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**Factors influencing Taiwan's public senior high school principals'  
receptivity to educational innovation**

Hsu, Jin-Li Su, Ed.D.

University of Hawaii, 1990

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**FACTORS INFLUENCING TAIWAN'S  
PUBLIC SENIOR HIGH SCHOOL PRINCIPALS'  
RECEPTIVITY TO EDUCATIONAL INNOVATION**

**A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION  
OF THE UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE DEGREE OF**

**DOCTOR OF EDUCATION  
IN EDUCATIONAL ADMINISTRATION**

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**By**

**Jin-Li Su Hsu**

**Dissertation Committee:**

**Charles T. Araki, Chairman  
Mitsuo Adachi  
Sheldon Varney  
Morris Lai  
Chauncey Ching**

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## ABSTRACT

The main purpose of this study was to investigate various factors which may influence Taiwan's public senior high school principals' receptivity to educational innovation. Such an investigation may serve as a basis for (1) developing criteria to select school principals who are receptive to educational innovation and (2) developing programs to influence principals' attitudes toward educational innovation.

A path analysis was used to study the direct and indirect effects among principals' locus of control, leadership style, and receptivity to educational innovation; among principals' personal background characteristics, leadership style, and receptivity to educational innovation; and among school setting characteristics, principals' leadership style, and principals' receptivity to educational innovation.

The results showed a statistically significant interrelationship among one subvariable of principals' personal background characteristics, one dimension of the principal's leadership style, and principal's receptivity to two areas of innovation. The summaries of these two findings were that:

1. The subvariable, whether or not a principal has

served as a junior high school principal, related directly and positively to the consideration dimension of the principal's leadership style; directly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy; and indirectly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy passing through the negative effect of the consideration dimension of the principal's leadership style.

2. The differences between the "junior high" and "non-junior high" groups of principals were statistically significant on the consideration dimension of their leadership style and their receptivity to educational innovation in the areas of personnel, and educational objectives and policy.

3. The path model also indicated that the direct effects were substantially more potent than the total effects.

The key conclusions of this study were that:

1. The factor, whether a principal has served as a junior high school principal, directly and positively influences the consideration dimension of the principal's leadership style, and directly and negatively influences the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy.

2. The direct and negative impact of whether a principal has served as a junior high school principal upon the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy is stronger than its negative total impact through an indirect and negative impact of the consideration dimension of the principal's leadership style.

3. The "junior high" group of principals have a higher consideration dimension, but lower receptivity to educational innovation in the areas of personnel, and educational objectives and policy than the "non-junior high" group of principals.

The key recommendations were that:

1. Educational administration authorities examine instructional normalization versus examination emphasis, since this issue on the basic task of secondary education in Taiwan seems to be at the crux of receptivity to innovation.

2. The junior and senior high school principals should be given the opportunity to examine the issues surrounding receptivity to innovations, and be offered in-service career development training specifically aimed at educational innovation, such as the middle school concept in the junior high school.

3. A follow-up research study was also recommended by expanding the population and using different statistical procedures, variables, and instruments.

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## CHAPTER 1

### INTRODUCTION

With the lifting of Martial Law on July 15, 1987, Taiwan is facing many challenges. The people are pressing the government to democratize, liberalize, and internationalize politics, economics, and education. The general public is seeking to establish more political parties. Business enterprises are demanding that the government minimize intervention to maximize the internationalization of Taiwan's economy. Colleges and university faculties are advocating academic freedom.

The government which has centrally governed and controlled the educational system is being forced to change. Higher education institutions and schools are expecting more autonomy, democracy, and freedom.<sup>1</sup> The Ministry of Education (MOE) is addressing these demands by instituting new policies, programs, laws, and regulations which give freedom

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<sup>1</sup> For example, "faculty governance," "campus democracy," and "student autonomy" are the three most popular issues facing the educational system during this current year. Discussion about them can be found in most newspapers and educational journals in Taiwan.

and flexibility to the schools.<sup>2</sup>

If the educational system is to serve as a change agent that plays a major role in assisting Taiwan's people to attain their demands, it must itself be receptive to and foster more educational innovations that will improve the quality of its educational programs. Therefore, the receptivity to educational innovation is very critical at the present time, and public senior high school principals' receptivity to innovation is especially important.

#### Conceptual Framework of the Study

This study identified personality characteristics (locus of control), personal background characteristics, school setting characteristics, and leadership style, as factors which may influence Taiwan's public senior high school principals' receptivity to educational innovation. Six theoretical assumptions served as the conceptual framework of this study.

The first assumption was that schools are the center rather than target of change. Sirotnik and Clark (1988)

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<sup>2</sup> For example, in order to meet the current social and educational needs, the MOE has revised "the University Law" which is currently being evaluated by the Legislative Yuan (parliament). The MOE is revising "the Teacher Law," "the Private School Law," and other laws and regulations which give schools more authority and power for decision making. Other policies and programs, such as revising curriculum criteria for all school levels and developing a 12-year compulsory education program, also provide schools with more freedom and flexibility.

emphasize that: "the school should be the site of professional inquiry and reflective practice -- the place for the critical thinking, dialogue, decision making, action, and evaluation that determine educational innovation and change.... Educators in schools should be at the center of the process of generating and using knowledge."

In Taiwan, public schools are more credible than private schools in many ways, such as the quality of teachers and students, and educational expenditure. Public schools in Taiwan can play a major role as the center of change.

The second assumption was that educational innovation is more successful if started at the school rather than the district or state levels. Schmuck and Runkel (1985) state that the most effective organizational change strategy emphasizes the subsystem approach. Therefore, if the public schools in Taiwan can be viewed as a subsystem from which educational innovation emerges, the innovation will tend to be more successful than if initiated at the system level (MOE).

The third assumption was that the principal, as a leader, is a change/stay agent who is responsible for taking a leadership role in managing the process of change (Stoner, 1982). A three-step sequential change process model developed by Lewin (1947) involves "unfreezing" the present behavior pattern, "changing" or developing a new behavior

pattern, and then "refreezing" or reinforcing the new behavior. The principal, as a change agent, motivates the school teachers, support personnel, and students to accept and internalize the proposed change (unfreezing), and develops a new behavior pattern (changing) (Lipham & Hoeh, 1974; Aquila & Galovic, 1988). The principal, as a stay agent, locks the new behavior pattern into place by means of supporting mechanisms (refreezing). Taiwan's public school principal can be viewed as a leader who plays a major role as a change/stay agent in the process of educational change and/or innovation.

The fourth assumption was that if one fully understood a person's "situation" (in the broadest meaning of this term), one would fully understand his/her behavior (Rivera, 1976). It is based on the theory of human behavior developed by Kurt Lewin. Lewin's (1951) equation of  $B = f(P \cdot E)$ , or behavior as a function of the interaction between the person and environment enunciates his field theory. Basically, field theory is an attempt to describe the essential here-and-now situation (field) in which a person participates (Rivera, 1976).

Human behavior can be viewed as the dynamic interplay of forces within individuals (such as drives) and forces from the environment (such as social norms), since the behavior of physical matter is a result of the dynamic interplay of forces within (such as energy) and forces from

without (such as gravity) (Silver, 1983). In identifying the important determinants of behavior, one must look at the goals, values, motives, and traits which are reflected in each individual's behavior and the environmental context which both limits and directs behavior (Ozer, 1986). The former focuses upon characteristics of persons, while the latter deals with the attributes of the situation.

Many personality theorists also agree that both personal and environmental or situational characteristics influence an individual's thoughts, feelings, and actions (Ekehammar, 1974).

The fifth assumption was that a principal's leadership style influences his/her receptivity to educational innovation. Stiegelbauer's study (1984) showed that distinct leadership styles characterized by specific behaviors have varying effects on teachers' use of instructional innovations and on the outcomes of those innovations. It also indicated that an effective leadership style could result in a successful school innovation.

The sixth assumption was that establishing a climate conducive to change is essential to the implementation of innovation (Aquila & Galvoic, 1988; Stoner, 1982). Acceptance of, readiness for and receptivity to change among the members of an organization result in successful implementation. It is also inferred that an innovation perceived as desirable by the change agent has a greater

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chance of adoption than an innovation perceived as undesirable (Ramer, 1968). For this reason, this study examined the principals' receptivity to educational innovation.

The theoretical paradigm of this study,  $B = f(P \cdot E)$ , is shown in Figure 1.1. Two major premises of this study were that a principal's personality characteristics and personal background characteristics (person), and school setting characteristics (environment) each respectively influences his/her leadership style and receptivity to educational innovation (behavior); and that a principal's personality characteristics, personal background characteristics, and school setting characteristics each respectively influences the principal's receptivity to educational innovation through the effects of the principal's leadership style.

If educational innovation is to be successful in Taiwan's public senior high schools, it is essential to obtain more knowledge about the factors which influence the principals' receptivity to educational innovation.

#### Statement of Problem

Senior high schools in Taiwan play a critical role in determining a student's opportunities for higher education. Students who decide to pursue higher education after

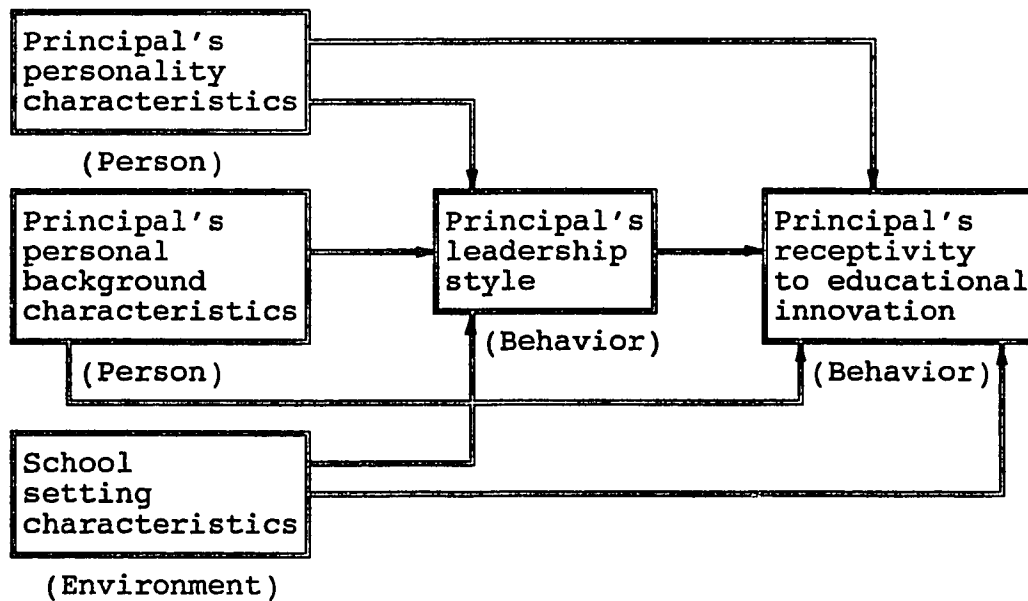


Figure 1.1 The Theoretical Paradigm of the Study

completing nine years of compulsory education must take an examination to enter senior high school. Public senior high schools are always the students' first choice since public schools in Taiwan have a better pass rate for the college and university entrance examination and charge lower tuition fees than the private ones.

Senior high schools have always been highly exam-oriented institutions whose primary responsibility seems to be the preparation of students for the highly competitive college and university entrance examination.<sup>3</sup> Since society, parents, and students all expect this, senior high school faculty and administration are under tremendous pressures to enable their students to pass the examination.<sup>4</sup> This primary effort to pass the entrance examination dilutes the public senior high school faculty and administration's efforts to achieve the comprehensive senior high school goals postulated in the "Senior High School Laws."<sup>5</sup>

The status-quo in senior high schools cannot be maintained due to society's demand for improved educational

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<sup>3</sup> Taiwan's nationwide college and university entrance examination system started in 1954. The pass rate for the examination for the years 1977-87 ranged from 29% to 33%.

<sup>4</sup> A senior high school is assumed to be "good" when it has a high pass rate for the college and university entrance examination.

<sup>5</sup> It is postulated in the "Senior High School Laws" that the purpose of senior high schools is to develop the total student with a sound mind and healthy body and prepare him/her for advanced academic study as well as the achievement of professional knowledge and skills.

change and/or innovation. Yet, when given the option to implement a new policy, such as the "instructional normalization" policy,<sup>6</sup> some schools failed to do so. Is this due to differing degrees of receptivity to educational change and/or innovation among Taiwan's public senior high school principals? How do they feel about educational change and/or innovation at the present time? How receptive are they to it? Is there any factor(s) which influences a principal's perception of educational innovation as desirable or undesirable?

The purpose of this study was to investigate various factors which may influence Taiwan's public senior high school principals' receptivity to educational innovation. Such an investigation may serve as a basis for (1) developing criteria to select school principals who are

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<sup>6</sup> Under the pressures of college and university entrance examination, most senior high schools are not able to accomplish the requirements regarding "the subjects and hours" which are postulated in General Principles for the Curriculum of Senior High Schools regulated by the MOE. For example, some schools replace unimportant subjects which are not tested in the entrance examination, with the important subjects. Students in most senior high schools have to stay in school for the extra and intensive instruction in the important subjects; or, they go to private cram schools if their own schools do not offer the program of after-school instruction. In addition, the teaching methods in senior high schools in Taiwan tend to stuff students with whatever they need to pass the entrance examination, rather than prompt students' intelligence or mental development. Therefore, based on the above-mentioned major reasons, the MOE started to institute the "instructional normalization" policy to maximize the normal instructional aspects of schools and to minimize the pressures of entrance examinations.

receptive to educational innovation and (2) developing programs to influence principals' attitudes toward educational innovation.

#### Documentation of Problem

No research study which relates a leader's receptivity to educational innovation to his/her personality characteristics, personal background characteristics, leadership style, and school setting characteristics has been conducted in Taiwan. A few studies have examined the relationship among teachers' personality characteristics (locus of control), principal's leadership style, and teachers' job satisfaction (Liaw, 1978; Lin, 1981; Lin, 1982). Huang and Ueng (1977) have found significant correlation among workers' locus of control, leader's leadership style, and workers' job satisfaction.

Tsai (1980) has examined the relationship among principal's leadership style, teachers' locus of control, and school climate. The results showed that distinct leadership styles had various effects on school climate. Teachers' locus of control was significantly related to school climate. School climate was more favorable when the principal's leadership style was based on teachers' various personality characteristics.

The effects of school setting characteristics on educational outcomes have also been investigated (Wong,

1982). The results showed that the location, scope, and type of school influenced six areas of educational outcomes -- facility, quality of teachers, educational expenditure, leadership style, quality of students, and family-community relationships.

Aquila and Galovic (1988) have found that teachers' readiness for change is affected by age, health, energy, motivation, educational background, and personal experience. The literature also revealed that the success of a principal in school administration depends to a large extent on his/her educational background, personality, and experience (Chen, 1976).

Ramer (1967) was the first to develop a scale to measure the extent of an individual's receptiveness to educational innovation. He related a school administrator's belief system and personal background to his/her receptivity to educational innovation. Ramer recommended that other personality constructs, besides open- and closed-minded belief systems, and other personal background be investigated and studied. He also suggested leadership style and receptivity to educational innovation of groups other than the chief school administrator be studied. The current study is an extension of Ramer's study using different independent variables and statistical analyses to identify factors which may influence Taiwan's public senior high school principals' receptivity to educational innovation.

### The Research Questions to be Studied

There were four research questions for the study:

1. What is the distribution of population among Taiwan's public senior high school principals in terms of locus of control, personal background characteristics, school setting characteristics, leadership style, and receptivity to educational innovation?
2. Is there a direct or an indirect effect among principals' locus of control, leadership style, and receptivity to educational innovation?
3. Is there a direct or an indirect effect among principals' personal background characteristics, leadership style, and receptivity to educational innovation?
4. Is there a direct or an indirect effect among school setting characteristics, principals' leadership style, and receptivity to educational innovation?

### Null Hypotheses

Descriptive data and statistics were used to address the first research question. Three null hypotheses were stated to address research questions two through four. These were:

1. There is no direct or indirect effect among principals' locus of control, leadership style, and receptivity to educational innovation.
-

2. There is no direct or indirect effect among principals' personal background characteristics, leadership style, and receptivity to educational innovation.

3. There is no direct or indirect effect among school setting characteristics, principals' leadership style, and receptivity to educational innovation.

#### Definition of Terms

The terms used consistently throughout this study were defined:

**Senior High Schools in Taiwan:** Schools which provide three years of optional advanced education after a nine-year compulsory basic education.

**Public Senior High Schools in Taiwan:** Senior high schools administered by the government, including central, Taiwan provincial, and special municipal government.

**Public Senior High School Principals in Taiwan:** The highest decision maker in a public senior high school, responsible for operation of the school.

**Ministry of Education (MOE):** The highest educational decision-making institution of the nation, responsible for promoting and supervising the nation's educational programs.

**Department of Education:** The highest educational decision-making institution of Taiwan province, responsible for the operation of provincial junior colleges and high schools and

for the supervision of the operation of private high schools.

**Bureaus of Education:** The highest educational decision-making institutions of Taipei and Kaohsiung special municipalities, and counties and provincial municipalities in Taiwan, responsible for the operation of public junior high schools and elementary schools and for the supervision of the operation of private junior high schools and elementary schools within their boundaries.

**Educational Innovation:** A deliberate, novel, specific change thought to be efficacious by senior high school principals for accomplishing the goals of the school system.

**Principal's Receptivity to Educational Innovation:** A principal's quality or state of being able or inclined to be open to and ready to accept educational innovation.

**Locus of Control:** A personality construct concerned with an individual's tendency to attribute satisfaction and failure to themselves (internal) or to external causes (external).

**Leadership Style:** The style a leader uses in dealing with subordinates. For this study, two leadership behaviors, initiating structure and consideration, are identified. A principal rated high in initiating structure directs and closely supervises teachers to ensure that the task is performed to his/her satisfaction. A principal rated high in consideration tries to motivate rather than control teachers

by forming friendly, trusting, and respectful relationships with teachers.

**Path Analysis:** Developed by Sewall Wright as a method for studying the direct and indirect effects of variables (Pedhazur, 1982). See the last section in Chapter 3 for further explanation.

**Exogenous Variable:** A variable whose variability is not to be explained or whose determination is not under consideration in the path model (Pedhazur, 1982).

**Endogenous Variable:** A variable whose variation is to be explained by exogenous and other endogenous variables in the path model (Pedhazur, 1982).

### Assumptions and Limitations of the Study

#### *Assumptions*

1. It is assumed that all the scores obtained from three instruments, the Chinese Educational Innovation Scale, the Chinese Leader Behavior Description Questionnaire, and the Chinese Rotter's Internal-External Control Scale, are acceptable measures of receptivity to educational innovation, leadership style, and locus of control, respectively.

2. It is assumed that a time-ordering relationship exists among principals' locus of control, leadership style, and receptivity to educational innovation; among principals' personal background characteristics, leadership style, and

receptivity to educational innovation; and among school setting characteristics, principals' leadership style, and receptivity to educational innovation.

*Limitations*

1. The scope of this study is limited to Taiwan's public senior high school principals. The results derived from the statistical analyses may not be applied to any other population, for example, elementary school principals or private senior high school principals.

2. This study is concerned with self-perceptions of Taiwan's public senior high school principals regarding educational innovation. It is not concerned with operative innovation.

## CHAPTER 2

### LITERATURE REVIEW

The related literature and research reviewed in this chapter cover two areas: the role of the senior high school principal and future trends in school innovation and improvement.

#### Role of the Senior High School Principal

##### *The United States 1977 National Survey: Senior High School Principalship*

The United States 1977 national survey on senior high school principalship, which serves as a database, provides new light on high school principals as professional persons (McCleary & Thomson, 1979). Senior high school principals in the late 1970s were different from principals of the early 1960s in terms of age, formal education, belief patterns, preparation for principalship, and career routes and aspiration. In the 1970s, high schools were larger, more complex, more full of problems and conflict, and much more demanding of administrators than they had been in the 1960s.

The 1977 national survey also contained a study of the nature of "effective" principals (Gorton & McIntyre, 1978).

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The effective, exemplary senior high school principals were identified through the use of a reputational selection process which employed the following criteria: the school appears to be focused in direction and moving to achieve its purposes, includes community persons in the development of goals and objectives, and involves youth with learning in an adult community. In addition, the school leadership anticipates emerging problems and acts in an informed way to resolve them, and the school climate is supportive and reflects high morale.

The results showed that in the area of job condition, effective principals tended to be controlling their job responsibility well and devoting most time and attention to the three areas they considered most important -- personnel, program development, and school management -- although they were forced to spend more time on problems of student behavior than they would have liked. In addition, the effective principals viewed working with supportive and cooperative people, together with sufficient job autonomy and an adequate administrative staff, as the important aids to effectiveness.

In the job attack area, it was shown that effective principals approached problems directly, set high standards, established an open and accepting climate, and worked to develop new practices in the school. They made active efforts to solve problems and while doing so, involved those

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affected by the problem. They introduced improvements in program and school management, while providing resources for others to carry out their initiatives, especially teachers. The principal initiated and distributed the resources in the school.

*Role Expectation of the High School Principal in Taiwan*

Chen's study (1976), which was intended to determine the role of the high school principal in Taiwan as perceived by high school principals, professors of education, high school teachers, and parents of high school students, provides a database for high school principalship in Taiwan. The relative importance of the qualifications and preparation, duties and functions, and educational leadership of the principal as perceived by the four groups was also investigated.

The instrument used for the study contained fifty items in three areas: principal's qualifications and preparation (15 items), principal's duties and functions (16 items), and educational leadership requirements for the principalship (19 items). The findings showed that significant differences occurred in 24 items, or 48%, and no significant differences existed in 26 items, or 52% of the total. The findings also showed that principals, professors, and parents in Taiwan were in general agreement with each other in their role expectations of high school principals. Teachers disagreed more often with the other three groups in the study than did

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principals, professors, and parents.

The results showed that principals, professors, teachers, and parents all agreed that moral integrity, ability to get along with people, and familiarity with the educational program were the three most important qualifications of and areas of preparation for a high school principal. The results also showed that principals, professors, teachers, and parents all agreed that the three most important duties and functions of a principal were: to budget his/her time to provide a balance between administrative and supervisory duties, to make sure that all staff and faculty members understand their duties and responsibilities, and to select and appoint all staff and faculty members. In addition, the results showed that principals, professors, teachers, and parents all agreed that the two most important educational leadership requirements were: being a major professional leader of the school, and encouraging the professional growth of teachers and helping them develop to their highest potential. The third most important (average rank order) requirement was helping all staff and faculty members attain a feeling of security and satisfaction in their work. The statistical analysis revealed that both professors and teachers rated this role significantly higher than parents.

*Senior High School Principals as Instructional Leaders*

The principal's role may vary according to place and

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time, changes in society, size of school and complexity of courses, and organizational and community expectations (Hughes & Ubben, 1980). After reviewing twenty years of research on principalship, Glasman (1984) concluded that the various roles could best be grouped into two categories: educator and administrator. A recent emphasis on the "principal as leader" adds a new dimension to his/her traditional roles of "educator" and "administrator" (Drake & Roe, 1986; Blank, 1987).

Since education is basically instruction in schools, the idea of the principal-as-leader emphasizes instructional leadership rather than administrative leadership (Hager & Scarr, 1983; Benjamin, 1981). In schools which are effective, principals devote a major part of their time to instructional leadership (Murphy et al., 1985). Their first priority should be instruction, and they communicate this to the school staff. Indeed, the principals' key function in effective schools is to establish goal consensus among staff and develop an institutional identity (Sergiovanni, 1984).

A senior high school principal should also improve methods of instruction and become directly involved with the instructional needs of students (Stanavage, 1967); act as an experimenter in instructional leadership (Bridges, 1970); improve the learning process in the school (Fraser, 1971); serve as a catalyst for learning (Hoeh, 1973); actively

facilitate instructional development (Groom et al., 1977); and supervise the improvement of instruction (Wedman, 1982). According to Glasman's study (1984), there is evidence that overall improvements in student achievement are associated with the principal's personal efforts to bring them about. In addition, the principal's strong instructional leadership results in greater productivity in the school (Snyder, 1983).

#### *Importance of the Adoption Process*

Recently, both school-effectiveness research and high school studies place responsibility for the sustained effectiveness of educational innovation at the school level and views the district level as important for supporting school-level reform efforts (Purkey & Smith, 1982; Goodlad, 1983; Boyer, 1983; Sizer, 1984). School principals undoubtedly play the major role in the adoption process as instructional leaders (Blank, 1987). The principal needs to exercise strong leadership in managing the change and adoption process. As Kanter (1983) pointed out: "We increasingly live in an innovation-stimulating environment, one which will reward only those organizations which are able to modify their internal cultures from a status quo posture to one characterized by high levels of innovative thinking."

School principals should be viewed as change agents,

initiating new structures in interaction with others in the school social system. Or at the least, they should act as facilitators of changes initiated by others (Blumberg & Greenfield, 1980). Small (1974, pp.21-22), in a discussion of how school principals initiate and respond to change, identifies a number of other role options for the principal as a school change agent:

1. Initiator. The principal makes changes according to his/her perception of the need.

2. Stimulator. The principal provides the opportunity for the appropriate constituencies to develop recommendations.

3. Reactor. The principal responds directly to the situation.

4. Implementor. The principal implements changes decided upon by central administration.

5. Conduit. The principal plays an intermediary role and seeks to connect those requesting change with the appropriate party.

6. Orchestrator-Mediator. The principal seeks to create the context in which change can be negotiated among the parties concerned.

7. Persuader or Dissuader. The principal persuades those proposing change not to push for the change they have proposed, to push for something else, or to change the timing of their efforts.

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8. Advocate. The principal chooses to support those pushing for the change and joins them in attempting to bring the change about.

9. Ombudsman. The principal voices the concerns of any group whose point of view might otherwise not be given adequate consideration.

10. Nonactor. The principal chooses to make only minimal response to the change proposal and not actively pursue any of the above roles. Small concluded that principals can be a decisive element in determining whether school change efforts succeed or fail.

### Future Trends in School Innovation and Improvement

#### *Resistance to School Innovation and Improvement*

Many failures have been recorded in research studies on planned change and school improvement (Corbett et al., 1987), and researchers have proposed many reasons for these, such as poor administrative planning and a heavy logistical burden on teachers (Gross et al., 1971), insufficient time to learn new practices and inattention to latter stages of the change cycle (Huberman & Miles, 1984), and the need for principals to be more dynamic leaders (Hall et al., 1984). Corbett and others (1987), Fullan (1982), and Giaquinta (1973) have emphasized teachers as initiators of change, believing that educational change depends on what teachers do and think. The importance of administrative planning,

time for learning, and the dynamism of principals lie largely in how they affect the willingness or ability of teachers to carry out new practices. Gorbett and others, Fullan, and Giaquinta concluded that teacher resistance was what stood in the way of educational innovation.

In many cases, resistance was actually a rational defense against poorly planned and executed innovations (Gross et al., 1971), and it was suggested that better technical planning could overcome that resistance. Indeed, much recent research has been aimed at helping administrators plan, implement, and routinize change more rationally and, while doing so, remove obstacles that add to the work load of teachers (Crandall et al., 1986).

#### *Receptivity to Educational Innovation*

Ramer's study (1968), which attempted to investigate the relationships among the belief systems, personal characteristics, and attitudes of chief school administrators toward educational innovation, provides an insight on receptivity to educational innovation. The Educational Innovation Attitude Scale, developed by Ramer, measured the extent of an individual's receptivity to educational innovation.

The results showed that the chief school administrator's open-mindedness, age, and length of service were significantly related to his/her receptivity to

educational innovation. Additional findings showed that the amount of formal education of the chief school administrator significantly related to receptivity to educational innovation. There was a significant relationship between expenditure per pupil and receptivity to educational innovation. A stepwise multiple regression analysis showed that the variables of dogmatism and level of formal education were two good predictors for receptivity to educational innovation.

In conclusion, chief school administrators with a more open-minded belief system professed a positive feeling towards educational innovation. Younger chief school administrators and chief school administrators with shorter tenure tended to be more receptive to educational innovation. It was also found that chief school administrators who have more formal graduate education, spend more money per pupil, and administer larger school districts tended to be more receptive to educational innovation.

***Guidelines for and Factors Contributing to  
Successful Educational/School Innovation***

According to Levine and others (1985), there are several reasons why past efforts to improve secondary education have failed. First, teaching and instruction have changed little over the past 50 or even 100 years. Second, the institutional constraints of schooling have made many

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innovations impractical and unrealistic. Third, many efforts to improve secondary schools have been limited and implemented bureaucratically. Last, many attempts at change have been technically faulty or have paid too much attention to political considerations.

Therefore, Levine and others offered five guidelines for avoiding past mistakes. First, innovations designed to improve student achievement must be technically sound, that is, changes should reflect research and other knowledge about what is workable work, as opposed to being reflective of current fashions. Second, before successful innovation can be carried out at the secondary level, the school structure must be changed. This structural change involves major modifications in the school schedule and the way students and teachers are assigned to classes. Third, innovations at the secondary level must be manageable and feasible for the average teacher. Fourth, for change efforts to be successful, they must be implemented organically rather than bureaucratically. This means that teachers will be encouraged and assisted and allowed to depart from guidelines when this is necessary to achieve the overall purposes of an instructional innovation. Last, the "Do Something, Do Anything" syndrome should be avoided.

Hawkins's study (1968) which has identified some of the factors contributing to successful educational innovation provides a valid basis for planning and implementing

programs of educational change. The findings showed that a school district size of between 8,000 and 20,000 enrollment was most conducive to educational change. Districts which are much smaller cannot, except in rare instances, bring about change on multiple fronts. In extremely large districts, changes which originate in the district office are slow to evolve and difficult to implement because of the weight and rigidity of organizational structure.

It was found that the accessibility of a college or university is a positive factor in bringing about change in a district. Colleges serve as centers of advanced training and provide necessary human and physical resources for bringing about change.

It was found that successful programs of change do not "just happen." School districts that expect to experiment or change must organize for it. They should provide a director of research and development, should be willing to budget "risk money" for research, and should make provisions for nurturing and supporting staff ideas.

It was found that innovative districts are usually located in innovative communities which are receptive to educational betterment. In addition, superintendents, as agents of change, must continue to grow as professionals. Finally, innovation can exist only in districts where there is mutual respect between the superintendent and the board of education, and where the board is free

from inner conflict.

*Organizational Development as the Future Trends in School Improvement*

Organizational development (OD) is a conceptual framework and a strategy aimed at helping schools become self-correcting, self-renewing systems of people who are receptive to evidence that change is required and able to respond with innovative, integrated programs and arrangements (Schmuck & Runkel, 1985). The results of some field experiments (Runkel & Schmuck, 1974) indicate a number of ways in which OD can improve the organizational functioning of schools. For instance, OD assists more open and skillful interpersonal communication among the faculty and makes them more helpful to one another and more willing to take risks in trying out new ideas.

There is also evidence in Runkel and Schmuck's research and in the analyses of others that OD methods (if they are chosen, sequenced, and applied properly) can assist a school produce structures that meet internal and external challenges, can improve (even indirectly) teacher-student relations, can make staff more responsive and creative, can increase the influence of the principal without reducing the influence of the staff (and vice versa), can assist increased teacher and student participation in school management, and by changing attitudes and other morale factors create more harmonious and helpful expectations (Runkel & Schmuck, 1974).

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According to Flynn (1971), one high school principal who applied OD methods almost single-handedly, with only a modest amount of intervention by outsiders, managed to establish new relations with his staff in communication and decision making. Therefore, it is expected that OD theory and methods can be considered as the future trends in school improvement and can be widely accepted and applied in the near future in Taiwan's senior high schools.

## CHAPTER 3

### METHODOLOGY

This chapter describes the study design, sample and sampling method, instrumentation and variables to be measured, procedures of the study, and statistical analyses.

#### Design of the Study

This correlational study used survey questionnaires to collect information on Taiwan's public senior high school principals' locus of control, personal background characteristics, leadership style, receptivity to educational innovation, and school setting characteristics. Information on each principal's leadership style was obtained through a systematic sampling of teachers in each school. This study purported to identify the magnitude of the effects among these variables and determine the factors which may influence principals' receptivity to educational innovation.

Path analysis was used to study the direct and indirect effects among principal's locus of control, leadership style, and receptivity to educational innovation; among

principal's personal background characteristics, leadership style, and receptivity to educational innovation; and among school setting characteristics, principal's leadership style, and receptivity to educational innovation.

#### Sample and Sampling Method

Two distinct target populations to which the results of this study were generalized were the principals and full-time teachers, excluding military instructors and teachers holding administrative positions in the school, in all 78 public senior high schools in Taiwan. The population of 78 principals was surveyed as subjects since this number was deemed manageable to survey. On the other hand, the teacher population of 6,251 in 74 schools rather than 78 schools was utilized. Since the teacher rosters in 4 schools were not available when the investigator collected the rosters, the teachers of these schools were not included in the population to be sampled.<sup>7</sup>

Teacher rosters were collected from the Taiwan provincial department of education, bureaus of education of

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<sup>7</sup> The teacher rosters of one provincial and one Taipei municipal school could not be obtained from the Taiwan provincial department of education and bureau of education of the Taipei special municipality, respectively, since they were just opened in fall 1989. In addition, two of six national senior high schools did not offer teacher rosters to the investigator when she wrote to the principals to ask for an up-dated roster since complete, up-to-date teacher rosters of the six national schools were not available in the MOE.

Taipei and Kaohsiung special municipalities, and six national senior high schools.

This study used a systematic sampling of 15 percent of the defined teacher population from each school, with a minimum of five teachers from each school. To use systematic sampling, the investigator first decided the sample size for each school by multiplying the population of each school by 15 percent, e.g.  $100 \times 15\% = 15$ . Second, the investigator divided the population by the sample size. Third, the investigator selected at random a number smaller than the number arrived at by the division (in this example, a number smaller than 7). Last, starting with that number (e.g., 5), the investigator selected every seventh name from the teacher roster for each school until the number needed for the sample (15 names) was obtained.

In total, 78 principals and 931 teachers from 74 senior high schools served as subjects of this study. The total number of schools, population of principals and teachers, and number of teachers sampled from the schools are shown in Table 3.1.

#### Instrumentation and Variables to be Measured

The five major variables measured in this study were:

- Principal's receptivity to educational innovation
- Principal's leadership style
- Principal's locus of control

Table 3.1

Total Number of Schools, Population of Principals and Teachers, and Number of Teachers Sampled from Public Senior High Schools in Taiwan

	National Schools	Taipei Special Municipality Schools	Kaoshiung Special Municipality Schools	Taiwan Provincial Schools	Total
Number of Schools	6	9	4	59	78
Population of Principals	9	9	4	59	78
Population of Teachers*	114	1,249	503	4,385	6,251
Number of Teachers Sampled	22	182	76	651	931

\* Excluding the teachers of two national schools, one provincial, and one Taipei municipal school as either the rosters for these were unavailable or the schools were newly-opened.

Principal's personal background characteristics  
School setting characteristics

Descriptions of how these variables were measured are presented in the following sections.

*Endogenous Variables*

*Endogenous Variable One: Receptivity to Educational Innovation*

Since the educational program and school operations in Taiwan are different from those in the West, the Educational Innovation Scale (EIS) developed by Burton Ramer (1967) was revised. The Chinese EIS was developed and translated into English by the investigator after examining the literature and consulting with educational administrators and senior high school principals in Taiwan. Originally, the scale consisted of 28 questions, half worded positively and half negatively. The questions covered six broad areas of educational innovation -- educational objectives and policy (5 questions), curriculum and instruction (5 questions), guidance and counseling (5 questions), personnel (5 questions), facility and finance (4 questions), and teaching evaluation (4 questions).

In order to reconfirm the scale's validity, a questionnaire (see Appendix A for the Chinese version and Appendix B for the English version) was designed. Early in July 1989, copies of this questionnaire were mailed to 10 experts (4 educational administrators in the MOE, 3 senior high school principals, and 3 professors of education) in

order to test the scale's accuracy, mutual exclusion, and exhaustiveness.<sup>8</sup>

Three of the 28 questions were revised and four minor wording problems in 4 questions were corrected, according to oral or written comments collected from eight respondents (2 educational administrators, 3 principals, and 3 professors). The final edition of the Chinese EI Scale still contained 28 questions, half worded positively and half negatively, covering six broad areas of educational innovation (see part II of Appendixes C and D for the Chinese and English versions, respectively). The six areas of educational innovation of the scale by question number and negative or positive wording are shown in Table 3.2.

A test-retest procedure was conducted to establish the reliability of the Chinese EI Scale. The scale was administered twice to 29 principals, school administrators, and division directors of elementary schools in Taipei and

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<sup>8</sup> The questionnaire was divided into six parts according to the six areas of educational innovation included in the scale. Three similar questions were asked in each part: (1) whether each question asked in that particular area of innovation was accurate (this contains a 6-degree, accurate-inaccurate continuum for each question in each area); (2) whether the questions in any particular area were mutually exclusive of each other (respondents were asked to specify which questions, if any, were not exclusive); (3) whether the questions listed in each area covered the major content of that area of innovation (respondents were asked to offer suggestions if their answer to this question was negative). At the end of the questionnaire, respondents were invited to offer any other comments or suggestions for the scale.

Table 3.2

Areas of Educational Innovation for the EI Scale  
by Question Number and Negative or Positive Wording

Area of Educational Innovation	Question Number	Negative or Positive Wording
I. Educational Objectives & Policy	1	negative
	7	negative
	18	negative
	23	negative
	27	positive
II. Curriculum & Instruction	2	negative
	8	positive
	17	positive
	24	negative
	26	negative
III. Guidance & Counseling	3	positive
	9	positive
	16	negative
	19	positive
	28	positive
IV. Personnel	4	positive
	10	positive
	15	negative
	21	negative
	22	negative
V. Facility & Finance	5	negative
	11	positive
	13	positive
	25	positive
VI. Teaching Evaluation	6	positive
	12	negative
	14	positive
	20	negative

Taoyuan, taking part in a summer school at the Taipei Municipal Teachers' College, with an interval of 13 days between the two tests (August 9 and 22, 1989). The coefficient of test-retest stability computed between the two scores was  $r = 0.67$  ( $P < .05$ ).

The 28 questions were scaled on a 6-point agree-disagree continuum. The positively worded questions were scaled using +3, +2, +1, -1, -2, and -3 for the six response categories; 0 was excluded to force respondents toward either disagreement or agreement. The negatively worded questions were scaled using -3, -2, -1, +1, +2, and +3. The total possible test scores ranged from +84 to -84. A high positive score identifies a person who is more receptive to educational innovation.

The Chinese EI scale is presented in part II of the principal questionnaire, entitled the "Principal's Attitude Toward Educational Issues."

*Endogenous Variable Two: Principal's Leadership Style*

The instrument used to measure this variable was the Chinese Leader Behavior Description Questionnaire (LBDQ), originally developed by J.K. Hemphill and A.E. Coons (1950), modified by A.W. Halpin (1969), and edited and translated into Chinese by P.T. Tsai and C.S. Jen (1981) (see Appendix E for the Chinese version and Appendix F for the English version). Reliability of the Chinese LBDQ was established by the test-retest method. The coefficient of test-retest

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stability was  $r = 0.90$ .

The LBDQ was developed to assess the initiating structure and consideration dimensions of a leader's behavior (Hemphill & Coons, 1950). It consisted of 30 questions which were presented on a five-point continuum from "very often", "often", "sometimes", "hardly ever", to "never". Questions 5, 7, 8, 9 and 23 were negatively worded and scored 1 through 5, while the remaining 25 questions were positively worded and scored 5 through 1. The first 15 questions were concerned with the consideration dimension of a leader's behavior, while the last 15 questions were concerned with the initiating structure dimension. Scores for both dimensions were computed and used for the statistical analysis, rather than one total score for the LBDQ. The scores for each dimension range from 15 to 75. The higher the score, the more consideration or initiating structure the leader exhibits.

The average score for each principal was calculated from the teacher questionnaires from each school which determined that principal's leadership style. For the purposes of this study, the principal's scores of the two basic dimensions were considered as the measurement of this endogenous variable. However, for the purpose of a descriptive analysis, a principal's leadership style was also classified into four categories: (1) high consideration with high initiating structure, (2) high consideration with

low initiating structure, (3) low consideration with high initiating structure, and (4) low consideration with low initiating structure.

#### *Exogenous Variable*

##### *Exogenous Variable One: Principal's Locus of Control*

The instrument used for measuring this variable was the Chinese Rotter's Internal-External Locus of Control Scale (I-E Scale), originally developed by Julian B. Rotter (1966), and edited and translated into Chinese by Y.Y. Hong (1975) (see part III of Appendixes C and D for the Chinese and English versions, respectively). The I-E Scale was developed to measure an individual's internality or externality. According to Rotter (1971), internal people differ from external people in the tendency to attribute satisfaction and failure to themselves rather than to external causes.

A study was conducted to establish the validity of the Chinese I-E Scale. It was found that people with more externality tended to be poorly adjusted to the environment (Hong, 1975). Reliability of the instrument was established by the test-retest method. The coefficient of test-retest stability was  $r = 0.81$ .

The original I-E Scale was an instrument with high validity and reliability. The I-E Scale was a forced-choice 29-item scale in which the respondent read a pair of statements and then indicated with which of the two

statements he/she more strongly agrees. Six of twenty nine items were bluffers and not scored. They were questions 1, 10, 14, 19, 24, and 27. The scores range from zero to 23. For the sake of convenience, all respondents were always divided into two groups: internals within half of low score distributions and externals within half of high score distributions. The internals have a consistent belief that individuals can influence the environment; in contrast, the externals' belief is that all rewards come from external forces. This is not meant to imply that there are two types of personality and that everyone can be classified as one or the other, but that there is a continuum, and that persons have varying degrees of internality or externality. For this study, the total score on the Chinese I-E Scale was used to measure this exogenous variable.

The Chinese I-E Scale is presented in part III of the principal questionnaire, entitled the "Principal's Viewpoint on Social Phenomena."

*Exogenous Variable Two: Principal's Personal Background Characteristics*

Principal's personal background characteristics include 16 subvariables:

1. Gender
2. Age
3. Geographic origin
4. Religious background
5. Formal education level

6. Highest level of training institution attended
7. Major subject of highest degree
8. Length of time in present position
9. Experience in previous positions, including:
  - (1) principalship of any other senior high school
  - (2) principalship of any junior high school
  - (3) division directorship of any city or county bureau of education
  - (4) associate professorship or professorship in any college or university
  - (5) teacher in any other high school
  - (6) any other position
10. Whether they presently hold a part-time teaching position

The principals were allowed to respond to the above questions either by free response or categorized responses in part I of the principal questionnaire (see part I of Appendixes C and D for the Chinese and English versions, respectively).

*Exogenous Variable Three: School Setting Characteristics*

School setting characteristics include:

1. Supervising authority -- national, provincial, or special municipal
2. Location of school -- in special municipality, provincial municipality, county municipality, town, or island

3. Type of school -- a typical senior high school, attached with junior high school, with vocational program, or with junior high school and vocational program
4. School size by teachers
5. School size by students
6. Total budget for the years 1986-87, 1987-88, and 1988-89
7. Whether it had a supplementary budget from the government for any of the years 1986-87, 1987-88, and 1988-89
8. College and university entrance examination pass rate for 1986-87, 1987-88, and 1988-89

The staff was allowed to respond to these questions with either a free response or categorized responses in the fourth part of the principal questionnaire (see part IV of Appendixes C and D for the Chinese and English versions, respectively). Responses to questions 4, 5, 6, and 8 were used to calculate the teacher-student ratio, per pupil cost of education, and entrance examination pass rate.

The teacher-student ratio for each school was computed from the number of students in question 5 divided by the number of teachers in question 4. Per pupil cost of education for each school was computed from the average annual total budget for a 3-year period calculated from question 6, divided by the number of students. In addition,

the average annual entrance examination pass rate was obtained by averaging the rates for the 3 years shown in question 8. In total, there are 7 subvariables for school setting characteristics.

#### Procedures of the Study

Copies of the principal questionnaire (See Appendix C for the Chinese version and Appendix D for the English version) were distributed to 69 senior high school principals at the annual conference for Taiwan's provincial senior high school principals on September 1, 1989.<sup>9</sup> Several days later, copies of the questionnaire were mailed to another 10 principals including 7 Taipei and 2 Kaohsiung municipal senior high school principals.

The principal questionnaire consisted of two sections. The first section (i.e., parts I to III of the principal questionnaire) which was to be answered and returned to the investigator by the principal included a cover letter, I-E Scale, EI Scale, and the questions on personal background

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<sup>9</sup> This conference, sponsored by the Taiwan provincial department of education, was held in Pingtung, southern Taiwan. Dr. Lee, director general of the department of secondary education in the MOE who was invited to attend the conference as a supervisor, accompanied the investigator while she distributed the questionnaires to the principals and asked for their cooperation and help. The sixty-nine principals present in the conference included all 6 national, all 59 provincial, 2 Taipei and 2 Kaohsiung municipal senior high school principals.

characteristics. The second section (i.e., part IV) which contained the questions on school setting characteristics was to be answered by the relevant school staff. Each principal was asked to pass on the second section to the appropriate member of his/her staff to complete and return to the investigator.

The letter which accompanied the questionnaire emphasized the importance of the study and assured the respondents that all data provided by them would be considered confidential and would only be used to present descriptive and statistically computed data. The principals and staff were requested to mail back each section of the questionnaire as soon as possible.

After two weeks, only 22 completed principal questionnaires (sections one and two) and 25 partially completed questionnaires (either section one or two) were returned. Since the response rate was insufficient, follow-up letters and the questionnaires (31 two-section and 25 one-section) were mailed on September 20, 1989 (see Appendixes G and I for the Chinese versions of and appendixes H and J for the English versions of the follow-up letters). The final total of principal questionnaires returned was: 61 two-section questionnaires, 8 questionnaires with only the principal's section completed, and 1 with only the staff member's section completed. The response rate for the principal questionnaire

is shown in Table 3.3.

Simultaneously, copies of the teacher questionnaire (see Appendix E for the Chinese version and Appendix F for the English version) including a cover letter, and a LBDQ were mailed to the teacher subjects. The letter emphasized the importance of a principal's leadership style to the success of educational programs and assured the respondents that all data provided by them would be considered confidential and would only be presented as descriptive and statistically computed data. The teachers were requested to return the questionnaire upon completion.

After 10 days, 198 completed teacher questionnaires had been returned. Only 35 schools registered a minimum 33.5% response rate<sup>10</sup>, which meant that only 35 principals' leadership style could be determined by averaging scores from the teacher questionnaires from each of 35 schools. Consequently, follow-up letters and the questionnaires were mailed to 483 teachers who did not respond in 39 schools (see Appendix K for the Chinese version of and Appendix L for the English version of the follow-up letter).

Within one month, 159 completed questionnaires were

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<sup>10</sup> A minimum 33.5% response rate from a school was required since the investigator pre-determined that a minimum 5% of the teacher sampled population from a school was needed to generalize the results. The number of 33.5% was calculated by dividing 5% by 15% (a criterion for systematic sampling for each school, as mentioned in the previous section of sample and sampling method in this chapter).

Table 3.3  
Response Rate for Principal Questionnaire

	Total No. of Questionnaires Distributed	Total No. of Questionnaires Returned	Response Rate of Total 78 Schools
Section I -- Answered by Principal	109	69	88.5% ( $69 \div 78 \times 100$ )
Section II -- Answered by School Staff	134	62	79.5% ( $62 \div 78 \times 100$ )

returned. In total, 357 completed teacher questionnaires were returned. The response rate for the teacher questionnaire is shown in Table 3.4.

A machine coded number was assigned to each questionnaire for the convenience of checking the return of the questionnaire. It was also useful for developing a database from which further statistical analyses can be executed.

#### Statistical Analyses

Statistical analyses for this study were conducted in two parts.

##### *Descriptive Statistics*

To answer the first research question of this study, a descriptive analysis in terms of mean, percentage, or range was used to describe the population distribution regarding principal's locus of control, personal background characteristics, four categories of leadership style, two dimensions of leadership style, school setting characteristics, and principal's receptivity to educational innovation.

##### *Path Analysis*

Path analysis was used to study the direct and indirect effects among all the variables regarding research questions two to four. Basically, the path analysis used for the study

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Table 3.4  
Response Rate for Teacher Questionnaire

Total No. of Questionnaires Distributed	Total No. of Questionnaires Returned	No. of Schools Included	Response Rate of 74 Schools*
1,414	357	65**	87.8%

\* Since the teacher rosters in 4 schools were not available when the investigator collected the rosters, the teachers of these schools were not included in the population to be sampled. Therefore, the response rate for teacher questionnaire was calculated based on 74 rather than 78 schools.

\*\* This only includes schools in which a minimum 33.5% response rate for teacher questionnaires from each school was reached.

consisted of four procedural steps (Borg & Gall, 1983). The first was to formulate a theory that links the variables of interest. This was discussed in the conceptual framework section in Chapter 1. A path diagram which is a useful device for displaying graphically an interrelationship or a time-ordered relationship among five variables of this study is also presented in Figure 3.1 (Marascuilo & Levin, 1983).

In Figure 3.1, each path is shown with a straight arrow. Here there are two paths for  $X_1$  leading to  $X_5$ . They are the direct path of  $X_1$  to  $X_5$  and the indirect path of  $X_1$  to  $X_5$  passing through  $X_4$ . On the other hand,  $X_4$  has only one single, direct connection to  $X_5$ . Since  $X_1$  has a direct and an indirect path to  $X_5$ , it has two different ways for influencing the outcomes of  $X_5$  (Marascuilo & Levin, 1983). For the same reasons,  $X_2$  and  $X_3$  have two different ways for influencing the outcomes of  $X_5$ .

Two of the arrows in Figure 3.1 are curved and double-headed. This type of arrow linking two variables indicates a relation between two variables remains unanalyzed in the system (Pedhazur, 1982; Borg & Gall, 1983).

The second step in path analysis was to select measures of the variables (sometimes called "theoretical constructs" in this context) that were specified by the theory. This step was shown in the section on instrumentation and variables to be measured in this chapter. In addition, all

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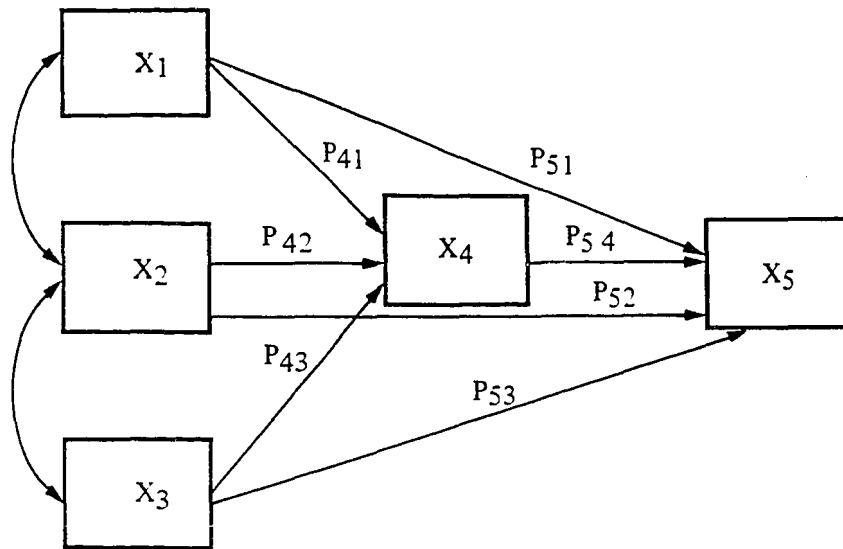


Figure 3.1

A Path Diagram Showing the Time-Ordered Relationship among Five Variables

where  $X_1$  represents principal's locus of control,  
 $X_2$  represents principal's personal background characteristics,  
 $X_3$  represents school setting characteristics,  
 $X_4$  represents principal's leadership style, and  
 $X_5$  represents principal's receptivity to educational innovation.

the analytical data for the variables were transformed into percentile scores as standard scores for path analysis, since the units for the raw scores were different. All the analytical data in this study included the measures for the variables of receptivity to educational innovation, leadership style, locus of control, age, length of time in present position, the teacher-student ratio, per pupil cost of education, and entrance exam pass rate.

The third step in path analysis was to perform a statistical analysis to determine the strength of the effects between each of the pairs of variables that are related in the theory. Basically, the procedures are a form of multiple regression with 336 regression equations for the study (see Table 3.5).

As shown in Table 3.5, equation 3.1 tests the effects of  $X_1$  on  $X_4$ , and equation 3.2 tests the effects of  $X_1$  and  $X_4$  on  $X_5$ . Both equations 3.1 and 3.2 test hypothesis 1, whether or not there is a direct effect of  $X_1$  on  $X_5$  or an indirect effect of  $X_1$  on  $X_5$  through the effect of  $X_4$ . For the same reason, the purpose of equations 3.3 and 3.4 is to test hypothesis 2, whether or not there is a direct effect of  $X_2$  on  $X_5$  or an indirect effect of  $X_2$  on  $X_5$  through the effect of  $X_4$ . In addition, equations 3.5 and 3.6 test hypothesis 3, whether or not there is a direct effect of  $X_3$  on  $X_5$  or an indirect effect of  $X_3$  on  $X_5$  through the effect of  $X_4$ .

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Table 3.5  
General Multiple Regression Forms  
and Total Number of Equations

General Multiple Regression Form for Path Analysis	Subtotal No. of Equations Included*
$X_4 = a_1X_1$ (3.1)	$2 \times 1 = 2$
$X_5 = a_2X_1 + a_3X_4$ (3.2)	$6 \times 1 \times 2 = 12$
$X_4 = a_4X_2$ (3.3)	$2 \times 16 = 32$
$X_5 = a_5X_2 + a_6X_4$ (3.4)	$6 \times 16 \times 2 = 192$
$X_4 = a_7X_3$ (3.5)	$2 \times 7 = 14$
$X_5 = a_8X_3 + a_9X_4$ (3.6)	$6 \times 7 \times 2 = 84$
	Total No. of Equations: 336

\* As mentioned in the previous section,  $X_1$  includes 1 subvariable,  $X_2$  16 subvariables,  $X_3$  7 subvariables,  $X_4$  2 subvariables (dimensions), and  $X_5$  6 subvariables (areas). Therefore, the number of equations for each general regression form was calculated by multiplying all the numbers of subvariables in each variable.

The statistical analysis yields a path coefficient for each pair of variables in the path analysis. A path coefficient is a standardized regression coefficient indicating the effects between two variables. Because path coefficients are standardized regression coefficients, they have the same meaning as the beta (B) coefficients calculated in multiple regression, and therefore the larger the value, the stronger the effects between the two variables.

In Figure 3.1,  $P_{51}$  which refers to the path coefficient for  $X_1$  and  $X_5$  is the direct effect of  $X_1$  on  $X_5$ , while its indirect effect which refers to the effect of  $X_1$  on  $X_5$  through  $X_4$  is equal to the effect of  $X_1$  on  $X_4$  (i.e.,  $P_{41}$ ) multiplied by the effect of  $X_4$  on  $X_5$  (i.e.,  $P_{54}$ ). The total effect of  $X_1$  on  $X_5$  is the sum of its direct and indirect effects (i.e.,  $P_{51} + P_{41} \times P_{54}$ ).

The Statistical Analysis System (SAS) general linear model procedure was used to process and compute data for the path analysis procedure. A significance level at the  $p < 0.10$  was selected for all the tests.

The final step in path analysis was to interpret the statistics to determine whether an effect among variables exists. The findings for the hypotheses and the strength of effects between each of the pairs of variables will be presented with a path model and interpreted in the next chapter.

## CHAPTER 4

### FINDINGS

Findings derived from the statistical analyses are presented in this chapter in two sections: an analysis of descriptive statistics and findings from the path analysis.

#### Descriptive Statistics

A descriptive analysis of five major variables measured in this study is presented.

#### *Principal's Personal Background Characteristics*

Tables 4.1 to 4.4 present data on the personal background characteristics of Taiwan's public senior high school principals. The data in Table 4.1 show the distribution of principals by gender, age, geographic origin, and religious belief.

The data on gender show that approximately 80% of the sample of 69 principals are male and 20% are female. The data on age show that the average age of 69 principals is 55.1 years, 30.4% of the 69 principals are between 51 and 55 years of age, 27.5% are between 61 and 65, 20.3% are between 56 and 60, 14.5% are between 46 and 50, and 7.2%

Table 4.1

Distribution of Taiwan's Public Senior  
High School Principals by Gender, Age,  
Geographic Origin, and Religious Belief

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
<b>Gender:</b>				
Male	55	79.7	55	79.7
Female	14	20.3	69	100.0
<b>Age (The average age is 55.1 years):</b>				
40-45	5	7.2	5	7.2
46-50	10	14.5	15	21.7
51-55	21	30.4	36	52.2
56-60	14	20.3	50	72.5
61-65	19	27.5	69	100.0
<b>Geographic Origin:</b>				
Missing Value	1	.	.	.
Taiwan Province	37	54.4	37	54.4
Offshore Island	6	8.8	43	63.2
Mainland China	25	36.8	68	100.0
<b>Religious Belief:</b>				
Missing Value	2	.	.	.
None	18	26.9	18	26.9
Buddhist	36	53.7	54	80.6
Christian	9	13.4	63	94.0
Catholic	1	1.5	64	95.5
Other	3	4.5	67	100.0

are between 40 and 45.

The data in Table 4.1 also show that 54.4% of the 68 principals originate from Taiwan province, 36.8% from mainland China, and 8.8% from different islands. In addition, of the 67 principals, 53.7% are Buddhists, 13.4% are Christians, 1.5% are Catholic, 4.5% have other religious beliefs, and 26.9% have no religious belief.

The data in Table 4.2 on principals' academic background show that 71% of the 69 principals hold a bachelor's degree, 26.1% a master's degree, and 2.9% a doctoral degree. By institution attended, 62.3% of the 69 principals last graduated from a teachers' college in Taiwan, 33.3% from another college in Taiwan, 2.3% from a teachers' college in another country, and 1.4% from another college in another country. By major for the highest degree earned, 67.6% of the 68 principals majored in education, 19.1% in social science, 5.9% in natural science or applied science, and 1.5% in humanities.

The data in Table 4.3 on principals' present experience show that the average service years for the 68 principals in their present position is 8.12 years, 45.6% of the 68 principals served for 3 to 8 years, 22.1% for less than 3 years, 14.7% for more than 20 years, 13.2% for 9 to 14 years, and 4.4% for 15 to 19 years. In addition, approximately 80% of the 64 principals have and 19% do not have a part-time teaching job.

Table 4.2

Distribution of Taiwan's Public Senior High  
School Principals by Academic Background

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
<b>Highest Degree Earned:</b>				
Doctoral degree	2	2.9	2	2.3
Master's degree	18	26.1	20	29.0
Bachelor's degree	49	71.0	69	100.0
<b>Institution attended:</b>				
Teachers' colleges in Taiwan	43	62.3	43	62.3
Another college in Taiwan	23	33.3	66	95.7
Teachers' college in another country	2	2.3	68	98.6
Another college in another country	1	1.4	69	100.0
<b>Major:</b>				
Missing value	1	.	.	.
Education	46	67.6	46	67.6
Social Science	13	19.1	59	86.8
Humanities	1	1.5	60	88.2
Natural Science	4	5.9	64	94.1
Applied Science	4	5.9	68	100.0

Table 4.3  
 Distribution of Taiwan's Public Senior  
 High School Principals by Present Experience

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Length of time in present position (The average service years is 8.12 years):				
Missing value	1	.	.	.
Less than 3 years	15	22.1	15	22.1
3-8 years	31	45.6	46	67.7
9-14 years	9	13.2	55	80.9
15-19 years	3	4.4	58	85.3
More than 20 years	10	14.7	68	100.0
Having a part-time teaching job:				
Missing value	5	.	.	.
Not having	12	18.8	12	18.8
Having	52	80.3	64	100.0

The data in Table 4.4 on principals' previous experience show that of the 69 principals, 58% have and 42% have not served as a principal in another senior high school. Of the 68 principals, 58.8% have and 41.2% have not served as a principal in a junior high school. Of the 69 principals, 53.6% have and 46.4% have not served as a division director in a secondary school. Of the 69 principals, 26.1% have and 73.9% have not served as a division director in an educational institution. Of the 69 principals, only 10.1% have and 89.9% have not served as an associate professor or professor. Of the 69 principals, 68.1% have and 31.9% have not served as a teacher in a secondary school. In addition, of the 69 principals, 19.1% have and 80.9% have not held a position other than the above-mentioned ones.

#### *Principal's Locus of Control*

The data in Table 4.5 show that the average score on locus of control for the 61 principals is 4.62, which is higher than the median, 4. With a median of 4, the principals may be classified into two groups: internals with scores below 4 and externals with scores above 4. The range for the score distribution is 19.

#### *Principal's Leadership Style*

The data in Table 4.5 also show that for the consideration dimension, the average score for the 65

Table 4.4  
 Distribution of Taiwan's Public Senior  
 High School Principals by Previous Experience

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Whether served as a principal in another senior high school:				
Not served	29	42.0	29	42.0
Served	40	58.0	69	100.0
Whether served as a principal in a junior high school:				
Missing value	1	.	.	.
Not served	28	41.2	28	41.2
Served	40	58.8	68	100.0
Whether served as a division director in a secondary school:				
Not served	32	46.4	32	46.4
Served	37	53.6	69	100.0
Whether served as a division director in an educational institution:				
Not served	51	73.9	51	73.9
Served	18	26.1	69	100.0
Whether served as an associate professor or professor:				
Not served	62	89.9	62	89.9
Served	7	10.1	69	100.0
Whether served as a teacher in a secondary school:				
Not served	22	31.9	22	31.9
Served	47	68.1	69	100.0
Whether held any other position:				
Missing value	1	.	.	.
Not held	55	80.9	55	80.9
Held	18	19.1	68	100.0

Table 4.5

Descriptive Summary of Taiwan's Public Senior High School  
Principals' Locus of Control, Leadership Style, and  
Receptivity to Educational Innovation

	N.	Minimum	Maximum	Mean	Std. Dev.	Median
Locus of control:						
	61	0	19	4.62	3.38	4
Leadership style:						
Consideration dimension	65	23	64.5	46.92	9.93	46
Initiating structure dimension	65	33	63.67	49.08	5.96	49.5
Receptivity to Educational Innovation:						
	59	8	67	33.75	12.33	34

principals is 46.92 and the range is 41.5. For the initiating structure dimension, the average score for the 65 principals is 49.08, the range is 30.67.

With a median of 46 for the consideration dimension and 49.5 for the initiating structure dimension, the 65 principals may be classified into four groups of leadership styles: high consideration with high initiating structure, high consideration with low initiating structure, low consideration with high initiating structure, and low consideration with low initiating structure. A diagram displaying the distribution of the 65 principals by four groups of leadership style is shown in Figure 4.1. Twenty-two, or 33.85%, of the 65 principals exhibit high initiating structure and high consideration, while 23, or 35.39%, exhibit low initiating structure and low consideration. Ten, or 15.38%, exhibit low initiating structure and high consideration, and an equal number exhibit high initiating structure and low consideration.

*Principal's Receptivity to Educational Innovation*

The data in Table 4.5 also show that the average score on receptivity to educational innovation for the 59 principals is 33.75, which is approximately equal to the median, 34. With a median of 34, the principals may be divided into two groups: more receptive principals with scores within the higher half of the range and less receptive principals with scores within the lower half of

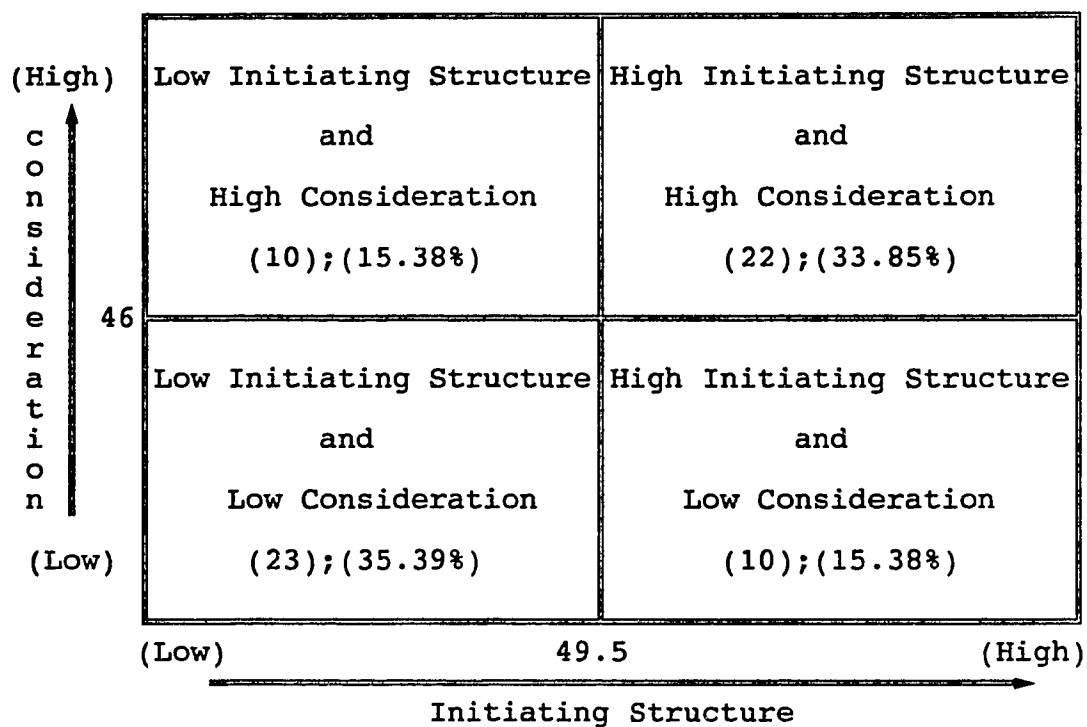


Figure 4.1

Distribution of Taiwan's Public Senior High School  
Principals by Leadership Style

the range. The range is 59.

*School Setting Characteristics*

Table 4.6 presents the descriptive data on the school setting characteristics for Taiwan's public senior high schools. It shows that 74.2% of the 62 schools are provincial, 16.1% are special municipal, and 9.7% are national. Of the 60 schools, 38.3% are located in town, 25% are in a county municipality, 20% are in a provincial municipality, 15% are in a special municipality, and 1.7% are on an island. Of the 63 schools, 71.4% are typical senior high schools, 25.4% are senior high schools with vocational programs, and 3.2% with junior high schools.

The data in Table 4.6 (Continued) show that the average teacher-student ratio for the 62 schools is 19.55, 69.4% of the 62 schools between 17 and 23.9, 22.6% between 10 and 16.9, and 8.1% between 24 and 30.9. The average per pupil cost for the 55 schools is NT\$40,684, 41.8% of the 55 schools is between NT\$20,001 and 35,000, for 40% between NT\$35,001 and NT\$50,000, for 12.7% NT\$50,000 or more, and for 5.5% NT\$20,000 or less. Of the 54 schools, 85.2% had and 14.8% did not have any additional budget from the government during 1986-89. In addition, the average pass rate for the college and university entrance examination for the 60 schools is 44.9%, 26.7% of the 60 schools is between 21% and 40.9%, for 23.3% between 20.9% or less, for 18.3% between

Table 4.6  
Distribution of Taiwan's Public Senior High Schools  
by School Setting Characteristics

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
<b>Supervising authority:*</b>				
National	6	9.7	6	9.7
Taiwan provincial	46	74.2	52	83.9
Special municipal	10	16.1	62	100.0
<b>Location of school:</b>				
Missing value	9	.	.	.
Special municipality	9	15.0	9	15.0
Provincial municipality	12	20.0	21	35.0
County municipality	15	25.0	36	60.0
Town	23	38.3	59	98.3
Island	1	1.7	60	100.0
<b>Type of school:</b>				
Missing value	6	.	.	.
Typical senior high sch.	45	71.4	45	71.4
With junior high school	2	3.2	47	74.6
With vocational program	16	25.4	63	100.0

\*The term "national" refers schools administered by the central government, "provincial" to those administered by the Taiwan provincial government, and "special municipal" to those administered by the Taipei or Kaohsiung special municipality.

Table 4.6 (Continued)

Distribution of Taiwan's Public Senior High Schools  
by School Setting Characteristics

	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Teacher-student ratio (The average ratio is 19.55):				
Missing value	7	.	.	.
10-16.9	14	22.6	14	22.6
17-23.9	43	69.4	57	91.9
24-30.9	5	8.1	62	100.0
Per pupil cost of education (NT dollars)* (The average cost is NT\$40,684):				
Missing value	14	.	.	.
20,000 or less	3	5.5	3	5.5
20,001-35,000	23	41.8	26	47.3
35,001-50,000	22	40.0	48	87.3
50,000 or more	7	12.7	55	100.0
Whether received any add. budget for any year during 1986-89:				
Missing value	15	.	.	.
Not received	8	14.8	8	14.8
Received	46	85.2	54	100.0
Entrance exam pass rate (%) (The average pass rate is 44.9%):				
Missing value	9	.	.	.
20.9 or less	14	23.3	14	23.3
21 - 40.9	16	26.7	30	50.0
41 - 60.9	9	15.0	39	65.0
61 - 80.9	11	18.3	50	83.3
81 or more	10	16.7	60	100.0

\*The exchange rate of NT dollars to U.S. dollars was 1:27.605 for the year 1988-89, calculated from "Interest Rate and Foreign Exchange Rate," Quarterly National Economic Trends, Taiwan Area, The Republic of China, Republic of China: Directorate-General of Budget, Accounting and Statistics, Executive Yuan, p.19, Feb. 1990.

61% and 80.9%, for 16.7% between 81% or more, and for 15% between 41% and 60.9%.

### Findings From the Path Analysis

#### *Findings of Null Hypothesis 1*

The first null hypothesis was that there is no direct or indirect effect among principals' locus of control, leadership style, and receptivity to educational innovation. To investigate null hypothesis 1, the SAS general linear model was used. The analysis involved the application of 14 multiple regression equations to the data on a personal computer. It was found that all the p values for all the tests were greater than 0.10; therefore, null hypothesis 1 was not rejected. In other words, no statistically significant interrelationship was found among these three variables. A path model is shown in Figure 4.2 for this finding. The broken line in the path model indicates that there is no effect between the two variables since  $p > 0.10$ .

#### *Findings of Null Hypothesis 2*

The second null hypothesis was that there is no direct or indirect effect among principals' personal background characteristics, leadership style, and receptivity to educational innovation. To investigate null hypothesis 2, the SAS general linear model was used. The analysis involved the application of 224 multiple regression equations to the

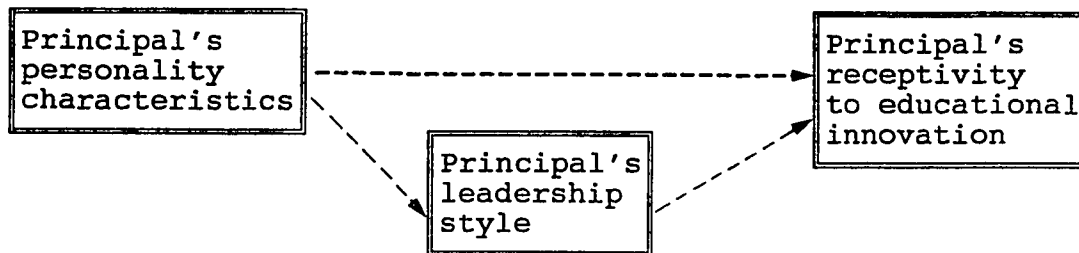


Figure 4.2

Path Model for the Influences of Principal's  
Personality Characteristics and Leadership Style  
on Receptivity to Educational Innovation

'\*' refers to  $p = 0.10$ , '\*\*' refers to  $p = 0.05$ .

data on a personal computer. The results showed that there is no direct or indirect effect among the 15 subvariables of principal's background characteristics, leadership style, and receptivity to educational innovation. However, A statistically significant interrelationship was found among one of 16 subvariables, whether or not a principal has served as a junior high school principal; the consideration dimension of the principal's leadership style; and the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy; since  $p$  is smaller than 0.10 for the tests. These two findings are shown in Figures 4.3 and 4.4 to present the path models for the variables.

*A Model for Factors Influencing Principal's Receptivity to Personnel Innovation*

It was stated in the section of statistical analyses in the last chapter that all the analytical data for the variables were transformed into percentile scores. As shown in Figure 4.3, the average percentile rank on the consideration dimension of the principal's leadership style exhibited by the principals who have served as junior high school principals is 55.01, while the percentile rank for those who never have been junior high school principals is 44.30. The "junior high" group of principals has a percentile rank which is 10.71 above the "non-junior high" group. In addition, the differences between these two groups of principals are statistically significant at  $p < 0.10$  on

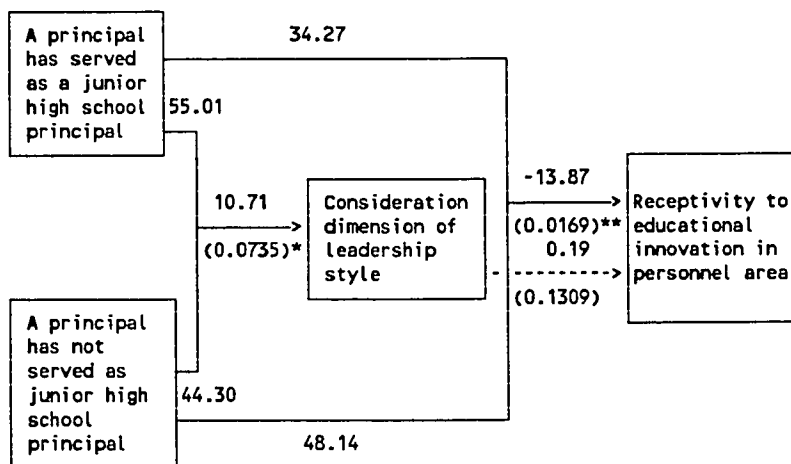


Figure 4.3

Path Model for Factors Influencing  
Principal's Receptivity to Personnel Innovation

- (1) X refers to whether a principal has served as a junior high school principal; Y refers to the consideration dimension of the principal's leadership style; and  $Z_4$  refers to the principal's receptivity to educational innovation in personnel area.
- (2) Number of observations in data set = 76, \*\* refers to  $p = 0.10$ , \*\*\* refers to  $p = 0.05$ .
- (3)  $Y = 55.0057 - 10.7091X$   $R^2 = 0.056091$   $F = 3.33$  \*  
 (15.21)\*\* (-1.82)\* (0.0735)\*  
 For those who have not served  $Y = 55.0057$   
 For those who have served  $Y = 55.0057 - 10.7091 = 44.2966$
- (4)  $Z_4 = 34.2748 + 13.8678X + 0.1913Y$   $R^2 = 0.123115$   $F = 3.65$  \*\*  
 (4.53)\*\* (2.47)\* (1.53) (0.0328)  
 For those who have not served  $Z_4 = 34.2748 + 0.1913Y = 34.27 + 0.19Y$   
 For those who have served  $Z_4 = 48.1426 + 0.1913Y = 48.14 + 0.19Y$

the consideration dimension of their leadership style.

The average percentile rank on receptivity to personnel innovation for those principals who have served as junior high school principals is 34.27, while the percentile rank for the "non-junior high" group principals is 48.14. The "junior high" group of principals has a percentile rank which is 13.87 less than the "non-junior high" group. The differences between these two groups of principals are statistically significant at  $p < 0.10$  on their receptivity to personnel innovation.

Moreover, when the consideration dimension of the principal's leadership style increases by one percentile rank, there is a corresponding 0.19 percentile rank increase in his/her receptivity to personnel innovation.

The direct effect as demonstrated by this model refers to the effect of whether or not having been a principal of a junior high school upon his/her receptivity to personnel innovation, -13.87, the difference between "junior high" and "non-junior high" groups of principals on their receptivity to personnel innovation. The indirect effect as demonstrated by this model refers to the effect of whether or not having been a principal of a junior high school upon his/her receptivity to personnel innovation through the effect of the consideration dimension of the principal's leadership style. This indirect effect is calculated by multiplying the difference between the two groups on the consideration

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dimension of their leadership style by the effect of consideration dimension of their leadership style upon their receptivity to personnel innovation,  $10.71 \times 0.19 = 2.0349$ . The total effect for this path model is calculated by adding the direct effect to the indirect effect,  $(-13.87) + 2.0349 = -11.84$ . This model indicates that the direct effect of whether or not a principal has served as a junior high school principal upon his/her receptivity to personnel innovation (13.87) is substantially more potent than its total effect (11.84).

*A Model for Factors Influencing Principal's Receptivity to Innovation in Educational Objectives & Policy Area*

It was also found that the interrelationship among subvariables, whether or not a principal has served as a junior high school principal, the consideration dimension of the principal's leadership style, and the principal's receptivity to innovation in educational objectives and policy area, is statistically significant, since  $p$  is smaller than 0.10 for the tests. A path model for these three variables is shown in Figure 4.4.

As shown in the last model, the average percentile rank of the consideration dimension of the principal's leadership style exhibited by principals who have served as junior high school principals is 55.01 and 44.30 for the "non-junior high" group. The "junior high" group's percentile rank is 10.71 more than the "non-junior high" group. In addition, The differences between these two groups of principals are

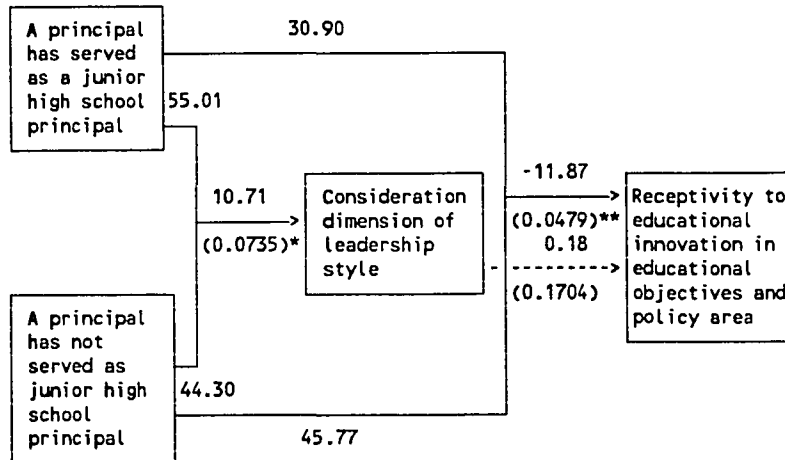


Figure 4.4

Path Model for Factors Influencing Principal's Receptivity to Innovation in Educational Objective &amp; Policy Area

- (1) X refers to whether a principal has served as a junior high school principal; Y refers to the consideration dimension of the principal's leadership style; and  $Z_1$  refers to the principal's innovation in educational objectives & policy area.
- (2) Number of observations in data set = 76, '\*\*' refers to  $p = 0.10$ , '\*\*\*' refers to  $p = 0.05$ .
- (3)  $Y = 55.0057 - 10.7091X$   $R^2 = 0.056091$   $F = 3.33$  \*  
 (15.21)\*\* (-1.82)\* (0.0735)\*  
 For those who have not served  $Y = 55.0057$   
 For those who have served  $Y = 55.0057 - 10.7091 = 44.2966$
- (4)  $Z_1 = 33.8951 + 11.8740X + 0.1789Y$   $R^2 = 0.086998$   $F = 2.53$  \*  
 (4.32)\*\* (2.03)\*\* (1.39) (0.0896)\*  
 For those who have not served  $Z_1 = 33.8951 + 0.1789Y = 33.90 + 0.18Y$   
 For those who have served  $Z_1 = 45.7691 + 0.1789Y = 45.77 + 0.18Y$

statistically significant at  $p < 0.10$  on the consideration dimension of their leadership style.

The average percentile rank for receptivity to innovation in educational objectives and policy area for those who served as junior high school principals is 33.90, while that for the "non-junior high" is 45.77. The "junior high" group's percentile rank is 11.87 less than that of the "non-junior high" group. The differences between these two groups of principals are statistically significant at  $p < 0.10$  on their receptivity to innovation in educational objectives and policy area.

Moreover, when the consideration dimension of the principal's leadership style increases by one percentile rank, his/her receptivity to educational objectives and policy innovation also increases by 0.18 percentile rank.

As shown in the last model, the direct effect of this path model is -11.87, and the indirect effect is 1.9278 (by 10.71 multiplied by 0.18). The total effect for this path model is calculated by adding the direct effect to the indirect effect,  $(-11.87) + 1.9278 = -9.9$ . This model also indicates that the direct effect of whether or not a principal has served as a junior high school principal upon his/her receptivity to educational objectives and policy innovation area (11.87) is substantially more potent than its total effect (9.9).

In summary, as shown in the above-mentioned two models,

the subvariable, whether or not a principal has served as a junior high school principal, related directly and positively to the consideration dimension of the principal's leadership style; directly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy; and indirectly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy passing through the negative effect of the consideration dimension of the principal's leadership style. The differences between the "junior high" and non-junior high" groups of principals were statistically significant at  $p < 0.10$  on the consideration dimension of their leadership style and their receptivity to educational innovation in the areas of personnel, and educational objectives and policy. These two path models also indicated that the direct effects were substantially more potent than the total effects.

#### *Findings of Null Hypothesis 3*

The third null hypothesis was that there is no direct or indirect effect among school setting characteristics, principal's leadership style, and receptivity to educational innovation. To investigate null hypothesis 3, the SAS general linear model was used. The analysis involved the application of 98 multiple regression equations to the data on a personal computer. It was found that all the p values

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for all the tests were greater than 0.10; therefore, null hypothesis 3 was not rejected. In other words, no statistically significant interrelationship was found among these three variables. A path model is shown in Figure 4.5 for this finding. The broken line in the path model indicates that there is no effect between the two variables since  $p > 0.10$ .

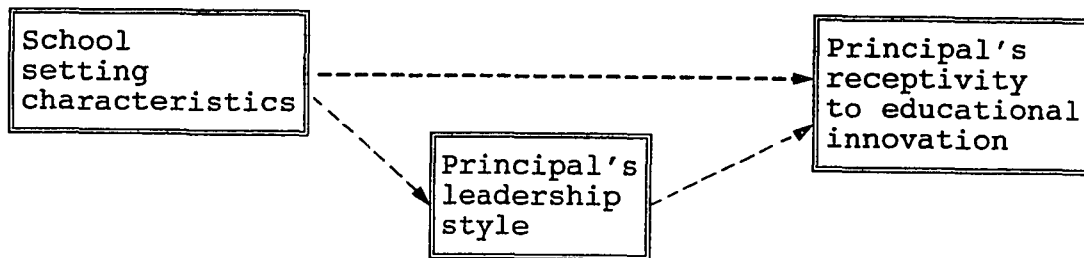


Figure 4.5

Path Model for the Influences of School  
Setting characteristics and Leadership Style  
on Receptivity to Educational Innovation

'\*' refers to  $p = 0.10$ , '\*\*' refers to  $p = 0.05$ .

## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter contains summaries of chapters 1, 2, 3 and 4. Conclusions based upon the findings of the study are included. Recommendations are presented at the end of the chapter.

#### Summary

##### *Summary of Chapter 1*

With the lifting of Martial Law on July 15, 1987, the people in Taiwan are pressing the government to democratize, liberalize and internationalize politics, economics, and education. The government which has centrally governed and controlled the educational system is also being forced to change. Higher education institutions and schools are expecting more autonomy, democracy, and freedom. As a result, the Ministry of Education is addressing these demands by instituting new policies, programs, laws, and regulations which give freedom and flexibility to the schools.

If the educational system is to serve as a change agent

that plays a major role in assisting Taiwan's people to attain their demands, it must itself be receptive to and foster more educational innovations that will improve the quality of its educational programs. Therefore, the receptivity to educational innovation is very critical at the present time and public senior high school principals' receptivity to innovation is especially important.

Senior high schools in Taiwan play a crucial role in determining a student's opportunities for higher education. They have been so highly exam-oriented that their primary effort to enable students to pass the entrance examination dilutes the school faculty and administration's efforts to accomplish the comprehensive senior high school goals postulated in the "Senior High School Laws."

The status-quo in senior high schools cannot be maintained due to pressures from society for improved educational innovation. How receptive are Taiwan's public senior high school principals to educational innovation? What are the factors which may influence Taiwan's public senior high school principals' receptivity to educational innovation?

The conceptual framework of the study was based on six theoretical assumptions. The first assumption was that schools are the center rather than target of change (Sirotnik & Clark, 1988). In Taiwan, public schools which are more credible than private schools in many ways can play

a major role as the center of change.

The second assumption was that educational innovation is more successful if started at the school rather than the district or state levels (Schmuck and Runkel, 1985). Therefore, if the public schools in Taiwan can be viewed as a subsystem from which educational innovation emerges, the innovation will tend to be more successful than if initiated at the system level (MOE).

The third assumption was that the principal, as a leader, is a change/stay agent. The principal, as a change agent, can motivate the teachers, support personnel, and students to enhance change (unfreezing), and develop a new behavior pattern (changing). The principal, as a stay agent, locks the new behavior pattern into place by means of supporting mechanisms (refreezing).

The fourth assumption was that if one fully understood a person's "situation" (in the broadest meaning of this term), one would fully understand his/her behavior (Rivera, 1976). It is based on the theory of human behavior developed by Kurt Lewin. Lewin's (1951) equation of  $B = f(P \cdot E)$  translates to behavior as a function of the interaction between the person and environment.

The fifth assumption was that a principal's leadership style influences his/her receptivity to educational innovation (Siegelbaner, 1984).

The sixth assumption was that acceptance of, readiness

for and receptivity to change among the members of an organization result in successful implementation (Aquila & Galvoic, 1988; and Stoner, 1982). In summary, two major premises of this study were that a principal's personality characteristics and personal background characteristics (person), and school setting characteristics (environment) each respectively influences his/her leadership style and receptivity to educational innovation (behavior); and that a principal's personality characteristics, personal background characteristics, and school setting characteristics each respectively influences the principal's receptivity to educational innovation through its effects of the principal's leadership style.

Based on the conceptual framework of the study, it was assumed that a time-ordering relationship exists among principals' locus of control, leadership style, and receptivity to educational innovation; among principals' personal background characteristics, leadership style, and receptivity to educational innovation; and among school setting characteristics, principals' leadership style, and receptivity to educational innovation. Therefore, three hypotheses in null form were stated for the study as follows:

1. There is no direct or indirect effect among principals' locus of control, leadership style, and receptivity to educational innovation.

2. There is no direct or indirect effect among principals' personal background characteristics, leadership style, and receptivity to educational innovation.

3. There is no direct or indirect effect among school setting characteristics, principals' leadership style, and receptivity to educational innovation.

A path analysis was used to study the direct and indirect effects among variables. The results of this study may serve as a basis for (1) developing criteria to select school principals who are receptive to educational innovation and (2) developing programs to influence principals' attitudes toward educational innovation.

#### ***Summary of Chapter 2***

The literature review covered two areas: the role of the senior high school principal and future trends in school innovation and improvement.

In the area of the role of the senior high school principal, the United States 1977 national survey on senior high school principalship, role expectation of the high school principal in Taiwan, senior high school principals as instructional leaders, and the importance of the adoption process were discussed. The 1977 survey showed that senior high school principals in the late 1970s were different from principals of the early 1960s in terms of age, formal education, belief patterns, preparation for principalship, and career routes and aspiration. It also showed that

effective principals approach problems directly, set high standards, establish an open and accepting climate, work to develop new practices, and initiate and distribute the resources in the school. In addition, working with supportive and cooperative people, together with sufficient job autonomy and an adequate administrative staff, appeared to be important aids to effectiveness.

Chen's study (1976) was intended to determine the role of the high school principal in Taiwan as perceived by high school principals, professors of education, high school teachers, and parents of high school students. The findings showed that principals, professors, and parents in Taiwan were in general agreement with each other in their role expectations of high school principals. Teachers disagreed more often with the other three groups in the study than did principals, professors, and parents.

The results showed that principals, professors, teachers, and parents all agreed on the important qualifications of and areas of preparation for a high school principal, the important duties and functions of a principal, and the important educational leadership requirements.

After reviewing twenty years of research on principalship, Glasman (1984) concluded that the various roles could best be grouped into two categories: educator and administrator. The idea of the principal-as-leader

emphasizes instructional leadership rather than administrative leadership (Hager & Scarr, 1983; Benjamin, 1981). In schools which are effective, principals devote a major part of their time to instructional leadership (Murphy et al., 1985). In addition, the principal's strong instructional leadership results in greater productivity in the school (Snyder, 1983).

Recently, both school-effectiveness research and high school studies place responsibility for the sustained effectiveness of educational innovation at the school level (Purkey & Smith, 1982; Goodlad, 1983; Boyer, 1983; Sizer, 1984). School principals undoubtedly play the major role in the adoption process as leaders (Blank, 1987). Small (1974, pp.21-22), in a discussion of how school principals initiate and respond to change, identifies a number of other role options for the principal as a school change agent: initiator, stimulator, reactor, implementor, conduit, orchestrator-mediator, persuader or dissuader, advocate, ombudsman, and nonactor. Small concluded that principals can be a decisive element in determining whether school change efforts succeed or fail.

In the area of future trends in school innovation and improvement, resistance to school innovation and improvement, receptivity to educational innovation, guidelines for and factors contributing to successful educational/school innovation, and organizational

development as the future trends in school improvement were discussed.

In many cases, resistance to school innovation and improvement was actually a rational defense against poorly planned and executed innovations (Gross et al., 1971). It was suggested that better technical planning could overcome that resistance. Indeed, much recent research has been aimed at helping administrators plan, implement, and routinize change more rationally and, while doing so, remove obstacles that add to the work load of teachers, since teacher resistance was what stood in the way of educational innovation (Crandall et al., 1986).

Ramer's study (1968) attempted to investigate the relationships among the belief systems, personal characteristics, and attitudes of chief school administrators toward educational innovation. The results showed that chief school administrators with a more open-minded belief system, shorter tenure, younger age, or with more formal graduate education tended to profess a positive feeling toward educational innovation. Chief school administrators of school districts spending more money per pupil and chief school administrators of larger school districts also tended to be more receptive to educational innovation. In addition, a stepwise multiple regression analysis showed that the variables of dogmatism and level of formal education were two good predictors for receptivity to

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educational innovation.

Levine and others (1985) offered five guidelines for avoiding past failure in improving secondary education: innovations designed to improve student achievement must be technically sound; before successful innovation can be carried out at the secondary level, the school structure must be changed; innovations at the secondary level must be manageable and feasible for the average teacher; for change efforts to be successful they must be implemented organically rather than bureaucratically; and the "Do Something, Do Anything" syndrome should be avoided.

Hawkins's study (1968) identified some of the factors contributing to successful educational innovation. The findings showed that a school district size of between 8,000 and 20,000 enrollment was most conducive to educational change. The accessibility of a college or university and location in innovative communities are also positive factors in bringing about change in a district. The findings indicated that school districts that expect to experiment or change must organize for it.

Superintendents must continue to grow as professionals. Innovation can exist only in districts where there is mutual respect between the superintendent and the board of education, and where the board is free from inner conflict.

Organizational development (OD) is a conceptual framework and a strategy aimed at helping schools become

self-correcting, self-renewing systems of people who are receptive to evidence that change is required and able to respond with innovative, integrated programs and arrangements (Schmuck & Runkel, 1985). The results of some field experiments (Runkel & Schmuck, 1974) indicate a number of ways in which OD can improve the organizational functioning of schools. It is expected that OD theory and methods can be considered as the future trends in school improvement and can be widely accepted and applied in the near future in Taiwan's senior high schools.

#### *Summary of Chapter 3*

This was a correlational study which used survey questionnaires to collect information on Taiwan's public senior high school principals' locus of control, personal background characteristics, leadership style, receptivity to educational innovation, and school setting characteristics. Information on each principal's leadership style was obtained through a systematic sampling of teachers in each school. This study purported to identify the magnitude of the effects among these variables and determine the factors which may influence principals' receptivity to educational innovation.

Two distinct target populations to which the results of this study were generalized were the principals and full-time teachers, excluding military instructors and teachers holding administrative positions in the school, in all 78

public senior high schools in Taiwan. The population of 78 principals was surveyed as subjects. The teacher population of 6,251 in 74 schools rather than 78 schools was utilized. Since the teacher rosters in 4 schools were not available when the investigator collected the rosters, the teachers of these schools were not included in the population to be sampled.

This study used a systematic sampling of 15 percent of the teacher population from each school, with a minimum of five teachers from each school. In total, 78 principals, and 931 teachers were sampled from 74 senior high schools.

The five major variables measured in this study were: principal's receptivity to educational innovation (endogenous variable one), principal's leadership style (endogenous variable two), principal's locus of control (exogenous variable one), principal's personal background characteristics (exogenous variable two), and school setting characteristics (exogenous variable three).

The instrument used for measuring the first endogenous variable was the Chinese Educational Innovation Scale (EIS), developed and translated into English by the investigator. The scale's validity was confirmed and the reliability of the scale also was established through a test-retest procedure ( $r = 0.67, p < 0.05$ ).

The scale consisted of 28 questions, covering six broad areas of educational innovation -- educational objectives

and policy, curriculum and instruction, guidance and counseling, personnel, facility and finance, and teaching evaluation. The score distributions on six areas of educational innovation were considered as the measurement of this variable.

The instrument used for measuring the second endogenous variable, the principal's leadership style, was the Chinese Leader Behavior Description Questionnaire (LBDQ), originally developed by J.K. Hemphill and A. E. Coons (1950), modified by A. W. Halpin (1969), and edited and translated into Chinese by P. T. Tsai and C. S. Jen (1981). Since the LBDQ was developed to assess the initiating structure and consideration dimensions of a leader's behavior, two scores, one for the consideration dimension and one for the initiating structure dimension, were used for the statistical analysis, rather than the total score for the LBDQ.

The instrument used for measuring the first exogenous variable, principal's locus of control, was the Chinese Rotter's Internal-External Control Scale (I-E Scale), originally developed by J. B. Rotter (1966), and edited and translated into Chinese by Y. Y. Hong (1975). The I-E Scale was developed to measure an individual's internality or externality.

According to Rotter (1971), internal and external people differ in the tendency to attribute satisfaction and

failure to themselves rather than to external causes. For this study, the total score on the Chinese I-E Scale was considered as the measurement of this exogenous variable.

The second exogenous variable, principal's personal background characteristics, included 16 subvariables. These were: gender, age, geographic origin, religious background, formal education level, highest level of training institution attended, major subject of highest degree, length of time in present position, experience in previous positions (including principalship of any other senior high school, principalship of any junior high school, division directorship of any city or county bureau of education, associate professorship or professorship in any college or university, teacher in any other high school, and any other position), and whether they presently hold a part-time teaching position. The principals were allowed to respond to these either by free response or categorized responses.

The third exogenous variable, school setting characteristics, included 7 subvariables. They were supervising authority -- national, provincial or special municipal; location of school -- in special municipality, provincial municipality, county municipality, town, or island; type of school -- a typical senior high school, with attached junior high school, with vocational program, or with junior high school and vocational program; the teacher-student ratio; per pupil cost of education; whether it had a

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supplementary budget from the government for any of the years 1986-89; and entrance exam pass rate. A questionnaire was used to obtain information on these subvariables.

The copies of the principal questionnaire and teacher questionnaire were mailed (or distributed) to all the principals and selected teachers of Taiwan's public senior high schools. The principal questionnaire included two sections. The first section which was to be answered and returned to the investigator by the principal included a cover letter, I-E Scale, EI Scale, and the questions on the principal's personal background characteristics. The second section which contained the questions on the school setting characteristics was to be answered by the relevant school staff. Each principal was asked to pass on the second section to the appropriate member of his/her staff to complete and return to the investigator.

Simultaneously, copies of the teacher questionnaire which included a cover letter and a LBDQ were mailed to the teacher subjects. The teachers were requested to return the questionnaire upon completion.

After two weeks, the response rates of principals and teachers were not sufficient for the statistical analyses of the study; therefore, a follow-up effort was conducted. As a result, 69, or 88.5%, of the 78 principals and 62, or 79.5%, of the 78 school staffs returned either the first or second section of the principal questionnaire. In addition, 357 of

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the 931 teacher subjects returned the teacher questionnaire. There were 65 schools that reached a minimum 33.5% response rate for teacher questionnaires from each school. The average score for each of the 65, or 87.8% of the 74 principals was calculated from the teacher questionnaires from each school to determine that principal's leadership style.

Statistical analyses for this study included descriptive statistics and path analysis. Descriptive statistics were used to describe the population distribution regarding principal's locus of control, personal background characteristics, four categories of leadership style, two dimensions of leadership style, principal's receptivity to educational innovation, and school setting characteristics.

Path analysis was the major statistical procedure used in the analysis of data. Path analysis is a method for studying the direct and indirect effects among all the variables regarding research questions two to four. Basically, the path analysis used for the study consisted of four procedural steps. The first was to formulate a theory that links the five major variables of the study. This step was discussed in the section under conceptual framework of the study in chapter 1. A path diagram which is a useful device for displaying graphically an interrelationship or a time-ordered relationship among five variables of this study was also presented.

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The second was to select measures for each of the variables that were specified by the theory. This step was shown in the section on instrumentation and variables to be measured in Chapter 3. In addition, all the analytical data for the variables and subvariables were transformed into percentile scores as standard scores for path analysis, since the units for the raw scores were different.

The third step in path analysis was to perform a statistical analysis to determine the strength of the effects between each of the pairs of variables that are related in the theory. Basically, the procedures used are a form of multiple regression with 336 regression equations.

The Statistical Analysis System (SAS) general linear model procedure was used to process and compute data for the path analysis procedure. A significance level at the  $p < 0.10$  was selected for all the tests.

The final step in path analysis was to interpret the statistics to determine whether a direct or an indirect effect among variables exists. The findings for the hypotheses and the strength of effects between each of the pairs of variables were presented with a path model and interpreted in Chapter 4.

#### *Summary of Chapter 4*

Sixty-nine of the 78 principals returned the first section of the principal questionnaire. However, with missing values, the number of observations for some

subvariables or variables, was smaller than the respondent size.

Fifty-five, or 79.7%, of the 69 principals are male. Their average age is 55.1 years. Thirty-seven, or 54.4%, of the 68 principals originate from Taiwan province and 25, or 36.8%, from mainland China. Thirty-six, or 53.7%, of the 67 principals are Buddhists, and 18, or 26.9%, have no religious belief.

Forty-nine, or 71%, of the 69 principals hold a bachelor's degree; 66, or 95.6%, last graduated from colleges in Taiwan; 60, or 88.2%, of the 68 principals majored in education, social science, and humanities; and only 8, or 11.8%, majored in natural science or in applied science.

The average service years for the 68 principals in their present position is 8.12 years. Fifty-two, or 80.3%, of the 64 principals have a part-time teaching job. In terms of principals' previous experience, 40, or 58%, of the 69 principals have served as a principal in another senior high school or in a junior high school. Of the 69 principals, 53.6%, or 37 principals have served as a division director in a secondary school; 73.9%, or 51 principals have not served as a division director in an educational institution; 89.9%, or 62 principals have not served as an associate professor or professor; and 68.1%, or 47 principals have served as a teacher in a secondary school. Fifty-five, or

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80.9%, of the 68 principals have not held any position other than the above-mentioned ones.

In short, it is most likely that Taiwan's public senior high school principal is a male, 55 years of age, Taiwanese, and Buddhist. He graduated from a teachers' college or another college in Taiwan, receiving a bachelor's degree with a major in education or social science. He has served in his present position for 8 years, and has a part-time teaching job at the present time. Before assuming his present position, he had served as a principal in another senior high school and/or in a junior high school. It is most likely that he has served as a division director and/or a teacher in a secondary school.

The average score on locus of control for the 61 principals is 4.62, higher than the median, 4. With a median of 4, the 61 principals may be placed on a continuum with varying degrees of internality or externality. Generally speaking, the average principal respondents have approximately similar degrees of internality and externality.

Since there were 65 schools in which a minimum 33.5% of the teacher subjects returned the questionnaire, the leadership style for the principals of the 65 schools was measured. The average score on the consideration dimension for the 65 principals is 46.92 and on the initiating structure 49.08.

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With a median of 46 on the consideration dimension and 49.5 on the initiating structure dimension, the 65 principals may be classified into four groups of leadership styles. Twenty-two, or 33.85%, of the 65 principals exhibit high initiating structure and high consideration, while 23, or 35.39%, low initiating structure and low consideration. Ten, or 15.38%, of the 65 principals exhibit low initiating structure and high consideration, and an equal number exhibit high initiating structure and low consideration.

The average score for the 59 principals on receptivity to educational innovation is 33.75, approximately equal to the median, 34. With a median of 34, the 59 principals may be divided into two groups: more receptive principals with scores within the higher half of the range and less receptive principals with scores within the lower half of the range.

Although 67 second sections of the principal questionnaire on school setting characteristics were answered and returned by the school staff, data for only 54-62 schools were available for the statistical analyses because of missing values for some subvariables. Forty-six, or 52%, of the 62 schools are run by the Taiwan government; 23, or 38.3%, of the 60 schools are located in town; and 45, or 71.4%, of the 63 schools are typical senior high schools.

The average teacher-student ratio for the 62 schools is 19.55. The average per pupil cost for the 55 schools is

NT\$40,684. Forty-six, or 85.2%, of the 54 schools received a supplementary budget from the government during the period 1986-89. In addition, the average pass rate for the college and university entrance examination for the 60 schools is 44.9%.

Null hypothesis 1 tested for a direct or an indirect effect among principals' locus of control, leadership style, and receptivity to educational innovation. No statistically significant interrelationship was found among these variables since all the p values for all the tests were greater than 0.10. Null hypothesis 2 tested for a direct or an indirect effect among principals' personal background characteristics, leadership style, and receptivity to educational innovation. A statistically significant interrelationship was found among whether or not a principal has served as a junior high school principal, the consideration dimension of the principal's leadership style, and the principal's receptivity to educational innovation in personnel area; and among whether or not a principal has served as a junior high school principal, the consideration dimension of the principal's leadership style, and the principal's receptivity to educational innovation in the area of educational objectives and policy. A path model was presented for each of these two findings.

The summaries of these two findings were that:

1. The subvariable, whether or not a principal has

served as a junior high school principal, related directly and positively to the consideration dimension of the principal's leadership style; directly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy; and indirectly and negatively to the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy passing through the negative effect of the consideration dimension of the principal's leadership style.

2. The differences between the "junior high" and "non-junior high" groups of principals statistically significant at  $p < 0.10$  on the consideration dimension of their leadership style and their receptivity to educational innovation in the areas of personnel, and educational objectives and policy.

3. The path models also indicated that the direct effects were substantially more potent than the total effects.

Null hypothesis 3 tested for a direct or an indirect effect among school setting characteristics, principals' leadership style, and receptivity to educational innovation. No statistically significant interrelationship was found among these variables since all the  $p$  values for all the tests were greater than 0.10.

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### Conclusions

The conclusions derived from the findings of the study were that:

1. The factor, whether a principal has served as a junior high school principal, directly and positively influences the consideration dimension of the principal's leadership style, and directly and negatively influences the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy.

2. The direct and negative impact of whether a principal has served as a junior high school principal upon the principal's receptivity to educational innovation in the areas of personnel, and educational objectives and policy is stronger than its negative total impact through an indirect and negative impact of the consideration dimension of the principal's leadership style.

3. The "junior high" group of principals have a higher consideration dimension, but lower receptivity to educational innovation in the areas of personnel, and educational objectives and policy than the "non-junior high" group of principals.

The conclusions are supported by the practices of Taiwan's junior and senior high school system. In Taiwan, both junior and senior high schools have been under

tremendous pressures to prepare students to pass the highly competitive examination for entry into senior high school, and college and university, respectively. Instructional normalization cannot be implemented effectively since the emphasis is on increasing the examination pass rate. More emphasis has been placed on enabling the students to pass the examination than on building the students' character and moral development which is the postulated educational objective of senior high schools.

It is inferred that the junior high school principals' experiences reinforce the focus on having students successfully pass examination. These junior high school principals are then promoted to senior high schools which are similarly highly exam-oriented institutions. As a result, the principals are more considerate to the teachers since they understand how the teachers share the expectation and pressure for excellence on examinations.

In addition, it is surmised that the "junior high" group of principals may conclude that it is difficult to initiate personnel improvement programs, such as collective bargaining, in-service training, and career development ladders, since such programs may take valuable time away from teachers who prepare students to successfully pass examinations.

## Recommendations

### *For Educational Administration Authorities*

1. It is recommended that educational administration authorities examine the issue of instructional normalization versus examination emphasis. This issue on the basic task of secondary education in Taiwan seems to be at the crux of receptivity to innovation.

2. It is recommended that the junior and senior high school principals be given the opportunity to examine the issues surrounding receptivity to innovations.

3. It is recommended that the junior high school principals be offered in-service career development training specifically aimed at educational innovation, such as the middle school concept in the junior high school.

### *For Further Research*

#### *For statistical procedure*

It is recommended that an alternative approach for the statistical procedure used in the analysis of data for the study be the usage of a simultaneous equation technique, such as two stage least squares. It may be interesting to compare these two results with different statistical procedures.

#### *For instrumentation and variables to be measured*

It is recommended that the instrument, the Chinese EI scale, be elaborated and redeveloped to increase its

validity and reliability, and a principal's leadership style be identified by a self-evaluation instrument, such as Style of Management Inventory instead of the LBDQ which was completed by teachers. In addition, it is recommended that the variable, principal's personality, be changed from locus of control to other personality constructs which can be measured by other instruments.

*For population*

It is also recommended that the population be expanded to include Taiwan's private senior high school principals. It may be interesting to compare the findings of this study with a future research study.

*For a follow-up research study*

It is also recommended that a follow-up research study be conducted with the 40 "junior high" and 28 "non-junior high" principals. It may be interesting to find out their locus of control by using the database established by this study and to test whether internality-externality between these two groups are significantly different. It is also recommended that self-assessment instruments be administered to these two groups of principals. Self-assessment instruments like the Styles of Management Inventory, Personnel Relation Survey, and Educational Philosophy Scale should be administered to ascertain their educational philosophy and leadership styles. The findings derived from

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the follow-up study may served as a basis for making further recommendations to the educational administration authorities on the criteria for the selection of senior high school principals.

It would be interesting to compare the findings of this study and/or a follow-up study with a different population base which may have cross-culture implications.

APPENDIX A

A Questionnaire for the Reconfirmation of  
the EI Scale's Validity

(Chinese Version)

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首先，對您犧牲寶貴的時間填答這份問卷，致十二萬分的謝忱與敬意。  
我們爲了瞭解台灣地區高中校長對教育改革之態度，特別研擬了這份「教育改革態度量表」初稿，將於近期內修訂後寄發國內高中進行抽樣調查。

素仰 鈞座學有專精，熱心教育，因此在尚未正式進行調查之前，特別先向您請教，請對這份初稿提供修正卓見，俾使量表之「效度」更爲提高。本量表之修訂成功，實有賴您的大力支持與協助，敬請撥冗填答，並儘速寄回（本問卷已貼付回郵，答妥後請直接投郵）。如有任何疑問，請聯絡教育部教育研究委員會專員蘇錦麗小姐（電話：391-1885 或 393-6847）。

蘇 錦 麗 敬啓  
中華民國七十八年七月

說明：本態度量表初稿共有廿八個題目，包括六個部分：教育目標、課程教學、訓（輔）導、人事、經費設備和教學評量，每一題皆以六個間距來表示同意或不同意之程度，本量表係用以測知填答者積極或消極之教育改革態度。請不必考慮每一部分每一題目係爲正向或反向敘述，只須針對每一題目之內容提出修正卓見。

如未寄 10726

民國路第一〇〇號五樓 教研會

蘇 錦 麗 小 姐 啓

送專時限

## 第一部分：教育目標

1. 以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。

- |   | 非常合適                     | 相當合適                     | 有些合適                     | 有些不合適                    | 相當不合適                    | 非常不合適                    |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| (1) 在現階段，高級中學加強升學教學，遠比培養學生獨立思考精神及發展其身心平衡來得重要。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) 在目前升學主義壓力之下，高級中學根本不可能實行五育均衡教育。            | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) 高級中學辦學之績效，與校長良好之行政能力最有關係，其學科專業修養及教育理念次之。  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) 我國九年國民義務教育產生不少問題，最好不必再延長為十二年。             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5) 師資多元化是提高中學師資最佳途徑。                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. 以上五題是否有重複現象？是\_\_\_\_\_否\_\_\_\_\_如是，有那些題？\_\_\_\_\_

3. 以上五題是否能完全包含此一部份之主要內容？是\_\_\_\_\_否\_\_\_\_\_如否，請提示方向或題目以供參考：

## 第二部分：課程教學

1. 以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。

- |   | 非常合適                     | 相當合適                     | 有些合適                     | 有些不合適                    | 相當不合適                    | 非常不合適                    |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| (1) 高中以往之分組辦法較目前之選修科目方法，易於行政作業與管理，應予恢復。           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2) 加強實施放學後 1 小時之診斷教學及課外輔導，可取代校外補習。               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3) 每月之校外教學易生危險；最好不要舉辦。                           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4) 在高中適當課程中安排教授性教育，是件值得推行的事。                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5) 即使講求學習方法、教學設計，但限於授課時數及學習環境，中學生學習英文，還是無法有良好成效。 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

2. 以上五題是否有重複現象？是\_\_\_\_\_否\_\_\_\_\_如是，有那些題？\_\_\_\_\_

3. 以上五題是否能完全包含此一部份之主要內容？是\_\_\_\_\_否\_\_\_\_\_如否，請提示方向或題目以供參考：

## 第三部分：訓(輔)導

- |   | 非常<br>合適                 | 相當<br>合適                 | 有些<br>合適                 | 有些<br>不合適                | 相當<br>不合適                | 非常<br>不合適                |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1.以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。          |                          |                          |                          |                          |                          |                          |
| (1)目前高中生獎懲辦法未能顧及個別差異，有失公允合理，各校應制定彈性措施，予以補救。         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2)教官於高中階段，實具有教育與輔導之功能，應該繼續留在校園。                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3)為使高中生學習更具專心，宜禁止開放穿著便服到校。                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4)導師和輔導老師對輔導學生皆具有同樣重要之責任。                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5)建立學校每個學生詳實之電腦資料記錄，並隨時更新，以作為輔導之依據，是件值得做的事。        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.以上五題是否有重複現象？是_____否_____如是，有那些題？_____             |                          |                          |                          |                          |                          |                          |
| 3.以上五題是否能完全包含此一部份之主要內容？是_____否_____如否，請提示方向或題目以供參考： |                          |                          |                          |                          |                          |                          |

## 第四部分：人事

- |   | 非常<br>合適                 | 相當<br>合適                 | 有些<br>合適                 | 有些<br>不合適                | 相當<br>不合適                | 非常<br>不合適                |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1.以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。          |                          |                          |                          |                          |                          |                          |
| (1)在高中建立教師申訴管道以保障其權益，是件值得做的事。                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2)教師參加進修及研習活動，可能會影響本身授課，但對教學品質有所助益，應予鼓勵。           | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3)實施教師簽到(退)及留校七小時之規定，遠比鼓勵其發揮愛心，積極奉獻要來得有成效。         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4)高中校長應全力經營學校，不須與校外建立良好關係。                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (5)現行教育人員任用條例中，幹事非經高考及格，無法升任組長職務，乃是「考用合一」之最佳政策。     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.以上五題是否有重複現象？是_____否_____如是，有那些題？_____             |                          |                          |                          |                          |                          |                          |
| 3.以上五題是否能完全包含此一部份之主要內容？是_____否_____如否，請提示方向或題目以供參考： |                          |                          |                          |                          |                          |                          |

## 第五部分：經費設備

- |   | 非常<br>合適                 | 相當<br>合適                 | 有些<br>合適                 | 有些<br>不合適                | 相當<br>不合適                | 非常<br>不合適                |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1.以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。          |                          |                          |                          |                          |                          |                          |
| (1)科學實驗教學費時費錢，宜以教師講解，使學生明白為主，添購實驗設備次之。              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2)高中校長應爭取經費興建學生宿舍，因其對學生之學習和生活輔導有正面效果。              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3)為使高級中學教育更具成效，充實教學器具（如視聽教材、幻燈片等）和圖書皆非常重要。         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4)為顧及學校之外觀環境，應以各項工程之興建及校區整建為首要，教學設備次之。             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.以上四題是否有重復現象？是_____否_____如是，有那些題？_____             |                          |                          |                          |                          |                          |                          |
| 3.以上四題是否能完全包含此一部份之主要內容？是_____否_____如否，請提示方向或題目以供參考： |                          |                          |                          |                          |                          |                          |

## 第六部分：教學評量

- |   | 非常<br>合適                 | 相當<br>合適                 | 有些<br>合適                 | 有些<br>不合適                | 相當<br>不合適                | 非常<br>不合適                |
|---|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1.以下各題放在此部分是否合適？請在適當的方格內打「√」，以表示合適或不合適的程度。          |                          |                          |                          |                          |                          |                          |
| (1)考核學生課業成就，除考試分數以外，也可以把學習態度與過程的表現並計在內。             | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (2)高中生之各科成績應公開貼示，同學之間可以互相比較與激勵。                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (3)高中唯有常常舉行考試，學生才會用功讀書，考取大學（專）。                     | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (4)學生評量成績最好由學校寄給家長。                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2.以上四題是否有重復現象？是_____否_____如是，有那些題？_____             |                          |                          |                          |                          |                          |                          |
| 3.以上四題是否能完全包含此一部份之主要內容？是_____否_____如否，請提示方向或題目以供參考： |                          |                          |                          |                          |                          |                          |

其他之意見：

APPENDIX B

A Questionnaire for the Reconfirmation of  
the EI Scale's Validity

(English Version)

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Dear Sir,

July, 1989

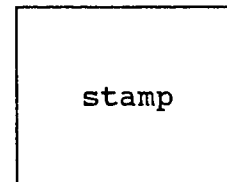
In order to investigate Taiwan's senior high school principals' receptivity to educational innovation, we have designed the "Educational Innovation Scale (First Draft)". A survey study will be conducted in the near future after the Scale is revised and developed.

Before doing so, we sincerely ask for your valuable comments on this first draft, by which the scale can be revised and developed. As a result, the validity of the scale can be established.

Please spend some time to fill it out and return it as quickly as possible. (The stamp is affixed to the back of this questionnaire, please fold it and mail it out upon completion.) If you have any question regarding this questionnaire, please contact Ms. Jin-Li Su Hsu, a specialist at the Educational Research Council in the MOE at (02)391-1885 or 393-6847.

Thank you very much,

Jin-Li Su Hsu



Ms. Jin-Li Su Hsu, Specialist  
Educational Research Council, MOE  
5th Fl. 100, Ai-Kuo East Rd.  
Taipei 10726

**Statement:** This first draft of the scale contains 28 questions covering six broad areas of educational innovation -- educational objectives and policy, curriculum and instruction, guidance and counseling, personnel, facility and finance, and teaching evaluation. This scale is to test an individual's receptivity to six areas of educational innovation. In this questionnaire, there is a 6-degree, accurate-inaccurate continuum for each question of the scale. Please check the one which best represents your views. Please comment on each question of the scale itself no matter whether it is worded positively or negatively.

**First Area: Educational Objectives & Policy**

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.

completely inaccurate	<						
inaccurate	<						
somewhat inaccurate	<						
somewhat accurate	<						
accurate	<						
completely accurate	<						

(1) More emphasis should be placed on college preparation in senior high schools than on character building, or the development of morals or individual thought at the present time.   

(2) The current pressure for excellence on entrance exams does not allow for a well-rounded curriculum in senior high schools.   

(3) A senior high school's principal's work ethic and ability to perform his/her job are the things that affect whether a school is classified as good or bad, and his/her professional training and educational philosophy and attitude are of secondary importance.   

(4) It is better not to implement a compulsory 12-year educational system since many problems have arisen with 9-year system.   

(5) Having a multiple supply source for teachers is the best way to increase

the teacher qualifications in senior high schools.

2. Are the above 5 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
\_\_\_\_\_
3. Do the above 5 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

### Second Area: Curriculum & Instruction

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.

completely inaccurate	<	_____	_____	_____	_____	_____
inaccurate	<	_____	_____	_____	_____	_____
somewhat inaccurate	<	_____	_____	_____	_____	_____
somewhat accurate	<	_____	_____	_____	_____	_____
accurate	<	_____	_____	_____	_____	_____
completely accurate	<	_____	_____	_____	_____	_____

(1) The former system of standardized class schedules is easier to manage and better for the students than the current system which allows the students select their own subjects of study; therefore, a return to the old system is necessary. [] [] [] [] [] []

(2) An increase in one-hour after-school programs which give students, who have problems understanding course material, academic support could replace the current approach of students enrolling in cram schools in order to master the material. [] [] [] [] [] []

(3) Students are placed in danger on monthly school-sponsored field trips and therefore these types of activities should not be held in senior high schools. [] [] [] [] [] []

(4) Sex education should be taught in [] [] [] [] [] []

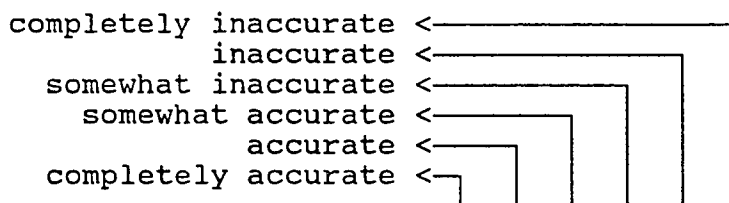
senior high schools.

(5) English programs cannot be effective[] [] [] [] [] []  
with good teaching methods and instruction due to limited class hours and the unfavorable learning environment in Taiwan.

2. Are the above 5 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
\_\_\_\_\_
3. Do the above 5 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

**Third Areas: Guidance & Counseling**

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.



(1) Each senior high school should develop its own flexible regulations regarding punishments and rewards in order to supplement the standardized method since it is unable to meet the needs of each school. [] [] [] [] [] []

(2) Military instructors should continue to be part of senior high schools as they can serve as guidance counselors. [] [] [] [] [] []

(3) In order to enhance the students' concentration on their studies, they should not be allowed to wear clothing other than their school uniforms. [] [] [] [] [] []

(4) Each class's teacher and each [] [] [] [] [] []

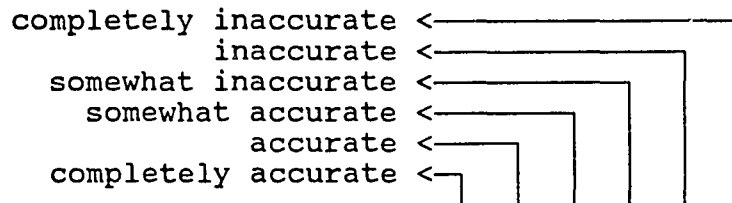
student's counselor have the most important responsibility in student-counseling.

(5) Every senior high school should keep track of each student's personal and family information with the help of a computer, and these records should be updated frequently in order to aid teachers and the schools administration in doing their jobs. [] [] [] [] [] []

2. Are the above 5 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
\_\_\_\_\_
3. Do the above 5 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

**Fourth Area: Personnel**

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.



(1) An arbitration system which serves as a forum for teachers to voice their complaints and have them resolved should be set up in senior high schools. [] [] [] [] [] []

(2) Senior high school teachers should continue to have in-service training which may conflict with their teaching schedule but which can improve the institution afterward. [] [] [] [] [] []

(3) The development of regulations requiring the teachers to be at school for a standard seven hours is more [] [] [] [] [] []

effective than the development of close teacher-student relationships in helping the students learn.

(4) There is no need for senior high school principals to coordinate outside activities; each principal should diligently take care of managing his own school.

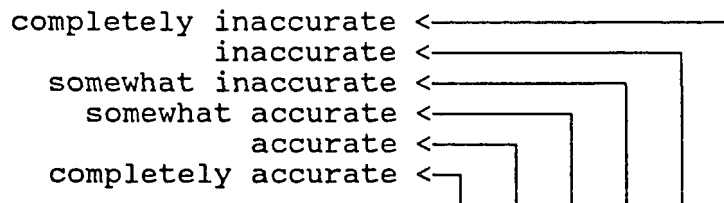
(5) Current regulations for educational personnel employment are appropriate based on the integration of examinations and trial periods along with the regulation stating that a staff member must pass an examination before he can be promoted to division director.

2. Are the above 5 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
\_\_\_\_\_

3. Do the above 5 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

**Fifth Area: Facility & Finance**

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.



(1) The current system of lab classes for the sciences is a waste of time and money. The most important thing is that the teacher clearly explains the concepts or objective involved so that the students obtain a better understanding of the basic concepts, and expenditures for additional lab materials are of secondary importance.

(2) Senior high school principals        
 should step up their requests for more  
 money to build student dormitories  
 which are good for learning and in the  
 area of life guidance.

(3) In order to bring about exceptional        
 performance in students, an increase in  
 the funds allotted for the purchase of  
 books and learning materials in senior  
 high schools is of same importance.

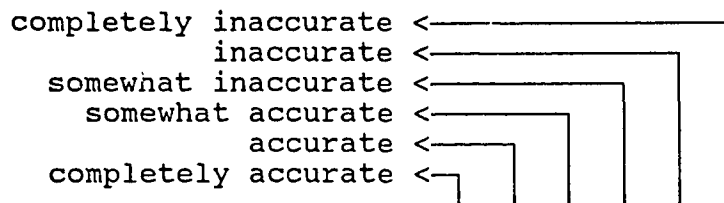
(4) In order to take care of the appear-       
 ance of the school, the construction of  
 the school's physical plant is most impor-  
 tant; the development of instructional  
 facilities is of secondary importance.

2. Are the above 4 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
 \_\_\_\_\_

3. Do the above 4 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

**Sixth Area: Teaching Evaluation**

1. Is it accurate to put each of questions below in this area of educational innovation? Please check "x" in any grid to present your views.



(1) Teachers should look at a student's        
 overall attitude and his rate of  
 improvement in addition to his test  
 scores when administering grades.

(2) The grades of senior high school        
 students should be posted publicly so as  
 to increase the competition among them.

(3) Senior high schools should test the        
students often to stimulate them in  
working hard and to enable them to pass  
the college examination.

(4) Report cards should be sent        
directly to the students' parents.

2. Are the above 4 questions mutually exclusive of each other? Yes\_\_\_\_, No\_\_\_\_, if yes, what are the questions?  
\_\_\_\_\_
3. Do the above 4 questions cover the major content of this area of educational innovation? Yes \_\_\_\_\_, No, \_\_\_\_\_, if no, please give suggestions or the items for the scale.

**Any Other Comment:**

APPENDIX C  
The Principal Questionnaire  
(Chinese Version)

校長道鑒：

首先，對您犧牲寶貴的時間填答這份問卷，致十二萬分的謝忱與敬意。

我們知道，教育的成功有賴於校長有效的領導，而校長的領導方式又繫於校長對教育問題的態度及社會現象看法。爲了對台灣地區高級中學組織型態、校長的個人背景和其對教育問題與社會現象的看法有一個基本的瞭解，我們擬定了這份調查問卷。本調查研究之成功，實有賴您的大力支持與協助，敬請撥冗填答，並儘速寄回（本問卷背頁已貼付回郵，答妥後請摺疊直接投郵）。

對於這份問卷中您所提供的資料，我們僅做加總之用，絕不做個別分析，同時也與各校之考核無關，請放心賜答。如有任何疑問，請聯絡教育部教育研究委員會專員蘇錦麗小姐（電話：（02）391-1885 或 393-6847）。

蘇 錦 麗 敬啓

中 華 民 國 七 十 八 年 九 月

## 第壹部分 校長個人背景資料

1. 性別： (1)男  (2)女
2. 年齡：         歲
3. 籍貫：         省(市)          縣
4. 宗教信仰： (1)無  (2)佛教  (3)基督教  (4)天主教  (5)回教  
 (6)其他 (         教)
5. 最高學歷： (1)博士  (2)碩士  (3)學士  (4)專科以下
6. 最高學位之畢業學校：  
 (1)國內之師範校院  
 (2)國內其他校院 (         學校)  
 (3)國外之師範校院 (         學校)  
 (4)國外其他校院 (         學校)
7. 最高學位之主修科系：  
 (1)教育  
 (2)社會科學 (地理、歷史...等)  
 (3)人文科學 (藝術、文學...等)  
 (4)自然科學 (物理、數學...等)  
 (5)應用科學 (農業、機械...等)
8. 擔任目前校長職務已有          年。
9. 曾經擔任過之職務 (請在擔任過之所有職務之前打✓, 並填上服務年限):  
 (1)其他高中(職)校長共          年(公立),          年(私立)。  
 (2)初級或國民中學校長共          年(公立),          年(私立)。  
 (3)中等學校主任共          年(公立),          年(私立)。  
 (4)省市級以上教育行政薦任主管或縣市政府教育科(局)長共          年。  
 (5)大專校院副教授或教授共          年(公立),          年(私立)。  
 (6)中等學校老師共          年(公立),          年(私立)。  
 (7)其他(請自行填寫)   。
10. 目前是否兼任其他教職:  
 (1)是  (2)否; 如是, 在何種學校?  中小學  專科以上; 教授科目         。

## 第貳部分 校長對教育問題之態度

說明：這部分共有廿八個題目，請就您個人的看法，在每一題後面適當的號碼上圈一個「○」，表示您同意或不同意的程度，答案並沒有對與不對之分，請放心填答。請每題只劃一個「○」，每題都請填答，謝謝！

	非	相	有	有	相	非
	常	當	些	當	常	非
	同	同	同	同	同	同
	意	意	意	意	意	意
1. 在目前升學主義壓力之下，高級中學根本不可能實行五育均衡教育。	1	2	3	4	5	6
2. 高中以往之分組辦法較目前之選修科目方法，易於行政作業與管理，應予恢復。	1	2	3	4	5	6
3. 高中應可根據廳局頒定之高中生獎懲標準制定彈性辦法，以適應各校之需要。	1	2	3	4	5	6
4. 在高中建立教師申訴管道以保障其權益，是件值得做的事。	1	2	3	4	5	6
5. 科學實驗教學費時費錢，宜以教師講解，使學生明白為主，添購實驗設備次之。	1	2	3	4	5	6
6. 考核學生課業成就，除考試分數以外，也可以把學習態度與學習過程的表現併計在內。	1	2	3	4	5	6
7. 在現階段，高級中學加強升學教學，遠比培養學生獨立思考精神及發展其身心平衡來得重要。	1	2	3	4	5	6
8. 加強實施診斷教學及課外輔導，可以取代校外補習。	1	2	3	4	5	6
9. 教官於高中階段，實具有教育與輔導之功能，應該繼續留在校園。	1	2	3	4	5	6
10. 教師參加進修及研習活動，可能會影響本身授課，但對教學品質有所助益，應予鼓勵。	1	2	3	4	5	6
11. 高中校長應爭取經費興建學生宿舍，因其對學生之學習和生活輔導有正面效果。	1	2	3	4	5	6
12. 高中生之各科成績應公開貼示，同學之間可以互相比較與激勵。	1	2	3	4	5	6
13. 為使高級中學教育更具成效，充實教學器具（如視聽教材、幻燈片等）和圖書皆非常重要。	1	2	3	4	5	6
14. 學生評量成績最好由學校寄給家長。	1	2	3	4	5	6
15. 實施教師簽到（退）及留校七小時之規定，遠比鼓勵其發揮愛心，積極奉獻要來得有成效。	1	2	3	4	5	6
16. 為使高中生更能專心學習，不宜開放穿著便服到校。	1	2	3	4	5	6
17. 在高中適當課程中安排教授性教育，是件值得推行的事。	1	2	3	4	5	6
18. 高級中學辦學之績效，與校長良好之行政能力最有關係，其學科專業修養及教育理念次之。	1	2	3	4	5	6
19. 導師和輔導老師對輔導學生皆具有同樣重要之責任。	1	2	3	4	5	6
20. 高中唯有常常舉行考試，學生才會用功讀書，考取大學（專）。	1	2	3	4	5	6
21. 高中校長應全力經營學校，不須與校外建立良好關係。	1	2	3	4	5	6
22. 現行教育人員任用條例規定，幹事非經高考及格，無法升任組長職務，乃是「考用合一」之良好政策。	1	2	3	4	5	6
23. 解決目前九年國教之問題，比規劃延長十二年國教來得重要。	1	2	3	4	5	6
24. 高中辦理校外教學易生危險，最好儘少舉辦。	1	2	3	4	5	6
25. 發展教學軟體設備比充實教學硬體設備或興建學校工程來得重要。	1	2	3	4	5	6
26. 即使講求學習方法、教學設計，但限於學習環境，高中生學習英文，還是無法有良好成效。	1	2	3	4	5	6
27. 師資多元化是提高高中師資最佳途徑。	1	2	3	4	5	6
28. 建立學校每個學生詳實之電腦資料記錄，並隨時更新，以作為輔導之依據，是件值得做的事。	1	2	3	4	5	6

## 第參部分 校長對社會現象之看法

說明：這部分共有廿九個題目，每個題目有(a)和(b)兩種不同的看法，請在兩者之中，選出您認為較接近事實的說法，而不是您所希望能成為事實的說法，這只不過是個人主觀意見的反映，答案並沒有對與不對之分。請在每題中勾選一個答案，每題都請填答。

1.  (a)兒童陷於苦惱是因為父母動輒處罰他們的緣故。  
 (b)父母對兒童管教太鬆使得今天大部分的兒童常惹來麻煩。
2.  (a)人生許多不愉快的事，部分歸因於運氣欠佳。  
 (b)人們的不幸是由他們所造成的錯誤而起。
3.  (a)我們之所以會有戰爭，其中一個主要原因是人們對政治缺乏充分的興趣。  
 (b)不管人們如何竭盡心力去設法防止戰爭，但戰爭總是難免的。
4.  (a)在這世界上，人們終究能獲得他們所應得到的尊重。  
 (b)很不幸地，不論個人如何努力，個人的價值時常不被認定。
5.  (a)認為老師對待學生不公平，這種想法是荒謬的。  
 (b)大多數的學生不明白他們的成績受意外因素影響有多大。
6.  (a)一個人沒有很好的運氣，不能成為一位有力的領袖。  
 (b)有能力而不能成為領導者的人是因為他們沒有抓住機會。
7.  (a)不管你怎樣用盡苦心，某些人也不會喜歡你。  
 (b)不能得到別人喜歡的人是因為不知道如何和別人相處。
8.  (a)遺傳乃是決定個人人格的主要因素。  
 (b)個人的生活經驗才是決定他自己人格的因素。
9.  (a)我時常發覺命運支配一切，該來的總會來的。  
 (b)對我來說，相信命運總不如自己決定行動的明確方向來得好些。
10.  (a)假如學生有充分準備，便無所謂有不公平的考試。  
 (b)考試題目常與課程無關，用功也沒有用。
11.  (a)成功乃是努力的結果，運氣對它很少甚至毫無作用。  
 (b)得到一份好的工作，主要靠著有好的機會。
12.  (a)一般公民對政府的決策是有影響力的。  
 (b)這世界為少數有力人士所操縱，大眾小民無能為力。
13.  (a)當我擬定計劃時，我就確信能夠實現。  
 (b)擬定太過長遠計畫未必是明智之舉，因為未來的事情要看運氣的好壞而定。
14.  (a)有一些人的確一無是處。  
 (b)每一個人都有一些優點。

15.  (a) 在許多情況下，個人的成功絕少與運氣有關。  
 (b) 許多時候我們實在能夠用擲銅板的方法來決定我們應該做些什麼。
16.  (a) 能成為領袖的人，經常是那種有幸而先得了適當機會的人。  
 (b) 做事成功，要靠能力；運氣是沒多大關係的。
17.  (a) 就世事而論，我們大多數成為強權的犧牲者，我們對強權不能了解，也無法控制。  
 (b) 人們主動參與政治與社會事務，便能控制世界大事。
18.  (a) 大多數的人都不了解他們的生活被意外事件所操縱的程度。  
 (b) 嚴格說來，根本就沒有所謂「運氣」這回事。
19.  (a) 每個人都應該勇於承認自己的過錯。  
 (b) 一個人最好是掩飾自己的過錯。
20.  (a) 要知道一個人是否真正喜歡你，是件困難的事。  
 (b) 你有多少朋友，完全看你是怎樣善待他人。
21.  (a) 發生在我們身上的事情，總是好壞參半的。  
 (b) 大多數的不幸，是因為能力不夠、無知或懶惰而引起，或者三者皆有之。
22.  (a) 我們只要用足夠的努力，便能消除政治上的腐敗。  
 (b) 人們要控制政府官員所作所為，是相當難的事。
23.  (a) 有時候我實在不了解老師是憑什麼給分數的。  
 (b) 我下多少功夫，便能得到多少分數。
24.  (a) 賢明的領袖希望人民自己決定應該做些什麼。  
 (b) 賢明的領袖會清楚的告訴人民他們應該做些什麼。
25.  (a) 我常常覺得對很多事情無能為力。  
 (b) 我不相信機會或者運氣對我一生是重要的。
26.  (a) 人們感到孤獨，因為他們不會使自己變得友善些。  
 (b) 想辦法取悅別人並沒有多大用處；別人若喜歡你，自然就會喜歡你。
27.  (a) 中學太重視體育活動了。  
 (b) 團隊運動是培養品格的好方法。
28.  (a) 發生在我身上的事情，都是我自作自受。  
 (b) 我有時覺得對自己生活的方向，沒有足夠的把握加以適當的控制。
29.  (a) 通常我不了解政府官員所作所為的真正原因。  
 (b) 人們對各級政府的好壞，畢竟都有責任。

(1. 非常謝謝您的支持與協助！背頁已貼付回郵，答妥後請直接投郵。)

(2. 下頁第肆部分，煩請撕下儘快交給貴校有關人員填寫，謝謝！)

台北市古亭區 10726  
愛國東路一〇〇號五樓 教研會

蘇 專 員 錦 麗 啓

(折疊線)

## 第肆部分 學校組織型態資料

說明：請就貴校實際情形，填答下列問題，如有任何疑問，請聯絡教育部教育研究委員會專員蘇錦麗小姐（電話：(02)391-1885或393-6847）。敬請撥冗填答，並儘速寄回（本問卷背頁已貼付回郵，答妥後請摺疊直接投郵。）謝謝！

1. 貴校屬於： (1) 國立  (2) 省立  (3) 市立  (4) 私立
2. 貴校所在地： (1) 院轄市  (2) 省轄市  (3) 縣轄市  (4) 鄉鎮  (5) 離島
3. 貴校種類：
  - (1) 專辦高級中學
  - (2) 附設國民中學
  - (3) 附設職業類科
  - (4) 附設國中與高職
4. 貴校本學期專任教師人數：日間部共\_\_\_\_\_人，夜間部共\_\_\_\_\_人。
5. 貴校班級數：日間部共\_\_\_\_\_班，其他夜補校、建教班等共\_\_\_\_\_班。  
這學期學生註冊人數：日間部共\_\_\_\_\_人，其他夜補校、建教班等共\_\_\_\_\_人。
6. 貴校最近三年會計年度編列之經費預算：
  - (1) 經常部門（指人事、業務、等經常支出費用）：
 

_____元，	_____元，	_____元。
七十六會計年度	七十七會計年度	七十八會計年度
  - (2) 資本部門（指學校建築、設備等硬體費用支出）：
 

_____元，	_____元，	_____元。
七十六會計年度	七十七會計年度	七十八會計年度

有無其他部、廳、局之補助經費？ (1) 無  (2) 有，  
如有，共約值\_\_\_\_\_元，\_\_\_\_\_元，\_\_\_\_\_元。  
七十六會計年度 七十七會計年度 七十八會計年度
7. 貴校最近三年學年度之升學率：
  - 七十五學年度：日間部畢業生共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。  
夜補校、建教班等共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。
  - 七十六學年度：日間部畢業生共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。  
夜補校、建教班等共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。
  - 七十七學年度：日間部畢業生共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。  
夜補校、建教班等共\_\_\_\_\_人，共考取\_\_\_\_\_人  
（包括日夜間部之大學、專科學校，和軍警校院）。

（非常謝謝您的支持與協助！背頁已貼付回郵，答妥後請摺疊直接投郵。）

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蘇 專 員 錦 麗 啓

(折 疊 線)

APPENDIX D  
The Principal Questionnaire  
(English Version)

Dear Principal,

September, 1989

First of all, I would deeply appreciate your valuable time to fill this questionnaire out.

It is known that the principal's effective leadership results in the successful educational programs. In addition, the principal's leadership style may depend on his/her viewpoint on and attitude toward current educational issues and social phenomena. In order to acquire the knowledge regarding Taiwan's senior public school principals' personal background characteristics, viewpoint on educational issues and social phenomena, and school setting characteristics, we have designed this questionnaire. The success of this survey depends on your assistance and cooperation. Please spend some time to fill it out and mail it back as quickly as possible. (The stamp is affixed to the back of this questionnaire, please fold it and mail it out upon completion.)

We assure you that all data provided by you will be considered confidential and will only be presented as descriptive and statistically computed data. This questionnaire is unrelated to any evaluation of your school. Please feel free to answer all the items and to contact Ms. Jin-Li Su Hsu, a specialist at the Educational Research Council in the MOE at (02)391-1885 or 393-6847 if you have any question regarding this questionnaire.

Thank you very much,

Jin-Li Su Hsu

**Part One: Principal's Personal Background Characteristics**

1. Gender:  (1) Male  (2) Female
2. Age: \_\_\_\_\_ years old
3. Georgraphic Origin: \_\_\_\_\_ Province (or Municipality)  
\_\_\_\_\_ County
4. Religious Background:  (1) None  (2) Buddhist  
 (3) Christian  (4) Catholic  (5) Mohammedan  
 (6) Other (\_\_\_\_\_)
5. Highest Degree Earned:  (1) Doctoral degree  
 (2) Master's degree  (3) Bachelor's degree  
 (4) Below bachelor's degree
6. Highest Level of Training Institution Attended:  
 (1) Teachers' colleges in Taiwan  
 (2) Other colleges in Taiwan  
 (3) Teachers' colleges in other country  
 (4) Other colleges in other country
7. Major Subject of Highest Degree:  
 (1) Education  (2) Social science  (3) Humanities  
 (4) Natural science  (5) Applied science
8. Length of Time in Present Position: \_\_\_\_\_ years
9. Previous Positions Have been served:  
 (1) Principalship of any other senior high school  
 (2) principalship of any junior high school  
 (3) Division directorship of any city or county bureau  
of education  
 (4) Associate professorship or professorship in any  
college or university  
 (5) Teacher in any other high school  
 (6) Any other position
10. Whether having a part-time teaching job:  
 (1) Yes  (2) No

**Part Two: Principal's Attitude Toward Educational Issues**

**Statement:** This section contains 28 questions. Please indicate your attitudes towards each one. Don't worry about giving a wrong answer because there are no right or wrong answers. Circle the number at the end of each question which best represents your views:

- (1) Strongly agree

- (2) Agree
- (3) Somewhat agree
- (4) Somewhat disagree
- (5) Disagree
- (6) Strongly disagree

1. The current pressure for excellence on entrance exams does not allow for a well-rounded curriculum in senior high schools. 1 2 3 4 5 6
2. The former system of standardized class schedules is easier to manage and better for the students than the current system which allows the students to select their own subjects of study; therefore, a return to the old system is necessary. 1 2 3 4 5 6
3. To meet the needs of each senior high school each should develop its own flexible regulation regarding punishments and rewards based on the standardized method postulated by the Bureau (Department) of Education. 1 2 3 4 5 6
4. An arbitration system which serves as a forum teachers to voice their complaints and have them resolved should be set up in senior high schools. 1 2 3 4 5 6
5. The current system of lab classes for the sciences is a waste of time and money. The most important thing is that the teacher clearly explains the concepts or objective involved so that the students obtain a better understanding of the basic concepts, and expenditures for additional lab materials are of secondary importance. 1 2 3 4 5 6
6. Teachers should look at a student's overall attitude and his rate of improvement in addition to his test scores when administering grades. 1 2 3 4 5 6
7. More emphasis should be placed on college preparation in senior high schools than on character building, or the development of morals or individual thought at the present time. 1 2 3 4 5 6
8. An increase in diagnostic instruction and after-school programs which give students, who have problems understanding course material, academic support could replace the 1 2 3 4 5 6

- current approach of students enrolling in cram schools in order to master the material.
9. Military instructors should continue to be part of senior high schools as they can serve as guidance counselors. 1 2 3 4 5 6
  10. Senior high school teachers should continue to have in-service training which may conflict with their teaching schedule but which can improve the instruction afterward. 1 2 3 4 5 6
  11. Senior high school principals should step up their requests for more money to build student dormitories which are good for learning and in the area of life guidance. 1 2 3 4 5 6
  12. The grades of senior high school students should be posted publicly so as to increase the competition among them. 1 2 3 4 5 6
  13. In order to bring about exceptional performance in students, an increase in the funds allotted for the purchase of books and learning materials in senior schools is of same importance. 1 2 3 4 5 6
  14. Report cards should be sent directly to the students' parents. 1 2 3 4 5 6
  15. The development of regulations requiring the teachers to be at school for a standard seven hours is more effective than the development of close teacher-student relationships in helping the students learn. 1 2 3 4 5 6
  16. In order to enhance the students' concentration on their studies, it is inappropriate to allow them to wear clothing other than their school uniforms. 1 2 3 4 5 6
  17. Sex education should be taught in senior high schools. 1 2 3 4 5 6
  18. A senior high school's principal's work ethic and ability to perform his job are the things that affect whether a school is classified as good or bad, and his/her professional training and educational philosophy are of secondary importance. 1 2 3 4 5 6

19. Each class' teacher and each student's counselor have the most important responsibility in student-counseling. 1 2 3 4 5 6
20. Senior high schools should test the students often to stimulate them in working hard and to enable them to pass the college examination. 1 2 3 4 5 6
21. There is no need for senior high school principals to coordinate outside activities; each principal should diligently take care of managing his own school. 1 2 3 4 5 6
22. Current regulations for educational personnel employment are appropriate based on the integration of examinations and trial periods along with the regulation stating that a staff member must pass an examination before he can be promoted to division director. 1 2 3 4 5 6
23. Solving the problems of the compulsory 9-year educational system is more important than the proposed mandatory 12-year system. 1 2 3 4 5 6
24. Students are placed in danger on school-sponsored field trips, and therefore these types of activities should be held as little as possible in senior high schools. 1 2 3 4 5 6
25. The development of computer instructional programs is more important than increasing computer facilities or the school's physical plant, i.e., classrooms or buildings. 1 2 3 4 5 6
26. English programs cannot be effective with good teaching method and instruction due to limited class hours and the unfavorable learning environment in Taiwan. 1 2 3 4 5 6
27. Having a multiple supply source for teachers is the best way to increase the teacher qualifications in senior high schools. 1 2 3 4 5 6
28. Every senior high school should keep track of each student's personal and family information with the help of a computer, and these records should be updated frequently in order to aid teachers and the school's administration in doing their jobs. 1 2 3 4 5 6

**Part Three: Principal's Viewpoint on Social Phenomena**

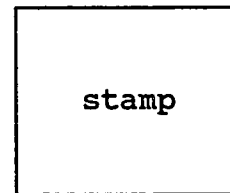
**Statement:** This section contains 29 questions. There are (a) and (b) two different viewpoints for every question. Please select one which you think is close to the fact rather than the one which you wish to be the fact. This is only your own point of view on each question, so there are no right or wrong answers. Please select one answer for each question and answer all the questions.

1.  (a) Children get into trouble because their parents punish them too much.  
 (b) The trouble with most children nowadays is that their parents are too easy with them.
  2.  (a) Many of the unhappy things in people's lives are partly due to bad luck.  
 (b) People's misfortunes result from the mistakes they make.
  3.  (a) One of the major reasons why we have wars is that people don't take enough interest in politics.  
 (b) There will always be wars, no matter how hard people try to prevent them.
  4.  (a) In the long run people get the respect they deserve in this world.  
 (b) Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
  5.  (a) The idea that teachers are unfair to students is nonsense.  
 (b) Most students don't realize the extent to which their grades are influenced by accidental happenings.
  6.  (a) Without the right breaks, one cannot be an effective leader.  
 (b) Capable people who fail to become leaders have not taken advantage of their opportunities.
  7.  (a) No matter how hard you try, some people just don't like you.  
 (b) People who can't get others to like them don't understand how to get along with others.
  8.  (a) Heredity plays the major role in determining one's personality.  
 (b) It is one's experiences in life which determine what they're like.
-

9.  (a) I have often found that what is going to happen will happen.  
 (b) Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10.  (a) In the case of the well prepared student there is rarely if ever such a thing as an unfair test.  
 (b) Many times exam questions tend to be so unrelated to course work that studying is really useless.
11.  (a) Becoming a success is a matter of hard work, luck has little or nothing to do with it.  
 (b) Getting a good job depends mainly on being in the right place at the right time.
12.  (a) The average citizen can have an influence in government decisions.  
 (b) This world is run by the few people in power, and there is not much the little guy can do about it.
13.  (a) When I make plans, I am almost certain that I can make them work.  
 (b) It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14.  (a) There are certain people who are just no good.  
 (b) There is some good in everybody.
15.  (a) In my case getting what I want has little or nothing to do with luck.  
 (b) Many times we might just as well decide what to do by flipping a coin.
16.  (a) Who gets to be the boss often depends on who was lucky enough to be in the right place first.  
 (b) Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17.  (a) As far as world affairs are concerned, most of us are the victims of forces we can neither understand nor control.  
 (b) By taking an active part in political and social affairs the people can control world events.
18.  (a) Most people don't realize the extent to which their lives are controlled by accidental happenings.  
 (b) There really is no such thing as "luck."
19.  (a) One should always be willing to admit mistakes.
-

- (b) It is usually best to cover up one's mistakes.
20.  (a) It is hard to know whether or not a person really likes you.  
 (b) How many friends you have depends upon how nice a person you are.
21.  (a) In the long run the bad things that happen to us are balanced by the good ones.  
 (b) Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22.  (a) With enough effort we can wipe out political corruption.  
 (b) It is difficult for people to have much control over the things politicians do in office.
23.  (a) Sometimes I can't understand how teachers arrive at the grades they give.  
 (b) There is a direct connection between how hard I study and the grades I get.
24.  (a) A good leader expects people to decide for themselves what they should do.  
 (b) A good leader makes it clear to everybody what their jobs are.
25.  (a) Many times I feel that I have little influence over the things that happen to me.  
 (b) It is impossible for me to believe that chance or luck plays an important role in my life.
26.  (a) People are lonely because they don't try to be friendly.  
 (b) There's not much use in trying too hard to please people, if they like you, they like you.
27.  (a) There is too much emphasis on athletics in high school.  
 (b) Team sports are an excellent way to build character.
28.  (a) What happens to me is my own doing.  
 (b) Sometimes I feel that I don't have enough control over the direction my life is taking.
29.  (a) Most of the time I can't understand why politicians behave the way they do.  
 (b) In the long run the people are responsible for bad government on a national as well as on a local level.

- (1. Thank you very much for your help and cooperation. The stamp is affixed to the back of this page. Please fold it and mail it out upon completion.)
- (2. Please detach the next page and refer it to the relevant school staff who can provide the information needed. Thank you again.)



Ms. Jin-Li Su Hsu, Specialist  
Educational Research Council, MOE  
5th Fl. 100, Ai-Kuo East Rd.  
Taipei 10726



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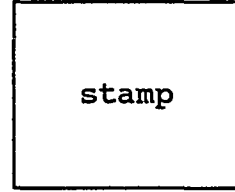
**Part Four: School Setting Characteristics**

**Statement:** Please spend some of your time to fill out the following questions based on the real data of your school. Contact Ms. Jin-Li Su Hsu at (02) 391-1885 or 393-6847 if you have any question regarding this questionnaire. Please mail it back as quickly as possible. (The stamp is affixed to the back of this page, please fold it and mail it out upon completion.)

1. Your school is:  (1) National  (2) Municipal  
 (3) Special municipal
2. Your school is located in:  (1) Special municipality  (2) Provincial municipality  
 (3) County municipality  (4) Town  (5) Island
3. The type of your school is:  
 (1) A typical senior high school  
 (2) A school attached with junior high school  
 (3) A school attached with vocational program
4. Full-time teachers of your school in this semester:  
\_\_\_\_\_ teachers
5. Your school students enrolled in this semester:  
\_\_\_\_\_ studnets
6. Total budget of your school for the last three fiscal years:  
\_\_\_\_\_ 1987-88      \_\_\_\_\_ 1988-89      \_\_\_\_\_ 1989-90  
Any other supplementary budget from the government for any of the years 1986-87, 1987-88, and 1988-89?  
 (1) No  (2) Yes
7. College and university examination pass rate of your school for the last three academic years:
- 1986-87: No. of graduated students: \_\_\_\_\_  
No. of students passed the exam: \_\_\_\_\_
- 1987-88: No. of graduated students: \_\_\_\_\_  
No. of students passed the exam: \_\_\_\_\_
- 1988-89: No. of graduated students: \_\_\_\_\_  
No. of students passed the exam: \_\_\_\_\_

(Thank you very much for your help and cooperation. The stamp is affixed to the back of this page. Please fold it and mail it out upon completion.)

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Ms. Jin-Li Su Hsu, Specialist  
Educational Research Council, MOE  
5th Fl. 100, Ai-Kuo East Rd.  
Taipei 10726



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APENDIX E  
The Teacher Questionnaire  
(Chinese Version)

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老師道啓

台北市古亭區 10726  
愛國東路一〇〇號五樓 教研會

敬愛的老師：

首先，對您犧牲寶貴的時間填答這份問卷，致十二萬分的謝忱與敬意。

我們知道，教育的成功有賴於校長有效的領導，爲了對台灣地區高級中學校長的領導方式有一個基本的瞭解，我們擬定了這份調查問卷。本調查研究之成功，實有賴您的大力支持與協助，敬請撥冗填答，並儘速寄回（本問卷背頁已貼付回郵，答妥後請折疊直接投郵）。

我們隨機抽樣貴校十幾位老師來填答這份問卷，您是其中一位。這份問卷採不具名方式，並對您所提供的資料，我們僅做加總之用，絕不做個別分析，同時也與您之考核無關，請放心賜答。如有任何疑問，請聯絡教育部教育研究委員會專員蘇錦麗小姐（電話：(02)391-1885或393-6847）

蘇錦麗 敬啓

中華民國七十八年九月

說明：這份問卷一共有三十個題目，每一個題目都是以簡短的直述句來描述貴校校長可能表現的行為。請根據您實際的觀察，在每一題後面，適當的號碼上圈一個「○」以表示貴校校長每項行為出現的頻率，我們用「總是」、「時常」、「有時」、「很少」、「從不」五種不同程度來表示。請每題只劃一個「○」，每題都請填答。謝謝！

	總 是	時 常	有 時	很 少	從 不
1. 校長常私下幫助教職員。.....	1	2	3	4	5
2. 校長能體察細微，使教職員樂於成爲學校的一份子。...	1	2	3	4	5
3. 校長是容易讓教職員了解他的。.....	1	2	3	4	5
4. 校長常抽空聽取教職員的意見和感受。.....	1	2	3	4	5
5. 校長與教職員保持距離。.....	1	2	3	4	5
6. 校長重視教職員的福利。.....	1	2	3	4	5
7. 校長常不解釋他的作法。.....	1	2	3	4	5
8. 校長做事不與教職員商量。.....	1	2	3	4	5
9. 校長不易接受新的觀念。.....	1	2	3	4	5
10. 校長公平地對待所有的教職員。.....	1	2	3	4	5
11. 校長願意改變現況而不墨守成規。.....	1	2	3	4	5
12. 校長既友善又可親。.....	1	2	3	4	5
13. 校長和教職員談話時，讓人覺得輕鬆自然。.....	1	2	3	4	5
14. 校長能將教職員的建議付諸實施。.....	1	2	3	4	5
15. 校長在實施重要事項以前，先徵得教職員的贊同。.....	1	2	3	4	5
16. 校長能對教職員明白地表示他的態度。.....	1	2	3	4	5
17. 校長和教職員共同試驗他的新觀念。.....	1	2	3	4	5
18. 校長以鐵腕作風管理學校校務。.....	1	2	3	4	5
19. 校長對工作做不好的教職員會加以指責。.....	1	2	3	4	5
20. 校長講話肯定而明確。.....	1	2	3	4	5
21. 校長指定教職員去做特定的工作。.....	1	2	3	4	5
22. 校長做事沒有計劃。.....	1	2	3	4	5
23. 校長要求教職員的工作保持一定的水準。.....	1	2	3	4	5
24. 校長強調會議的時限。.....	1	2	3	4	5
25. 校長鼓勵教職員採取統一的步驟。.....	1	2	3	4	5
26. 校長讓所有的教職員瞭解他在學校中的職責與立場。...	1	2	3	4	5
27. 校長要教職員遵守法令和規章。.....	1	2	3	4	5
28. 校長讓教職員瞭解別人對他們的期望。.....	1	2	3	4	5
29. 校長盡力促使教職員竭盡所能的工作。.....	1	2	3	4	5
30. 校長留意教職員間的工作協調。.....	1	2	3	4	5

(非常謝謝您的支持與協助！背頁已貼付回郵，答妥後請摺疊直接投郵。)

台北市古亭區 10726  
愛國東路一〇〇號五樓 教研會

蘇 專 員 錦 麗 啓

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(折 疊 線)

APPENDIX F  
The Teacher Questionnaire  
(English Version)

Educational Research Council  
Ministry of Education  
5th Fl., 100, Ai-Kuo East Rd.  
Taipei 10726

To:

, Teacher

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Dear Teacher,

September, 1989

First of all, I would deeply appreciate your valuable time to fill this questionnaire out.

It is known that the principal's effective leadership results in the successful educational programs. In order to acquire the knowledge regarding the leadership styles of Taiwan's senior public school principals, we have designed this questionnaire. The success of this survey depends on your assistance and cooperation. Please spend some time to fill it out and mail it back as soon as possible. (The stamp is affixed to the back of this questionnaire. Please fold it and mail it out upon completion.)

You are one of the teachers randomly sampled for your school. We assure you that all data provided by you will be considered confidential and will only be presented as descriptive and statistically computed data. This questionnaire is unrelated to your evaluation. Please feel free to answer all the items and to contact Ms. Jin-Li Su Hsu, a specialist at the Educational Research Council in the MOE at (02)391-1885 or 393-6847 if you have any question regarding this questionnaire.

Thank you very much,

Jin-Li Su Hsu

**Statement:** This questionnaire contains 30 items. Every item is to describe the possible behavior of your school's principal, and presented on a five-point continuum from "very often," "often," "sometimes," "hardly ever," to "never." Please circle an appropriate number for every item to present the frequency your principal's behavior appears based on your observation:

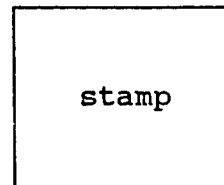
- (1) Very Often
- (2) Often
- (3) Sometimes
- (4) Hardly ever
- (5) Never

1. The principal does personal favors for faculty members. 1 2 3 4 5
2. The principal does a lot of things to make it pleasant to be a member of the school. 1 2 3 4 5
3. The principal is easy to understand. 1 2 3 4 5
4. The principal finds time to listen to faculty members. 1 2 3 4 5
5. The principal keeps to him/herself. 1 2 3 4 5
6. The principal looks out for the welfare of individual faculty members. 1 2 3 4 5
7. The principal refuses to explain his/her actions. 1 2 3 4 5
8. The principal acts without consulting the faculty. 1 2 3 4 5
9. The principal is slow to accept new ideas. 1 2 3 4 5
10. The principal treats all faculty members as his/her equals. 1 2 3 4 5
11. The principal is willing to make changes. 1 2 3 4 5
12. The principal is friendly and approachable. 1 2 3 4 5
13. The principal makes faculty members feel at ease when talking with him/her. 1 2 3 4 5
14. The principal puts suggestions by the faculty into operation. 1 2 3 4 5
15. The principal gets the faculty approval on 1 2 3 4 5

important matters before going ahead.

16. The principal makes his/her attitude clear to the faculty. 1 2 3 4 5
17. The principal tries out his/her new ideas in the school. 1 2 3 4 5
18. The principal rules with an iron hand. 1 2 3 4 5
19. The principal criticizes poor work. 1 2 3 4 5
20. The principal speaks in a manner not to be questioned. 1 2 3 4 5
21. The principal assigns faculty members to particular tasks. 1 2 3 4 5
22. The principal works without a plan. 1 2 3 4 5
23. The principal maintains definite standards of the performance. 1 2 3 4 5
24. The principal emphasizes meeting deadlines. 1 2 3 4 5
25. The principal encourages the use of uniform procedures. 1 2 3 4 5
26. The principal makes sure his/her part in the school is understood by faculty members. 1 2 3 4 5
27. The principal asks that faculty members follow standard operating procedures. 1 2 3 4 5
28. The principal let faculty members know what is expected of them. 1 2 3 4 5
29. The principal sees to it that faculty members are working up to capacity. 1 2 3 4 5
30. The principal sees to it that the work of faculty members is coordinated. 1 2 3 4 5

(Thank you very much for your help and cooperation. The stamp is affixed to the back of this page. Please fold it and mail it out upon completion.)



Ms. Jin-Li Su Hsu, Specialist  
Educational Research Council, MOE  
5th Fl. 100, Ai-Kuo East Rd.  
Taipei 10726



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APPENDIX G

The Following-up Letter for the Principal Questionnaire  
(Sections One and Two)  
(Chinese Version)

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校長道鑒：

本月一日在全省省立高中校長會議期間，曾奉上調查問卷一份，懇請惠予填答，諒荷察閱。該項問卷至今已大部分回收，惟貴校之問卷尚未收到。因恐郵誤或遺失，謹再奉寄原問卷一份，懇請撥冗惠予填答，並期儘速寄回為荷。

肅此 敬頌

道安

蘇錦麗 謹上

九月廿日

APPENDIX H

The Following-up Letter for the Principal Questionnaire

(Sections One and Two)

(English Version)

---

Dear principals,

Sep. 20, 1989

On the first of this month at the conference for Taiwan's public senior high schools' principals, we handed out a questionnaire and hope you fill out and return. Some of questionnaires have been received. However, the questionnaire for your school has not been received as of yet and, to facilitate matters, we are sending you another copy of the questionnaire.

Please have the questionnaire filled out and returned it as quickly as possible.

Thank you very much,

Jin-Li Su Hsu

APPENDIX I

The Following-up Letter for the Principal Questionnaire

(Section Two)

(Chinese Version)

校長道鑒：

本月一日在全省省立高中校長會議期間，曾奉上調查問卷兩份，一份是由校長填答，一份是有關學校的資料，須由貴校有關人員填答。前者問卷承蒙校長惠予填答，並已寄回收訖，非常感激；後者問卷迄未收到，謹再奉寄該部分之問卷一份，煩督請貴校有關人員填答，並期儘速寄回爲荷。

肅此 敬頌

道安

蘇錦麗 謹上

九月廿日

APPENDIX J

The Following-up Letter for the Principal Questionnaire

(Section Two)

(English Version)

Dear principal,

Sep. 20, 1989

On the first of this month at the conference for Taiwan's public senior high schools' principals, we handed out a two-section questionnaire: one section was for the principals and the other one was for the person in charge of the school's records section to fill out and return.

I wish to thank the principals for their prompt response in filling out and returning their section of the questionnaire as they have all been received. However, section two of the questionnaire has not been received as of yet and, to facilitate matters, we are sending you another copy of the second questionnaire.

Please have the person responsible for keeping the school's records fill it out and return it as quickly as possible.

Thank you very much,

Jin-Li Su Hsu

APPENDIX K

The Following-up Letter for the Teacher Questionnaire  
(Chinese Version)

---

敬愛的老師：

前日曾奉上「校長領導行為描述問卷」一份，懇請惠予填答，諒荷察閱。惟迄今尚未見覆，因恐郵誤或遺失，謹再奉寄原問卷一份，懇請撥冗惠予填答，並期儘速寄回為荷。

相助之處，不勝感激。

肅此 敬頌

道安

蘇錦麗 謹上

十一月十二日

APPENDIX L

The Following-up Letter for the Teacher Questionnaire  
(English Version)

Dear Teacher,

Nov. 12, 1989

We mailed you one copy of "Leader Behavior Description Questionnaire" the other day and hope you kindly fill it out and return it. However, it has not been received as of yet and, to facilitate matters, we are sending you another copy of the questionnaire. Please fill it out and return it as quickly as possible.

Your kind help is deeply appreciated.

Thank you very much,

Jin-Li Su Hsu

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