicates the extent to which teachers effectively worked together (Gruenert, 1998). In this dimension of school culture, teachers trust each other, value each other's opinions and ideas, and work together to accomplish the work of the school.

**Learning Partnership** - The degree to which teachers, parents, and students work together for the common good of the student; parents and teachers share common expectations and communicate frequently about student performance; parents trust teachers; and students generally accept responsibility for their schooling (Gruenert, 1998). Learning partnership (Chronbach  $\alpha = .658$ ) was the final factor of school culture and refers to the extent that teachers, parents, and students worked in concert to promote the well-being of the primary stakeholders, students (Gruenert, 1998). Parents and teachers formed a quality learning partnership where there were common expectations and frequent communication regarding student performance. There was generally a high level of trust between parents and teachers, and students accepted responsibility for their work.

#### 4. Methodology

The purpose of this study was to explore the religious and lay principals' leadership styles and school cultures in Catholic middle schools in Taiwan. Surveys were used to collect data that allowed for testing of the three research questions.

##### 4.1 Instrumentation

The survey consisted of three parts. The first part was used to compare the difference between religious and lay leadership in Catholic schools, the second one was used to compare the difference between the results for the religious and lay Catholic school missions, then to find the relationship and predictability of principal leadership style to the Catholic schools mission. The third part was used to compare the differences between the results of the religious and lay Catholic school cultures, then to find the relationship and predictability of principal leadership styles to school cultures in clergy and lay principal led schools. Finally, the survey allowed for the measurement of any correlation and predictions between servant leadership, Catholic school mission and school culture.

To compare the difference and to measure these relationships, each participant completed the "Servant-Leadership Assessment Questionnaire" (Dennis, 2005) and "School Culture Assessment Questionnaire" (Gruennet & Valentine, 2006) and "Catholic School values inventory" (Rentner, 2010). This inventory consisted of a booklet containing 94 statements on which respondents were asked to indicate their relative agreement on a five-point scales ranging from "strongly disagree" to "strongly agree". These questionnaires were available in Chinese. In addition, the questionnaire included requests for basic demographic data for the respondent and their respective schools.

The questionnaire had scales with alphas coefficients that were acceptable for experimental research. Dennis and Valentine had performed content validity tests on their questionnaire in different organizations within the field, and had found that their questionnaire adequately captured the responses of those surveyed. The reliability of this instrument had been verified by many studies (e.g., Herndon, 2006).

In this study, Principal servant-leadership questionnaire scale reflects the respondents' perception of school principals' servant-leadership. A 5-point Likert scale, which is divided into five points between "strongly agree" into "strongly disagree" (1 = strongly disagree and 5 = strongly agree), was used. While school culture scale is based on Valentine (2006) "School culture Questionnaire". The scale reflects the respondents' perception of school culture. A 5-point Likert scale, from five "strongly agree" to "strongly disagree" (1= strongly disagree and 5= extremely agree), was used. Lastly, the Catholic schools values scale is based on the Rentner (2010) scale. The scale reflects the respondents' perception of Catholic schools mission. A 5-point Likert scale, from "strongly



agree” to “strongly disagree” (1= strongly disagree and 5= extremely agree).

#### 4.2 The Reliability Analysis

The reliability of the *Principal’s Servant-Leadership Scale* was computed using the SPSS software. The scale for reliability using the Cronbach  $\alpha$  test results is shown in Table 2. The overall reliability was 0.973. The reliability of each dimension ranged between 0.930 to 0.945 which are all higher than 0.80, indicating the scale's internal consistency and reliability.

**Table 2**

*The Reliability of the Principal’s Servant-Leadership Scale*

Dimension	Cronbach's Alpha
Agape love	0.942
Empowerment	0.942
Vision	0.926
Humanity	0.937
Trust	0.945
Altruistic	0.930
Service	0.945

*School Culture Scale Reliability Analysis* - The scale for reliability parts using the Cronbach  $\alpha$  test results is shown in Table 3. The overall reliability was 0.973. The reliability of each dimension falls from 0.7771 to 0.940 with the results higher than 0.80; indicating the scale's internal consistency and reliability.

**Table 3**

*The Reliability of “School Culture”*

Dimension	Cronbach's Alpha
Cooperative leadership	0.940
Teachers’ co-operation	0.876
Professional development	0.830
Unity for common goal	0.888
Colleagues’ mutual support	0.836
Learning partners	0.771

*Catholic Schools Value Scale Reliability Analysis* - The scale for reliability using the Cronbach  $\alpha$  test results shows an overall reliability of 0.943 which is higher than 0.80, indicating the scale's internal consistency and reliability.

#### 4.3 Sample Participants

The initial goal was to survey 23 Catholic middle schools in Taiwan with 1686 teachers and staff. The sample in this study represented a variety of geographic regions in four different parts in Taiwan and schools founded by different Catholic dioceses or religious Congregations. Of those surveyed, 1239 completed the survey for a return rate of 73.5%. The demographics of the respondents are presented for the teacher, the principal and the schools.

In terms of gender and age, 35% of the respondents were male and 65% were female, 34% were under 35 years old, and 32% were 36~45 years, 34% were older that 45years. In terms of their position in the schools, 19% were administrators, 64% teachers, and 17% staff. In terms of the length of service in a Catholic school, 26%, had served less than 5 years, 23%, had served between 6 and 10 years, 16% had served between 11 and 15 years, 24% had served between 16 and 25 years, and 11% had served for more than 26years. In terms of teacher’s religion, 23% were Buddhist, 15% were Taoist, 17% were Catholics, 8% were other Christian denominations, and 37% had other religions or did not respond. Of the 23 principals 11 were male (48%) and 12

female (52%). Four of the principals identified themselves as being part of a religious order or 17% while the other 19 were lay principals or 83%. The school size varied with 27% having less than 40 classes, 40% having between 41 and 50 classes, and 33% having more than 51 classes.

#### *4.4 Procedure*

First the researcher randomly selected 23 Catholic middle schools from the 31 total schools, and called by telephone the 23 principals to get the permission to do this research in their schools. Next, the researcher went in person to these 23 schools, and placed an envelope to every teacher and staff's mailbox, which contained a letter explaining this project and inviting him/her to participate. The questionnaire was anonymous. The participant could give up at any time whenever he/she wanted. In addition, the envelope contained the questionnaires and pre-paid self-addressed envelope. The complete questionnaire had four parts: the first part was the biography including teacher's or staff members' gender, age, position, religion, service year, the principal's gender, position, religion, and the school size. The second part was leadership questionnaire, which was Dennis and Bocarnea (2005) questionnaire and contained 42 questions. The third part was the school culture questionnaire, which came from Valentine's study (2006) and contained 35 questions. The last part was the Catholic school mission scale (Rentner, 2010). This had 17 questions.

#### *4.5 Data analysis*

After the questionnaires were collected, the researcher analyzed the data collecting frequency distributions, percentages, means, standard deviations, and conducting t-tests, one-way ANOVA analyses and Pearson product moment correlations. Data analysis for the remaining survey items was organized by research question.

The following research questions guided this study: Question 1: "What differences, any, are there between the servant leadership styles of religious versus lay leaders in Catholic middle schools in Taiwan?" "This research question was analyzed using mean score analysis, standard deviations, t-value and p-value tests, for comparing the difference between the clergy and lay principal's leadership. This generated the first question that there would be a difference in perceptions of lay and religious principals' leadership styles.

Question 2: "What differences, if any, are there in the promotion of the Catholic school mission between religious versus lay leaders through servant leadership in Catholic middle schools in Taiwan?" Identical statistical analysis was utilized as for research question 1. The data were analyzed using mean score analysis, standard deviations, t-value and p-value test, for comparing the difference between the clergy and lay Catholic school mission, besides using correlation and regression for finding the relationship and prediction of servant leadership and Catholic school mission in clergy and lay schools. This generated the second question that Catholic School mission is perceived differently in lay principal led versus religious principal led schools.

Question 3: "What differences, if any, are there in the school cultures led by religious versus lay leaders through servant leadership in Catholic middle schools in Taiwan?" Identical statistical analysis was utilized as for research question 1 and 2. The data were analyzed using mean score analysis, standard deviations, t-value and p-value test, for comparing the difference between the clergy and lay Catholic school culture, besides using correlation and regression for finding the relationship and prediction of servant leadership and Catholic school culture in clergy and lay schools. This generated the third question that Catholic school culture is perceived differently in lay principal led versus religious principal led schools.

## **5. Results and discussions**

The purpose of this study was to investigate the differences in culture between the Catholic clergy principals' schools and Catholic lay principals' schools, and the analysis of the relationship between servant leadership, school culture, and Catholic school mission. The results and scores derived from the questionnaires used in this study and their implications will be discussed in this chapter. The perceptions of 233 administrators,

790 teachers, and 217 staff, of the degree to which the Principal's servant leadership style, Catholic school mission and school culture for 23 Catholic high schools in Taiwan is analyzed. This chapter provides an analysis of the data relative to each of the three research questions. The data analysis and statistical results related to each of the three research questions and theses are described in the following sections.

### 5.1 Question One

Statistical analysis of the data included calculating mean scores, standard deviations, t-value, and p-value for all survey items pertaining to servant leadership and the differences between religious and lay principals. A higher score represents a higher level of the existence of that perception. Table 4 presents perceptions of the schools principal's agape love, empowerment, vision, altruism, trust, service, and humility. As can be seen from the results presented in the table only humility, altruism and service were perceived as being different in the comparison of religious and lay principals. All of these differences were in the same direction indicating that religious leaders were perceived as having these traits more than lay leaders. All of the other factors showed no significant statistical differences.

In breaking down the data and looking at teacher's perceptions of the principal's empowerment, vision, and trust by gender female teachers viewed principals as showing more agape love ( $t = 2.21, p < .05$ ), having more humility ( $t = 4.15, p < .01$ ) greater altruism ( $t = 4.29, p < .01$ ) and service ( $t = 3.85, p < .01$ ). There were no significant differences on any of the dimensions for male teachers. If the data is looked at from the perspective of age groups then those under 35 see the religious principals as showing more agape love ( $t = 2.70, p < .05$ ) and more humility ( $t = 4.46, p < .01$ ). Those between 36 and 45 see the religious principals showing greater altruism ( $t = 2.34, p < .05$ ) and service ( $t = 2.69, p < .05$ ). Thus, Question 1 is only partially supported for some of the dimensions of servant leadership especially by female teachers.

**Table 4**

*The Analysis of Servant Leadership in Clergy Schools and Lay Schools from Different Dimensions*

Dimension		Religious Principal	Lay Principal	t-Value, df = 21
Agape Love	Mean	3.80	3.70	1.62
	SD	0.81	0.81	
Empowerment	Mean	3.54	3.54	-0.31
	SD	0.82	0.81	
Vision	Mean	3.45	3.47	-0.41
	SD	0.80	0.82	
Humility	Mean	3.83	3.57	3.87*
	SD	0.85	0.86	
Trust	Mean	3.68	3.64	0.47
	SD	0.87	0.85	
Altruism	Mean	3.85	3.63	3.57*
	SD	0.80	0.81	
Service	Mean	4.02	3.81	3.28*
	SD	0.85	0.81	

Note. \*  $p < .05$

**Table 5**

*The Dimension Correlation Analysis of Servant Leadership Factors*

Factors	Agape love	empowerment	vision	humility	trust	altruism	service
Agape love	1						
empowerment	.897**	1					
vision	.848**	.884**	1				
humility	.891**	.856**	.819**	1			
trust	.934**	.910**	.846**	.896**	1		
altruism	.922**	.880**	.852**	.930**	.909**	1	
service	.896**	.839**	.819**	.907**	.882**	.921**	1

Table 5 shows the inter-correlations of the various factors that make up servant leadership and the values indicate that there is a very strong relationship between the factors and suggests an internal consistency for the concept of servant leadership.

## 5.2 Question Two

Statistical analysis of the data included calculating mean scores, standard deviations, t-value and p-value for all survey items pertaining to school mission and the differences between religious and lay principals. A higher score represents a higher level of the existence of that perception of the school mission. The data analysis compared every measured dimension of the Catholic school mission comparing religious and lay principals. The higher the mean score, the greater the agreement that that individual dimension is more evident in the school. In addition, correlations and regression were used to find the relationship between various factors and predicting whether servant leadership promotes Catholic school mission.

There were no significant differences found on any of the dimensions of school mission; when the lay and religious principals were compared. Thus, Holistic education and evangelization were seen as equivalent whether the principal was from a religious order or a lay principal. A more detailed analysis indicated that teacher gender had no effect on these perceptions. However, perceptions of holistic education were perceived as being higher by those over 46 years of age and older ( $t = 4.11, p < .05$ ) but lower by those under 26 years old ( $t = -2.12, p < .05$ ). All of the scores were around four out of five or better indicating that the mission in all of the schools studied was seen as being supported. These results do not offer support for the second question. In this case no difference can be seen as a positive outcome from the school's perspective since having a lay principal did not reduce adherence to the Catholic School mission.

**Relationships between Servant Leadership, Predication and Catholic School Mission** - The second aspect of Question two included correlation analysis and regression to see whether principal servant leadership relates to and predicts adherence to Catholic school mission in both religious and lay school principals' behavior.

**The Correlation Analysis between Servant Leadership and Catholic School Mission** - Table 6 includes the correlation values for each of the aspects of servant leadership with the two aspects of Catholic School Mission.

**Table 6**

*The Correlation Analysis between Servant Leadership and Catholic School Mission*

	Agape love	empowerment	vision	humility	trust	altruism	service
Holistic education	.74**	.7**	.73**	.77**	.74**	.78**	.77**
Evangelization	.51**	.5**	.54**	.5**	.5**	.56**	.5**

Note. \*\*  $p < .01$

The correlation coefficients ranged from 0.5 to 0.78 on all dimensions of the relationship between servant leadership and Catholic school mission. The higher significant positive correlation, the higher the score of servant leadership and the respective fields of various dimensions as well as other dimensions score. The highest range is 0.78 the dimension of altruism to the dimension of holistic education. It is interesting to note that all the correlations of the factors of servant leadership were above 0.7 for holistic education. On the other hand, although they were equally statistically significant all of the correlations were between 0.5 and 0.56. The results suggest that while both holistic education and evangelization are important concepts for all principals to uphold in Catholic schools holistic education appears to be more important than evangelization.

**Prediction of Servant Leadership Impact on Catholic School Mission Implementation** - This analysis used regression analysis to explore the predictability of servant leadership on the Catholic school mission. The results show a significant trend ( $p$ -value = .00;  $F = 187.66$ ), which indicates that at least one dimension of servant

leadership on Catholic school mission implementation was significant. Using a stepwise multiple regression analysis to find out which of the dimensions of servant leadership impacted Catholic school mission implementation yielded the predictive power values as listed in Table 7.

**Table 7**

*Regression Analysis of Servant Leadership Predicting School Mission Implementation*

Model	unstandardized coefficients		t	p-value	VIF	R	R <sup>2</sup>	ΔR <sup>2</sup>	F
	β	Std. Error							
Constant	2.15	.07	33.26	.000					
Vision	.21	.03	6.52	.000	4.06	.64 <sup>a</sup>	.41	.41	714.82
Service	.14	.04	3.51	.000	5.69	.66 <sup>b</sup>	.44	.03	56.29
Agape love	.14	.04	3.44	.001	6.43	.67 <sup>c</sup>	.45	.01	11.83

Regression analysis of multi-collinearity diagnosis VIF (Variance Inflation Factor,) was between 4.06 and 6.43, less than 10, indicating that multi-collinearity situation is not serious. There are three dimensions of the servant leadership that are predictive of implementing Catholic school mission. They are vision, service and agape love. The total variance within the three variables was 44.6%, vision was 40.9%, service was 3.1% and agape love only provided an increase of 0.6%. The regression coefficients β for these three variables were positive, so it can be predicted that the scores on vision, service and agape love will be higher with higher the scores on Catholic school mission. Thus, agape love is relevant when trying to realize the core mission of holistic education. To study the prediction from servant leadership to catholic school mission, vision is the most important factor. Lay principal need to have a vision and be able to share the vision, in order for the school to realize the core mission. Lay principals should demonstrate agape love in spirituality and to work with school members to have vision and to share vision.

### 5.3 Question Three

This question stated that Catholic School cultures are perceived differently in lay principal led versus religious principal led schools. Statistical analysis of the data included calculating mean scores, standard deviations, t-value, and p-value for all survey items pertaining to school culture and the differences between religious and lay principals. A higher score represents a higher level of the existence of that perception of the school culture. The data analysis compared every measured dimension of the Catholic school culture comparing religious and lay principals. The higher the mean score, the greater the agreement that that individual dimension is more evident in the school. In addition, correlations and regression were used to find the relationship between various factors and predicting whether servant leadership promotes Catholic school culture.

The key question was what differences, if any, are there in the school cultures led by religious versus lay leaders through servant leadership in Catholic middle schools in Taiwan? Table 8 presents teachers in lay school having higher perceptions of unity of purpose and learning partnership than those in clergy school but all other differences were not statistically significant. In order to see if gender had impact on perceptions of school culture the data was analyzed looking at gender as an independent variable. As can be seen from the results summarized in Table 10, only those with female religious principals saw learning partnership as statistically more important than any of the other variables. All other analyses yielded statistically non-significant results.

These results fail to support the question of a predicted difference between lay and religious leaders in their support and development of school culture on four of the six dimensions of school culture measured in this study. On these two factors, Unity of Purpose and learning partnership, the lay principals were seen as supporting these factors more than the religious school principals. Since Unity of purpose might be more closely tied to the Catholic mission, it might have been expected that the religious principals would score higher on this variable. However, this was not the case adding to the overall perception from the research that Lay principals are doing a good job of maintaining the Catholic nature of the university maybe even better than the religious school

principals.

**Table 8**

*Analysis of School Culture between Schools with Religious and lay Principals on the Different Dimensions of School Culture as Measured in this Study*

Dimension		Religious	Lay	t-Value
Unity of purpose	Mean	3.70	3.82	-2.24*
	SD	0.71	0.63	
Learning partnership	Mean	3.70	3.82	-2.61*
	SD	0.61	0.55	
Collegial support	Mean	3.73	3.81	-2.03
	SD	0.64	0.59	
Professional Development	Mean	3.85	3.91	-1.94
	SD	0.61	0.54	
Collaborative leadership	Mean	3.66	3.71	-1.87
	SD	0.71	0.67	
Teacher Collaboration	Mean	3.61	3.65	-1.07
	SD	0.74	0.61	

Note. \* p<0.05

**Table 9**

*Analysis of School Culture between Schools with Religious and Lay Principals on the Different Dimensions of School Culture as Measured by Gender*

Dimension	Gender	Principal	Mean	SD	t-value
Collaborative leadership	Male	Religious	3.67	0.68	-0.55
		Lay	3.72	0.68	
	Female	Religious	3.65	0.72	-0.26
		Lay	3.67	0.66	
Teacher collaboration	Male	Religious	3.53	0.74	-1.51
		Lay	3.67	0.61	
	Female	Religious	3.66	0.73	.14
		Lay	3.65	0.61	
Professional development	Male	Religious	3.84	0.61	-.77
		Lay	3.91	0.6	
	Female	Religious	3.88	0.61	.16
		Lay	3.87	0.53	
Unity of purpose	Male	Religious	3.68	0.65	-1.67
		Lay	3.83	0.64	
	Female	Religious	3.71	0.73	-1.60
		Lay	3.81	0.62	
Collegial support	Male	Religious	3.716	0.596	-0.84
		Lay	3.792	0.605	
	Female	Religious	3.744	0.676	-1.31
		Lay	3.815	0.593	
Learning partnership	Male	Religious	3.678	0.574	-2.12*
		Lay	3.856	0.569	
	Female	Religious	3.711	0.622	-1.67
		Lay	3.802	0.534	

Note. \* p<0.05

Further analyses were computed to see if the length of time staff had been with the school had an impact on perceptions. In testing the data for all three hypotheses, while the occasional factor showed a statistical effect, there was no overall pattern consistency in the results. It is reasonable to assume that time working in the school had very little effect on perceptions of servant leadership, Catholic school mission and Catholic School Culture.

A comparison of administrator, teacher and staff perceptions yielded no statically significant findings for the

first two hypotheses but did show differences for the third question as shown in Table 10.

**Table 10**

*Analysis of School Culture from Different Employee Category Perspectives*

Dimension		Administrator	Teacher	Staff	F-Value	LSD
Collaborative Leadership	Mean	3.88	3.63	3.66	12.16*	A > T
	SD	0.60	0.69	0.68		A > S
Teacher collaboration	Mean	3.73	3.64	3.56	3.31*	A > T
	SD	0.60	0.63	0.67		A > S
Professional development	Mean	3.94	3.89	3.79	4.53*	A > T
	SD	0.53	0.54	0.61		A > S
Unity of Purpose	Mean	3.90	3.76	3.82	4.70*	A > S
	SD	0.60	0.64	0.67		
Learning Partnership	Mean	3.90	3.77	3.81	4.96*	A > T
	SD	0.54	0.55	0.60		

The results of the one-way ANOVA show that there were statistically significant differences on all variables included in the concept of culture except collegial support. Post hoc tests indicated that the administrators perceived all the factors as greater than did the teachers and staff on the factors of Collaborative leadership, Teacher coloration, and professional development. In addition, the administrators score higher than staff for unity of purpose and higher than teachers for learning partnership. This consistency of higher scores in the perceptions is perhaps not that surprising since administrators may be positively rating their own behavior which is more critical in maintaining culture than those respondents in either the teacher or staff groups. In looking at the perceptions of the Principals role in maintaining the Catholic school culture by gender on all six factors the female principals scored higher than the male principals. These results are presented in Table 11. Although no direct comparison was undertaken it appears that gender may be more important than religious or lay factors in perceptions of Catholic School culture being maintained. Given the small number of principals and the even smaller number of principals by gender and lay or religious any conclusions should be viewed as tentative at best since with such small numbers it is much more likely that the results are reflecting individual rather than gender or vocation factors.

**Table 11**

*Analysis of School Culture Perceptions Compared for Principal's Gender*

Dimension		Male	Female	t-Value
Collaborative Leadership	Mean	3.56	3.80	-6.37*
	SD	0.67	0.67	
Teacher Collaboration	Mean	3.51	3.78	-7.88*
	SD	0.60	0.63	
Professional Development	Mean	3.76	3.99	-7.32*
	SD	0.54	0.55	
Unity of Purpose	Mean	3.70	3.89	-5.33*
	SD	0.65	0.63	
Collegial Support	Mean	3.68	3.91	-6.74*
	SD	0.60	0.60	
Learning Partnership	Mean	3.75	3.85	-3.18*
	SD	0.56	0.56	

Note. \* $p < .05$

Data on school size was also analyzed for all three questions but there were few consistent patterns although the medium sized schools were more likely to score higher on the perceptions. However, given the small number of schools in each category studied these results need to be considered in the context of very small sample sizes. Finally, the stated religious background of the staff was analyzed and no consistent patterns emerged. In general, it can be concluded that the religious background of the administrators, teachers and other staff had little or no impact on their perceptions as tested in the three questions.

#### 5.4 Correlation and Regression Analyses

The correlation analysis between servant leadership and school culture using the Pearson correlation analysis was conducted and resulted in the data as presented in Table 12.

**Table 12**

*Correlation Analysis between Servant Leadership and School Culture Variables*

Factors	Agape love	Empowerment	Vision	Humility	Trust	Altruism	Service
Collaborative leadership	.83**	.85**	.82**	.85**	.83**	.82**	.81**
Teacher collaboration	.78**	.78**	.72**	.80**	.78**	.78**	.74**
Professional development	.72**	.71**	.67**	.73**	.71**	.73**	.71**
Unity of purpose	.74**	.75**	.76**	.77**	.75**	.75**	.76**
Collegial support	.65**	.67**	.61**	.66**	.65**	.63**	.62**
Learning partnership	.69**	.71**	.70**	.67**	.72**	.67**	.66**

Note. \*\* $p < 0.01$  (two-tailed), significantly

The correlation coefficients ranged from 0.61 to 0.85. The higher the significant positive correlation, the higher the relationship between servant leadership and the respective fields of various dimensions as well as other dimensions score. The highest correlation was 0.850 for relationship of humanity with collaborative leadership. It appears that Servant leadership is positively related to School culture across the broad spectrum of variables for each factor considered.

#### 5.5 The Predictive Factors of Servant Leadership for School Culture

A regression analysis exploring the predictive impact of servant leadership factors on school culture, the results show that they are significant ( $p = .00$ ;  $F = 151.89$ ), which indicates that at least one dimension of servant leadership's impact on school culture is significant. Using stepwise multiple regression analysis to find the critical dimensions of servant leadership and school culture yielded the results presented in Table 13.

**Table 13**

*Regression Analysis of Servant Leadership Predicting and School Culture*

Model	unstandardized coefficients		t	p-value	VIF	R	R <sup>2</sup>	$\Delta R^2$	F
	$\beta$	Std. Error							
Constant	1.1	.11	9.93	.00					
Humility	.22	.07	2.98	.00	7.53	.83 <sup>a</sup>	.69	.691	455.71
Empowerment	.24	.07	3.67	.00	5.7	.86 <sup>b</sup>	.74	.049	38.27
Service	.13	.06	2.06	.04	5.62	.86 <sup>c</sup>	.75	.007	5.18
Vision	.12	.06	2.03	.04	4.62	.87 <sup>d</sup>	.75	.005	4.11

The regression analysis of multi-collinearity diagnosis VIF (Variance Inflation Factor,) were between 4.62 and 7.53, which are all less than 10 indicating that multi-collinearity situation is not serious. There are four dimensions of the servant leadership can predict school culture. They are humility, empowerment, service and vision. The total variance for the four variables was 75.1%; humility was 69.1%, empowerment was 4.9% increase in predictive power, while service and vision only predicted an increase of 1.1%. The regression coefficient  $\beta$  of these four variables were positive, so we can predict that the scores of humility, empowerment, service and vision are greater when the scores for school culture are greater. The results indicate that humility is a key factor in religious leadership and humility is predictive of collaborative leadership in school culture in particular. Besides, humility creates collaborative leadership and thus a better Catholic school culture.



The results of this study indicate that the lay principals create a Catholic school culture through demonstrating agape love. Staff tends to have a better perception of lay principal characters as empowerment, trust and vision. The aspects of servant leadership that impact the Catholic school mission and culture, is rooted in the presence of a clear vision. Lay principals need to have a vision and to be able to share the vision, in order to ensure school members could cooperate to achieve the culture and mission. There do appear to be differences between religious and lay leaders. For religious principals humility is the key to successfully working with others, because then they can create a collaborative leadership school culture, and can predicate a better catholic school culture. For lay leaders, they should use agape love as spirituality and work with others with a clear vision in order to create the Catholic school culture.

Based on the results from this study, when religious principals demonstrate altruism and humility, there will be a strong holistic education and school culture, and the fulfillment of the mission of Catholic education. When principals follow the path of the meek Jesus, they always have a spiritually humble, thoughtful, altruistic attitude. All school members will do their best to realize the holistic education and form a unity of purpose for the culture in the school. Meanwhile lay principals, who demonstrate agape love, will also create holistic education and a positive school culture.

## 6. Conclusions

The results from testing the three hypotheses were that there was little support for any of them. The differences between schools with religious and lay principals did not tend to exist to any significant extent. The lack of a statistical difference indicates that currently the culture and mission of the schools' studied were consistent whether the principal was a member of a religious order or not. The relationships and differences that were found provide some interesting findings and point to the need for different strategies that will help maintain the catholic identity of the middle schools.

In schools with principals from a religious order, the altruism factor of servant leadership was the most highly correlated factor when matched with holistic education as an element of the Catholic school mission. It appears that altruism is a key and necessary factor in the principal's behavior if the Catholic school mission is to be maintained. The humanity aspect of servant leadership was the most highly correlated factor with collaborative leadership. This indicates that collaborative leadership is strongly related to the maintenance of the Catholic school culture. School staff appear to need to perceive the religious leaders showing humility, thus intimating Jesus, to be with Him and like Him to be selfless, empathetic and humble in order to achieve the goals of school though holistic education.

For lay school principals, the agape love factor of servant leadership was the most highly correlated factor with the holistic education aspect of the Catholic school mission. It is vision can predict Catholic school mission. The factors agape love and vision of servant leadership has the highest correlated scores with the factor collaborative leadership of school culture. School members have a high desire that a lay principal will lead them through love without conditions and not just for achieving goals. School members want and need to know the principal's vision for the school. The lay principal needs to emphasize member participation in order to fulfill the vision and guide the school with a clear sense of direction to face the challenge from the new educational environment. Thus, the whole school should embrace the mission of a Catholic school and create a better school culture.

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