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**RELATIONSHIP AMONG SUPERVISORS' TRANSFORMATIONAL AND
TRANSACTIONAL LEADERSHIP STYLES, AND TEACHERS'
JOB SATISFACTION IN TAIWAN HIGHER EDUCATION**

Dissertation

Presented in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

Lynn University

By

Chi-Ling Sung

Lynn University

2007

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ACKNOWLEDGMENTS

This dissertation could not have been completed with the help of many people. I would like to express appreciation to the many people who have inspired and assisted me in the preparation of this dissertation. First, I extend my deepest appreciation to my committee Chair, Dr. William Leary, for his patient and proficient guidance. He has devoted a great deal of time to helping me go through the dissertation process, and has offered his suggestions, guidance, and support. Then, I would like to thank my dearest committee members, Dr. Leah Kinniburgh and Dr. Debra Ainbinder. Dr. Kinniburgh has given me continuous encouragement and provided me with invaluable suggestions. Dr. Ainbinder was patient and took the time to help me with research methods and statistics. Furthermore, a special thanks goes to Dr. Scialli, a coordinator of PhD program, who shared her expertise in research methods and statistics in research design classes. My dissertation would not have been completed without her professional instruction and continuous encouragement.

I thank my family, my wonderful parents and parents in law who supported me financially and educated me to the highest level. Also, I would like to express my deepest thanks for my husband, Yen-Chu Chen (Mark), who supported me all the time, gave me a ton of encouragement, and took care of our son without any complaint. To my son, Ethan Chen, I express my love and gratitude for his patience when I was not able to be with him.

Finally, I thank these Taiwan higher education teachers who participated in my survey so that I could finish my study.

**RELATIONSHIP AMONG SUPERVISORS' TRANSFORMATIONAL AND
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JOB SATISFACTION IN TAIWAN HIGHER EDUCATION**

Chi-Ling Sung

Abstract

This study examined the influence of supervisors' transformational and transactional leadership styles on job satisfaction of college and university in Taiwan. The purpose of this study was to examine the relationship between supervisors' transformational and transactional leadership styles, and the satisfaction of Taiwan's higher education instructors. The number of teachers at the university level in Taiwan rose 36.8% from 1951 to 2004; therefore faculty job satisfaction is an important issue. Schools want to keep their faculty and reputation to maintain a competitive edge. This non-experimental, quantitative, explanatory correlation and explanatory comparative survey research explores the relationship between supervisors' transformational and transactional leadership styles and the job satisfaction of Taiwan's college and university faculty.

This study utilized two questionnaires and five demographic and work profiles. The two questionnaires were: The transformational leadership and transactional leadership of the MLQ-5x short-form developed by Bass and Avolio (1995), and Teacher Job Satisfaction Questionnaire (TJSQ) developed by Lester (1984). In this study, 500 full-time teachers in Taiwan higher education were randomly selected. These questionnaires were mailed to them along with an introduction letter and a consent form.

One hundred and fifty-seven of the 500 survey instruments were returned, yielding a return rate of 31%. Thirty were excluded, leaving 127 valid-survey instruments. The data were analyzed using the statistical software program SPSS12.0. Data analysis consisted of descriptive statistics, exploratory factor analysis, independent *t*-test and multiple regression analysis.

The study found that teachers who perceived transformational leadership were the most satisfied with their jobs. In contrast, teachers who perceived transactional leadership reported less job satisfaction. In addition, Taiwanese higher education teachers with the most teaching experience were the more satisfied. Teacher job satisfaction increased with years of teaching experience. This study was limited to the relationship between supervisors' transformational and transactional leadership styles, and teachers' job satisfaction in higher education institutions in Taiwan. Future studies should add laissez-faire leadership to the research questions and hypotheses.

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CHAPTER I

INTRODUCTION TO THE STUDY

Due to the recent cultural interest in knowledge and in acquiring a higher education, the educational system and environment in Taiwan have been rapidly changing as the number of colleges and universities in Taiwan has risen. According to the Taiwan Ministry of Education, Department of Statistics (2004), there were 162 junior colleges, colleges and universities in the country in 2004 (Ministry of Education, 2004). The number of university teachers in Taiwan rose 36.8% from 1951 to 2004 (Ministry of Education, 2004). Schools want to keep their faculty and reputation. Morrison, Jones and Fuller's study (as cited in Shieh, 2001) stated that to manage an organization effectively, leaders have to understand the social environment and realize the needs of employees. The fundamental elements in employees' effectiveness are leadership style and job satisfaction (Shieh, Mills & Waltz, 2001). This study examines the relationship between supervisors' transformational, or transactional leadership styles and teachers' job satisfaction.

Leadership can be transformational or transactional. Transformational leadership is based on trust and commitment between leaders and followers. Transformational leaders teach their employees the importance of job values and cultivate the employees' interest in a group or organization (Bass, 1985a; Yukl, 1989). Transactional leadership is based on a contingent reward system. It focuses on the rewards and punishments in return for followers' performance (Bass, 1985a). Bass (1999) stated that transactional leaders set reward good performance and provide constructive feedback.

To create a well-developed organizational leadership style, employee satisfaction should be considered. For higher education systems, teachers have been found in situations which caused satisfaction or dissatisfaction about their job. Satisfaction is closely related to motivation (Evans & Maas, 1969). The factors that Frederick Herzberg (1959) associated with job satisfaction were not associated with job dissatisfaction. Herzberg (1959) referred to the factors that caused job satisfaction as intrinsic factors, and the factors that caused job dissatisfaction as extrinsic factors. Those factors were not directly related to the job, but they affected short-and long-term job satisfaction and job dissatisfaction. According to Herzberg (1959) the primary job satisfiers were achievement, recognition, the work itself, responsibility and advancement. The primary sources of dissatisfaction were company policy, administration, supervision-technical, salary, interpersonal relations with supervisors and working conditions

Purpose

The primary purpose of this non-experimental, quantitative, explanatory correlation and explanatory comparative survey research is to explore the relationship between supervisors' leadership styles and teachers' job satisfaction in a Taiwan's colleges and universities. The specific purposes of this study are to:

1. Describe the personal characteristics of the Taiwanese college and university faculty, their perceptions of their supervisors' leadership styles, and their job satisfaction.
2. Explain the relationship between the higher education Taiwanese teacher's perceptions of the leadership style of supervisors and teacher job satisfaction.

3. Explain the relationship between personal characteristics of higher education Taiwanese teachers, perceptions of the leadership styles of supervisors and teacher job satisfaction.

Definition of Terms

Independent Variables

Transformational Leadership

Theoretical definition. “Transformational leaders are moral agents who focus themselves and others on achieving higher level missions and purposes in higher levels of commitment, trust, loyalty, and performance” (Avolio, 1999, p. 34). Transformational leadership focuses on “followers’ attitudes, beliefs, motivation, and confidence...from a lower to a higher plane or arousal and maturity” (Bass, 1985, p. xiii). Bass (1985) also defined transformational leaders as “transcending their own self-interest for the good of the group, organization, or country” (p. 15).

Operational definition. In this study, transformational leadership was measured by the Multifactor Leadership Questionnaire (MLQ 5x-short form) which was developed by Bass and Avolio (1995). The instrument was translated into Mandarin. The subscales are Idealized Influence (Attributed), Idealized Influence (Behaviors), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration. The Multifactor Leadership Questionnaire consists of five items (Appendix B). The followers described their supervisor’ leadership on each item using a frequency scale. Data analysis used SPSS and the result shows that transactional leadership style is significant to teacher job satisfaction.

Transactional Leadership

Theoretical definition. Transactional leadership consists of “agreements or contracts to achieve specific work objectives, discovering individuals’ capabilities, and specifying the compensation and rewards that can be expected upon successful completion of the tasks” (Bass & Avolio, 1997, p. 2). It “focuses on setting standards and either passively waiting for mistakes to occur before taking action...or...closely monitoring for the occurrence of any mistake” (Bass & Avolio, 1997, p. 2).

Operational definition. In this study, transactional leadership was measured by the Multifactor Leadership Questionnaire (MLQ 5x-short form) which was developed by Bass and Avolio (1995). The instrument was translated into Mandarin. The subscales are Contingent Reward (CR), Management-by-Exception (Active) (MBE-A), and Management-by-Exception (Passive) (MBE-P). The Multifactor Leadership Questionnaire consists of three items (Appendix B). The followers described their supervisors’ leadership on a frequency scale. Data analysis used SPSS and the result shows that transactional leadership style is significant to teacher job satisfaction.

Dependent Variables

Job Satisfaction

Theoretical definition. Job satisfaction is “the difference between the amount of some valued outcome that a person receives and the amount of the outcome he feels he should receive” (Porter et al., 1975, p. 53).

Operational definition. In this study, teachers’ job satisfaction was measured by the Teacher Job Satisfaction Questionnaire (TJSQ) which was developed by Lester (1984). The subscales were supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition. The Teacher Job Satisfaction Questionnaire consists of nine items (Appendix C). The followers described their supervisors’ leadership on a frequency scale. Data analysis used SPSS and the result shows that transactional leadership style is significant to teacher job satisfaction.

Justification

Since Taiwan’s higher education administrators want to keep their faculty and reputation, it is essential to understand what makes teachers happy. To manage an organization effectively, leaders have to understand the social environment and realize the needs of employees. The factors which influence employees’ effectiveness are leadership style and job satisfaction.

Teachers who work under transformational or transactional leaders can significantly influence job satisfaction. Teachers who perceived transformational leadership reported greater job satisfaction. Hence, understanding the way in which

transformational or transactional leadership influences teachers' job satisfaction is important to Taiwan's higher education system.

Many empirical studies have suggested that future studies of transformational leadership, transactional leadership and job satisfaction be examined in different organizations and countries. However, many studies have discussed related topics; no study explored the relationship among transformational, transactional leadership styles and teachers' job satisfaction in Taiwan higher education. Additionally, this study examined different levels of job satisfaction can be caused by differences in individual employees' personal characteristics in Taiwan higher education system. In order to keep their professional faculty and reputation to maintain a competitive edge, Taiwan higher education system need to understands the needs of teachers and job satisfaction. This study helped higher education schools increase good teaching quality in the classroom, also keep the professional faculty and reputation. This study consisted of one research question and, hypotheses with measurable variables. This study was feasible because it was conducted within a reasonable amount of time, subjects were available, and concepts in the theoretical frameworks could be measured.

Delimitations and Scope

The study was limited to the Taiwan higher education system. Surveys were sent to 500 faculty members at universities and institutes of technology in Taiwan, and 157 (31%) responded. Perceived leadership styles were examined on the basis of transformational and transactional leadership styles of the MLQ 5x-Short Form. Teacher job satisfaction was measured in terms of: (a) supervision, (b) colleagues, (c)

working conditions, (d) pay, (e) responsibility, (f) work itself, (g) advancement, (h) security, and (i) recognition (Lester, 1984).

This study examined the influence of supervisors' transformational and transactional leadership on the job satisfaction of Taiwan higher education faculty. Linkages between transformational leadership, transactional leadership, and job satisfaction were described.

Chapter I provides an overview to the study which described the problem and importance in transformational, transactional leadership and teacher job satisfaction. In addition, the purpose of this study is described, the terms of this study are theoretically and operationally defined, and delimitations are indicated. The justification is significant, researchable and feasible. The delimitations and scope are defined in this study. Chapter II includes the literature review, theoretical framework, research question and hypotheses were described in this study about the relationship among supervisors' transformational, transactional leaderships and teachers' job satisfaction in Taiwan higher education. Chapter III describes the methodology for the proposed model which discusses the research design, population and sampling plan, the instruments, procedures and ethical aspects, methods of data analysis and evaluation of the research methodology. Chapter IV presents descriptive characteristics of the final results and hypotheses testing. Chapter V reports a discussion of the results and interpretations, limitations, practical implications and recommendations.

CHAPTER II
LITERATURE REVIEW, THEORETICAL FRAMEWORK, RESEARCH
QUESTION, AND HYPOTHESES

Literature Review

Leadership

Theoretical Review

“Leadership is a universal human phenomenon” (Bass, 1981, p. 5). There are many definitions of leadership; the majority of which involve the idea of guiding followers to their goals (Yukl, 2002). Burns (1979) claimed that leadership is hard to understand, but easy to perceive in human activities. Smith (2000) stated that “leadership is the process or activity of influencing an individual or group in efforts towards achieving a goal” (p. 4). Hackman and Johnson (2000) defined leadership as “human communication which modifies the attitudes and behaviors of others in order to meet shared group goals and needs” (p. 36). Leadership can be transformational or transactional. Burns (1978) stated that transformational and transactional leadership are both based on human morals and ethics. Leadership types have been identified from years of study and empirical research.

Empirical Review

Rosenthal (1976) conducted a study of the relationship between perceptions of leadership behavior and job satisfaction by teacher-coordinators. The sample was 78 vocational education administrators in Michigan public schools in 1974-1975. This study used the Leader Behavior Description Questionnaire (LBDQ) and the Job

Satisfaction Questionnaire (JSQ) to determine the link between leadership roles and job satisfaction. The study found a significantly negative attitude between teacher-coordinators and job satisfaction. There were non-significant leadership perceptions of vocational education administrators and teacher-coordinators.

Collmer (1989) studied how teacher job satisfaction might be influenced by a principal's leadership style. The purpose of Collmer's (1989) study was to investigate the relationship between elementary school principals' leadership styles and teachers job satisfaction. This study used the Job Descriptive Index (JDI) to determine job satisfaction and the Leader Behavior Description Questionnaires Form XII to measure leadership styles. Collmer (1989) applied a non-experimental, quantitative design to 200 elementary teachers from 34 school districts. This study examined leadership styles and principles of job satisfaction and dissatisfaction. The findings showed that teachers' performance depends on the environment and the leadership types of their principals. Collmer (1989) concluded that the interaction between principals and teachers directly influences the relationship between teachers and students. When principals appear warm, caring and sensitive to teachers' ideas and needs, teachers are more satisfied. In addition, it is important for teachers to be involved in the decision making process and to feel free to try new ideas and techniques.

Wilcox (1993) studied the relationship between teachers' perceptions of their principals' leadership style and their own job satisfaction and morale. The purposes of this study were to rethink the role of school leaders and to investigate the relationship between principals' leadership styles, teacher job satisfaction and morale. This study used the Job Descriptive Index, Master Teacher Inc.'s Self Assessment of Leadership

Style, and Phi Delta Kappa's Inventory of Leaders' Potential for Facilitating Staff Morale to examine the leadership style of high school principals and the impact on teacher job satisfaction and morale. The participants were 285 teachers. The study indicated that leadership styles significantly affected teachers' job satisfaction and morale. High school teachers were more satisfied with leaders who thoroughly understood leadership theory.

Lin (2003) examined presidential leadership styles and faculty job satisfaction at the Taiwanese Institutes of Technology. The study explored the relationship between presidential leadership styles and faculty job satisfaction at the Institutes of Technology in Taiwan. This study utilized the Leader Behavior Description Questionnaire (LBDQ) to examine leadership styles and Minnesota Satisfaction Questionnaire (MSQ) to measure faculty job satisfaction. The participants were 440 full-time faculty in eight institutes of technology in Taiwan. The study found that those faculty were satisfied with their job. Presidents' leadership styles are strongly related to faculty job satisfaction. Faculty are satisfied with their job when presidents appear capable and care about them. Gender, age, length of service, academic rank and job responsibilities significantly affected faculty's job satisfaction.

Transformational Leadership

Theoretical Review

Transformational leadership is a process of inspiring change and empowering followers to improve themselves and the organization. It makes followers accept responsibility and accountability for themselves (Koehler & Pankowski, 1997). Bass (1985) cited four characteristics of transformational leadership: charisma, inspiration,

intellectual stimulation and individualized consideration. Charismatic leaders are those who with pride, faith and respect, encourage workers to have their own ideas.

Inspiration is the ability to motivate followers to meet high expectations. Leaders use intellectual stimulation to encourage their employees to be innovative in their problem solving. In addition, individualized consideration is the degree of personal attention and encouragement of self development a leader devotes to the employees (Bass, 1985).

Bass (1985b) described three traits of transformational leaders:

1. They have charisma that can motivate followers.
2. They have provide intellectual stimulation to employees.
3. They can serve as a role model.

Sosik (1997) indicated that when employees have the freedom to create new ideas, they are more likely to share those ideas. A transformational leader who creates and shares knowledge can motivate employees. Some leadership scholars disagreed with Bass (1985), arguing that some organizational conditions and environments prevent transformational leaders from functioning as effectively (Conger, 1999; Conger & Kanungo, 1998; Yukl & Howell, 1999). Transformational leadership is comprised of the following five factors (Antonakis & House, 2002):

1. Idealized influence (attributed), or attributed charisma, refers to follower attributions about the leader as a result of how they perceive the leader's power, confidence, and transcendent ideals.
2. Idealized influence (behaviors) refers to specific leader behaviors that reflect the leaders' values and beliefs, their sense of mission and purpose, and their ethical and moral orientation.

3. Inspirational motivation refers to leaders who inspire and motivate followers to reach ambitious goals, raising followers' expectations, communicating confidence, and creating a self-fulfilling prophecy.
4. Intellectual stimulation refers to how leaders question the status quo, appeal to the followers' intellect to make them question their assumptions and invite innovative and creative solutions to problems.
5. Individualized consideration refers to leaders who provide customized socio-emotional support to followers, while developing and empowering them. (p. 9-10)

Transformational leadership has been related to the literature on values, moral character, and implementation of social and ethical choices (Bass, 1999) "including the need for the leader to provide a vision, to role model appropriate behaviors, to provide individualized consideration, to meet the varied needs of diverse employees, to provide the intellectual stimulation that comes with empowerment, and to create group goals that are the essential of a shared mental model" (Spreitzer, 2003, p. 84).

Transformational leadership theories can provide an understanding of how leaders manage of organizational knowledge (Bryant, 2003). Transformational leadership is based on what the leader has accomplished and his relationship with the group. The transformational leader can bring positive changes to an organization (Dubrin, 2004). Dubrin (2004) claimed that the leader needs to improve organizations' performance. The transformations can take place under the following circumstances: the transformational leader can raise the group's awareness of the importance and values of rewards; transactional leader also encourages people to look beyond their self-interest for the good of

the team and the organization. Transformational leaders help people search for satisfaction and to understand the need for organizational change. They convey a sense of urgency to their managers. The transformational leader is committed to greatness, adopts a long term perspective, and builds trust (Dubrin, 2004).

Empirical Review

Medley and Larochelle (1995) studied the relationship between nurses' leadership styles and the job satisfaction of the nursing staff. This study used the Multifactor Leadership Questionnaire and the Index of Work Satisfaction to measure transformational leadership and job satisfaction among 122 staff nurses in community hospitals. The study revealed that staff nurses in hospitals do perceive transformational leadership styles. Staff nurses have greater job satisfaction if their leaders practice transformational leadership.

Lee (2005) investigated teachers' job satisfaction and school commitment using the transformational leadership model in Taiwan. The participants were 1,250 secondary school teachers in 2003. This study used self-report questionnaires to examine the relationship between principals' transformational leadership styles and teachers' job satisfaction. The results showed that transformational leadership has significant and positive effects on job satisfaction and school commitment. Teachers are satisfied and committed when they perceive that their principal provides a vision of the future for the school, accepts group goals, offers individual support, and conveys high performance expectations.

Transactional Leadership

Theoretical Review

Transactional leadership is based on with a system of rewards and punishments (Dubrin, 2004). Bass (1985) indicated that transactional leaders focus on engaging in exchanges with their team members, these exchanges are based on what the leaders expect. In exchange, leaders articulate the goal and offer rewards if the goal is achieved. Transactional leaders focus on getting to the goal and finishing the task; they usually pay less attention to the needs of the organization (Avolio, 1999).

Transactional leaders give rewards and punishments to motivate employees' performance, and to promote relationships with them (Bass, 1985). Bryant (2003) stated that transactional leaders have three primary characteristics. First, transactional leaders work with their team members and try to get a reward for their goal. Second, they will exchange the rewards and promises of the reward for work effort. Finally, transactional leaders are responsive to the immediate self-interests of workers. Transactional leadership exchanges what leaders expectation and set up a connection between goals and rewards (Bryant, 2003).

According to Antonakis and House (2002), "a transactional leader clarifies role and task requirements and provides followers positive and negative rewards contingent on successful performance". There are three reward factors in transactional leadership:

1. Contingent reward leadership is based on economic and emotional exchanges, by clarifying role requirements, and rewarding and praising desired outcomes.
2. Management-by-exception active is a negative transaction, because the

leader monitors deviations from norms and provides corrective action.

3. Management-by-exception passive is similar to management-by-exception active; however, passive leaders wait until deviations occur before intervening.

Empirical Review

Patricia (2002) studied transactional and transformational leadership, and how the two relate to job satisfaction. The participants of the study were engineers and technical support staff at an aerospace company. This study used the Multifactor Leadership Questionnaire (MLQ) and Job Describe Index (JDI) to measure transactional and transformational leadership and job satisfaction. The study concluded that transactional leadership was not positively related to job satisfaction but that transformational leadership was.

Kirkman (2004) conducted a study of how transformational leadership and the effectiveness of community college department chairs affect faculty job satisfaction. The participants were faculty and department chairs at community colleges in Missouri. The study used the Multifactor Leadership Questionnaire (MLQ) to determine leadership styles and effectiveness. It also used the Job Satisfaction Survey (JSS) to measure faculty job satisfaction. The questionnaires explored faculty's perceptions of the transformational leadership styles of department chairs. The findings showed a weak negative correlation between transactional leadership and faculty job satisfaction and a moderate negative correlation between transformational leadership and faculty job satisfaction. There were non-significant correlations in propensities and tendencies of chairpersons. Transformational leadership did not lead to great job satisfaction.

Job Satisfaction

Theoretical Review

Amburgey (2005) stated that job satisfaction is an important element of success in an organization. Morgan, McDonagh and Ryan-Morgan (1995) divided job satisfaction into two types. Global job satisfaction concerned all levels of job satisfaction. Global job satisfaction explained that understanding job satisfaction itself is just as important as understanding individual employees. The second type of job satisfaction is facet job satisfaction. Facet job satisfaction depends on an individual's position in the organization. Different levels of job satisfaction arise from the differences in employees' working experiences.

Many researchers have linked job satisfaction to teacher retention among administrative leadership, support, interaction and emotional support from mentors and colleagues (as cited in Fiore & Whitaker, 2005). Futrell (1999) claimed that many teachers are frustrated because of "rigid, bureaucratic hierarchy in which teachers are treated like tall children rather than like professionals" (p. 31).

Porter, Lawler, and Hackman (1975) pointed out that job satisfaction "is determined by the difference between the amount of some valued outcome that a person receives and the amount of the outcome he feels he should receive" (p. 53). In addition, job satisfaction is "a pleasure or positive emotional state, resulting from the appraisal of one's job or job experiences" (Locke, 1976, p. 1300). In 1959, Herzberg stated that there are certain things about a job with which people are satisfied and dissatisfied. However, Herzberg stated that "the factors about the job which caused satisfaction were

not necessarily the same factors which caused dissatisfaction” (as cited in Evans & Mass, 1969, p. 9).

Evans and Maas (1969) stated that a combination of factors cause job satisfaction and dissatisfaction. Cause of dissatisfaction are extrinsic (salary, status, and job security, working conditions, supervision-technical, company policy and management, procedures and interpersonal relations); the cause of satisfaction are intrinsic (achievement, responsibility, work itself, factors in personal life, advancement, and possibility for growth, and recognition). These factors were not directly related to work, but some were determined to be of short-term effect or long-term effect in job satisfaction or job dissatisfaction.

Empirical Review

Metcalf (1993) sought to determine the factors that contribute to job satisfaction among principals in Los Angeles County, California. The demographic variables were community type, size of district, size of school, total number of classroom teachers, total number of support staff, and income. The result confirmed Herzberg’s theory (1959) that achievement, recognition, growth, advancement, responsibility, and work were associated with job satisfaction. In addition, interpersonal relationships, salary, security, policies, administration, competence of a supervisor, and working conditions influenced job satisfaction. The age and gender of principals did not have any significant impact on job satisfaction.

Liu (2005) assessed the relationship between directors’ leadership behavior and physical education teachers’ job satisfaction in northern Taiwan. The study also listed demographic data related to gender, age, marital status, years of teaching at the institution,

highest education level, monthly salary, and teaching rank to investigate teachers' job satisfaction. The researcher used Leader Behavior Description Questionnaire XII (LBDQ XII) and Teacher Job Satisfaction Questionnaire (TJSQ) in this study. The study revealed a relationship between teachers' job satisfaction and leadership behavior. In addition, several demographic variables affected teachers' job satisfaction and directors' leadership behavior.

Job Satisfaction

Theoretical Review

In 1935, Hoppock stated that job satisfaction is a physiological and psychological feeling. Syptak, Marsland and Ulmer (1999) pointed out that employee satisfaction and retention have always been important issues in an organization. Humans have needs and expectations and equity, and scholars have observed that needs theories, Vroom's expectancy theory, and Adam's equity theory are related to job satisfaction (Adams, 1965; Maslow, 1954; Vroom, 1964). The needs theories include (a) Maslow's Hierarchy of Needs Theory (1954), (b) Herzberg's Two-Factor (motivator-hygiene) Theory (1959), (c) McClelland's Needs Theory (1963), and (d) Alderfer's Existence, Relatedness, and Growth (ERG) Theory (1972).

Maslow (1954) described a hierarchy of needs: physiological, security, social, self-esteem, and self-actualization. He separated these five needs into a higher order (social, esteem, and self-actualization); and a lower order (physiological and safety) (Maslow, 1954).

Herzberg's Motivator-Hygiene Theory (1959) saw two categories of human needs: one causes satisfaction and the other causes dissatisfaction. Herzberg's Two-Factor

Theory (1959) included context (hygiene) and content (motivators) factors (Gibson, Ivancevich, Donnelly & Konopaske, 2003). Context factors are the extrinsic conditions of pay, status, and job security, working conditions, fringe benefits, policies, procedures and interpersonal relations. Content factors are the intrinsic conditions of feelings of achievement, increasing responsibility, meaningful work, opportunities for advancement, and opportunities for growth, and recognition. (Gibson et al., 2003, p. 133). Dereinda (1984) stated that "job satisfaction and job dissatisfaction should not be considered as opposite ends of the same continuum, but rather as different factors. Thus, the opposite of dissatisfaction is no dissatisfaction, whereas the opposite of satisfaction is no satisfaction" (Dereinda, 1984, p. 31).

McClelland's Theory of Needs (1963) focused on achievement and power.

Mondy, Sharplin and Premeaux (1991) stated that a person who is willing to work hard, should have the responsibility for solving problems. Another factor is the higher need achieve. A person who would like to influence or control people has the higher need in power. A person who would like to establish good relationships with others has the higher need in affiliation.

In 1972, Alderfer agreed with Maslow. His ERG theory defines three categories of human needs: existence, relatedness, and growth. Existence is related to physical well-being; relatedness needs noted relationships among people. These are similar to Maslow's (1954) physiological needs and the needs for, safety and belonging. Also, the need for growth need is comparable to Maslow's concepts of self-esteem and self-actualization.

The other two theories of job satisfaction are Vroom's expectancy theory, and Adam's equity theory. Expectancy theory is based on individual motivation and job performance. The "individuals make efforts to perform what will lead to desired outcomes. The theory indicated that, based on the strength of the individual's expectancy of outcome and the attraction of the outcome to the individual, the individual decides on the course of action." (Wu, 2003, p. 39). Thus, the individual will meet the goal and reach the desired outcome after hard work.

Vroom's expectancy theory is an individual's belief about task performance. Instrumentality is the outcome of results from task performance. In 1964, Vroom indicated that the value of valence is an outcome attached by an individual. In addition, Staw (1976) revised the expectancy theory to incorporate motivation. His models brought extrinsic motivation, intrinsic motivation, and Vroom's theory into the discussion of motivation. If the individual does not value the outcome of the job, he or she will have less motivation. Additionally, Staw (1976) stated that the individual who works harder will have greater motivation.

Adam's equity theory maintains that job satisfaction is influenced by the individual's perception of equity in. His theory is based on justice and on making comparisons. He believed that when the individual has a perception of equality in an organization, the organizational reward system could be effective. However, Adam explored a different dimension of job satisfaction. He stated that "other people's inputs to their jobs and rewards they receive are essential information for an individual to understand how he/she feels satisfied, dissatisfied, or guilty about the reward from his/her job" (as cited in Liu, 2005, pp. pp. 36-37).

Personal characteristics and job satisfaction are related. Chieffo (1991) stated that age and gender are two of the most popular demographic variables in job satisfaction. McKee (1991) found that years of teaching experience have significant differences on job satisfaction. Educational level and salary are two other important factors. The individual characteristics examined in this study are gender, age, years of teaching experience, educational level, and salary.

Empirical Review

Green (1993) determined the relationship between high school athletic administrators' job satisfaction and job-related stress. This study showed that differences in the job satisfaction and job-related stress were linked to their gender, years of experience, and school size. The participants were 371 public high school administrators from North Florida and South Georgia. Green's study (1993) found a positive correlation between satisfaction and job-related stress. Gender, years of experience and school size also affected job satisfaction.

Demographic and Work Profiles

Theoretical Review of Gender

Men and women have different leadership styles. Dubrin (2004) stated that the leadership styles of men lean towards command and control; women are more comfortable interacting with people. Bass (1991) indicated that women intervene in management only when something goes wrong.

Traditionally, normative behavior for males and females is different. In 1986 and 1993, Ding, Evans, Ramsey, Johnson, Renwick, and Vienneau stated that gender

influenced job satisfaction. Lennon (1992) noted the relationship among a teacher's gender, the principal's leadership and teachers' job satisfaction: female teachers are more satisfied with their job are than male teachers. The gender of teachers is highly correlated with their job satisfaction.

Empirical Review of Gender

Perkins (1991) investigated the job satisfaction of experienced teachers and their perceptions of their principals' leadership style. Perkins (1991) used a non-experimental, quantitative design of 520 teachers in the Charlotte-Mecklenburg School District in North Carolina. The surveys included a demographic questionnaire, the Job Satisfaction Questionnaire, and the Lead-Other Questionnaire. These questionnaires were sent to teachers with four or more years of experience. The findings showed that teachers with female principals were more satisfied than teachers with male principals. The results of this study indicate that both male and female teachers were more satisfied with female principals (Perkins, 1991).

Poole (1992) studied the relationship between gender and job satisfaction. He used a non-experimental, quantitative design of 171 males and 108 females as the sample population. This study used the Job Satisfaction Survey. Poole's study showed that males are more satisfied with their job than females are.

Theoretical Review of Age

The researchers stated that the age is correlated with job satisfaction (Quinn, Staines, & McCollough, 1974; Weaver, 1980). Young people were less satisfied with their jobs. Thus, job satisfaction increased with age. However, Wu (2003) and Liu (2005) found no link between age and job satisfaction.

Empirical Review of Age

Lee and Wilber (1985) examined the relationship between age and job satisfaction. The participants were 1707 employees of a county and a state government in the United States. The result of this study showed that job satisfaction increased with age. Younger employees were less satisfied with their job; older people were more satisfied. Other researchers have examined the relationship between age and job satisfaction; Weaver (1980), Quinn, Staines and McCollough (1974) reported a positive association. However, Benit (1992) discovered that age was not a significant factor in the job satisfaction of 484 public school teachers in Michigan.

Theoretical Review of Years of Teaching Experience

Experience is a key element in leadership effectiveness. Leaders need to combine knowledge and practice. Leadership experience can build management skills and insights in (Dubrin, 2004).

Empirical Review of Years of Teaching Experience

Woodruff (1993) conducted a study to examine university faculty participation in the decision making process which related to job satisfaction, and to determine whether or not demographic variables affect faculty's job satisfaction. The variables studied were gender, rank, tenure status, length of higher education teaching experience,

educational level, bargaining unit affiliation and publishing activity. The participants were 243 randomly selected full-time faculty members at the University of New Haven, Sacred Heart University, the University of Hartford and Quinnipiac College, all in the state of Connecticut. The results of this study showed that the number of years teaching in higher education was not related to satisfaction with supervision, but that the length of teaching experiences was positively related to job satisfaction. As teachers gain more teaching experience, their job satisfaction increases. Green (1993) also found a positive relationship between years of teaching experience and job satisfaction. Teachers who have many years of teaching experience tend to be more satisfied with their jobs (Liang, 2002; Lo, 2003). However, some researchers argued that teaching experience does not have a significant influence on job satisfaction (Dodge, 1982; McCarthy, 1986; Perko, 1985).

Theoretical Review of Education Level

Dubrin (2004) stated that there is a positive relationship between education and leadership. People learn from education, and they combine it with their experience to solve problems. The leaders who have the most education are more intelligent and better informed.

Empirical Review of Education Level

Yu (2002) examined the relationship between school based management in elementary schools and teacher job satisfaction. The participants were 90 elementary schools teachers in Taiwan. The Questionnaire of School Based Management and the Questionnaire of Teachers' Job Satisfactions were used in this study. The study showed that teachers' educational level has a strong relationship to their job satisfaction. Teachers

with more education have higher job satisfaction (Saad & Isralowitz, 1992; Wei, 2003; Yu, 2002). Woodruff's study (1993) showed that the influence of educational level on job satisfaction was significantly related to satisfaction with pay and opportunities for promotion.

Theoretical Review of Salary

Liu (2005) indicated that when Taiwan higher education teachers perceived higher salary, they had higher job satisfaction. In addition, Wu (2003) stated that teacher's monthly salary increased job satisfaction. The teachers who have a higher salary, are more satisfied with their job.

Empirical Review of Salary

Miller (2003) studied faculty scholarship, service, teaching, salary satisfaction, and job satisfaction in accredited and non-accredited counselor education graduate programs to acquire information about faculty characteristics, faculty productivity and faculty rewards to assess their relationship with various university and graduate programs. The surveys were sent to 465 educators in the United States. The study showed that salary was a significant predictor of job satisfaction. In urban universities, higher salary was a significant factor in and predictor of faculty job satisfaction. Woodruff's study (1993) showed that salary was positively correlated to job satisfaction. The higher the salary earned by teachers, the higher their job satisfaction (Lin, 1983).

The theoretical literature on transformational leadership is based on Bass's theory (1985). The theory states that charismatic leaders have more motivated followers; the leaders can provide intellectual stimulation and serve as role models to employees (Bass, 1985). However, transformational leaders do not function effectively, depending on the

organizational condition and environment (Conger, 1999; Conger & Kanungo, 1998; Yukl & Howell, 1999). Hence, leaders should realize that an effective leadership style depends on the organizational situation.

In transactional leadership, theory is based on exchange, leaders and team members to give rewards or punishment to motivate followers' performance (Dubrin, 2004). According to Bryant (2003), transactional leaders can work with team members and lead them to the goal, reward employees for work effort and be responsive to their interests. However, no study has proven that transactional leadership has a significant effect on job satisfaction.

The job satisfaction theory was based on needs theory (Alderfer, 1972; Herzberg, 1959; Maslow, 1954; McClelland, 1963). Humans have needs, expectations and equity in life and job. According to Amburgey (2005), job satisfaction is an important element of success in an organization, and a key to achievement. Thus, the importance of job satisfaction in organizations can be further studied.

Lee (2005) explored teachers' perceptions of principals' transformational leadership and their own job satisfaction among Taiwanese secondary school teachers. Lee's (2005) study found that teachers are satisfied when they perceive that their principal is a transformational leader. Such a perception has significant and positive effects on job satisfaction. Transactional leadership was not positively related to job satisfaction, but transformational leadership was (Patricia, 2002). However, Kirkman (2004) studied how the leadership style and effectiveness of community college department chairs affected faculty job satisfaction. The researcher argued that transformational leadership did not lead to great job satisfaction.

Liu (2005) investigated university physical education department directors' leadership behavior and physical education teacher job satisfaction in northern Taiwan. He showed that a relationship between their job satisfaction and leadership behavior. In addition, demographic variables were related to teachers job satisfaction and directors leadership behavior.

From the literature review, future inquiries have been identified. The leadership theories do not function effectively in an organization, because the organizational condition and environment need to be considered. However, job satisfaction is an important element of success in an organization, and leads to achievement (Amburgey, 2005). Thus, the researcher suggests that future research should confirm the role of job satisfaction in an organization.

Future areas of scholarly inquiry using critical analyses of the theoretical and empirical literature are needed in the areas of job satisfaction importance in Taiwan's higher education. Analytical reviews of theories and studies indicated that job satisfaction needs to define global and facet job satisfaction. Different levels of job satisfaction can be caused by differences in individual employees' working experiences.

Some empirical studies have examined the relationship between leadership styles and job satisfaction (Kirkman, 2004; Lee, 2005; Liu, 2005; Patricia, 2002; Shelley, 2003). These studies showed that teachers are satisfied when they perceive a vision of transformational leadership and that transformational leadership has significant and positive effects on job satisfaction. Furthermore, the researcher found that no studies examined this relationship in Taiwan higher education system which was based on different personal characteristics of the instructors.

Theoretical Framework

The major theories which were used to guide this study consisted of transformational and transactional theory and job satisfaction. The transformational and transactional theory was developed by Burns (1978) and Bass (1985). The theories of job satisfaction was proposed by (a) Maslow's Hierarchy of Needs Theory (1954), (b) Herzberg's Two-Factor (motivator-hygiene) Theory (1959), (c) McClelland's Needs Theory (1963), and (d) Alderfer's Existence, Relatedness, and Growth (ERG) Theory (1972). Based on the theoretical and empirical literature in discussion, a theoretical framework was developed (see Figure 1). The theoretical framework shows that the relationship among supervisors' transformational and transactional leadership style, and teachers' job satisfaction. A supervisor's transformational or transactional leadership style might affect teachers' job satisfaction. Teachers' job satisfaction could improve their performance in the classroom. This model shows that leadership styles of their supervisors influenced their job satisfaction. The analysis emphasizes two outcomes pertaining to leadership styles and job satisfaction.

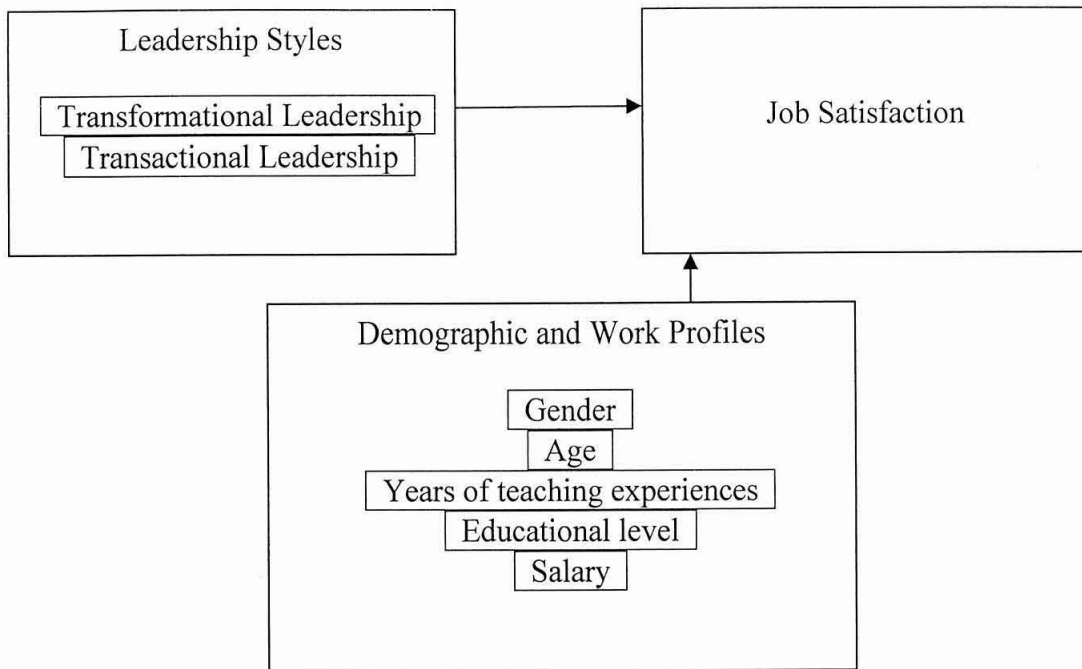


Figure 1. Theoretical framework.

Research Questions

1. What are the demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary), perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), and job satisfaction (supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition) of Taiwan higher education teachers?

Hypotheses

H1: Taiwan higher education teachers that are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and significantly lower transactional leadership styles (Contingent Reward, Active Management by Exception, Passive Management by-Exception) than teachers that are less satisfied with their jobs.

H2: Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers?

H_{2a}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *supervision*.

H_{2b}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *colleagues*.

H_{2c}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward and Management-by-Exception), are significant explanatory variables of perceived job satisfaction with *working conditions*.

H_{2d}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *pay*.

- H_{2e}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *responsibility*.
- H_{2f}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *work itself*.
- H_{2g}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *advancement*.
- H_{2h}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *security*.
- H_{2i}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *recognition*.
- H_{2j}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by

Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction (total score).

H3: Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers?

- H_{3a}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *supervision*.
- H_{3b}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *colleagues*.
- H_{3c}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *working condition*.
- H_{3d}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management

by-Exception), are significant explanatory variables of perceived job satisfaction with *pay*.

- H_{3e}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *responsibility*.
- H_{3f}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *work itself*.
- H_{3g}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *advancement*.
- H_{3h}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *security*.
- H_{3i}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style

(Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *recognition*.

H_{3j}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction.

Chapter II described a review of transformational leadership, transactional leadership, teacher job satisfaction and personal characteristics. A theoretical framework, research question and hypotheses are included in this study. Chapter III presents the research methods used to answer the research question and test hypotheses.

CHAPTER III

RESEARCH METHODOLOGY

Research Design

A non-experimental, quantitative, explanatory correlation and explanatory comparative survey research design was used to examine the relationship among supervisors' leadership styles, teachers' demographic and work profile, and teachers' job satisfaction in Taiwan higher education. This study used two questionnaires and teachers' demographic and work profile to investigate the relationship between leadership style and teacher job satisfaction. The two questionnaires were the transformational leadership and transactional leadership of the MLQ-5x short-form developed by Bass and Avolio (1995), Teacher Job Satisfaction Questionnaire (TJSQ) developed by Lester (1984). The Teacher Job Satisfaction Questionnaire (TJSQ) explores nine factors: (a) supervision, (b) colleagues, (c) working conditions, (d) pay, (e) responsibility, (f) work itself, (g) advancement, (h) security, and (i) recognition. The demographic and work profile are the respondent's gender, age, educational level, years of teaching experience, and salary. This study used 157 responses randomly selected from full-time teachers at Taiwan's colleges and universities. The questionnaires were mailed to individual teachers along with a letter of introduction, and a consent form.

Population and Sampling Plan

Target Population

According to the Taiwan Ministry of Education Department of Statistics (2004), there are 162 private and public junior colleges, colleges and universities in the country. There are 49,601 full-time instructors; 32,640 male and 16,961 female. All college,

junior college, and university instructors in Taiwan must have teaching experience and a master's degree (Ministry of Education, 2005).

Accessible Population

To obtain a sample of 500, every 99th ($k=99$) name on the Taiwan higher education instructors list was systematically sampled (systematic, probability sampling), ($49,601/500=99$), resulting in an initial sample of 500. The final data producing sample is self-selected and includes the number of respondents. The accessible population of this study consisted of full-time instructors who provided contact information to the Ministry of Education. The list of names and addresses was obtained from the Higher Education Department web site of the Ministry of Education. Therefore, the researcher randomly selected 500 instructors from Yung Ta Institute of Technology and Commerce, The Overseas Chinese Institute of Technology, Ching Yu University, Jin Wen Institute of Technology, Northern Taiwan Institute of Science and Technology, and Central Taiwan University of Science and Technology.

Probability Sampling Plan

Probability (random) sampling was used in this study. The rule of thumb (Tabachnick & Fidell, 2001) for testing b coefficients is to have $N \geq 104 + m$, where m = number of independent variables. The individual variables in this study have twenty variables. So, the minimum number of participants will be 124. This study randomly selected 500 full-time instructors from Taiwan higher education faculty names list to complete the survey. Each questionnaire package included an introduction letter, consent form and questionnaires. The packages were mailed to the instructors. These

teachers were asked to follow the instructions in the introduction letter to fill out the form. The questionnaires were returned by prepaid envelopes and collected by the researcher.

Eligibility Criteria and Exclusion Criteria

The eligibility criteria of the sample were:

1. Taiwanese higher education instructors
2. Taiwanese higher education instructors who had held a teaching position in a higher education school for at least one year
3. A master's or doctoral degree
4. Instructors older than 65 and less than 25 years old.
5. The participants were able to read, write and speak Chinese.

The following people were not eligible to participate in this study:

1. Part- time teachers and administrators
2. Instructors who had held a teaching position in higher education school for less than one year
3. Instructors who did not have a master's or doctoral degree
4. Age older than 65 and less than 25 years old.
5. The participants who were not able to read, write and speak Chinese.

Instrumentation

The survey of this study consists of three parts: (1) a *Demographic and Work Profile* developed by the researcher, (2) transformational and transactional leadership-measured by two of the five factors of *Multifactor Leadership Questionnaire (MLQ Form 5x-short)*, which was developed by Bass and Avolio (1995), (3) teacher job satisfaction, measured by the *Teacher Job Satisfaction Questionnaire* developed by Lester (1984). The survey consists of 116 questions. The questionnaires were originally written in English (Appendix A to C) and translated into Chinese (Appendix E to G) after IRB approval. The survey of this study was completed and collected in three months.

Demographic and Work Profile

The *Demographic and Work Profile* developed by the researcher, included five questions that measure gender, age, years of teaching experience, educational level, and salary. The purpose of the demographic and work profile information was to identify the respondents' personal characteristics with closed-ended and multiple choice questions. The information pertains to Research Question and Hypothesis 3.

Transactional and Transformational Leadership

Description

The *Multifactor Leadership Questionnaire (MLQ)* is a 45-item, five-point frequency rating scale where 1 = not at all, 2 = Once in a while, 3 = Sometimes, 4 = Fairly often, and 5 = Frequently if not always. The MLQ consists of four dimensions: Transformational Leadership (with five subscales), Transactional Leadership (with three subscales), Non-transactional leadership, (with one scale), and Outcomes of Leadership

(with three subscales). Only transformational leadership and transactional leadership were used in this study. The MLQ was translated into Chinese by Mindgarden (Bass & Avolio, 1995).

Transformational leadership is measured by Idealized Influence (Attributes) or Attributed Charisma, Idealized Influence (Behaviors) or Behaviors Charisma, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration (Bass & Avolio, 1995). Transactional leadership is measured by Contingent Reward (CR), Management-by-Exception (Active) (MBE-A), and Management-by-Exception (Passive) (MBE-P).

Idealized Influence (Attributed) (IIA) is listed as 10, 18, 21, 25. Four items, 6, 14, 23, and 34 measure Idealized Influence (Behaviors) (IIB); 9, 13, 26, and 36 measure Inspirational Motivation (IM); 2, 8, 30, and 32 measure Intellectual Stimulation (IS), and 15, 19, 29, and 31 measure Individualized Consideration (IC). In addition, the researcher used 12 items from 45 questions about transactional leadership. The survey questions about Contingent Reward (CR) (4 items) are 1, 11, 16, and 35. Questions 4, 22, 24, and 27 deal with Management-by-Exception (Active) (MBE-A), and Questions 3, 12, 17, and 20 deal with Management-by-Exception (Passive) (MBE-P).

Reliability

Cronbach's alpha is the most popular estimation for reliability (McMillian & Schumacher, 2001). The reliability coefficient shows the degree of reliability; the higher coefficient, the better reliability. A correlation coefficient over 0.70 indicates

satisfactory reliability, also very high reliability (Nunnally & Bernstein, 1994). Bass and Avolio (1995) reported Cronbach's alpha (as estimates of internal consistency reliability) for subscales of transformational leadership were 0.86 for Idealized Influence (Behaviors) (IIB), 0.87 for Idealized Influence (Attributed) (IIA), 0.91 for Inspirational Motivation (IM), 0.90 for Intellectual Stimulation (IS), and 0.90 for Individualized Consideration (IC). The Cronbach's alpha scale for subscale of transactional leadership was 0.87 for Contingent Reward (CR), 0.74 for Management-by-Exception (Active) (MBE-A), and 0.82 for Management-by-Exception (Passive) (MBE-P).

Sosik, Potosky, and Jung (2002) reported the Cronbach's alpha scale for subscale of transformational leadership was 0.71 for Idealized Influence (Behaviors) (IIB), 0.71 for Idealized Influence (Attributed) (IIA), 0.82 for Inspirational Motivation (IM), 0.70 for Intellectual Stimulation (IS), 0.76 for Individualized Consideration (IC). The Cronbach's alpha scale for subscale transactional leadership was 0.77 for Contingent Reward (CR), 0.72 for Management-by-Exception (Active) (MBE-A), 0.64 for Management-by-Exception (Passive) (MBE-P).

Gellis (2001) reported that the Cronbach's alpha scale for subscale of transformational leadership was 0.78 for Idealized Influence (Behaviors) (IIB), 0.81 for Idealized Influence (Attributed) (IIA), 0.80 for Inspirational Motivation (IM), 0.89 for Intellectual Stimulation (IS), 0.77 for Individualized Consideration (IC). The Cronbach alpha scale for subscale of transactional leadership was 0.74 for Contingent Reward (CR), 0.70 for Management-by-Exception (Active) (MBE-A), 0.75 for Management-by-Exception (Passive) (MBE-P).

Felfe and Schyns (2004) reported that the Cronbach's alpha scale for subscale of transformational leadership was 0.70 for Idealized Influence (Behaviors) (IIB), 0.70 for Idealized Influence (Attributed) (IIA), 0.83 for Inspirational Motivation (IM), 0.71 for Intellectual Stimulation (IS), 0.67 for Individualized Consideration (IC). The Cronbach's alpha scale for subscale of transactional leadership was 0.83 for Contingent Reward (CR), 0.80 for Management-by-Exception (Active) (MBE-A), 0.79 for Management-by-Exception (Passive) (MBE-P).

Validity

“Validity represents construct and predictive validity” (Antonakis, 2001, p. 223). The factor loading in the confirmatory factor analysis is a standardized regression coefficient; values above 0.40 or .60 are acceptable (as cited in Antonakis, 2001). Bass and Avolio (1995), Gellis (2001), Sosik et al. (2002), Felfe and Schyns (2004) and Chen (2005), reported that the values ranged from an average of 0.64 to 0.91 in factor loadings, which established construct validity.

Teacher Job Satisfaction

Description

Teacher job satisfaction was measured by *The Teacher Job Satisfaction Questionnaire* (TJSQ), based on Maslow's Hierarchy of Needs and Herzberg's motivator-hygiene theory and developed by Lester (1984). It is a 66-item, five-point satisfaction rating scale, where 1 = strongly disagree, 2 = disagree, 3= neutral (neither disagree nor agree), 4= agree , and 5 = strongly agree. The TJSQ has been translated

into Spanish, French, Arabic, and Mandarin. There are nine factors, with respective subscale scores in TJSQ: supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition. The TJSQ has been translated into Chinese (Liu, 2005 & Wu, 2003).

There are fourteen items on supervision: 17, 62, 40, 10, 24, 60, 43, 31, 56, 59, 12, 53, 5 and 47; ten items on colleagues: 20, 48, 66, 15, 41, 32, 37, 54, 51 and 39; seven items on working conditions: 55, 18, 35, 16, 28, 26, and 9; seven items on pay: 44, 2, 61, 36, 57, 4, and 65; eight items on responsibility: 64, 58, 63, 38, 22, 34, 19, and 52; nine items on work itself: 27, 25, 42, 30, 7, 3, 45, 11, and 46; five items on advancement: 50, 33, 1, 21, and 8; three items on security: 23, 13, and 29; and three items on recognition: 14, 6, and 49.

Reliability

Lester and Bishop (2002) reported that the Cronbach's alpha scale for subscales of teacher job satisfaction were 0.93 for the Teacher Job Satisfaction scale is 0.93. Coefficients of internal consistency were 0.92 (supervision), 0.82 (colleagues and work itself), 0.83 (working conditions), 0.80 (pay), 0.73 (responsibility), 0.81 (advancement), 0.71 (security), and 0.74 (recognition).

Liu (2005) reported the Cronbach's alpha scale which was based on the statistical analysis of data from 479 physical education teachers in Taiwan. The Cronbach's alpha scale for subscale of teacher job satisfaction was 0.882 for overall satisfaction, 0.845 for supervision, 0.741 for colleagues, 0.761 for working conditions, 0.715 for pay, 0.738 for

responsibility, 0.752 for work itself, 0.853 for advancement, 0.711 for security and 0.761 for recognition.

Validity

According to Lester and Bishop (2002), the original number of TJSQ was 120 items, later reduced to 66 items. “Vaguely defined words, words with double meanings, emotionally loaded words, double negatives, and unclear words were eliminated, resulting in clear, concise, and direct statements of no more than 20 words” (Lester & Bishop, 2002, p. 147). Lester and Bishop (2002) and Liu (2005) reported that the values ranged from the average of 0.71 to 0.93 in factor loadings, which established construct validity.

Procedures: Ethical Considerations and Data Collection Methods

1. To obtain author’s permissions to use and translate scales adapted for Multifactor Leadership Questionnaire and Teacher Job Satisfaction Questionnaire in this study.
2. An application for Institutional Review Board of Lynn University was submitted before the survey started. IRB approval was obtained on September 11, 2006 (see Appendix K).
3. The consent form was translated from English into traditional Chinese with an official certification from an expert who is fluent in both English and Chinese language.

4. All participants are Taiwanese people; the questionnaires were translated from English to Chinese. The translations of survey instruments were preceded with an official certification, after receiving approval from IRB.
5. Data collection started after the researcher obtained approval from the IRB of Lynn University on September 11, 2006 (see Appendix K).
6. After receiving approval from the Institutional Review Board of Lynn University, the researcher mailed 500 survey packages including the invitation, consent information, purpose, procedure, possible risks, and possible benefits, assurance of anonymity, instructions, and survey instrument to Taiwanese full-time college and university instructors.
7. The volunteer participants were asked to read the consent form before starting the survey.
8. The estimated time for completing this survey was 30 minutes.
9. The questionnaires were collected in postage paid envelopes.
10. All responses were reported as a group. Thus, the researcher would not know who completed the survey and who did not. The identity of participants would not be revealed.
11. IRB Report of Termination of Project was submitted on November, 29, 2006. The data collection time was three months.

12. The data collection was analyzed by Statistical Package for the Social Sciences software.
13. The data were saved in a “password protected” computer to keep as anonymous information.
14. The data of participants will be destroyed after five years.

Methods of Data Analysis

The data were collected from respondents who replied by mail. The sender and return address were the same, using the researcher’s mailing address. All responses were reported as a group. Thus, the researcher would not know who completed the survey and who did not. The participants’ identities were protected and kept anonymous from the researcher.

The survey instruments were used in this study had established reliability and validity (Bass & Avolio, 1995; Gellis, 2001; Sosik et al., 2002; Felfe & Schyns, 2004; Chen, 2005; Lester & Bishop, 2002; Liu, 2005; Kim et al., 1996; Chen, 2005). The data were analyzed by the researcher using the statistical software program SPSS. The methods of data analysis included descriptive statistics, exploratory factor analysis, independent *t*-test and multiple regression analysis. Descriptive statistics were used to answer the research questions about demographic and work profile of teachers, their perceptions of supervisors’ leadership styles, and teacher job satisfaction. Independent *t*-test and multiple regression analyses were used to test all hypotheses and subhypotheses.

Independent t-Test and Multiple Regressions

Hypotheses 1 was analyzed by SPSS independent *t*-test and Hypotheses 2 and 3 were analyzed by SPSS multiple regression to explain the relationship between transformational or transactional leadership styles, and teachers' job satisfaction.

Hypothesis 1 states that Taiwan higher education teachers that are satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and significantly lower transactional leadership styles (Contingent Reward, Active Management by Exception, Passive Management by-Exception) than teachers dissatisfied with their jobs. The independent variables in Hypothesis 1 are teacher job satisfaction (satisfied versus dissatisfied teachers). The dependent variables are qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception).

Hypothesis 2 states that Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers. The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) are the independent

variables. The dependent variables are teacher job satisfaction (with supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition).

Hypothesis 3 states that Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers. The independent variable in Hypothesis 3 are qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) The dependent variables are teacher job satisfaction (with supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition).

Evaluation of Research Methods

The research methods for this study are evaluated as follows:

Internal Validity

1. A strength of this study is it used of a non-experimental, quantitative, explanatory correlation survey research design with multiple regression analyses. This design examined the relationship between supervisors' leadership styles, teachers' personal characteristics, and teachers' job satisfaction.
2. Another strength of this study is its use of instruments, which have established reliability and validity in similar studies.

3. A weakness of this study is that it only examined two of the many possible factors (transformational and transactional leadership styles) from the Multifactor Leadership Questionnaire.

External Validity

1. The strength of this study was the instruments, which have been widely used by other researchers.
2. Strengths of this study were the good estimates of reliability and validity in instruments, which contributed to the internal validity of this study.
3. A weakness of this study was difficulty of identifying the target population, and this compromised the external validity.
4. Final data producing sample was self-selected, which had potential bias.

Chapter III presents the research methodology and the research hypotheses regarding the relationships between supervisors' transformational, transactional leadership, and teacher job satisfaction. This chapter describes the research design, the sampling plan, instrumentation, ethical considerations, data collection procedures, methods of data analysis, and evaluation of research methods. Chapter IV reports the results of this study.

CHAPTER IV

RESULTS

This research explores the relationship among supervisors' transformational and transactional leadership styles and teachers' job satisfaction among 500 randomly selected higher education teachers in Taiwan. The researcher used demographic and work profiles on gender, age, teaching experience, education, and salary to examine differences in leadership styles and teachers' job satisfaction. One hundred and fifty-seven surveys were returned, yielding a return rate of 31%. A total of 127 survey instruments were valid.

Research Question

1. What are the demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary), perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), and job satisfaction (supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition) of Taiwan higher education teachers?

The sample of this study was 500 randomly selected higher education teachers in Taiwan. The data was collected from respondents who replied by mail. One hundred and fifty-seven survey instruments of the 500 were returned, yielding a return rate of 31%. A total of 127 survey instruments were valid.

Descriptive Analysis of Teacher's Demographic and Work Profile

Of the 127 valid questionnaires, 58.3% (74) were from males and 41.7% (53) were from females. Most respondents (74%) were 31-50 years old, and 85% had up to 15 years of teaching experience. More than half of the teachers (54.3%) held the doctorate,

and 64.5% earned a monthly salary of more than \$65,000 New Taiwan Dollars (NT)

(Table 1).

Table 1
Teachers' Demographic and Work Profile

Personal Characteristics	Subgroups	Frequency	Percentage
Gender	Male	74	58.3
	Female	53	41.7
Age	30 and under	14	11
	31-40	45	35.4
	41-50	49	38.6
	51-60	17	13.4
	61 and over	2	1.6
Years of teaching experience	5 and under	55	43.3
	6-15	53	41.7
	16-25	13	10.2
	26 and over	6	4.7
Educational level	Doctorate	69	54.3
	Master	52	40.9
	Others	6	4.7
Salary	NT\$55,000 and under	25	19.7
	NT\$55,001-65,000	20	15.7
	NT\$65,001-75,000	45	35.4
	NT\$75,001 and over	37	29.1

Note. F=Frequency. P=Percentage. N=127.

Descriptive Analysis of Transformational and Transactional Leadership Questionnaire

The transformational and transactional leadership questions were adapted from Bass and Avolio's (1995), Multifactor Leadership Questionnaire (MLQ Form 5x-short),

which is a 32-item, eight-facet scale. Each item has four items. The items have five choices per item, rating scale where 1 = not at all, 2 = Once in a while, 3 = Sometimes, 4 = Fairly often, and 5 = Frequently if not always. The five facets are Idealized Attributed, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration, Contingent Reward, Active Management-by-Exception, and Passive Management-by-Exception.

The average total score was 104.91, with a possible range of 32-160, and the average item score was 3.27. The results of the analysis of descriptive statistics for the transformational and transactional items are presented in Table 2.

Table 2
Descriptive Analysis of Transformational and Transactional Questionnaire

Variables	Items	Mean	Standard Deviation
Transformational			
Idealized Attributes		3.23	
	01	2.99	1.137
	02	3.27	1.123
	03	3.13	1.011
	04	3.54	.795
Idealized Attributes dimension score (possible range 4-20)		12.93	
Idealized Behaviors		3.41	
	01	3.29	1.062
	02	3.69	0.887
	03	3.06	1.067
	04	3.6	0.829
Idealized Behaviors dimension score (possible range 4-20)		13.64	
Inspirational Motivation		3.58	
	01	3.57	0.868
	02	3.62	0.854
	03	3.61	0.926
	04	3.53	0.889
Inspirational Motivation dimension score (possible range 4-20)		14.33	

Table 2 (Continued)

Variables	Items	Mean	Standard Deviation
Intellectual Stimulation		3.35	
	01	3.23	0.977
	02	3.53	0.924
	03	3.31	0.99
	04	3.33	1.039
Intellectual Stimulation dimension score (possible range 4-20)		13.4	
Individualized Consideration		3.2	
	01	2.97	1.126
	02	3.43	1.11
	03	3.19	1.021
	04	3.21	0.981
Individualized Consideration dimension score (possible range 4-20)		12.8	
Transactional			
Contingent Reward		3.325	
	01	3.12	0.905
	02	3.61	0.883
	03	2.98	1.151
	04	3.59	0.885
Contingent Reward dimension score (possible range 4-20)		13.3	
Active Management by Exception		3.07	
	01	2.85	1.113
	02	2.86	.949
	03	3.13	.926
	04	3.43	.841
Active Management by Exception dimension score (possible range 4-20)		12.27	

Table 2 (Continued)

Variables	Items	Mean	Standard Deviation
Passive Management by Exception		3.06	
	01	2.94	1.060
	02	3.41	.954
	03	3.02	1.058
	04	2.87	1.072
Passive Management by Exception dimension score (possible range 4-20)		12.24	
Average item score		3.27	
Total score (possible range 32-160)		104.91	

Note. N=127.

Descriptive Analysis of Teacher Job Satisfaction Questionnaire

The teacher job satisfaction questions were adapted from Lester (1984), The Teacher Job Satisfaction Questionnaire is a 66-item, nine-facets rating scale, where 1 = strongly disagree, 2 = disagree, 3= neutral (neither disagree nor agree), 4= agree , and 5 = strongly agree. The nine facets are supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition.

The average total score was 224.64, with a possible range of 66-330, and the average item score was 3.37. The results of the analysis of descriptive statistics for the transformational and transactional items are presented in Table 3.

Table 3
*Descriptive Analysis of Teacher Job Satisfaction
 Questionnaire*

Variables	Items	Mean	Standard Deviation
Supervision		3.29	
	01	3.37	1.133
	02	3.53	.871
	03	3.10	1.068
	04	3.41	.885
	05	3.20	.979
	06	3.32	.881
	07	3.18	1.011
	08	3.23	.977
	09	3.06	1.093
	10	3.20	1.000
	11	3.35	1.004
	12	3.28	.967
	13	3.41	.995
	14	3.49	.872
Supervision dimension score (possible range 14-70)		46.13	
Colleagues		3.53	
	01	3.99	.761
	02	3.79	.763
	03	3.57	.841
	04	3.00	.926
	05	3.51	.907
	06	3.35	1.073
	07	3.37	1.111
	08	3.50	.863
	09	3.80	.724
	10	3.44	1.081
Colleagues dimension score (possible range 10-50)		35.32	

Table 3 (Continued)

Variables	Items	Mean	Standard Deviation
Working condition		3.12	
	01	2.52	1.038
	02	3.03	.992
	03	3.47	.889
	04	3.23	1.048
	05	3.10	1.038
	06	3.20	1.069
	07	3.29	.985
Working condition dimension score (possible range 7-35)		21.84	
Pay		3.31	
	01	3.67	.943
	02	3.07	1.078
	03	3.42	1.011
	04	3.17	1.082
	05	2.98	1.023
	06	3.47	1.014
	07	3.39	.984
Pay dimension score (possible range 7-35)		23.17	
Responsibility		3.76	
	01	3.71	.846
	02	3.75	.786
	03	4.04	.728
	04	4.06	.843
	05	3.66	1.255
	06	3.72	.744
	07	3.28	.948
	08	3.87	.920
Responsibility dimension score (possible range 8-40)		30.09	

Table 3 (Continued)

Variables	Items	Mean	Standard Deviation
Work itself		3.50	
	01	3.92	.773
	02	2.51	.975
	03	3.00	1.091
	04	4.05	.754
	05	3.32	1.046
	06	3.23	1.070
	07	3.87	.717
	08	3.67	1.254
	09	3.94	.814
Work itself dimension score (possible range 9-45)		31.51	
Advancement		3.45	
	01	3.84	.877
	02	3.17	.892
	03	3.22	1.105
	04	3.17	.927
	05	3.89	.789
Advancement dimension score (possible range 5-25)		17.29	
Security		3.11	
	01	3.28	1.096
	02	2.86	1.146
	03	3.19	1.096
Security dimension score (possible range 3-15)		9.33	

Table 3 (Continued)

Variables	Items	Mean	Standard Deviation
Recognition		3.32	
	01	3.32	1.068
	02	3.51	.925
	03	3.13	1.079
Recognition dimension score (possible range 3-15)		9.96	
Average item score		3.37	
Total score (possible range 66-330)		224.64	

Note. N=127.

Validity and Reliability Analysis

This study used quantitative, descriptive and inferential statistical analysis. The data were analyzed using the software program SPSS12.0. The methods of data analysis consisted of descriptive statistics, exploratory factor analysis, independent *t*-test and multiple regression analysis. The Cronbach's alpha is the most popular estimate for reliability (McMillian & Schumacher, 2001). Internal consistency reliability considers a coefficient of 0.70 or higher as satisfactory and reliable (Nunnally & Bernstein, 1994). In this study, construct validity was established through exploratory factor analysis. The construct validity created appropriate dimensions for the hypothesized model.

Transactional and Transformational Leadership Factor Analysis

Contingent reward, active management by exception and passive management by exception were the three dimensions of transactional leadership. The contingent reward, active management by exception and passive management by exception had four items

each, resulting in 12 items in transactional leadership. To estimate the reliability of the transactional and transformational leadership for Taiwan higher education, Cronbach's alphas and item analyses were conducted on the two leadership styles: transactional leadership alphas=.733; transformational leadership alphas=.899. Table 4 presents the Cronbach's alpha, corrected item-total correlation and Cronbach's alpha if deleted for Taiwan higher education.

Table 4
Cronbach Alpha Coefficients of the Transactional Leadership

Survey Instruments	Dimensions	Cronbach's Alphas	Corrected Item to Total	Cronbach's Alphas If Item Deleted
Transactional Leadership		.733		
	Contingent Reward (CR)		.621	.588
	Management-by-Exception (Active) (MBE-A)		.411	.817
	Management-by-Exception (Passive) (MBE-P)		.670	.498
Transformational Leadership		.899		
	Idealized Influence (Attributed) (ILA)		.832	.857
	Idealized Influence (Behaviors) (IIB)		.615	.903
	Inspirational Motivation (IM)		.706	.887
	Intellectual Stimulation (IS)		.804	.864
	Individualized Consideration (IC)		.823	.862

Teacher Job Satisfaction Questionnaire Factor Analysis

There were nine factors, with respective subscale scores in teacher job satisfaction: supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition. To estimate reliability of teachers' job satisfaction for Taiwan higher education, Cronbach's alphas and item analyses were conducted on the two leadership styles: teacher job satisfaction alphas=.829. Table 5 presents the Cronbach's alpha, corrected item-total correlation and Cronbach's alpha if deleted for Taiwan higher education.

Table 5
Cronbach Alpha Coefficients of the Teacher Job Satisfaction

Survey Instruments	Dimensions	Cronbach's Alphas	Corrected Item to Total	Cronbach's Alphas If Item Deleted
Teacher Job Satisfaction		.829		
	Supervision		.665	.801
	Colleagues		.348	.830
	Working Conditions		.735	.796
	Pay		.438	.822
	Responsibility		.710	.797
	Work Itself		.491	.817
	Advancement		.677	.794
	Security		.655	.797
	Recognition		.376	.853

Convergent Validity of the Transactional and Transformational Leadership and Related Subscales

Convergent validity was established between the transformational and transactional leadership and subscales using Pearson *r* correlation coefficients. The

transformational leadership has with five subscales which are Idealized Influence (Attributes), Idealized Influence (Behaviors), Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration. Transactional leadership has three subscales, which are Contingent Reward (CR), Management-by-Exception (Active) (MBE-A), and Management-by-Exception (Passive) (MBE-P). As shown in Table 6, significant relationships were found between the transformational and transactional leadership and related subscales. Significant correlations between subscales ranged from .327 ($p < .01$) to .812 ($p < .01$). The strongest significant relationship was between the intellectual stimulation and the individualized consideration subscales. The weakest significant relationship was between the inspirational motivation and the management-by-exception (Active). Therefore, convergent validity was established for the transformational and transactional leadership subscales.

Table 6

Pearson r Correlations to Establish Convergent Validity Between the Transformational and Transactional Leadership and Subscales

	Idealized Attributes	Idealized Behaviors	Inspirational Motivation	Intellectual Stimulation	Individualized Consideration	Contingent Reward	Active Management by Exception	Passive Management by Exception
Transformational leadership								
Idealized Attributes		.596**	.666**	.747**	.770**	.746**	.386**	.639**
Idealized Behaviors	.596**		.544**	.511**	.531**	.571**	.520**	.575**
Inspirational Motivation	.666**	.544**		.605**	.627**	.667**	.327**	.609**
Intellectual Stimulation	.747**	.511**	.605**		.812**	.791**	.361**	.649**
Individualized Consideration	.770**	.531**	.627**	.812**		.773**	.342**	.699**
Transactional leadership								
Contingent Reward	.746**	.571**	.667**	.791**	.773**		.336**	.704**
Active Management-by-Exception	.386**	.520**	.327**	.361**	.342**	.336**		.416**
Passive Management-by-Exception	.639**	.575**	.609**	.649**	.699**	.704**	.416**	

** p < .01

Convergent Validity of the Teacher Job Satisfaction and Related Subscales

Convergent validity was established between teachers' job satisfaction and subscales using Pearson r correlation coefficients. The Teacher Job Satisfaction (TJS) has with nine subscales which are (a) supervision, (b) colleagues, (c) working conditions, (d) pay, (e) responsibility, (f) work itself, (g) advancement, (h) security, and (i) recognition. As shown in Table 4, significant relationships were found between teachers' job satisfaction and related subscales. Significant correlations between subscales ranged from .205 ($p < .05$) to .843 ($p < .01$). However, Table 7 also found no significant relationships either between colleagues and the security ($r = .156, p > .05$), or between colleagues and recognition ($r = -.077, p > .05$). In addition, no significant relationships were found either between pay and recognition ($r = -.07, p > .05$), or between the work itself and recognition ($r = .039, p > .05$). The strongest significant relationship was between the supervision and the overall subscales. The weakest significant relationship was between colleagues and advancement. Therefore, convergent validity was established for teachers' job satisfaction subscales.

Table 7

Pearson r Correlations to Establish Convergent Validity Between the Teacher Job Satisfaction and Subscales

	Supervision	Colleagues	Working condition	Pay	Responsibility	Work itself	Advancement	Security	Recognition	Overall
Teacher Job Satisfaction										
Supervision		.406**	.661**	.383**	.487**	.402**	.481**	.542**	.293**	.843**
Colleagues	.406**		.222**	.550**	.235**	.520**	.205**	.156	-.077	.545**
Working condition	.661**	.222**		.242**	.612**	.402**	.689**	.578**	.429**	.820**
Pay	.383**	.550**	.242**		.436**	.558**	.264**	.336**	-.070	.606**
Responsibility	.487**	.235**	.612**	.436**		.350**	.521**	.546**	.519**	.754**
Work itself	.402**	.520**	.402**	.558**	.350**		.431**	.260**	.039	.629**
Advancement	.481**	.205**	.689**	.264**	.521**	.431**		.542**	.435**	.711**
Security	.542**	.156	.578**	.336**	.546**	.260**	.542**		.480**	.681**
Recognition	.293**	-.077	.429**	-.070	.519**	.039	.435**	.480**		.409**
Overall	.843**	.545**	.820**	.606**	.754**	.629**	.711**	.681**	.409**	

** p< .01

Hypothesis 1

H1: Taiwan higher education teachers that are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and significantly lower transactional leadership styles (Contingent Reward, Active Management by Exception, Passive Management by-Exception) than teachers that are less satisfied with their jobs.

To test this hypothesis, the researcher classified teachers according to whether they were more or less satisfied with their jobs, using the average item job satisfaction score of 3.5 (on a scale of 1 to 5). Fifty-one teachers with an average item job satisfaction score of 3.5 or higher were classified *as more satisfied teachers*. Seventy-six teachers with average item job satisfaction scores below 3.5 were classified *as less satisfied teachers*. One-tailed, independent *t*-tests were used to compare teacher perceptions of supervisor transformational leadership (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration) and transactional leadership (contingent reward, active management by exception, passive management by-exception) according to more satisfied and less satisfied teachers.

Results showed that more satisfied teachers had higher perceptions for the total scales of supervisor transformational and transactional leadership styles. Furthermore, these scores were *significantly higher* for more satisfied teachers for all transformational and transactional leadership subscales with the exception of passive management by perception, with significant independent *t* values ranging from 2.87 to 4.69, and significant *p* values ranging from $\leq .05$ to $.00$. Therefore, Hypothesis 1 was only

partially supported: Taiwan higher education teachers who are more satisfied with their jobs perceived their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) than teachers who are less satisfied with their jobs. Not supported in Hypothesis 1 was: Taiwan higher education teachers who are more satisfied with their jobs perceived their supervisors to have significantly lower transactional leadership styles (Contingent Reward, Active Management by Exception, Passive Management by-Exception) than teachers who are less satisfied with their jobs. Table 8 presents the means, *t*-values and *p*-values (one tailed) for transformational leadership (Idealized attributes, Idealized behaviors, Inspirational motivation, Intellectual stimulation, and Individualized consideration) and transactional leadership (Contingent reward, Active management by exception, Passive management by exception) according to teachers who are more satisfied versus less satisfied with their jobs.

Table 8

Independent t-Tests of Perceptions of Supervisors' Transformational and Transactional Leadership according to Teachers that are More Satisfied versus Less Satisfied with their Jobs

	Score Range For Total and Subscales	More Satisfied N= Mean	Less Satisfied N= Mean	t-value	Sig. (1-tailed) p-value
Transformational Leadership (Total Score)	5 to 25	51 3.641	76 3.197	4.17	.000
Idealized Attributes	1 to 5	51 3.608	76 3.114	3.73	.000
Idealized Behaviors	1 to 5	51 3.632	76 3.263	3.36	.001
Inspirational Motivation	1 to 5	51 3.882	76 3.385	4.69	.000
Intellectual Stimulation	1 to 5	51 3.583	76 3.194	2.87	.005
Individualized Consideration	1 to 5	51 3.490	76 3.007	3.09	.002
Transactional Leadership (Total Score)	3 to 15	51 3.414	76 3.079	3.21	.002
Contingent Reward	1 to 5	51 3.534	76 3.181	2.99	.003
Active Management by Exception	1 to 5	51 3.088	76 2.928	1.13	.263
Passive Management by Exception	1 to 5	51 3.5	76 3.026	3.34	.001

Hypothesis 2

H2: Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers.

H_{2a}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by

Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *supervision*.

George and Mallery (2003) stated that *R* Square is a measure of expressing the total amount of variance of the dependent variable, which can be accounted for by the independent variable. The *F* statistic indicates the level of statistical significance of the relationship between independent variables and dependent variables. Beta weight (standardized regression coefficient) is a measure of how strongly each independent variable influences the dependent variable. It can identify the strength, direction, and statistical significance of the relationship between the independent variables and dependent variables. The *p* value is a measure of significance level. A *p* value of less than 0.05 is considered statistically significant (Chen, 2005).

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with supervision. The best explanatory model showed four significant variables (idealized attributes, inspirational motivation, individualized consideration and passive management by exception), the idealized attributes had the largest correlation with teachers' job satisfaction with supervision ($p < .01$). The *F* value (75.961) for the regression model that analyzed transformational and transactional leadership variables explaining teachers' job satisfaction with supervision was significant ($p = .000$).

According to the *R* Square, about 37.8% of the variation in teachers' job satisfaction with supervision can be explained by the regression model with idealized attributes, inspirational motivation, individualized consideration and passive management by exception.

In Table 9, t value was 8.716 and there was significance with idealized attributes ($p < .01$). The idealized attributes, inspirational motivation, individualized consideration and passive management by exception were four significant variables in explaining the teachers' job satisfaction with supervision. According the number of beta in, the beta value of individualized consideration is larger (.266), which indicated individualized consideration made the greater contribution of the other excluded variables. Thus, H_{2a} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes, inspirational motivation, individualized consideration and passive management by exception were significant explanatory variables of their perceived job satisfaction with supervision.

Table 9

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Supervision

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Idealized Attributes	.451	.052	.615	8.716	.000	
Inspirational Motivation				2.418	.017	.224
Individualized Consideration				2.454	.016	.266
Transactional						
Passive Management by Exception				2.352	.020	.212
$N=127$		R Square=.378				
$F=75.961$ ($p=.000$)		Adjusted R Square=.373				

H_{2b} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *colleagues*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with colleagues. The result showed five significant explanatory variables (idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception). Individualized consideration had the largest correlation with the teachers' job satisfaction with colleagues ($p < .01$). The F value (39.535) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with colleagues was significant ($p = .000$). According to the R Square, about 24% of the variation in teachers' job satisfaction with colleagues was explained by the regression model with idealized attributes, inspirational motivation, individualized consideration active management by exception and passive management by exception.

In Table 10, t value was 6.288 and there was significance with individualized consideration ($p < .01$). Idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception were five significant variables in explaining teachers' job satisfaction with colleagues. According the number of beta in, the beta value of passive management by exception is larger (.258), which indicated passive management by exception made the greater contribution of the other excluded variables. Thus, H_{2b} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception were significant explanatory variables of perceived job satisfaction with colleagues.

Table 10

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Colleagues

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Individualized Consideration	.299	.048	.490	6.288	.000	
Idealized Attributes				2.001	.048	.242
Inspirational Motivation				2.440	.016	.239
Transactional						
Active Management by Exception				2.569	.011	.209
Passive Management by Exception				2.411	.017	.258
<hr/>						
N=127	R Square=.240					
F=39.535 (p=.000)	Adjusted R Square=.234					

H_{2c}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward and Management-by-Exception), are significant explanatory variables of perceived job satisfaction with *working conditions*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with working conditions. The result showed that there were four significant explanatory variables (idealized attributes, inspirational motivation, contingent reward and passive management by exception), the idealized attributes had the largest correlation with teachers' job satisfaction with working conditions ($p \leq .01$). The F value (11.070) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with working conditions was significant ($p \leq .01$). According to

the R Square, about 8.1% of the variation in teachers' job satisfaction with working conditions can be explained by the regression model with idealized attributes, inspirational motivation, contingent reward and passive management by exception.

In Table 11, *t* value was 3.327 and there was significance with idealized attributes ($p \leq .01$). The idealized attributes, inspirational motivation, contingent reward and passive management by exception were four significant variables explaining teachers' job satisfaction with working conditions. According the number of beta in, the beta value of inspirational motivation is larger (.113), which indicated inspirational motivation made the greater contribution of the other excluded variables. Thus, H_{2c} was partially supported with Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes, inspirational motivation, contingent reward and passive management by exception were significant explanatory variables of perceived job satisfaction with working conditions.

Table 11
Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Working Conditions

Variable	B	SE	Beta	<i>t</i>	Sig.	Beta In
Transformational						
Idealized Attributes	.200	.060	.285	3.327	.001	
Inspirational Motivation				.980	.329	.113
Transactional						
Contingent Reward				.728	.468	.094
Passive Management by Exception				.516	.607	.058
<hr/>						
<i>N</i> =127	<i>R</i> Square=.081					
<i>F</i> =11.070 (p =.001)	Adjusted <i>R</i> Square=.074					

H_{2d} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by

Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *pay*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with pay. The result showed that there were five significant explanatory variables (idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception), the inspirational motivation had the largest correlation with teachers' job satisfaction with pay ($p < .01$). The F value (35.477) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with pay was significant ($p = .000$). According to the R Square, about 22.1% of the variation in teachers' job satisfaction with pay can be explained by the regression model with idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception

In Table 12, t value was 5.956 and there was significance with inspirational motivation ($p < .01$). The idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception were five significant variables explaining teachers' job satisfaction with pay. According the number of beta in, the beta value of individualized consideration is larger (.253), which indicated individualized consideration made the greater contribution of the other excluded variables. Thus, H_{2d} was partially supported with Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active

management by exception were significant explanatory variables of perceived job satisfaction with pay.

Table 12

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Pay

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Inspirational Motivation	.400	.067	.470	5.956	.000	
Idealized Attributes				2.151	.033	.224
Intellectual Stimulation				2.096	.038	.205
Individualized Consideration				2.556	.012	.253
Transactional						
Active Management by Exception				2.035	.044	.168
<hr/>						
N=127	R Square=.221					
F=35.477 (p=.000)	Adjusted R Square=.215					

H_{2c}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *responsibility*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with responsibility. The result showed that only one significant explanatory variable (inspirational motivation), had the largest correlation with teachers' job satisfaction with responsibility ($p < .05$). The F value (6.607) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with responsibility was significant ($p < .05$). According to the R Square, about 5% of the variation in teachers' job satisfaction with responsibility can be explained by the regression model with inspirational motivation. H_{2c} was therefore

partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with inspirational motivation were significant explanatory variables of perceived job satisfaction with responsibility.

Table 13

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Responsibility

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Inspirational Motivation	.194	.076	.224	2.570	.011	
N=127		R Square=.050				
F=6.607 (p=.011)		Adjusted R Square=.043				

H_{2f}: Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *work itself*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with work itself. The result showed that among the three significant explanatory variables (idealized behaviors, contingent reward and active management by exception), contingent reward had the largest correlation with teachers' job satisfaction with pay ($p < .01$). The *F* value (19.644) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with work itself was significant ($p = .000$). According to the R Square, about 13.6% of the variation in teachers' job satisfaction with work itself can be explained by the regression model with idealized behaviors, contingent reward and active management by exception.

In Table 14, t value was 2.495 and there was significance with inspirational motivation ($p < .05$). Idealized behaviors, contingent reward and active management by exception were three significant variables explaining teachers' job satisfaction with work itself. According the number of beta in, the beta value of idealized behaviors is larger (.217), indicating that idealized behaviors made the greatest contribution of the other excluded variables. Thus, H_{2f} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized behaviors, contingent reward and active management by exception were significant explanatory variables of perceived job satisfaction with work itself.

Table 14

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Work Itself

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Idealized Behaviors				2.179	.031	.217
Transactional						
Contingent Reward	.375	.085	.369	4.432	.000	
Active Management by Exception				2.495	.014	.216
<hr/>						
$N=127$	R Square=.136					
$F=19.644$ ($p=.000$)	Adjusted R Square=.129					

H_{2g} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *advancement*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with advancement. The result showed that one significant explanatory variable (inspirational

motivation), had the largest correlation with teachers' job satisfaction with advancement ($p < .05$). The F value (6.304) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with advancement was significant ($p < .05$). According to the R Square, about 4.6% of the variation in teachers' job satisfaction with advancement can be explained by the regression model with inspirational motivation. Thus H_{2g} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with inspirational motivation was significant explanatory variable of perceived job satisfaction with advancement.

Table 15

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Advancement

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Inspirational Motivation	.263	.107	.215	2.456	.015	
$N=127$	R Square=.046					
$F=6.034$ ($p=.015$)	Adjusted R Square=.038					

H_{2h} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *security*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with security. The result showed that there were two significant explanatory variables (idealized attributes and active management by exception), the idealized attributes had the largest correlation with teachers' job satisfaction with security ($p < .05$). The F value (9.251) for

the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with security was significant ($p < .05$). According to the R Square, about 6.9% of the variation in teachers' job satisfaction with security can be explained by the regression model with idealized attributes and active management by exception.

In Table 16, t value was 2.054 and there was significance with active management by exception ($p < .05$). The idealized attributes and active management by exception were two significant variables explaining teachers' job satisfaction with security. According the number of beta in, the beta value of idealized attributes (.190), is the only contribution for excluded variable. Thus, H_{2h} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes and active management by exception were significant explanatory variables of perceived job satisfaction with security.

Table 16

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Security

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Idealized Attributes	.246	.081	.263	3.042	.003	
Transactional						
Active Management by Exception				2.054	.042	.190
$N=127$	R Square=.069					
$F=9.251$ ($p=.003$)	Adjusted R Square=.061					

H_{2i} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *recognition*.

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction with recognition. The result showed that only one significant explanatory variable (active management by exception), had the largest correlation with teachers' job satisfaction with recognition ($p < .05$). The F value (9.129) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction with recognition was significant ($p < .05$). According to the R Square, about 6.8% of the variation in teachers' job satisfaction with recognition can be explained by the regression model with active management by exception. Thus, H_{2i} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with active management by exception was a significant explanatory variable of perceived job satisfaction with recognition.

Table 17

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Recognition

Variable	B	SE	Beta	t	Sig.	Beta In
Transactional						
Active Management by Exception	-.350	.116	-.261	-3.021	.003	
$N=127$	R Square=.068					
$F=9.129$ ($p=.003$)	Adjusted R Square=.061					

H_{2j} : Taiwan higher education teachers' perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction (total score).

The forward selection multiple regression analysis was used for transformational and transactional leadership variables explaining teachers' job satisfaction. The result showed that there were two significant explanatory variables (idealized attributes and inspiration motivation), the idealized attributes had the largest correlation with teachers' job satisfaction ($p < .01$). The F value (40.003) for the regression model analyzing transformational and transactional leadership variables explaining teachers' job satisfaction was significant ($p < .01$). According to the R Square, about 24.2% of the variation in teachers' job satisfaction can be explained by the regression model with idealized attributes and inspirational motivation.

In Table 18, t value was 2.827 and there was significance with inspirational motivation ($p \leq .05$). The idealized attributes and inspirational motivation were two significant variables to explain teachers' job satisfaction. According the number of beta in, the beta value of inspirational motivation (.287), is the only contribution for excluded variable. Thus, H_{2j} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized attributes and inspirational motivation were significant explanatory variables of perceived job satisfaction.

Table 18

Summarized Regression Analysis of Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction (total score)

Variable	B	SE	Beta	t	Sig.	Beta In
Transformational						
Idealized Attributes	.272	.043	.492	6.325	.000	
Inspirational Motivation				2.827	.005	.287
$N=127$	R Square=.242					
$F=40.003$ ($p=.000$)	Adjusted R Square=.236					

The findings in Hypothesis 2: Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers. Table 9-18 shows teachers' perceived supervisors' transformational and transactional leadership with idealized attributes and inspirational motivation were most frequent and most significant explanatory variables in teacher job satisfaction.

Multiple Regression Analysis for Hypothesis 3

H3: Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers.

H_{3a}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *supervision*.

Multiple regression analysis was used for teachers' demographic and work profile in order to characterize supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with supervision. The *F* value (7.151) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with supervision was significant ($p=.000$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors'

transformational and transactional leadership accounted for 38.8% of the variance in teacher job satisfaction with supervision.

The *t*-statistic found no significant explanatory variables in teacher job satisfaction with supervision ($p > .05$). According to Beta weight, idealized attributes had more impact on teacher job satisfaction with supervisions (Beta=.342). Salary had more impact on the model ($t=1.031$, $p=.305$), and a positive relationship (Beta=.108) with teacher job satisfaction with supervision, such that teachers who earned more were more satisfied with their supervision. Moreover, years of teaching experience had less impact on the model ($t=-.643$, $p=.521$), and a negative relationship (Beta=-.066) with teacher job satisfaction with supervision, such that the teachers who had been in the classroom the longest were the least satisfied with their supervision. Therefore, the teachers' salary influenced teachers' job satisfaction with supervision. Table 19 summarizes the regression analysis of demographic and work profile of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with supervision.

Table 19

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Supervision

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.251	.094	.342	2.679	.008
Idealized Behaviors	.038	.090	.043	.421	.674
Inspirational Motivation	.136	.096	.153	1.423	.158
Intellectual Stimulation	-.030	.102	-.042	-.300	.765
Individualized Consideration	.118	.089	.188	1.325	.188
Transactional					
Contingent Reward	-.020	.118	-.024	-.173	.863
Active Management by Exception	-.100	.062	-.142	-1.627	.107
Passive Management by Exception	.099	.078	.143	1.257	.211
Demographic and Work Profile					
Gender	-.043	.086	-.038	-.500	.618
Age	-.003	.055	-.006	-.061	.952
Educational Level	.062	.099	.065	.632	.529
Years of Teaching Experience	-.005	.008	-.066	-.643	.521
Salary	.056	.054	.108	1.031	.305
N=127	R Square=.451				
F=7.151 (p=.000)	Adjusted R Square=.388				

In addition, the result refer to Table 9 of H_{2a}, the idealized attributes, inspirational motivation, individualized consideration and passive management by exception were four significant variables in explaining teachers' job satisfaction with supervision. Thus, H_{3a} was partially supported with Taiwan higher education teachers' demographic and work profile perceptions of supervisors' transformational leadership with the idealized attributes, inspirational motivation, individualized consideration and passive management by exception being significant explanatory variables of perceived job satisfaction with

supervision. The teachers' salary of perception supervisor transformational and transactional leadership had an impact on teacher job satisfaction with supervision.

H_{3b}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *colleagues*.

Multiple regression analysis was used for teachers' demographic and work profile perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with colleagues. The *F* value (4.241) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with colleagues was significant ($p=.000$). The adjusted *R* square shows that teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 25.1% of the variance in teachers' job satisfaction with colleagues.

The *t*-statistic indicates no significant explanatory variables in teacher job satisfaction with colleagues ($p>.05$). According to Beta weight, individualized consideration had more impact on teacher job satisfaction with colleagues (Beta=.196). Teachers' educational level had more impact on the model ($t=.243$, $p=.808$), and a positive relationship (Beta=.028) with teacher job satisfaction with colleagues, such that teachers with more education were the most satisfied with their colleagues. Moreover,

years of teaching experience had less impact on the model ($t=-.743, p=.459$), and a negative relationship (Beta=-.084) with teacher job satisfaction with colleagues, such that there was an inverse relationship between years of teaching and satisfaction with colleagues. Therefore, the teachers' educational level had affected teachers' job satisfaction with colleagues. Table 20 summarizes the regression analysis of demographic and work profile of supervisors' transformational and transactional leadership variables in terms of teachers' job satisfaction with colleagues.

Table 20
Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Colleagues

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.083	.100	.116	.824	.412
Idealized Behaviors	-.027	.097	-.031	-.281	.779
Inspirational Motivation	.128	.103	.149	1.246	.215
Intellectual Stimulation	-.060	.109	-.085	-.551	.583
Individualized Consideration	.120	.096	.196	1.252	.213
Transactional					
Contingent Reward	.045	.126	.056	.357	.722
Active Management by Exception	.101	.066	.148	1.531	.128
Passive Management by Exception	.115	.084	.172	1.363	.176
Demographic and Work Profile					
Gender	.014	.092	.013	.156	.876
Age	-.004	.059	-.007	-.068	.946
Educational Level	.026	.106	.028	.243	.808
Years of Teaching Experience	-.006	.009	-.084	-.743	.459
Salary	-.010	.058	-.020	-.175	.861
N=127		R Square=.328			
F=4.241 (p=.000)		Adjusted R Square=.251			

In addition, Table 10 of H_{2b} shows that the idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive

management by exception were five significant variables explaining teachers' job satisfaction with colleagues. Thus, H_{3b} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with the idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception were significant explanatory variables of perceived job satisfaction with colleagues. The teachers' educational level affected teachers' job satisfaction with colleagues.

H_{3c}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *working condition*.

The multiple regression analysis was used for teachers' demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with working conditions. The *F* value (1.882) for the regression model that uses supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with working conditions was not significant ($p > .05$). The adjusted *R* square revealed that teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 8.3% of the variance in teachers' job satisfaction with working conditions.

The *t*-statistic found no significant explanatory variables in teachers' job satisfaction with working conditions ($p > .05$). According to Beta weight, idealized

attributes had more impact on teacher job satisfaction with colleagues (Beta=.221). The number of years of teaching experience had more impact on the model ($t=1.182$, $p=.240$), and a positive relationship (Beta=.148) with teacher job satisfaction with working conditions, such that teachers with the most experience were the most satisfied with their working conditions. Moreover, educational level had less impact on the model ($t=-.579$, $p=.564$), and a negative relationship (Beta=-.073) with teacher job satisfaction with working conditions, such that the most highly educated teachers were the least satisfied with their working conditions. Therefore, the number of years of teaching experience influenced teachers' satisfaction with working conditions. Table 21 summarizes the regression analysis of the relationship among explanatory variables of demographic and work profile, teacher perceptions of supervisors' transformational and transactional leadership variables and teacher satisfaction with working conditions.

Table 21

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Working Conditions

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.155	.109	.221	1.418	.159
Idealized Behaviors	.007	.105	.008	.065	.948
Inspirational Motivation	.090	.112	.106	.802	.424
Intellectual Stimulation	.058	.119	.083	.485	.628
Individualized Consideration	-.037	.104	-.061	-.352	.726
Transactional					
Contingent Reward	-.019	.138	-.024	-.138	.890
Active Management by Exception	-.081	.072	-.120	-1.127	.262
Passive Management by Exception	.004	.092	.007	.048	.962
Demographic and Work Profile					
Gender	.013	.100	.012	.126	.900
Age	.037	.065	.068	.569	.571
Educational Level	-.067	.115	-.073	-.579	.564
Years of Teaching Experience	.011	.009	.148	1.182	.240
Salary	.056	.064	.114	.886	.378
N=127		R Square=.178			
F=1.882 (p=.039)		Adjusted R Square=.083			

In addition, the result refer to Table 11 of H_{2c}, the idealized attributes, inspirational motivation, contingent reward and passive management by exception were four significant variables in teachers' job satisfaction with working conditions. Thus, H_{3c} was partially supported: Taiwan higher education teachers' demographic and work profile perceptions of supervisors' transformational leadership with idealized attributes, inspirational motivation, contingent reward and passive management by exception were significant explanatory variables of perceived job satisfaction with working conditions. The teachers' teaching experience of perception supervisor transformational and

transactional leadership had an impact on teachers' job satisfaction with working conditions.

H_{3d}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *pay*.

The multiple regression analysis was used for teachers' demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with pay. The *F* value (4.324) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with pay was significant ($p=.000$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 25.5% of the variance in teacher job satisfaction with pay.

The *t*-statistic indicated there were no significant explanatory variables in teacher job satisfaction with working conditions ($p>.05$). According to Beta weight, individualized consideration had more impact on teacher job satisfaction with colleagues (Beta=.216). Gender had more impact on the model ($t=2.311, p=.023$), and a positive relationship (Beta=.192) with teacher job satisfaction with pay, such that the higher score of gender had higher teachers' job satisfaction with pay. Moreover, age had less impact on the model ($t=-1.281, p=.203$), and a negative relationship (Beta=-.138) with teacher

job satisfaction with pay, such that the higher score of age the lower teachers' job satisfaction with pay. Therefore, the teachers' gender affected teachers' job satisfaction with pay. Table 22 summarizes the regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with pay.

Table 22
Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Pay

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.040	.099	.057	.403	.688
Idealized Behaviors	-.006	.095	-.007	-.060	.952
Inspirational Motivation	.156	.101	.183	1.540	.126
Intellectual Stimulation	-.016	.107	-.022	-.145	.885
Individualized Consideration	.130	.094	.216	1.382	.170
Transactional					
Contingent Reward	.035	.124	.043	.279	.781
Active Management by Exception	.123	.065	.181	1.887	.062
Passive Management by Exception	.016	.083	.024	.188	.851
Demographic and Work Profile					
Gender	.209	.090	.192	2.311	.023
Age	-.075	.059	-.138	-1.281	.203
Educational Level	.011	.104	.012	.107	.915
Years of Teaching Experience	.008	.009	.100	.883	.379
Salary	.080	.057	.162	1.395	.166
N=127		R Square=.332			
F=4.324 (p=.000)		Adjusted R Square=.255			

Table 12 of H_{2d}, shows that idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception were significant explanatory variables of perceived job satisfaction with pay. Thus, H_{3d} was partially supported: Taiwan higher education teachers' perceptions of

supervisors' transformational leadership with idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception were significant explanatory variables of perceived job satisfaction with pay. The teachers' gender of perception supervisor transformational and transactional leadership had an effect on teachers' job satisfaction with pay.

H_{3e}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *responsibility*.

The multiple regression analysis was performed on teachers' demographic and work profile perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with responsibility. The *F* value (1.321) for the regression model that analyzed demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with responsibility was not significant ($p > .05$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 3.2% of the variance in teachers' job satisfaction with responsibility.

The *t*-statistic revealed no significant explanatory variables in teachers' job satisfaction with working conditions ($p > .05$). According to Beta weight, inspirational motivation had more impact on teacher job satisfaction with colleagues (Beta=.216). The number of years of teaching experience had more impact on the model ($t=1.714$,

$p=.089$), and a positive relationship (Beta=.221) with teacher job satisfaction with responsibility, such that teachers who had taught the longest were the most satisfied with their responsibilities. Moreover, educational level had less impact on the model ($t=-.631, p=.529$), and a negative relationship (Beta=-.082) with teacher job satisfaction with responsibility, such that the higher score of educational level the lower teachers' job satisfaction with responsibility. Therefore, the teachers' teaching experience had an impact on teachers' job satisfaction with responsibility. Table 23 summarizes the regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with responsibility.

Table 23

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Responsibility

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.026	.115	.036	.223	.824
Idealized Behaviors	-.011	.110	-.012	-.098	.922
Inspirational Motivation	.323	.118	.372	2.747	.007
Intellectual Stimulation	-.069	.125	-.097	-.555	.580
Individualized Consideration	.051	.109	.083	.465	.643
Transactional					
Contingent Reward	-.124	.145	-.152	-.855	.394
Active Management by Exception	-.040	.076	-.058	-.530	.597
Passive Management by Exception	-.062	.096	-.092	-.641	.523
Demographic and Work Profile					
Gender	.103	.105	.093	.981	.329
Age	.017	.068	.030	.244	.808
Educational Level	-.076	.121	-.082	-.631	.529
Years of Teaching Experience	.017	.010	.221	1.714	.089
Salary	-.018	.067	-.037	-.276	.783
N=127	R Square=.132				
F=1.321 (p=.211)	Adjusted R Square=.032				

In addition, the result refer to Table 13 of H_{2e}, the inspirational motivation was a significant variable to explain teachers' job satisfaction with responsibility. Thus, H_{3e} was partially supported: Taiwan higher education teachers' demographic and work profile perceptions of supervisors' transformational leadership with inspirational motivation were a significant explanatory variable of perceived job satisfaction with responsibility. The teachers' teaching experience of perception supervisor transformational and transactional leadership affected their job satisfaction with responsibility.

H_{3f}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *work itself*.

The multiple regression analysis was used for teachers' demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with work itself. The F value (4.464) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with work itself was significant ($p=.000$). The adjusted R square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 26.3% of the variance in teacher job satisfaction with work itself.

The t -statistic indicated there were no significant explanatory variables in teacher job satisfaction with working conditions ($p>.05$). According to Beta weight, individualized consideration had more impact on teacher job satisfaction with colleagues (Beta=.216). In terms of teachers' demographic and work profile characteristics, salary had more impact on the model ($t=1.720$, $p=.088$), and a positive relationship (Beta=.198) with teacher job satisfaction with work itself, such that the higher score of salary had higher teachers' job satisfaction with work itself.

Moreover, educational level had less impact on the model ($t=-1.429$, $p=.156$), and a negative relationship (Beta=-.162) with teacher job satisfaction with work itself, such

that the higher score of educational level the lower teachers' job satisfaction with work itself. Therefore, the teachers' salary had an impact on teacher job satisfaction with work itself. Table 24 summarizes the regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with work itself.

Table 24

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Work Itself

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.015	.125	.017	.123	.902
Idealized Behaviors	.118	.120	.109	.979	.330
Inspirational Motivation	.146	.128	.134	1.136	.259
Intellectual Stimulation	-.188	.136	-.211	-1.382	.170
Individualized Consideration	.139	.119	.181	1.167	.246
Transactional					
Contingent Reward	.101	.158	.099	.638	.525
Active Management by Exception	.156	.083	.180	1.887	.062
Passive Management by Exception	.059	.105	.070	.563	.575
Demographic and Work Profile					
Gender	.025	.115	.018	.219	.827
Age	.076	.074	.109	1.018	.311
Educational Level	-.188	.132	-.162	-1.429	.156
Years of Teaching Experience	-.011	.011	-.111	-.989	.325
Salary	.125	.073	.198	1.720	.088
N=127		R Square=.339			
F=4.464 (p=.000)		Adjusted R Square=.263			

In addition, the results in Table 14 of H_{2f}, idealized behaviors, contingent reward and active management by exception show three significant variables in teachers' job satisfaction with work itself. Thus, H_{3f} was partially supported: Taiwan higher education teachers' perceptions of supervisors' transformational leadership with idealized

behaviors, contingent reward and active management by exception were significant explanatory variables of perceived job satisfaction with work itself. The teachers' salary of perception supervisor transformational and transactional leadership influenced their job satisfaction with work itself.

H_{3g}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *advancement*.

The multiple regression analysis was used to explain teachers' job satisfaction with advancement. The *F* value (1.291) for the regression model linking teachers' job satisfaction with advancement was not significant ($p > .05$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 2.9% of the variance in teacher job satisfaction with advancement.

The *t*-statistic indicated there were no significant explanatory variables in teachers' job satisfaction with advancement ($p > .05$). According to Beta weight, idealized attributes had more impact on teacher job satisfaction with advancement (Beta=.140). In terms of teachers' demographic and work profile characteristics, age had more impact on the model ($t = .828, p = .410$), and a positive relationship (Beta=.102) with teacher job satisfaction with advancement, such that the higher score of age had higher teachers' job satisfaction with advancement. Moreover, educational level had less impact on the model ($t = -.777, p = .439$), and a negative relationship (Beta=-.101) with

teacher job satisfaction with advancement, so the higher score of age the lower teachers' job satisfaction with advancement. Therefore, the teachers' age had an impact on their job satisfaction with advancement. Table 25 presents a summarized regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with advancement.

Table 25

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Advancement

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.141	.163	.140	.870	.386
Idealized Behaviors	.102	.156	.083	.650	.517
Inspirational Motivation	.270	.166	.220	1.622	.108
Intellectual Stimulation	-.123	.176	-.122	-.699	.486
Individualized Consideration	.107	.155	.123	.689	.492
Transactional					
Contingent Reward	.015	.205	.013	.071	.943
Active Management by Exception	-.032	.107	-.033	-.300	.765
Passive Management by Exception	-.220	.136	-.231	-1.615	.109
Demographic and Work Profile					
Gender	.121	.149	.077	.825	.417
Age	.080	.096	.102	.828	.410
Educational Level	-.133	.171	-.101	-.777	.439
Years of Teaching Experience	.003	.014	.027	.208	.835
Salary	.064	.095	.089	.675	.501
N=127	R Square=.129				
F=1.291 (p=.229)	Adjusted R Square=.029				

Table 15 of H_{2g} shows that inspirational motivation was a significant variable in teachers' job satisfaction with advancement. Thus, H_{3g} was partially supported: Taiwan higher education teachers' demographic and work profile perceptions of supervisors' transformational leadership with inspirational motivation was a significant explanatory

variable of perceived job satisfaction with advancement. The teachers' age influenced their job satisfaction with advancement.

H_{3h}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *security*.

Multiple regression analysis was used for teachers' perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with security. The *F* value (2.158) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with security was significant ($p < .05$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 10.7% of the variance in their job satisfaction with security.

The *t*-statistic indicated that idealized attributes was a significant explanatory variable in teacher job satisfaction with security ($p < .05$). The number of years of teaching experience had more impact on the model ($t = 2.275$, $p = .025$), and a positive relationship (Beta = .282) with teacher job satisfaction with security, such that the higher score of teaching experience had higher teachers' job satisfaction with security. Moreover, age had less impact on the model ($t = -.962$, $p = .338$), and a negative relationship (Beta = -.114) with teacher job satisfaction with security, such that the higher

score of years of age the lower teachers' job satisfaction with security. Therefore, the teachers' teaching experience had an impact on teacher job satisfaction with security.

Table 26 presents a summarized regression analysis of demographic/work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with security.

Table 26

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Security

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.328	.145	.349	2.264	.025
Idealized Behaviors	-.027	.139	-.024	-.195	.846
Inspirational Motivation	.040	.148	.035	.271	.787
Intellectual Stimulation	-.256	.157	-.273	-1.627	.107
Individualized Consideration	.108	.138	.134	.785	.434
Transactional					
Contingent Reward	.127	.182	.119	.695	.488
Active Management by Exception	-.084	.095	-.093	-.882	.380
Passive Management by Exception	-.112	.121	-.127	-.925	.357
Demographic and Work Profile					
Gender	.197	.133	.136	1.486	.140
Age	-.083	.086	-.114	-.962	.338
Educational Level	-.012	.153	-.010	-.078	.938
Years of Teaching Experience	.029	.013	.282	2.275	.025
Salary	.088	.084	.132	1.042	.300
<i>N</i> =127		<i>R</i> Square=.199			
<i>F</i> =2.158 (<i>p</i> =.016)		Adjusted <i>R</i> Square=.107			

In addition, the result refers to Table 16 of H_{2h}, the idealized attributes and active management by exception were two significant variables explaining teachers' satisfaction with security. Thus, H_{3h} was partially supported with Taiwan higher education teachers' demographic and work profile perceptions of supervisors' transformational leadership

with idealized attributes and active management by exception being significant explanatory variables of perceived job satisfaction with security. The teachers' teaching experience of perception supervisor transformational and transactional leadership had an impact on teacher job satisfaction with security.

H_{3i}: Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction with *recognition*.

The multiple regression analysis was used for teachers' perceptions of supervisors' transformational and transactional leadership variables in explaining teachers' job satisfaction with recognition. The *F* value (2.152) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with recognition was significant ($p < .05$). The adjusted *R* square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 10.6% of the variance in teacher job satisfaction with recognition.

The *t*-statistic indicated that intellectual stimulation and active management by exception were significant explanatory variables in teacher job satisfaction with recognition ($p < .05$). Items of teachers' demographic and work profile characteristics, years of teaching experience had more impact on the model ($t = 1.580$, $p = .117$), and a positive relationship (Beta = .196) with teacher job satisfaction with years of teaching

experience, such that the higher score of teaching experience had higher teachers' job satisfaction with recognition. Moreover, salary had less impact on the model ($t=-1.002$, $p=.319$), and a negative relationship (Beta=-.127) with teacher job satisfaction with recognition, such that the higher score of salary the lower teachers' job satisfaction with recognition. Therefore, the teachers' teaching experience had an impact on teacher job satisfaction with recognition. Table 27 presents a summarized regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction with recognition.

Table 27

Summarized Regression Analysis of Demographic and Work Profile Perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction with Recognition

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.291	.215	.209	1.355	.178
Idealized Behaviors	.275	.206	.163	1.330	.186
Inspirational Motivation	.179	.220	.106	.814	.417
Intellectual Stimulation	-.509	.233	-.368	-2.187	.031
Individualized Consideration	.043	.205	.036	.208	.835
Transactional					
Contingent Reward	-.170	.270	-.107	-.629	.531
Active Management by Exception	-.375	.141	-.279	-2.652	.009
Passive Management by Exception	-.042	.180	-.032	-.234	.815
Demographic and Work Profile					
Gender	.096	.197	.045	.488	.626
Age	.062	.127	.058	.490	.625
Educational Level	-.191	.226	-.106	-.846	.400
Years of Teaching Experience	.029	.019	.196	1.580	.117
Salary	-.125	.125	-.127	-1.002	.319
N=127	R Square=.198				
F=2.152 (p=.016)	Adjusted R Square=.106				

In addition, Table 17 of H_{2i} , shows that the active management by exception was a significant explanatory variable of perceived job satisfaction with recognition. Thus, H_{3i} was partially supported. The teachers' teaching experience of perception supervisor transformational and transactional leadership had an impact on teacher job satisfaction with recognition.

H_{3j} : Taiwan higher education teachers' demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary) perceptions of supervisors' transformational leadership style (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and perceptions of supervisors' transactional leadership style (Contingent Reward, Active Management by Exception, Passive Management by-Exception), are significant explanatory variables of perceived job satisfaction.

The multiple regression analysis was used for teachers' demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction. The F value (2.152) for the regression model analyzing demographic and work profile characteristics perceptions of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction was significant ($p < .05$). The adjusted R square indicated teachers' demographic and work profile perception of supervisors' transformational and transactional leadership accounted for 10.6% of the variance in teacher job satisfaction.

The t -statistic indicated that intellectual stimulation and active management by exception were significant explanatory variables in teacher job satisfaction ($p < .05$). Items of teachers' demographic and work profile characteristics, years of teaching experience had more impact on the model ($t = 1.580, p = .117$), and a positive relationship (Beta = .196) with teacher job satisfaction with years of teaching experience, such that the

higher score of teaching experience had higher teachers' job satisfaction. Moreover, salary had less impact on the model ($t=-1.002, p=.319$), and a negative relationship (Beta=-.127) with teacher job satisfaction, such that the higher score of salary the lower teachers' job satisfaction. Therefore, the teachers' teaching experience had an impact on teacher job satisfaction. Table 28 presents a summarized regression analysis of demographic and work profile perceived of supervisors' transformational and transactional leadership variables explaining teachers' job satisfaction.

Table 28

Summarized Regression Analysis of Demographic and Work Profile perceived of Supervisors' Transformational and Transactional Leadership Variables Explaining the Teacher Job Satisfaction

Variable	B	SE	Beta	t	Sig.
Transformational					
Idealized Attributes	.291	.215	.209	1.355	.178
Idealized Behaviors	.275	.206	.163	1.330	.186
Inspirational Motivation	.179	.220	.106	.814	.417
Intellectual Stimulation	-.509	.233	-.368	-2.187	.031
Individualized Consideration	.043	.205	.036	.208	.835
Transactional					
Contingent Reward	-.170	.270	-.107	-.629	.531
Active Management by Exception	-.375	.141	-.279	-2.652	.009
Passive Management by Exception	-.042	.180	-.032	-.234	.815
Demographic and Work Profile					
Gender	.096	.197	.045	.488	.626
Age	.062	.127	.058	.490	.625
Educational Level	-.191	.226	-.106	-.846	.400
Years of Teaching Experience	.029	.019	.196	1.580	.117
Salary	-.125	.125	-.127	-1.002	.319
N=127		R Square=.198			
F=2.152 (p=.016)		Adjusted R Square=.106			

Table 18 of H_{2j}, shows that idealized attributes and inspirational motivation were two significant variables in teachers' job satisfaction. Thus, H_{3j} was partially supported.

The teachers' teaching experience of perception supervisor transformational and transactional leadership had an impact on teacher job satisfaction.

The findings in Hypothesis 3: Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers. Table 19-28 shows the teachers perceived supervisors' transformational and transactional leadership were significant explanatory variables in teacher job satisfaction. Additionally, the teachers' teaching experience had the largest impact on teacher job satisfaction.

Summary

This non-experimental, quantitative, explanatory correlation and explanatory comparative survey research design examined the relationship among supervisors' leadership styles, teachers' demographic and work profile, and teachers' job satisfaction in Taiwan higher education. This study examined supervisors' leadership styles, teachers' demographic and work profile, and teachers' job satisfaction by using independent t-test and multiple regressions. This research explored the relationship between supervisors' transformational and transactional leadership styles and teachers' job satisfaction among 500 randomly selected higher education teachers in Taiwan. One hundred and fifty-seven survey instruments of the 500 were returned, yielding a return rate of 31%. One hundred and twenty-seven survey instruments were valid.

The purpose of the research was to explore the relationship between supervisors' leadership styles and teachers' job satisfaction in Taiwan's colleges and universities.

The research question examined the demographic and work profile characteristics (gender, age, education level, years of teaching experience, salary), perceptions of supervisors' transformational leadership style (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration), perceptions of supervisors' transactional leadership style (contingent reward, active management by exception, passive management by-exception), and job satisfaction (supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition) of Taiwan higher education teachers.

Hypothesis 1 tested whether or not Taiwan higher education teachers who are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration) and significantly lower transactional leadership styles (contingent reward, active management by exception, passive management by-exception) than teachers who are less satisfied with their jobs.

Hypothesis 2 tested whether or not Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers.

Hypothesis 3 tested whether or not Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers.

Findings indicated that Hypothesis 1 was only partially supported: Taiwan higher education teachers who are more satisfied with their jobs perceived their supervisors to have significantly greater transformational leadership styles (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration) than teachers who are less satisfied with their jobs. Not supported in Hypothesis 1 was: Taiwan higher education teachers who are more satisfied with their jobs perceive their supervisors to have significantly lower transactional leadership styles (contingent reward, active management by exception, passive management by-exception) than teachers who are less satisfied with their jobs. Findings in Hypothesis 2 and subhypotheses indicated that teachers perceived supervisors' transformational and transactional leadership with idealized attributes and inspirational motivation were most frequent and most significant explanatory variables to teacher job satisfaction (see Appendix N). The teachers perceived supervisors transformational and transactional leadership with idealized attributes, intellectual stimulation and active management by exception were significant explanatory variables to teacher job satisfaction in the findings of Hypothesis 3 and subhypotheses. Additionally, the teachers' teaching experience had the greatest effect on job satisfaction in teachers' demographic and work profile (see Appendix N).

Chapter IV presents descriptive characteristics of the final results and hypotheses testing. Chapter V reports the results and interpretations, limitations, practical implications and recommendations.

CHAPTER V

DISCUSSION

This study explores the relationship between supervisors' transformational and transactional leadership styles and teachers' job satisfaction in 500 randomly selected Taiwan higher education teachers. The researcher used a demographic and work profile about gender, age, teaching experience, education level and salary to determine the difference in leadership styles and teachers' job satisfaction. The survey instruments were mailed to 500 Taiwan higher education teachers. One hundred and fifty-seven survey instruments were returned, yielding a return rate was 31%. Of these, 127 surveys were valid.

Data were collected through the Chinese version of the personal characteristics information, the transformational leadership and transactional leadership of the MLQ-5x short-form and the Teacher Job Satisfaction Questionnaire (see Appendices E, F and G). This study used quantitative, descriptive and inferential statistical analysis. The data were analyzed using the statistical software program SPSS12.0. The methods of data analysis were descriptive statistics, exploratory factor analysis, independent *t*-test and multiple regression analysis.

Analysis of the research results found a significant relationship between teachers' perceived transformational leadership and their job satisfaction. In other words, Taiwan higher education teachers who are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration) than teachers who are less satisfied with their jobs. In

addition, there were no significant explanatory variables in teacher job satisfaction based on gender, age, years of teaching experience, education level and salary. Moreover, the results show the teachers' teaching experience had the greatest impact on teacher job satisfaction in teachers' demographic and work profile (see Appendix N).

Interpretations

The analysis of data reveals that Taiwan higher educational teachers are most satisfied with their jobs when they perceive their supervisors as transformational leaders. In addition, that teachers' job satisfaction has more impact on their teaching experience, but less impact on their gender, age, educational level and salary.

Transactional and Transformational Leadership and Teacher Job Satisfaction

Table 9 shows that Taiwan higher education teachers who are more satisfied with their jobs perceived their supervisors to have significantly greater transformational leadership styles (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration) than teachers who are less satisfied with their jobs. In addition, teachers who perceived transformational leadership from their supervisor were more satisfied with their job than were teachers who perceived transactional leadership. Thus, teachers who perceived that their supervisors were transformational leaders had a higher level of job satisfaction.

This study did confirm previous research that employees with transformational leaders were more satisfied with their jobs. Lee (2005) found that transformational leadership had significant and positive effects on job satisfaction. Teachers were satisfied when they perceived that their leaders provided transformational leadership. However, other research found that teachers' job satisfaction depends on the type of

environment and leadership (Collmer, 1989; Lin, 2003; Liu, 2005; Medley & Larochelle, 1995; Patricia, 2002; Wilcox, 1993; Wu, 2003). The difference may be explained in terms of situations, environments and populations.

Teachers' Demographic and Work Profile and Job Satisfaction

This study did not find a significant explanatory variable of teachers' gender to their job satisfaction. In previous studies, teachers' gender influenced their job satisfaction (Ding, 1993; Evans, Ramsey, Johnson, Renwick, & Vienneau, 1986; Green, 1993; Lennon, 1992; Perkin, 1991; Poole, 1992; Wu, 2003). However, Liu (2005) concluded that teachers' gender is not related to their job satisfaction. The results in this study indicated that gender had less impact on teachers' job satisfaction even though teachers are in different situations, environments and populations.

In Taiwanese society, job recruiters traditionally offer more money or opportunities to males than to females. Males are assumed to be primarily responsible for the financial support of their families. Thus, men have more flexible working schedules and, more opportunities for professional growth. However, Taiwanese society is gradually changing; males and females are treated more equally than they were in the past. In addition, females also make an economic contribution to their families.

Age was not a significant explanatory variable in job satisfaction. This study did not support previous research which indicated that job satisfaction increased with age. Other researchers have concluded that teachers' age did affect their satisfaction with their teaching position (Chen, 2005; Liu, 2005; Quinn, Staines & McCollough, 1974; Weaver, 1980;). In Taiwan, recruiting new teachers with graduate degrees is essential to maintaining a competitive edge. During an economic recession, the Taiwanese people

become more interested in education. One result of this situation is that more people with doctorates are being recruited by Taiwan's colleges and universities. This may be one reason why a teacher's age had less impact on his or her job satisfaction.

In this study, teachers teaching experience was not a significant explanatory variable in job satisfaction, but it did have a more frequent impact on job satisfaction (see Appendix N). The study did confirm previous research that teaching experience was related to job satisfaction (Green, 1993; Liang, 2002; Lo, 2003; McKee, 1991; Woodruff, 1993). As teachers gain experience, they may enjoy their jobs more. Amount of teaching experience is therefore related to teachers' job satisfaction.

This study refutes previous research on teachers' educational level and job satisfaction. Previous research found that teachers' educational level had a strong relationship to job satisfaction (Saad & Isralowitz, 1992; Wei, 2003; Woodruff, 1993; Yu, 2002). Teachers with more education had greater job satisfaction. This study found that educational level was not a significant variable in teacher job satisfaction, but teachers' educational level had less impact on job satisfaction (see Appendix N). A master's degree is a basic requirement for Taiwan's young job-seekers. A higher education also gives employees a strong advantage, but it has less impact on job satisfaction in Taiwan higher education.

In this study, salary was not a significant explanatory variable in job satisfaction. This study also refuted previous research on teachers' salary and job satisfaction. Scholars have found that teachers' salary affected their job satisfaction (Lin, 1983; Miller, 2003; Liu, 2005; Woodruff, 1993), but this study found that salary had less impact on teacher job satisfaction (see Appendix N). However, college and university teachers in

Taiwan are not only responsible for classroom teaching, but also for some administrative tasks. This research discovered that the salary of most teachers was over NT\$65, 001 per month (US\$1994), the salary was basic requirement for Taiwan higher education instructors. Hence, this proves that salary was not a significant factor in job satisfaction among teachers.

The survey sample of this study was consistent with Liu's study *A Study of University Physical Education Department Director Leadership Behavior and Physical Education Teacher Job Satisfaction in Northern Taiwan* which reported in 2005. The highest percentage for the demographic and work profile in this study was partially consistent to Liu's study in 2005. As shown in Table 29, the survey sample in this study overrepresented educational level and gender. This was to explain that the sample used for this study was a good representative sample of the target population of Taiwan higher education, which establishing external validity. However, the large overrepresentation of educational level posed a threat to external validity.

Table 29

Comparison of Demographic and Work Profile to Liu Reported Teachers' Demographic Information in 2005

Demographic and Work Profile	National Survey (N=127)	Liu's Reported (N=309)	Difference in Representation by the Survey Sample
Gender	58% Male	74% Male	-16%
Age	15% 56 and over	8% 56 and over	+7%
Years of Teaching Experience	43% 5 and under	21% 5 and under	+22%
Educational Level	54% Doctorate	6% Doctorate	+48%
Salary	45% NT\$65,001-75,000	23% NT\$65,001-75,000	+22%

Note. actual percentage not reported: percentage based on frequency reported divided by average number of responses reported by Liu 2005

Limitations

1. The return rate of 157 responses was too small compared to the target population of 49,601.
2. The mailing survey was not a "one-time survey" and there was no time limit. Thus, the respondent could consider how to answer the questions and make a revision that might be biased.
3. The estimated time for completing this survey was 30 minutes and there were many questions. The participants may have been impatient and not have answered the questions carefully and accurately.

4. All responses were reported as a group. The respondents cannot be generalized to other categories, such as higher education teachers in English departments.
5. The final data-producing sample is self-selected and might have potential bias.

Practical Implications

1. Supervisors who provide transformational leadership could improve teachers' job satisfaction through five dimensions: idealized influence (attributed), idealized influence (behaviors), inspirational motivation, intellectual stimulation, individualized consideration. As the result of the findings in this study, some items of transactional leadership were removed. Those items may be required for transactional leadership.
2. This study found no significant difference in teachers' teaching experience and job satisfaction. One reason may be that as teachers gain experience, they take more satisfaction in their job. Thus, Taiwan institutions of higher education schools could give teachers more freedom create new materials and use their skills and abilities, thereby increasing their job satisfaction.
3. The study revealed no significant differences in teachers' educational level and their satisfaction. In today's changing economic situation, more people than ever have a college or university degree. Thus, Taiwan's colleges and universities that are recruiting new teachers should focus not only on the educational level of teachers but also on their teaching experiences.
4. The result of this research found no significant differences in teachers' salary and teacher satisfaction. Teachers also have administrative responsibilities. Thus,

schools should consider providing bonus or extra compensation for those teachers who perform administrative tasks in order to get more teachers' satisfaction.

Recommendations

1. This study was limited to the relationship between supervisors' transformational and transactional leadership styles, and teachers' job satisfaction in higher education institutions in Taiwan. In future studies, laissez-faire leadership should be added to the research questions and hypotheses.
2. The return rate of 157 responses was too small for the target population of 49,601 teachers. The future sample size should be 4960 (or 10 %) in order to obtain accurate data on supervisors' leadership and teachers' job satisfaction.
3. Future studies should use other sampling methods such as an online survey to collect data. An online survey is an easier way of sampling a large population.
4. Future studies should examine the relationship between supervisors' leadership styles and personality traits, and between teachers' personal characteristics and job satisfaction.

Conclusions

This study explores the relationship among supervisors' transformational and transactional leadership styles and teachers job satisfaction among 500 randomly selected higher education teachers in Taiwan. The results may assist higher education schools in modifying their leadership styles to improve their relationships with colleagues and teachers. Greater teacher job satisfaction will improve teaching quality and student performance.

This study found that teachers who perceived transformational leadership had significantly higher job satisfaction and that teachers who perceive transactional leadership were less satisfied with their jobs. In addition, supervisors could improve teachers' job satisfaction by giving teachers more freedom in the classroom. Moreover, the amount of teaching experience had impact on their job satisfaction.

The hypotheses were:

Hypothesis 1: Taiwan higher education teachers who are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and significantly lower transactional leadership styles (Contingent Reward, Active Management by Exception, Passive Management by-Exception) than teachers who are less satisfied with their jobs.

Table 8 showed a significant difference between supervisors' transformational leadership and teacher job satisfaction. Thus, Hypothesis 1 was only partially supported: Taiwan higher education teachers who are more satisfied with their jobs perceive their supervisors to have significantly greater transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) than teachers who were less satisfied with their jobs.

Hypothesis 2: Taiwan higher education teachers' perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers.

Table 9-18 showed teachers' perceived supervisors' transformational and transactional leadership with idealized attributes and inspirational motivation were most frequent and most significant explanatory variables in teacher job satisfaction (see Appendix N).

Hypothesis 3: Taiwan higher education teachers' demographic and work profile characteristics, perceptions of supervisors' transformational leadership styles and transactional leadership styles are significant explanatory variables of perceived job satisfaction of Taiwan higher education teachers. Table 19-28 showed the teachers perceived supervisors' transformational and transactional leadership were significant explanatory variables in teacher job satisfaction. Additionally, the teachers' teaching experience was most frequent impact on teacher job satisfaction (see Appendix N).

Chapter V analyzes the findings and interprets the statistical results. In addition, implications for theory and practice are suggested. The limitations and recommendations for future research are included.

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Appendix A

Socio-Demographic Profile (English Version)

Please circle and write down the answer.

Please tell us about yourself:

Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
Age	<input type="checkbox"/> 30 and under <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> 61 and over
Years of Teaching Experience	_____ years
Educational Level	<input type="checkbox"/> Doctorate <input type="checkbox"/> Master <input type="checkbox"/> Others
Salary	<input type="checkbox"/> NT\$55,000 and under <input type="checkbox"/> NT\$55,001-65,000 <input type="checkbox"/> NT\$65,001-75,000 <input type="checkbox"/> NT\$75,001 and over

Appendix B

Multifactor Leadership Questionnaire (English Version)

This questionnaire is used to describe the leadership style of the above-mentioned individual as you perceive it. Answer all items on this answer sheet. If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank. Please answer this questionnaire anonymously.

Not at all	Once in a While	Sometimes	Fairly often	Frequently if not always
1	2	3	4	5

The Person I Am Rating

1. provides me with assistance in exchange for my efforts..... 1 2 3 4 5
2. Re-examines critical assumptions to questions whether they are appropriate1 2 3 4 5
3. Fails to interface until problems become serious..... 1 2 3 4 5
4. Focuses attention on irregularities, mistakes, exceptions, and deviations from standards. 1 2 3 4 5
5. Avoids getting involved when important issues arise..... 1 2 3 4 5
6. Talks about their most important values and beliefs 1 2 3 4 5
7. Is absent when needed 1 2 3 4 5
8. Seeks differing perspectives when solving problems 1 2 3 4 5
9. Talks optimistically about the future 1 2 3 4 5
10. Instills pride in me for being associated with him/her..... 1 2 3 4 5
11. Discusses in specific terms who is responsible for achieving performance targets..... 1 2 3 4 5
12. Waits for things to go wrong before taking action1 2 3 4 5
13. Talks enthusiastically about what needs to be accomplished 1 2 3 4 5
14. Specifies the importance of having a strong sense of purpose1 2 3 4 5
15. Spends time teaching and coaching1 2 3 4 5
16. Makes clear what one can expect to receive when performance goals are achieved1 2 3 4 5
17. Shows that he/she is a firm believer in "If it ain't broke, don't fix it."1 2 3 4 5
18. Goes beyond self-interest for the good of the group1 2 3 4 5
19. Treats me as an individual rather than just as a member of a group1 2 3 4 5
20. Demonstrates that problems must become chronic before taking action1 2 3 4 5
21. Acts in ways that builds my respect1 2 3 4 5
22. Concentrates his/her full attention on dealing with mistakes, complaints, and failures1 2 3 4 5
23. Considers the moral and ethical consequences of decisions.....1 2 3 4 5

	Not at all 1	Once in a While 2	Sometimes 3	Fairly often 4	Frequently if not always 5
24. Keeps track of all mistakes	1	2	3	4	5
25. Displays a sense of power and confidence.....	1	2	3	4	5
26. Articulates a compelling vision of the future	1	2	3	4	5
27. Directs my attention toward failures to meet standards.....	1	2	3	4	5
28. Avoid making decisions.....	1	2	3	4	5
29. Considers me as having different needs, abilities, and aspirations from others	1	2	3	4	5
30. Gets me to look at problems from many different angles.....	1	2	3	4	5
31. Helps me to develop my strengths.....	1	2	3	4	5
32. Suggests new ways of looking at how to complete assignments.....	1	2	3	4	5
33. Delays responding to urgent questions	1	2	3	4	5
34. Emphasizes the importance of having a collective sense of mission	1	2	3	4	5
35. Expresses satisfaction when I meet expectations	1	2	3	4	5
36. Expresses confidence that goals will be achieved	1	2	3	4	5
37. Is effective in meeting my job-related needs.....	1	2	3	4	5
38. Uses methods of leadership that are satisfying	1	2	3	4	5
39. Gets me to do more than I expected to do	1	2	3	4	5
40. Is effective in representing me to higher authority	1	2	3	4	5
41. Works with me in a satisfactory way	1	2	3	4	5
42. Heightens my desire to succeed.....	1	2	3	4	5
43. Is effective in meeting organizational requirements	1	2	3	4	5
44. Increase my willingness to try harder.....	1	2	3	4	5
45. Leads a group that is effective	1	2	3	4	5

Note: The Multifactor Leadership Questionnaire is from “MLQ Multifactor Leadership Questionnaire for research: Permission set” by Bass and Avolio (1995). Adopted with permission of the author.

Appendix C

Teacher Job Satisfaction Questionnaire (English Version)

Please circle the answer that most accurately describes your observations on the leadership behavior of the director with respect to the question.

Are you satisfied with the following items related to your teaching job:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

1. Teaching provides me with an opportunity to advance professionally..... 1 2 3 4 5
2. Teacher income is adequate for normal expenses..... 1 2 3 4 5
3. Teaching provides an opportunity to use a variety of skills 1 2 3 4 5
4. Insufficient income keeps me from living the way I want to live..... 1 2 3 4 5
5. My immediate supervisor turns one teacher against another 1 2 3 4 5
6. No one tells me that I am a good teacher 1 2 3 4 5
7. The work of a teacher consists of routine activities..... 1 2 3 4 5
8. I am not getting ahead in my present teaching position..... 1 2 3 4 5
9. Working conditions in my school can be improved 1 2 3 4 5
10. I receive recognition from my immediate supervisor..... 1 2 3 4 5
11. I do not have the freedom to make my own decisions 1 2 3 4 5
12. My immediate supervisor offers suggestions to improve my teaching..... 1 2 3 4 5
13. Teaching provides for a secure future 1 2 3 4 5
14. I receive full recognition for my successful teaching..... 1 2 3 4 5
15. I get along well with my colleagues 1 2 3 4 5
16. The administration in my school does not clearly define its policies..... 1 2 3 4 5
17. My immediate supervisor gives me assistance when I need help..... 1 2 3 4 5
18. Working conditions in my school are comfortable..... 1 2 3 4 5
19. Teaching provides me the opportunity to help my students learn..... 1 2 3 4 5
20. I like the people with whom I work..... 1 2 3 4 5
21. Teaching provides limited opportunities for advancement..... 1 2 3 4 5
22. My students respect me as a teacher..... 1 2 3 4 5
23. I am afraid of losing my teaching job..... 1 2 3 4 5

24. My immediate supervisor does not back me up..... 1 2 3 4 5
25. Teaching is very interesting work..... 1 2 3 4 5
26. Working conditions in my school could not be worse..... 1 2 3 4 5
27. Teaching discourages originality..... 1 2 3 4 5
28. The administration in my school communicates its policies well 1 2 3 4 5
29. I never feel secure in my teaching job 1 2 3 4 5
30. Teaching does not provide me the chance to develop new methods 1 2 3 4 5
31. My immediate supervisor treats everyone equitably 1 2 3 4 5
32. My colleagues stimulate me to do better work..... 1 2 3 4 5
33. Teaching provide an opportunity for promotion..... 1 2 3 4 5
34. I am responsible for planning my daily lessons..... 1 2 3 4 5
35. Physical surroundings in my school are unpleasant..... 1 2 3 4 5
36. I am well paid in proportion to my ability..... 1 2 3 4 5
37. My colleagues are highly critical of one another..... 1 2 3 4 5
38. I do have responsibility for my teaching 1 2 3 4 5
39. My colleagues provide me with suggestions or feedback about my teaching..... 1 2 3 4 5
40. My immediate supervisor provides assistance for improving instruction 1 2 3 4 5
41. I do not get cooperation from the people I work with..... 1 2 3 4 5
42. Teaching encourages me to be creative..... 1 2 3 4 5
43. My immediate supervisor is not willing to listen to suggestions 1 2 3 4 5
44. Teacher income is barely enough to live on..... 1 2 3 4 5
45. I am indifferent toward teaching 1 2 3 4 5
46. The work of a teacher is very pleasant..... 1 2 3 4 5
47. I receive too many meaningless instructions from my immediate supervisor 1 2 3 4 5
48. I dislike the people with whom I work 1 2 3 4 5
49. I receive too little recognition 1 2 3 4 5
50. Teaching provides a good opportunity for advancement 1 2 3 4 5
51. My interests are similar to those of my colleagues..... 1 2 3 4 5

52. I am not responsible for my actions 1 2 3 4 5
53. My immediate supervisor makes available the material I need to do my best..... 1 2 3 4 5
54. I have made lasting friendships among my colleagues..... 1 2 3 4 5
55. Working conditions in my school are good 1 2 3 4 5
56. My immediate supervisor makes me feel uncomfortable 1 2 3 4 5
57. Teacher income is less than I deserve..... 1 2 3 4 5
58. I try to be aware of the policies of my school 1 2 3 4 5
59. When I teach a good lesson, my immediate supervisor notices 1 2 3 4 5
60. My immediate supervisor explains what is expected of me 1 2 3 4 5
61. Teaching provides me with financial security 1 2 3 4 5
62. My immediate supervisor praises good teaching 1 2 3 4 5
63. I am not interested in the policies of my school..... 1 2 3 4 5
64. I get along well with my students..... 1 2 3 4 5
65. Pay compares with similar jobs in other school districts 1 2 3 4 5
66. My colleagues seem unreasonable to me..... 1 2 3 4 5

Note: From “Teacher Job Satisfaction Questionnaire” by Paula E. Lester, 1984, Appendix A.

Adopted with permission of the author.

Appendix D

The Invitation Letter (English Version)


Dear Prospective Participant:

I am a doctoral student at Lynn University and engaged in doing a research project as part of my degree requirements. I am interested in identifying or exploring ways to help employees find a greater degree of teachers' satisfaction and to conceive supervisor's leadership styles. By the way, I want to know which leadership style will be adapted in your school, and what personal characteristics will cause the teachers' job satisfaction.

My desire and purposed is to find out from you what will make your job more enjoyable and more personally fulfilling. I am asking for your cooperation in helping me to identify issues that are important to you. The survey should not take much of your time and total confidentiality concerning your responses. You will not be identified by name. I will be looking at categories and characteristics. Not at you as individuals. The information you provide will be coded into a database for the purpose of analyzing the results. The directions for completing the survey should be self-explanatory.

I am excited about identifying ways of benefiting you in your job performance by finding ways to make you a happier employee. Congratulations on the job you do every day, and I commend you on your dedication to the corrections profession. Your participation is extremely important to me and to the value of this study. Thank you for your cooperation and participation.

Sincerely,

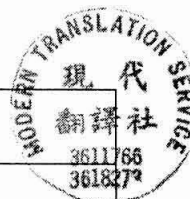
Chi-Ling Sung


Appendix E

人口背景資料 (Chinese Version)

請圈選或寫下您的答案

請告訴我們關於您自己的基本背景:



性別	<input type="checkbox"/> 男 <input type="checkbox"/> 女
年齡	<input type="checkbox"/> 30 歲和以下 <input type="checkbox"/> 31-40 <input type="checkbox"/> 41-50 <input type="checkbox"/> 51-60 <input type="checkbox"/> 60 和以上
教學經驗	_____ 年
教育程度	<input type="checkbox"/> 博士 <input type="checkbox"/> 碩士 <input type="checkbox"/> 其他
薪資	<input type="checkbox"/> NT\$55,000 和以下 <input type="checkbox"/> NT\$55,001-65,000 <input type="checkbox"/> NT\$65,001-75,000 <input type="checkbox"/> NT\$75,001 和以上

Appendix F

Multifactor Leadership Questionnaire (Chinese Version)

多元領導問卷

本問卷為描述您的主管的領導模式問卷，請依自我評估方式回答下列問題。請依您對各題描述句出現頻率圈選適當的位置。如果您不確定或不知道該圈選哪一各，請將那一題空白。

未曾有過地、總是	一次或少次	有時	經常	頻繁
1	2	3	4	5

- | | | | | | | |
|-----|--------------------------------|---|---|---|---|---|
| 1. | 提供幫助以換取你的努力..... | 1 | 2 | 3 | 4 | 5 |
| 2. | 反覆檢查各種假想的關鍵性問題，看其是否適當..... | 1 | 2 | 3 | 4 | 5 |
| 3. | 在問題惡化以前，沒有進行干涉..... | 1 | 2 | 3 | 4 | 5 |
| 4. | 把注意焦點放在違法、錯誤、例外和偏差上..... | 1 | 2 | 3 | 4 | 5 |
| 5. | 避免介入重要事件..... | 1 | 2 | 3 | 4 | 5 |
| 6. | 談論他(她)最主要的價值觀和信念..... | 1 | 2 | 3 | 4 | 5 |
| 7. | 當需要他(她)的時候，他不在場..... | 1 | 2 | 3 | 4 | 5 |
| 8. | 解決問題時，會尋求不同的意見..... | 1 | 2 | 3 | 4 | 5 |
| 9. | 樂觀地談論未來..... | 1 | 2 | 3 | 4 | 5 |
| 10. | 向別人灌輸與他(她)工作的驕傲與自豪..... | 1 | 2 | 3 | 4 | 5 |
| 11. | 明確的討論由誰負責完成工作的指標..... | 1 | 2 | 3 | 4 | 5 |
| 12. | 在事情惡化前，採取行動與措施..... | 1 | 2 | 3 | 4 | 5 |
| 13. | 熱衷地談論需要完成的工作..... | 1 | 2 | 3 | 4 | 5 |
| 14. | 強調具有明確目的的重要性..... | 1 | 2 | 3 | 4 | 5 |
| 15. | 花時間傳授與訓練部屬..... | 1 | 2 | 3 | 4 | 5 |
| 16. | 清楚的表示當達到目標時，所能得到的獎賞..... | 1 | 2 | 3 | 4 | 5 |
| 17. | 展示出他堅信“出現問題後，再著手解決”的原則..... | 1 | 2 | 3 | 4 | 5 |
| 18. | 重視團體利益多於個人利益..... | 1 | 2 | 3 | 4 | 5 |
| 19. | 對待部屬就像朋友一樣，而不是只當他們是團體中的一員..... | 1 | 2 | 3 | 4 | 5 |
| 20. | 當問題經常發生，才採取解決行動..... | 1 | 2 | 3 | 4 | 5 |
| 21. | 他(她)的一舉一動會讓你尊敬..... | 1 | 2 | 3 | 4 | 5 |
| 22. | 集中精力在處理錯誤和抱怨失誤上..... | 1 | 2 | 3 | 4 | 5 |
| 23. | 考慮決策時可能產生的倫理道德問題..... | 1 | 2 | 3 | 4 | 5 |
| 24. | 對錯誤追根究底..... | 1 | 2 | 3 | 4 | 5 |
| 25. | 展現體力與自信心..... | 1 | 2 | 3 | 4 | 5 |



26.	清楚地表示組織未來的展望與願景.....	1	2	3	4	5
27.	將注意力放在避免失敗上，已達到預期的目標.....	1	2	3	4	5
28.	避免做決策.....	1	2	3	4	5
29.	考量每個人的不同需求、能力與抱負.....	1	2	3	4	5
30.	接受別人以不同角度的看法看待事情.....	1	2	3	4	5
31.	協助別人發揮他們的潛能.....	1	2	3	4	5
32.	提供新方法建議部屬如何完成工作任務.....	1	2	3	4	5
33.	延後反應處理重要問題.....	1	2	3	4	5
34.	強調共同使命感的重要性.....	1	2	3	4	5
35.	對部屬達到預期工作時，表示滿意.....	1	2	3	4	5
36.	展現對完成目標的自信心.....	1	2	3	4	5
37.	能有效的滿足部屬的工作相關需求.....	1	2	3	4	5
38.	使用令人滿意的領導方法.....	1	2	3	4	5
39.	讓部屬作超出他們所預期的工作.....	1	2	3	4	5
40.	有效的扮演高權威的角色.....	1	2	3	4	5
41.	用令人滿意的方式與人合作.....	1	2	3	4	5
42.	提昇部屬對成功的渴望.....	1	2	3	4	5
43.	能有效的滿足組織需求.....	1	2	3	4	5
44.	增加部屬對嘗試困難的意志力.....	1	2	3	4	5
45.	領導一個有效的組織.....	1	2	3	4	5

資料來源：從 M. Bass and Bruce J. Avolio, 1995 的“多元領導問卷”，得到作者的許可去使用這份問卷。



Appendix G

教師工作滿意問卷 (Chinese Version)

本部份共 66 題，皆為有關您工作狀況的描述，請選擇一個最精準的描述貴校的領導型態。

您對於下列與您目前教學工作有關之項目，感到滿意嗎？

	非常不同意 1	不同意 2	無法決定 3	同意 4	非常同意 5
1. 教學工作提供我提升專業素養的機會	1	2	3	4	5
2. 教師所得足夠我正常開銷	1	2	3	4	5
3. 教學工作提供我運用各種教學技巧的機會	1	2	3	4	5
4. 收入不足使我無法過想要的生活方式	1	2	3	4	5
5. 我的直屬上司讓教師相互對立	1	2	3	4	5
6. 沒人告訴過我，我是個好老師	1	2	3	4	5
7. 教師工作內容包含各種固定的活動	1	2	3	4	5
8. 我在目前的教學工作並未表現突出	1	2	3	4	5
9. 我所屬學校的工作環境需要改進	1	2	3	4	5
10. 我得到直屬上司給予的認同	1	2	3	4	5
11. 我沒有做決定的自由	1	2	3	4	5
12. 我的直屬上司提供我改善教學工作的建議	1	2	3	4	5
13. 教學提供我有保障的未來	1	2	3	4	5
14. 我從我成功的教學工作中得到完全的肯定	1	2	3	4	5
15. 我與同事相處融洽	1	2	3	4	5
16. 我所屬學校的行政管理並未明確的制定政策	1	2	3	4	5
17. 我的直屬上司在我需要幫忙時給予協助	1	2	3	4	5
18. 我在所屬學校的工作環境舒適	1	2	3	4	5
19. 學校提供我幫助我的學生學習的機會	1	2	3	4	5
20. 我喜歡與我共事的人	1	2	3	4	5
21. 教學工作限制我成長的機會	1	2	3	4	5
22. 我的學生都把我當作老師般尊敬	1	2	3	4	5
23. 我擔心我失去我的工作	1	2	3	4	5
24. 我的直屬上司不支持我	1	2	3	4	5
25. 教學是一項有趣的工作	1	2	3	4	5



26.	我所屬學校的工作環境極差.....	1	2	3	4	5
27.	教學工作讓我無法發揮個人專業.....	1	2	3	4	5
28.	我所屬學校的行政管理政策有效被傳達.....	1	2	3	4	5
29.	我的教學工作從來沒有給我安全感.....	1	2	3	4	5
30.	教學工作無法提供我發展新教學方法的機會.....	1	2	3	4	5
31.	我的直屬上司公平對待每個部屬.....	1	2	3	4	5
32.	我的同事們激勵我把工作做的更好.....	1	2	3	4	5
33.	教學工作提供我升遷的機會.....	1	2	3	4	5
34.	我有責任規劃我每天上課的內容.....	1	2	3	4	5
35.	我對所屬學校的工作環境感到不舒適.....	1	2	3	4	5
36.	我的所得適當反應我的工作能力.....	1	2	3	4	5
37.	我的同事們彼此之間要求很高.....	1	2	3	4	5
38.	我對我的教學有責任.....	1	2	3	4	5
39.	我的同事們給予我教學上的建議與回應.....	1	2	3	4	5
40.	我的直屬上司提供我改進教學的協助.....	1	2	3	4	5
41.	與我一起工作的人不願意與我配合.....	1	2	3	4	5
42.	教學工作鼓勵我發揮創意.....	1	2	3	4	5
43.	我的直屬上司不願聽取我的建議.....	1	2	3	4	5
44.	教師所得只讓我勉強度日.....	1	2	3	4	5
45.	我對教學工作漠不關心.....	1	2	3	4	5
46.	我對教師工作感到愉悅.....	1	2	3	4	5
47.	我的直屬上司給予我太多無意義的指示.....	1	2	3	4	5
48.	我不喜歡與我一起工作的人.....	1	2	3	4	5
49.	我得到的肯定太少.....	1	2	3	4	5
50.	教學工作提供我成長的好機會.....	1	2	3	4	5
51.	我與同事們興趣相近.....	1	2	3	4	5
52.	我不對我的行為負責.....	1	2	3	4	5
53.	我的直屬上司提供我達成最佳工作表現的資源.....	1	2	3	4	5
54.	我與同事之間有延續的友誼.....	1	2	3	4	5
55.	我所屬學校的教學環境很好.....	1	2	3	4	5
56.	我的直屬上司讓我感到不自在.....	1	2	3	4	5
57.	教師所得低於我應得的.....	1	2	3	4	5



58. 我會嘗試了解我工作的學校政策..... 1 2 3 4 5
59. 當我教學工作有好的表現時，我的直屬上司會注意到..... 1 2 3 4 5
60. 我的直屬上司已向我表達他對我工作方面的期待..... 1 2 3 4 5
61. 教學工作提供我財務上的安全感..... 1 2 3 4 5
62. 我的直屬上司鼓勵好的教學表現..... 1 2 3 4 5
63. 我對我工作的學校政策不感興趣..... 1 2 3 4 5
64. 我與學生相處良好..... 1 2 3 4 5
65. 我的所得與其他校區中相似的工作相比..... 1 2 3 4 5
66. 我的同事似乎不合理的對我..... 1 2 3 4 5

資料來源: 從 Paula E. Lester, 1984 的“教師工作滿意度”，得到作者的許可去使用這份問卷。



Appendix H

邀請函 (The Invitation Letter of English Version)

敬啟者您好:

我是林恩大學的教育領導博士班研究生，這份問卷調查的目的在於幫助高等教育專任教師的工作滿意度和領導者的領導型態。同時，藉由此份問卷調查的結果可以了解哪一種領導型態比較適用在您的學校，哪一種人格特質會影響教師工作滿意度。參與這份問卷調查將不會花費您太多的時間，並且將會確保您回覆的安全與機密性。在這個研究裡，你的身份將會是機密的。研究者將會使用數字去代表每一位參加者。所有的參加者的回覆將會以團體的方式呈現。因此，研究者將不會知道誰完成了這項問卷調查，所有參加者的身份識別將會被保護並且匿名。

若寄回已填答問卷調查之行為表示您同意參加此研究的問卷調查。如果您想知道研究結果，請與我聯繫。此外，在問卷調查進行中，若有感到不妥之處，可隨時撤回您的問卷。這份問卷調查採匿名方式，您的姓名將不會被公佈，而您的相關資料將受到嚴格保密，並僅用在學術研究上，不作其他用途。所填答之問卷將於採用後 5 年銷毀。若您對自身權益有任何問題，林恩大學博士論文倫理道德委員會將會樂於回答您的問題，聯絡電話為 Dr. Farideh Farazmand: (561) 237-7847；或者也可以直接 email 與我聯絡。

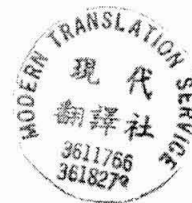
再次為您的參與致上十二萬分之謝意。

敬祝

教安

宋繼菱 敬上

csung@email.lynn.edu



Appendix I
Authorization for Voluntary Consent (English Version)



Lynn University

**THIS DOCUMENT SHALL ONLY BE USED TO PROVIDE AUTHORIZATION FOR
VOLUNTARY CONSENT .**

PROJECT TITLE: The Relationship among supervisor' Transformational and Transactional Leadership Styles and teachers' Job Satisfaction in Taiwan Higher Education

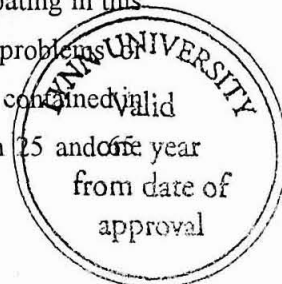
Project IRB Number: _____ Lynn University 3601 N. Military Trail Boca Raton,
Florida 33431 2006-033

I, Chi-Ling Sung , am a doctoral student at Lynn University. I am studying Global Leadership, with a specialization in educational leadership. Part of my education is to conduct a research study.

DIRECTIONS FOR THE PARTICIPANT:

You are being asked to participate in my research study. Please read this carefully. This form provides you with information about the study. The Principal Investigator (Chi-Ling Sung) will answer all of your questions. Ask questions about anything you don't understand before deciding whether or not to participate. You are free to ask questions at any time before, during, or after your participation in this study. Your participation is entirely voluntary and you can refuse to participate without penalty or loss of benefits to which you are otherwise entitled.

PURPOSE OF THIS RESEARCH STUDY: The study is about the relationship among supervisors' transformational and transactional leadership styles and teachers' job satisfaction in higher education in Taiwan. There will be approximately 500 people participating in this study. Participants will be at least 18 years of age, and do not have medical problems or language or educational barriers that precludes the understanding of explanations concerning this authorization for voluntary consent. The participants' ages range between 25 and 66 year



All participants are full time faculty members in six Taiwan higher education schools located in Taichung city, Taipei city, Taipei county, Tao-Yuan country, and Ping-Tung county. Participants are instructors in Taiwan higher education system who are able to read, speak, and write in Chinese language.

PROCEDURES:

The researcher will mail a survey package including the invitation, consent information, purpose, procedure, possible risks, and possible benefits, assurance of anonymity, instructions, and survey instrument to you. If you agree to participate in this survey, you will be asked to read the consent form. You will first complete a socio-demographic profile with 5 questions. Then you will be asked to complete a Multifactor Leadership Questionnaire and Teacher Job Satisfaction Questionnaire with 111 questions. These two surveys should take about 30 minutes to complete. There will be no subject identifiers on the survey form, all will be anonymous. The questionnaires will be collected by postage paid envelopes. The sender and return address are the same using researcher's mailing address. All responses will be reported as a group. Thus, the researcher will not know who completed the survey and who did not. The participants' identities will be protected and kept anonymous from the researcher.

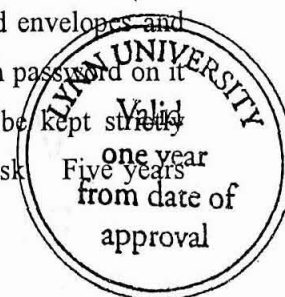
POSSIBLE RISKS OR DISCOMFORT: This study involves minimal risk. You may find that some of the questions are sensitive in nature. In addition, participation in this study requires a minimal amount of your time and effort.

POSSIBLE BENEFITS: There may be no direct benefit to you in participating in this research. But knowledge may be gained which may help Taiwan higher education system to maintain their professional faculty and a competitive edge.

FINANCIAL CONSIDERATIONS: There is no financial compensation for your participation in this research. There are no costs to you as a result of your participation in this study.

ANONYMOUS:

Every effort will be made to maintain the anonymity. Your identity in this study will be treated as anonymous. The researcher will use numbers to code every participant. After you finish this survey, you will be asked to put the survey into postage paid envelopes and mail back to the researcher. Then, the researcher will create a database with password on it for complete anonymous. All the data gathered during this study, will be kept strictly anonymous. Data will be stored in a security locked cabinet or locked desk.



after the study is conducted the data will be destroyed. All information will be held in strict confidence and may not be disclosed unless required by law or regulation.

The result of this study may be published in a dissertation, scientific journals or presented at professional meetings. In addition, your individual privacy will be maintained in all publications or presentations resulting from this study.

RIGHT TO WITHDRAW: You are free to choose whether or not to participate in this study. There will be no penalty or loss of benefits to which you are otherwise entitled if you choose not to participate.

CONTACTS FOR QUESTIONS/ACCESS TO CONSENT FORM: Any further questions you have about this study or your participation in it, either now or any time in the future, will be answered by Chi-Ling Sung (Principal Investigator) who may be reached at: [REDACTED] and Dr. William Leary, faculty advisor who may be reached at: [REDACTED]. For any questions regarding your rights as a research subject, you may call Dr. Farideh Farazmand, Chair of the Lynn University Institutional Review Board for the Protection of Human Subjects, at [REDACTED]. If any problems arise as a result of your participation in this study, please call the Principal Investigator (Chi-Ling Sung) and the faculty advisor (Dr. William Leary) immediately. A copy of this consent form will be given to you.

I hereby certify that a written explanation of the nature of the above project has been provided to the person participating in this project. A copy of the written documentation provided is attached hereto. By the person's consent to voluntarily participate in this study, the person has represented that he/she is at least 18 years of age, and that he/she does not have a medical problem or language or educational barrier that precludes his/her understanding of my explanation. Therefore, I hereby certify that to the best of my knowledge the person participating in this project understands clearly the nature, demands, benefits, and risks involved in his/her participation.

[REDACTED]
Signature of Investigator

Date of IRB Approval: 09/11/06 7.7.



Appendix J

Authorization for Voluntary Consent (Chinese Version)



林恩大學

這個文件只有被使用提供授權給自願的同意書



企劃案的主題: 轉換型領導型態、交易型領導型態與高等教育教師的工作滿意度在台灣

企劃案 IRB 號碼: _____ 林恩大學 3601 N. Military Trail Boca Raton, Florida 33431

2006-033

我 宋繼菱, 是林恩大學的博士研究生。我現在正就讀全球化的領導學, 主修是教育領導型態。我的學業的一部份是要去做一個學術研究調查。

對於參加者的指導方向:

你已經被邀請參加我的學術研究調查。請小心閱讀下面的描述。這個表格提供你關於這個研究的資訊。主要的研究者(宋繼菱)將會回答你所有的問題。在你決定是否參與這個學術研究調查, 你可以問所有你不清楚的問題。在任何時間(在做調查之前、期間, 或在做研究調查之後), 你可以自由的去問任何問題。你的參加是完全地出自於你的自願, 你可以拒絕參加這個研究調查而不會有任何的處罰或利益上的損失。

這個研究調查的目的: 這個研究是關於轉換型領導型態、交易型領導型態與高等教育教師的工作滿意度在台灣。這個研究將會有大約 500 人參加。參加者的年齡符合 18 歲以上, 並且沒有健康問題或語言或教育的障礙了解這份自願參加同意書。參加者的年齡界定於 25 到 65 歲之間。所有的參加者為專任的大專院校教師並且能夠讀、寫、說中文, 這些教師分佈在台中市、台北市、台北縣、桃園縣和屏東縣。

過程: 研究者將會寄出一份問卷調查的信封袋, 包括邀請函、同意書、問卷調查的目的及程序、可能含括的風險及利益, 這份問卷調查將會確保參加者的匿名及安全性。如果你同意參加這份問卷調查, 首先你將會被要求閱讀這份同意書, 並且填寫 5 個關於你的人口統計資料背景和 111 題領導型態和教師工作滿意度問卷。這一份問卷調查將需要 30 分鐘的時間去完成。參加者將會被告知資料將會被匿名的保存, 沒有任何的參加者識別的符號在這份問卷上。這份問卷調查的信封袋將會附上回郵信封, 信封上寄件人與收件人將一同使用研究者的地址, 以確保匿名。所有的參加者的回覆將會以團體的方式呈現。因此, 研究者將不會知道誰完成了這項問卷調查, 所有參加者的身份識別將會被保護並且匿名。

可能的風險或不適: 這個研究包含極小的風險。你可能會發現一些問題是敏感的。除此之外, 參加這份問卷調查只會要求你一點點的時間跟努力。

可能的利益: 在參加這個研究中可能沒有直接的利益給你。但是你可能會更了解台灣高等教育體系的教師工作滿意度及如何保留教師的專業。

財務上的考驗: 對於你參加的這份問卷調查, 沒有財務上的補償及沒有任何的費用。

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431



匿名:

這份問卷調查將會盡最大的努力去維持匿名。在這個研究裡，你的身份將會是匿名的。研究者將會使用數字去代表每一位參加者。在你完成這份問卷調查，你將會被要求把問卷資料放入回郵信封，寄回給研究者。然後，研究者將會創造一個密碼的資料庫爲了完全的匿名。全部的研究資料將會被嚴密的保存。資料將會被保存在研究者辦公室的一個上鎖的文件櫃或抽屜。這個研究執行五年之後，這些資料將會被銷毀。全部的研究資料將會被嚴密地保存而且資料不會被公開出來除非被法律或規定要求。

這個研究的結果可能會被出版在一個博士論文學術上、科學的期刊或者被呈現在專業上的會議上。除此之外，在所有的出版中或這個研究的結果中，你個人的隱私將會被保護。

退出的權利: 你是自由的選擇是否參加這個研究，假如選擇不參加，不會有任何處罰和利益上的損失。

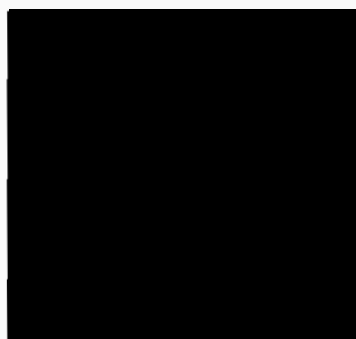
問題上的聯絡/同意書的聯絡: 現在或者未來的任何時間，你有任何更進一步的問題關於這個研究，可以聯絡宋繼菱(主要的研究者): [redacted] 和指導教授 William Leary 博士, 他的聯絡方式是 ([redacted]) 如果你有任何問題關於你的權利，可以打電話給 Farideh Farazmand 博士, 他是林恩大學博士論文倫理道德委員會主席 [redacted] 在這個研究的結果中，假如你有任何的問題，請直接連繫主要的研究者(宋繼菱)和指導教授 (Dr. William Leary)。你可以保留這份同意書。

研究者的宣誓書: 我已經仔細的確認過這份企劃案。這是一份自由參加的問卷調查。參加者必須年滿 18 歲以上，並且沒有醫學上、語言上及教育上的問題妨礙他理解這份問卷調查。我特此保證研究參加者在這個企劃案裡已經明確地了解這份問卷調查的本質、需求、利益和風險。

宋繼菱 [redacted]

研究者的簽名

IRB 通過的日期: 09/11/2006 7.7.



Appendix K

IRB Approval



Lynn University

Principal Investigator: Chi-Ling Sung

Project Title: The Relationship among Supervisors' Transformational and Transactional Leadership styles and Teacher Job Satisfaction in Higher Education Instructors in Taiwan

IRB Project Number 2006-033

IRB ACTION by the CONVENED FULL BOARD:

Date of IRB Review of Application and Research Protocol: 09/11/06

IRB ACTION: Approved Approved w/provision(s) Not Approved Other

COMMENTS:

Consent Required: No Yes Not Applicable Written Other

Consent forms must bear the research protocol expiration date of 09/11/07

Application to Continue/Renew is due:

- 1) For a Convened Full-Board Review, two months prior to the due date for renewal
- 2) For an Expedited IRB Review, one month prior to the due date for renewal
- 3) For review of research with exempt status, one month prior to the due date for renewal

Name of IRB Chair (Print) Farideh Farazmand

Signature of IRB Chair _____ Date: 09/11/06

Cc. Dr. Leary

Institutional Review Board for the Protection of Human Subjects
Lynn University
3601 N. Military Trail Boca Raton, Florida 33431

Appendix L

Permission to Use the Multifactor Leadership Questionnaire

Mind Garden, Inc.
855 Oak Grove Ave., Suite 215
Menlo Park, CA 94025

Phone: [REDACTED]
info@mindgarden.com

Order Date: 7/6/2006 Order Number: [REDACTED]
Payment Type: [REDACTED] Credit Card #: [REDACTED]
Shipping Method: FedEx 2 Day

Billing Invoice

Order Notes:

Ship to: Chi-Ling Sung
[REDACTED]
US
[REDACTED]

Bill to: Chi-Ling Sung
[REDACTED]
US
[REDACTED]

Qty	SKU	Product	Unit Price	Amount
1	MLQRB-500	MLQRB-500 Bulk Permissions (bundle of 500 @ \$0.60 each)	\$300.00	\$300.00
			Subtotal:	\$300.00
			Shipping:	\$17.50
			Tax:	\$0.00
			Total:	\$317.50

7/7/06

Gift?: No
Special Instructions: I need the Chinese version also.

Return Policy:

Returns and Exchanges

Reproduction sets and pdf files may not be returned. Returns will be accepted within thirty days of purchase. Returns must be sent to Mind Garden by certified mail or other traceable method.

To receive credit, products must be in re-salable condition and accompanied by a copy of the original invoice. Shipping charges are nonrefundable.

Appendix M

Permission to Use the Teacher Job Satisfaction Questionnaire

Long Island University

C. W. Post Campus
Department of Educational Administration and Leadership
720 Northern Boulevard
Brookville, NY 11548

July 11, 2006

Chi-Ling Sung (Amy)



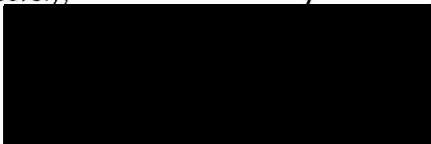
Dear Amy:

Thank you very much for your interest in the Teacher Job Satisfaction Questionnaire that I developed and validated. Your research sounds very interesting and I think that it will make a real contribution to the field.

You have my written permission to use the TJSQ in your study and to make as many copies of the TJSQ as needed for your study. When you complete your research, please send me a copy of your results.

If I may be of any assistance to you, please feel free to contact me.

Sincerely,



Paula E. Lester, Ph.D.
Professor

Appendix N

Multiple Regression Output for Hypotheses Findings

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H1	<p>Job satisfaction (satisfied versus dissatisfied teachers)</p> <p>The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception).</p>	Yes	<p>Transformational leadership styles (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration)</p>	7
H2	<p>The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception)</p> <p>Teacher job satisfaction (with supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition).</p>			

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H2a	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction with supervision	Yes	Idealized attributes, inspirational motivation, individualized consideration and passive management by exception	8
H2b	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction with colleagues	Yes	Idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception	9
H2c	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction with working condition	Yes	Idealized attributes, inspirational motivation, contingent reward and passive management by exception	10

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H2d	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction pay	Yes	Idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception	11
H2e	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction with responsibility	Yes	Inspirational motivation	12
H2f	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) Teacher job satisfaction with work itself	Yes	Idealized behaviors, contingent reward and active management by exception	13

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H2g	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception)	Yes	Inspirational motivation	14
H2h	Teacher job satisfaction with advancement The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception)	Yes	Idealized attributes and active management by exception	15
H2i	Teacher job satisfaction with security The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception)	Yes	Active management by exception	16
	Teacher job satisfaction with recognition			

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H2j	<p>The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration) and the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception)</p> <p>Teacher job satisfaction</p>	Yes	Idealized attributes and inspiration motivation	17
H3	<p>The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)</p> <p>Teacher job satisfaction (with supervision, colleagues, working condition, pay, responsibility, work itself, advancement, security, and recognition)</p>			

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H3a	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Idealized attributes, inspirational motivation, individualized consideration and passive management by exception	18
	Teacher job satisfaction with supervision		Salary	
H3b	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Idealized attributes, inspirational motivation, individualized consideration, active management by exception and passive management by exception	19
	Teacher job satisfaction with colleagues		Educational level	
H3c	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Idealized attributes, inspirational motivation, contingent reward and passive management by exception	20
	Teacher job satisfaction with working condition		Years of teaching experiences	

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H3d	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Idealized attributes, inspirational motivation, intellectual stimulation, individualized consideration and active management by exception	21
	Teacher job satisfaction with pay		Gender	
H3e	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Inspirational motivation	22
	Teacher job satisfaction with responsibility		Years of teaching experiences	
H3f	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Idealized behaviors, contingent reward and active management by exception	23
	Teacher job satisfaction with work itself		Salary	

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H3g	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	No	Inspirational motivation	24
H3h	Teacher job satisfaction with advancement The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	Yes	Age Idealized attributes and active management by exception	25
	Teacher job satisfaction with security		Years of teaching experiences	

Hypotheses	Independent/Dependent Variables	Model Significant	Explanatory Variable(s)/More impact	Table
H3i	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	Yes	Active management by exception	26
	Teacher job satisfaction with recognition		Years of teaching experiences	
H3j	The qualities of transformational leadership (Idealized Attributes, Idealized Behaviors, Inspirational Motivation, Intellectual Stimulation, and Individualized Consideration), the qualities of transactional leadership (Contingent Reward, Active Management by Exception, and Passive Management by-Exception) and demographic and work profile (gender, age, years of teaching experiences, educational level and salary)	Yes	Idealized attributes and inspirational motivation	27
	Teacher job satisfaction		Years of teaching experiences	

Appendix O

Vita

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Group