

**A STUDY ON THE RELATIONSHIPS AMONG  
STRESS, COPING STRATEGIES AND JOB BURNOUT OF  
MAINSTREAM SECONDARY SCHOOL PRINCIPALS IN HONG KONG**

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## **ABSTRACT**

### **A Study on the Relationships among Stress, Coping Strategies and Job Burnout of Mainstream Secondary School Principals in Hong Kong**

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This study investigates the relationships between the occupational stress, coping strategies and burnout amongst mainstream secondary school principals across government, aided and private sectors of Hong Kong. The study tests a modified version of Administrator Stress Cycle Model (Gmelch and Chan 1995) in terms of principals' perceived stressors, most frequently used coping strategies and level of burnout. Next, it investigates occupational stress, coping strategies, and burnout level in relation to nine demographic variables. Furthermore, it identifies the best predictors of burnout and the most effective coping moderators. All school principals from 450 mainstream secondary schools were invited to participate in the study with a return rate at 70%. They were asked to complete four questionnaires including demographic information, the modified Gmelch and Swent Administrative Stress Index, the modified Allison Coping Preference Scale and the modified Maslach Burnout Inventory. Results of the study show that Boundary-Spanning Stress emerged as the top stressor. The most preferred coping strategy was the use of Positive Attitude. Principals' burnout levels in Emotional Exhaustion, Depersonalization and Personal Accomplishment were moderate. Different types of significant relationship were found between the nine demographic variables and stress, coping strategies and burnout. Strong predictors of burnout in all three subscales were identified. Significant coping moderators buffering the effect of stress on burnout were found. The construct validity of the three modified instruments was established. The modified model on the Administrator Stress Cycle was statistically confirmed. The study concludes that the education reforms generated considerable stress on mainstream secondary school principals. Although the means of Emotional Exhaustion and Depersonalization were moderate, further analysis suggested that it might be reasonable to speculate that the burnout levels of Emotional Exhaustion and Depersonalization were high, which deserve our serious attention. Principals' work performance and well-being might be adversely affected if they have to continuously take on increasing tasks arising from the education reforms without substantial government support, policy changes and intervention programmes such as stress management.



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\* When 'stressed' is spelled backward, it will be spelled as 'desserts'.



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# Chapter 1

## Introduction

This study explores the relationships between stress, coping strategies and burnout among mainstream secondary school principals in Hong Kong. The study also investigates the predictors of burnout and the coping moderators buffering the effect of stress on burnout. This chapter explains the background for the study, describes the purposes of the study, justifies the research questions & hypotheses based on the purposes, indicates the significance of the study and defines the terms.

### Background

The study of stress and burnout in public school administration has increased steadily since 1980's. In the past decade, researchers have sought to look beyond the topic of burnout, and to include coping preferences and selected demographic characteristics in their studies (Gmelch & Chan, 1995; Shumate, 1999; Muthalib, 2003). Today, school principals face increasing demands for accountability from both internal and external sources with the introduction of education reforms. Internal sources refer to students, teachers, coaches, custodians and other school employees. External sources include the parents, school management committee/board, school sponsoring bodies, the Education and Manpower Bureau, special interest groups and the community. School principals are expected to carry out education and curriculum reforms, to improve public examination scores, to be responsible for security and discipline, to prepare school budgets, to know the law, to secure external resources, to conduct school self-evaluation, to attend continuous professional development and to keep up with a host of other duties related to the school. In short, school principals are expected to be responsible and accountable for all the tasks and demands assigned to them. Despite the obviously high

expectations placed on the principalship, there has been no information showing if the secondary school principals can cope with such demands in Hong Kong.

Ever since Hong Kong became a Special Administrative Region of the People's Republic of China in 1997, there has been an unprecedented series of education reforms with a proliferation of policy initiatives covering almost every aspect of school education (Chan 2004). Since 1997, the Hong Kong SAR government has published a series of major influential policy documents that guide the education reforms. These influential documents are: Education and Manpower Bureau (2000); Education Commission (1997), (2000), (2003), (2004) and Curriculum Development Council (2001).

According to Chan (2004), the community and the education sector have basically supported the overall aims of education reform as means of:

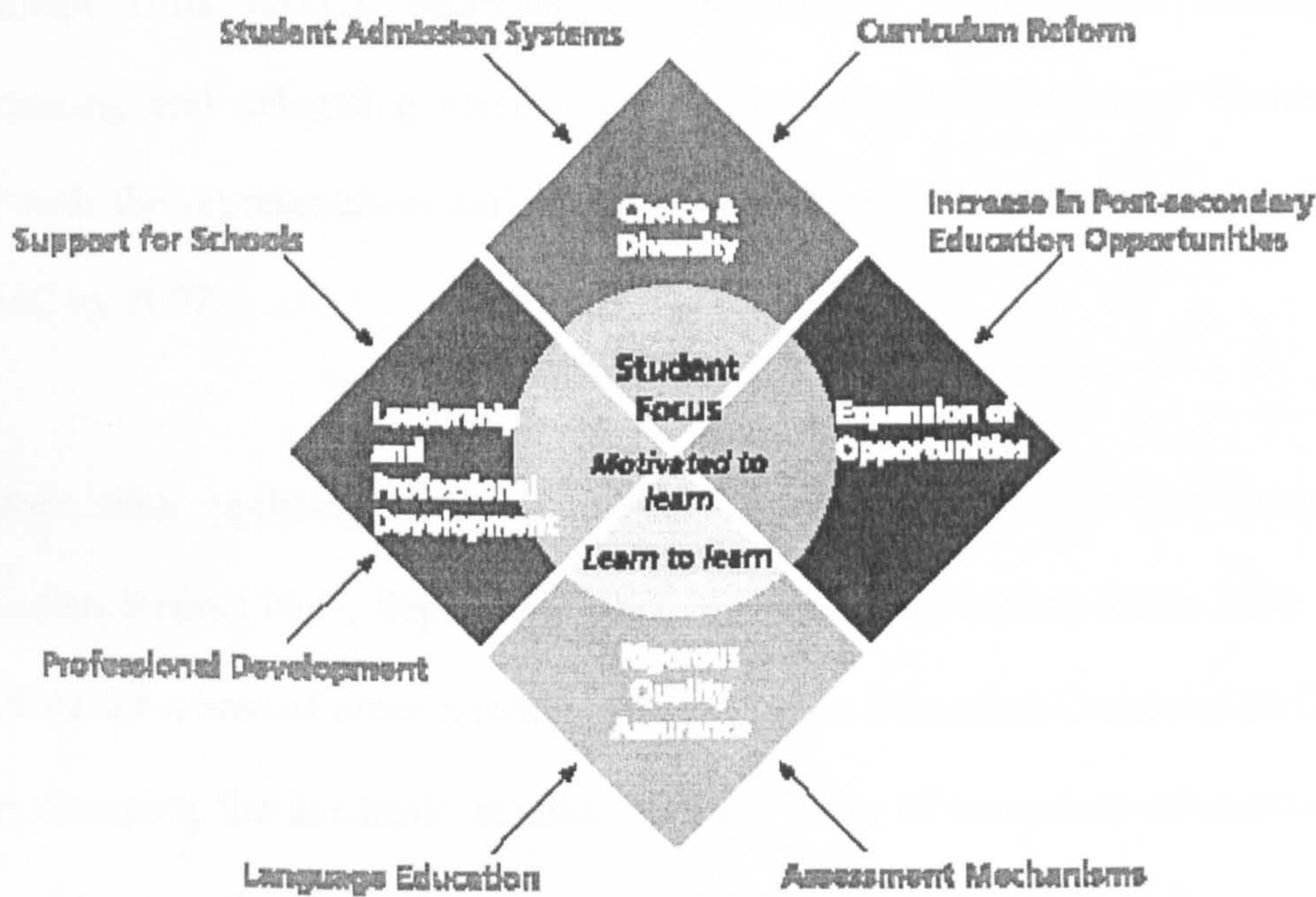
enabling every person to attain all-round development in the domains of ethics, intellect, physique, social skills and aesthetics according to his/her own attributes so that he/she is capable of life-long learning, critical and exploratory thinking, innovating and adapting to change; filled with self-confidence and a team spirit; willing to put forward continuing effort for the prosperity, progress, freedom and democracy of their society, and contribute to the future well-being of the nation and the world at large (Education Commission 2000, p.4).

She also adds that the visions of the education reforms such as “*building a lifelong learning society*” (p.5) were important. In addition, she comments that the education community, on the whole, did not seem to have big disagreement over the principles of the education reform which included “*student-focused; no-loser; quality; life-wide learning, society-wide mobilization.*” (p.6 ). The Education Reforms as stated in Education Commission (2000) are wide-ranging and interrelated. There are, broadly speaking, seven major initiatives in the blue print of the Education Reform



---- curriculum reform, language education, support for schools, professional development, student admission systems, assessment mechanisms and increase in post secondary education opportunities (Education Commission. 2004, p.3).

Fig 1.1- Seven Major Initiatives in the Blue Print of the Education Reform



Source: Education Commission (2004) Progress Report on the Education Reform (3), Education & Manpower Bureau, Hong Kong, p.3

With the implementation of education reforms, the school principals take on multi-roles gradually transforming the seven reform initiatives into measurable results. Among these seven areas, three areas will be discussed in the following, which are education quality reforms, curriculum reforms and professional development.

Quality reforms cover three major aspects- quality teachers; quality indicators and assurance and quality management. To become a quality headteacher, all principal designates have to be certificated in 2004/2005 and they have to take



50-hour continuous professional development each year starting in 2002/2003. To become a quality-assured school, the school heads have to learn the skills of doing school self-evaluation whose results will be validated by a team of external school reviewers once in every four years, starting in February 2004. To become a quality-managed school, the School Sponsoring Body will, according to the Education Amendment Bills (2002), establish an Incorporated Management Committee, decentralizing and delegating some power to the School Management Committee (SMC) with the representation and voting power of parents, teachers, alumni in the new SMC by 2007.

Other than realizing these initiatives as recommended in the Education Commission Report No.7, September 1997, the secondary school heads have to be responsible for a host of other reforms as stated in the Education Commission (2000) such as changing the academic structure from 7 years of secondary education to 6 years, reviewing the secondary school Medium of Instruction Policy and the implementation of Basic Competency Assessment for Primary 3, 6 and Secondary 3.

As for curriculum reforms, the school principals have to serve as curriculum leaders reaching the target of enhancing the knowledge and abilities of students and to help them develop positive values and attitudes, so as to establish a solid foundation for life-long learning and whole-person development (Education Commission, 2004 p.10). To reach this target, the school principals need to incorporate the four key tasks (Reading, Information Technology, Project Learning, Moral & Civic Education) and nine generic skills (collaboration, communication, creativity, critical thinking, information technology, numeracy, problem-solving, self-management, study) in the curriculum. Alongside these initiatives, the school principals have to work out

strategies to address the learner diversity problems; provide life-wide learning outside the classroom; help students to become a life-long learner; and develop teachers' professional development and training.

Apart from implementing education reforms, the school heads have to deal with problems caused by the continuous decline in student population in Hong Kong. These problems include working out ways to attract enough students to keep the schools in operation; minimizing teacher redundancy; downsizing, merging or even closure of schools. The situation is complicated by competition with Direct Subsidy Schools for high calibre students.

The challenges for principals have increased greatly since 1997. The changes have brought more responsibilities which are being "layered" one on top of the other. To date, there are research findings informing the progress of the curriculum reform (Education Commission 2004, p.13) but there is no research data indicating how well the mainstream secondary school principals can cope with the workload and showing whether the increasing workload will affect their well-being.

### **Public perception about the education reforms**

Chan (2004, p.9), chair of the Hong Kong Subsidized Secondary Schools Council, has commented that:

There are very negative perceptions throughout the community about the success of the education reforms. There is also a perception that any change made is a change for the worse.

She further supports her views by quoting two cases. The first one is the comments made by a Professor of Education, Kai-ming Cheng, about education reform in 1998. Cheng (2002) said:



In short there was no shortage of policies and recommendations ..... but there was little perceivable improvement of the situation. There was, therefore, a general lack of confidence in all parties.

The second one is the comments made by a secondary school principal and a Legislative Councillor, Mr Yiu-chung Yeung (2004), who said :

Education reform was less than satisfactory because it was being implemented too quickly, lacked appropriate support structure, and was not adequately explained or supported by parents and schools”.

### **School heads leaving the principalship**

It seems that the perceptions of educationalists on education reforms are quite negative. However, it is not certain whether there is any causal link between the implementation of education reform and the number of schoolheads leaving their job from 2001 to 2004. According to the Education and Manpower Bureau of Hong Kong (2004), there was a total of 484 principals (about 35% of the total number in the primary, secondary and special schools sectors) who have either retired or left the profession during the period from 2000/01 to 2003/04. Although there was no sign of a serious shortage of principals as at 2003/2004, Chan (2004, p.6) expresses her concerns:

This gives rise to concerns about the capacity of the educator sector to provide sufficient quantity of professionals, of the right calibre, to fill the school leadership vacancies at a time when it is particularly important to have good leaders to lead the education reforms.

In fact, Chan’s concerns were not without justification and were supported by the results of the past studies. Delonibus and Thompson (1979) identified excessive time demands, stress and heavy workload as the top three stressors mentioned by individuals for leaving the principalship. Shumate (1999) reported:



In a study conducted by the National Association of Elementary School Principals & National Association of Secondary School Principals (1998), long hours, too much stress, and too little pay for the weighty responsibilities required in running a school are the chief reasons for a shortage of principals throughout the United States. Almost half of the school districts surveyed reported a shortage in the labor pool for K-12 principal positions they were trying to fill in 1999.

Compared with the west, Hong Kong does not have a serious shortage of principals. However, to date, there is no study identifying the reasons why Hong Kong principals have left their job from 2000-2004 and there is no official information forecasting if there will be any shortage of school principals in the coming five years against the backdrop of continuous education reforms.

### **Statement of the Problem**

School principals have been regarded as both the leaders and top managers of their school (Leithwood, Begley, & Cousins, 1992). The impact of their work on the morale and performance of the teachers, the achievements of the students, and learning atmosphere of the school have been well documented (Cheng, 1994, Leithwood, Begley, & Cousins, 1992). However, there is little information to date showing if the Hong Kong mainstream secondary school principals are experiencing any level of stress or degree of burnout in this period of unprecedented massive education reforms, causing them to be possibly ineffective in their schools or other professional environments.

In view of the important leadership and management roles played by school principals, research in the past has been conducted to find out the sources and level of stress among high school principals (Wong, 1983; McGrath, 1996; Snyder, 1999; Flynn, 2000; Ryan, 2001; Lucas, 2003); their coping strategies (Matheny et al, 1988;

Allison, 1997; Liming, 1998; Muthalib, 2003); and the consequences such as work-related burnout in terms of Emotional Exhaustion, Depersonalization and reduced Personal Accomplishment (Ogden, 1992; Carruth, 1997; Smith-Stevenson et al, 1994; Shumate, 1999; Flynn, 2000).

However, as at 2004, most of the work stress studies conducted in Hong Kong were related to teachers (Ngo, 1995; Siu, 1995; Cheng, 1996; Hui & Chan 1996; Yeung, 1997; Chan, 1998; Lee, 2001; Lau, 2002). There was only one territory-wide study related to stress and primary schoolheads (Chan, 2002) against the backdrop of the education reforms in Hong Kong. As for research related to secondary school principals in Hong Kong, there are two only research studies investigating burnout syndrome (Wong, 1983) and job stress (Man, 1988) of the secondary school principals in Hong Kong, which were conducted more than 21 years and 17 years ago respectively. The latest territory-wide survey on teachers stress and workload, which was conducted by the Hong Kong Federation of Education Workers (2004), only had a sample of 135 principals (11.5% of total principal population, without sector breakdown) with no conclusive findings. Since Chan (2002) indicates that the primary headteachers experienced moderate to high level of stress and the top stressor was the compliance with education reforms, it was not certain if the same results will be found among the mainstream secondary school principals who are facing increasing workload in the midst of the education reforms.

Research findings have indicated that stress and burnout among the education administrators could be highly costly. According to Pines and Aronson (1981), people who burn out develop negative self-concepts and negative job attitudes. Burnout is a costly phenomenon in terms of wasted training; the psychological price



workers pay; and organizational loss includes staff, clients and patients (p.17). Fallon (1981) reports that the incidence of hypertension and heart disease among school principals is among the highest of any profession. Carlton and Brown (1983) indicate that school administrators' stress can lead to physical illness or emotional distress which can adversely affect the quality of work in the office or cause loss of man-hours or severance from the field of education. Further substantiating the previous researchers' views, Gray-Grant (1992) report that in one large urban school district in Canada, four school principals had suffered heart attacks and that three of the men had died. The Times Education Supplement (2001) reports also indicate that stressed-out teachers and principals cost almost A\$34 million over five years in Australia.

In Hong Kong, the pressures for school reform, legislated reform (Education Amendment Bill 2002), and school restructuring due to the decline of student population have been, to a certain extent, increasing principals' stress level (Chan 2002). School-based management, increased managerial and social complexity, education and curriculum reforms and a host of other changes have altered principals' roles and augmented their responsibilities (Fullan, 1991; Harling, 1989; Murphy & Hallinger, 1993; Williams & Portin, 1997). These changes do not only increase tasks and responsibilities of the principals, but also they take up a lot of their time. Because of the heavy workload, it can increase the principals' work stress level. If the principals do not use the pre-stress and post-stress coping strategies at the right time, they may suffer from different levels of job burnout in Emotional Exhaustion, Depersonalization and hence their feelings of Personal Accomplishment at work may reduce, affecting their job performance and their well-being (Gmelch and Chan, 1995; Shumate, 1999).



Numerous researchers have, in past two decades, examined the relationship of stress to burnout in the field of education. Stress has been proved to be a significant predictor of burnout (Blasé, 1982; 1984; Farber, 1984; Friesen & Sarros, 1989; Gmelch & Chan, 1995; Shumate, 1999). The effectiveness of the principal at work is very important to the success or failure of the school. The mainstream secondary schools in Hong Kong both need and deserve high quality educational and administrative leadership. Both Selye (1976) and Doring (1993) concurred that it is NOT the amount of stress one has that matters but how one handles it is of high importance. All principals must be able to master adequate stress coping strategies in order to work effectively. According to Matheny et al (1988), effective strategies for combating stress will contribute to better health and improved work performance. As it is impossible to avoid stress and potential burnout in executing a principal's job, Maslach et al (1996, p.31) have suggested:

Future work may want to focus on those who have successfully avoided the experience of job burnout by examining the **coping mechanisms** they have developed to stay energized, positively engaged with their students, and fulfilled through their work.

If the sources of the stress and coping strategies can be identified in relation to job burnout, the findings can help to improve the job performance and the overall well-being of the mainstream secondary school principals in Hong Kong.

### **Purposes of the Study**

There are three purposes of this research. First it aims to test a proposed model modified from the Administrator Stress Cycle (Gmelch and Chan 1995) across all mainstream secondary schools principals in Hong Kong in terms of their levels of

perceived stressors, most frequently used coping strategies, and level of perceived burnout so that generalizable findings can be obtained. Second, it aims to investigate the relationships between occupational stress, coping strategies, and burnout level with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history. Third, it aims to identify the best predictors of burnout and the most effective coping strategies that can moderate the stress level and burnout level among the mainstream secondary school principals in Hong Kong.

### **Research Questions and Hypotheses**

Based on the three purposes of the study, the following three research questions and six null hypotheses guide this study. The three research questions address the first purpose of this study.

#### **Research questions**

1. What are the major stressors perceived to affect Hong Kong mainstream secondary school principals, as indicated by the Administrative Stress Index?
2. What are the coping strategies that the Hong Kong mainstream secondary principals use to reduce stress as measured by the Coping Preference Scale?
3. What are the levels of burnout of the Hong Kong mainstream secondary principals as measured by the three subscales (Emotional Exhaustion,



## Depersonalization, and Personal Accomplishment) of the Maslach Burnout Inventory?

### Hypotheses

The first four null hypotheses address the relationships between demographic variables, stress, coping strategies and burnout as raised in the second purpose.

#### Hypothesis 1

There are no significant correlations between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history.

#### Hypothesis 2

There is no significant relationship between occupational stress and coping strategies among the mainstream secondary school principals in Hong Kong.

#### Hypothesis 3

There is no significant relationship between occupational stress and level of burnout among the mainstream secondary school principals in Hong Kong.

#### Hypothesis 4

There is no significant correlation between coping strategies and level of burnout among the mainstream secondary school principals in Hong Kong.

The last two null hypotheses address the third purpose of the study by identifying the best predictors of burnout and the significant coping moderators buffering relationship between stress and burnout.

### **Hypothesis 5**

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; coping strategies and occupational stress are not significant predictors of job burnout among the mainstream secondary school principals in Hong Kong.

### **Hypothesis 6**

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; occupational stress and; coping strategies are not significant moderators of job burnout among the mainstream secondary school principals in Hong Kong.

### **Scope of the study**

The survey questionnaire on sources of stress focused mainly on factors relating to school management and the sources of stress due to students, parents, the education authority, and staff. Other environmental factors such as expectations from society, the recent economic downturn, and teacher redundancy were not included in the study.



The focus of the study was on occupational stress. Other non-work related sources of stress such as personal stress due to pre-existing psychological states, finance, family, emotion, etc. were not included in this study.

Findings from this study would only apply to principals who were serving the government/ aided/ private mainstream secondary schools in 2003-2004. Principals who had left their job because of occupational stress, burnout, change of jobs, promotion and emigration were outside the scope of this study.

## Significance of the Study

A clear understanding of the level of stress, preferred coping strategies and the degree of burnout facing secondary school principals in Hong Kong is not only crucial for research after a series of educational reforms have been implemented but also findings could provide evidence to inform the content of stress-reduction training programme for the mainstream secondary school principals. It is important to note that over the past ten years or so, there have never been such increasing demands made on school principals by a number of stakeholders. Since the last study related to stress, coping strategies and burnout among Hong Kong secondary principals was done twenty-one years ago (1983), a study is warranted so as to fill the big gap of knowledge against the backdrop of the massive and rapid educational reforms ever since 1997. Such a timely study could shed light in the following areas:

1. The relationships between the level of occupational stress, coping strategies, and burnout of secondary school principals in Hong Kong have never been studied in mainstream secondary schools across government, aided and private sectors with well-validated instruments. This pioneer study can provide an updated knowledge base for the policy makers to plan, train and make early interventions for the aspiring, new and experienced principals when necessary.
2. Knowledge gained from this study will raise the awareness among school principals about issues pertaining to occupational stress, ways of coping and level of burnout.



3. Results of this study will help to provide evidence to the Education and Manpower Bureau to design stress management training programmes for the serving mainstream secondary school principals and the aspiring principals.
4. The findings of this study will raise the awareness of the secondary school supervisors and the members of the School Management Committee about the principals' sources of stress, hence, they can offer assistance to the principals, when and if necessary.
5. The Education and Manpower Bureau may consider restructuring the job duties of the principals, providing appropriate support, adjusting the speed and the quantity of the upcoming educational reforms in light of the findings of this study.

### **Definitions of Terms**

#### **Stress**

For the purpose of the study, two operational definitions of stress are used:

1. Stress is defined as a physiological reaction to psychological perceptions. Stress levels are specific to the person and the situation. Each person appraises every environmental situation in relation to his/her perceived skills to deal effectively with the situation; how the situation affects him/her, whether or not he/she perceives the situation is a threat to his/her well-being. The threat is not necessarily a threat of physical harm but can be a threat to one's self esteem, personal or professional integrity or to one's standing among peers and/or colleagues (Cohen, 1989).
2. Stress is defined as "the perception that there is an imbalance or discrepancy between the demands made upon the individual and the individual's ability to meet or

cope with these demands” (Gmelch & Chan, 1995, p.276).

**Stressor:** A demand made by the internal or external environment that upsets a person’s balance and for which restoration is needed (Matteson and Ivancevich, 1987).

### **Types of administrative stress**

**Task-Based Stress:** Stress that originates from time demands related to the administrator’s day-to-day administrative tasks including coordination and communication with others (Gmelch & Swent, 1977). Harrison (1991) further points out that task-based stress includes frequent telephone interruptions; supervising a large number of people, high self-expectations; writing notes, memos, and letters; excessive workload for the time available; time consuming meetings; completion of paper work within fixed time schedules; and interruptions by staff members. ASI items 1, 2, 4, 6, 7, 11, 16, 20, 21, & 25 measure this stress type (Appendix 4).

**Role-Based Stress:** Stress that pertains to not having enough information to perform the job satisfactorily; inability to cope with conflicting demands; resolving differences with superiors; lack of authority to perform one’s duties; lack of clarity about the nature responsibilities of one’s job; and the lack of knowledge of one’s superior’s evaluation of the administrator’s performance (Gmelch & Swent, 1977). ASI items 5, 8, 9, 10, 14, 19, 22 measure this stress type (Appendix 4).

**Conflict-Mediating Stress:** Stress occurs from mediating conflicts and resolving issues among teachers, among students, between teachers and students, between parents and the school, dealing with problems of school discipline, and between the school and



the community (Gmelch & Swent, 1977). ASI items 12, 15, 24 measure this stress type (Appendix 4).

**Boundary-Spanning Stress:** Stress that pertains to allocating financial resources; collective bargaining; dealing with official regulations seeking public support for school funds and administrative tasks related to contracts (Gmelch & Swent, 1977). ASI items 3, 13, 17, 18, & 23 measure this stress type (Appendix 4).

### **Coping and Coping Skills**

**Coping:** The person's cognitive and behavioral efforts to manage (reduce, minimize, master or tolerate) the internal and external demands that are appraised as taxing or exceeding the person's resources (Folkman, Lazarus, Gruen and DeLongis, 1986).

**Coping Skills:** Coping skills are strategies used consciously or unconsciously to deal with perceived stress (Roesch, 1979). The skills can be effective or ineffective methods and techniques used by principals in dealing with stressful situations in order to moderate or reduce the effects of stress.

### **Burnout & three Subscales**

**Burnout:** Burnout is a syndrome which affects persons in the helping professions (in this study, principals) and includes increased feelings of Emotional Exhaustion, Depersonalization, and reduced Personal Accomplishment, as categorized in the Maslach Burnout Inventory used in this study (Maslach, Jackson & Leiter, 1996).

**Emotional Exhaustion subscale:** It assesses feelings of being emotionally overextended and exhausted by one's work (Maslach & Jackson, 1981). It is the

tired and fatigued feeling that develops as emotional energies are drained. When these feelings become chronic, educators find they can no longer give of themselves to students as they once could (Maslach, Jackson & Leiter, 1996). MBI items 01 02, 03, 06, 08, 13,14, 16, 20 measure this subscale of burnout (Appendix 6).

**Depersonalization subscale:** It measures an unfeeling and impersonal response towards recipients of one' service, care, treatment, or instruction (Maslach & Jackson, 1981). Educators can display indifferent, negative attitudes toward their students by using derogatory labels, exhibiting cold or distant attitudes, physically distancing themselves from students, and tuning out students through psychological withdrawal (Maslach, Jackson & Leiter, 1996). MBI items 05, 10, 11, 15, 22 measure this subscale of burnout (Appendix 6).

**Personal Accomplishment subscale:** It assesses feelings of competence and successful achievement in one's work with people (Maslach & Jackson, 1981). Most educators enter the profession to help students learn and grow. When educators no longer feel that they are contributing to students' development, they are vulnerable to experiencing profound disappointment. It is difficult for educators to relinquish their dedication to teaching, and the job provides few other rewarding areas to which they can focus their accomplishments. A crisis in Personal Accomplishment for an educator may be both severe and enduring (Maslach, Jackson & Leiter, 1996). MBI items 04, 07, 09, 12, 17, 18, 19, 21 measure this type of burnout subscale (Appendix 6).

### **Mainstream Secondary School**

For the purpose of this study, mainstream secondary school is a school that offers



Secondary 1 to 5 or Secondary 1 to 7 curriculum. They prepare students for the Hong Kong Certificate of Education Examination and Hong Kong A-Level Examination. The school types include government, aided, private (caput and direct subsidy). All three types of schools are subsidized by the government.

### **Summary**

Chapter one reviewed the major education reforms in Hong Kong since 1997 and the responses of the educational community. The problems facing the mainstream secondary principals in Hong Kong with regard to stress, coping and burnout were discussed. The purposes of the study are stated. Based on the three purposes, three research questions and six null hypotheses were formulated. Five areas of significance of the study were explained. Definitions of terms in this study were classified according to the sequence of stress, coping and burnout.

### **Organization of the Remainder of the Study**

Following this chapter, there will be a review of literature related to the concepts, research findings of stress, coping and burnout among secondary school principals in the United States, Malaysia and Hong Kong. In Chapter 3, there will be a discussion of the research design and limitations of the study. In Chapter 4, the findings of the three research questions and the six hypotheses are presented. In Chapter 5, there will be a detailed analysis of findings followed by thematic discussions in light of the analyses. In the last chapter, conclusions, implications and recommendations are provided.

## Chapter 2

### Literature Review

Gmelch (1988) states that more than 100,000 books, journals, and articles (internationally) have addressed the topic stress. It can be seen that occupational stress with regard to teachers and principals has added volumes of literature in the past decade. Researchers from the disciplines of medicine, psychiatry, clinical psychology, and behavioral sciences have investigated the phenomenon of stress and coping (Gmelch and Chan, 1995). The research on stress in schools has examined stages of stress from the nature of stress (Chichon and Koff, 1980; Chan 2002), types and sources of stress (Gmelch & Swent, 1977; Koch et al, 1982; Garwood, 1995; Kilgore, 1999; Muthalib 2003), to the consequences of stress such as job burnout (Wong, 1983; Stouffer, 1992; Carruth 1997; Flynn 2000). However, many of these studies have failed to investigate the processes of stress and coping together, integrated by a conceptual framework (Gmelch, 1988). Also, as at to date, there are very few empirical studies identifying the coping moderators that could buffer the relationship between occupational stress and burnout among the secondary school principals.

There are three parts in this chapter. The first part reviews the theories and models of studying stress and nature of burnout. The second part analyzes the studies related to stress and principals using Administrative Stress Index, burnout and principals using Maslach Burnout Inventory, coping strategies and principals, followed by a review of the relationships between demographic variables and stress, coping strategies and burnout. Studies related to the relationships between stress, coping strategies and burnout among principals will be discussed. To understand the



stress and burnout levels among Hong Kong secondary school principals in the past, a critical review of these studies will be reported. Since the use of coping strategies among school administrators are mostly descriptive, it is important to find out if coping strategies can be used as a coping moderator to buffer the stress-burnout relationships among the principals. The last part of this chapter will explain how a modified 4-stage Administrator Stress Cycle model has been adapted from Gmelch and Chan (1995) for the current study. It also discusses how the three research questions and six hypotheses are constructed, based on the research findings and the proposed model.

### **Definitions of stress**

Selye (1976, p.27) was among the first to examine stress. He defined stress as “the non-specific response of the body to any demand placed upon it. The demand on the individual may be pleasant or unpleasant”. Cohen (1989) defined stress as a physiological reaction to psychological perceptions. Stress levels are specific to the person and the situation. Each person appraises every environmental situation in relation to his/her perceived skills to deal effectively with the situation; how the situation affects him/her, whether or not he/she perceives the situation is a threat to his/her well-being. The threat is not necessarily a threat of physical harm but can be a threat to one’s self esteem, personal or professional integrity or to one’s standing among peers and/or colleagues. Carr (1994, p.23) defined stress as “a pressure or strain on an individual and may be of physical, emotion, mental or spiritual origin”. In a study on teacher stress, Kyriacou and Sutcliffe (Gmelch & Chan 1995, p.276) defined stress as “the perception that there is an imbalance or discrepancy between the demands made upon the individual and the individual’s ability to meet or cope with these demands”.

There are three approaches to the study of work stress. The first approach is called the physiological approach which treats stress as a dependent variable - that is a particular physiological response to a threatening or damaging work environment. The second approach is called the engineering approach which treats stress as an independent variable – that is the aversive characteristic of work environment. The third approach is called the psychological model which treats stress in terms of the dynamic interaction between the person and their work. It is this approach that will be adopted in this study. Further explanations will be provided on pp 72-73.

## **Theories and Models to the Study of Occupational Stress**

### **Physiological Approach**

The founder of this response-based approach of stress was Hans Selye. Selye (1956) proposed his “General Adaptation Syndrome’ (GAS) theory. There are three stages of the GAS (Selye,1976). Selye placed a critical emphasis on the non-specificity of the stress response in this theory. The three phases are (1) the alarm phase in which the entire body’s stress system is mobilized to either flight or fight reaction; (2) the resistance phase where the person finds means to adapt or to cope with the stressor and to ward off adverse reactions; and (3) the exhaustion phase where the body becomes physically and mentally drained, and signs of alarm reaction will reappear (Selye, 1976, pp 37-38).

Selye believed that the adaptive energy is not limitless and once the energy is depleted, the individual is susceptible to the ravages of illness and finally death (Selye, 1976). The human body is capable of literally destroying itself when it is forced to maintain a high stress “alarm” stage for long periods without relief. However, it is also important to note that a certain amount of stress is needed in our everyday life.



The presence of stress does not necessarily mean that a problem exists. Sometimes, this is referred to as “eustress” or pleasant stress that is enjoyable and gives purpose to life (Selye, 1956). Human beings need to maximize eustress and minimize distress. They also need to learn the limits of their endurance before they exceed them to a dangerous level (Selye, 1976).

The General Adaptation Syndrome theory of stress was criticized by McGrath (1970) mainly because not every response to stress follows the 3-stage pattern, and complex stressors may create different responses. He also argues that the same response may be evoked by several different situations, but some of them may not be considered as stressful (e.g. heart rate may increase for many different reasons). There is even empirical evidence challenging the idea that stress response is non-specific (Cox & Cox, 1985; Lacey, 1967; Mason, 1971). Cox (1993) argued that the physiological approach to stress ignores the role of psychological processes.

## **Engineering Approach**

Instead of viewing stress as a response to a stimulus, the engineering approach views the stimuli themselves as a source of stress. This stimulus-based approach was first developed by Holmes and Rahne (1967) who suggest that life stress experiences or stressful life events play a role in physical disease. To test the hypothesis, Holmes and Rahne (1967) developed a questionnaire measuring a series of recent experiences, which contains self-reports of life events and a quantitative level of impact caused by particular life stressors. The Social Readjustment Rating Scale contains 43 such life events (e.g. death of spouse, divorce, unemployment), and each of them is assigned an index of life change units. Holme and Rahne (1967) found that 50% of the people who had life events scored between 200 and 300 points within a year became ill.

Birnbaum & Sotordeh (1991) criticize this scale because it may not be valid or reliable to add stress points from various events. Besides, the scale cannot measure some important stressors such as experiences of racism or poverty. Also, not everyone experiencing the same life event would have the same life change units. In addition, it is arguable whether the experience of different groups of people can be accurately represented by a single life event measure.

Fisher (1986) extends the stimulus-based model/engineering approach by proposing the 'control model of stress in life and health environments'. She points out that stress is assumed to be a condition of the environment; and the environments can be physical or psychological. Fisher (1994, 1996) further exemplified her control model by explaining that stress is perceived whenever there is low personal control or jurisdiction over the physical, psychological or social environment. Fisher's (1994, 1996) concept of stress, which involves the concept of control, can be applied to work environments. Her conceptualization of stress provides a basis for understanding job strain and distress at work.

One of the merits of this approach is that it provides clear distinctions among the term "job stress", "stressors" and "strains". The term "stressor" refers to the environmental stimulus (e.g. Beehr & Bhagat, 1985), and is either physical, psychological, or behavioural in nature (Beehr & Franz, 1986). Quick and Quick (1990) further define stressors as the physical or psychological demands encountered in the course of individual, community, and organizational life. The term "strain" refers to the individual response (e.g. Beehr, 1984), and is used as an indicator of ill health and / or well-being of the individual (Beehr & Franz, 1986). Therefore a job stress can be defined as an environmental condition or event in the workplace that



causes strain; whereas strains can be physical, psychological or behavioral. Travers and Cooper (1996) comment that “One area in which, it appears, people are in agreement with regard to the definitions of the terms ‘stressor’ and ‘strain’” (p.12).

## **Psychological Approach**

In this approach, stress is no longer viewed as a linear stimulus-response process or stimulus-based one, but rather a complex process. The approach emphasizes the importance of the way individuals perceive and react to situations which are taxing. Stress reflects a ‘lack of fit’ between the individual and the environment. Pearlin, Menaghan, Lieberman, and Mullen (1981) suggest that stress is not a happening, instead it is a complex, varied and intellectually challenging process. The interactional and transactional theories of stress are the two main theories of this approach.

## **Interactional Theory of Stress**

### **Person- Environment Fit Model**

According to Allison’s (1997), Person-Environment Fit theory (French 1974; Cox 1978; Blase 1984; Feitler & Tokar 1986) is useful because it can help us to conceptualize and understand administrative stress. Caplan (1998), Baker & Karasek (2000) support Allison’s (1997) views. Person-Environment Fit theory offers a framework for assessing and predicting how the characteristics of the individual and the work environment jointly determine the worker’s well being. This theory focuses on the interaction between the individual and the environment. There are two types of fit between the individual and the environment. The first fit is the extent to which the individual’s skills and abilities match the demands and requirements of the job. The second fit is the extent to which the job environment satisfies the needs of the individual. Job-related stress occurs when there is a

discrepancy between the person and the occupational environment. When the needs and abilities of the person match the rewards and demands of the job, person-environment fit is good; there is little occupational stress and the individual is able to experience a high degree of job satisfaction. However, when the needs and the abilities of the person do not match the rewards and the demands of the job, the result is a poor person environment fit, a situation that produces occupational stress that could eventually lead to physical or mental illness if left unchecked.

The weakness of this theory is that a stable fit between the person and the environment is assumed. These two types of Person-Environment (P-E) fit have not been empirically proved to be operationally discriminated. To support this point, Edwards and Cooper (1990) criticize the conceptual and methodological problems of this theory. The theoretical problems include inadequate emphasis on the distinction between different versions of fit, particularly S-V (environment supplies and personal motives, goals and values) and D-A (environmental demands and personal skills and abilities). The methodological problems include imprecise and incomprehensive measurement of P-E dimensions and inappropriate analytical techniques for assessing effects of fit.

### **Transactional Theory of Stress**

The transactional model of stress proposed by Lazarus (Lazarus, 1995; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) is the most widely accepted psychological model relating to appraisal and coping. This model states that stress is a transaction between the person and the environment, and the outcome of a stressful transaction is mediated by appraisal and coping, suggesting that a transaction between the person and the environment is stressful only when it is evaluated or appraised by the person as a harm, threat or challenge to that person's well being.



There are two kinds of appraisal. Primary appraisal concerns whether or not there is any personal stake in the encounter. Secondary appraisal follows primary appraisal, and concerns the available coping options for dealing with harm, threat, or challenge. Lazarus (1995) strongly emphasizes that in this approach, stress is a dynamic process. This model shows that a person is an active agent in his or her environment, who actively appraises the importance of what is occurring to his or her well-being.

Lazarus (1995) also strongly advocated the application of the transactional model to understand stress in the workplace and explained the meanings of harm, threat and challenge (p.6):

Harm refers to damage that has already occurred (e.g. loss of job, failure in promotion). Threat refers to a harm that has not yet happened, but is anticipated in the future. Challenge refers to a condition of high demand in which the emphasis is on mastering the demands, overcoming obstacles, and growing and expanding as an individual.

Lazarus (1995) further elaborated his concept of appraisal and coping. Appraisal is not fixed. He reiterated that coping is the cognitive and behavioural efforts a person makes to manage demands that tax or exceed his or her personal resources (Lazarus & Folkman, 1984). He emphasized that coping “is a process because the relationship with the environment is constantly changing” (p.6).

However, Cox (1993) criticizes Lazarus’s transactional model because it ignored the important aspect of how individuals interact with their environment. Brief & George (1995) and Harris (1995) have also argued that Lazarus’s theory is inadequate in the workplace, especially in terms of identifying ways of studying stress and

After studying the strengths and weaknesses of the three major theories of work stress, it is important to investigate how the stage by stage model of studying stress was formulated and how it has been developed ever since 1976.

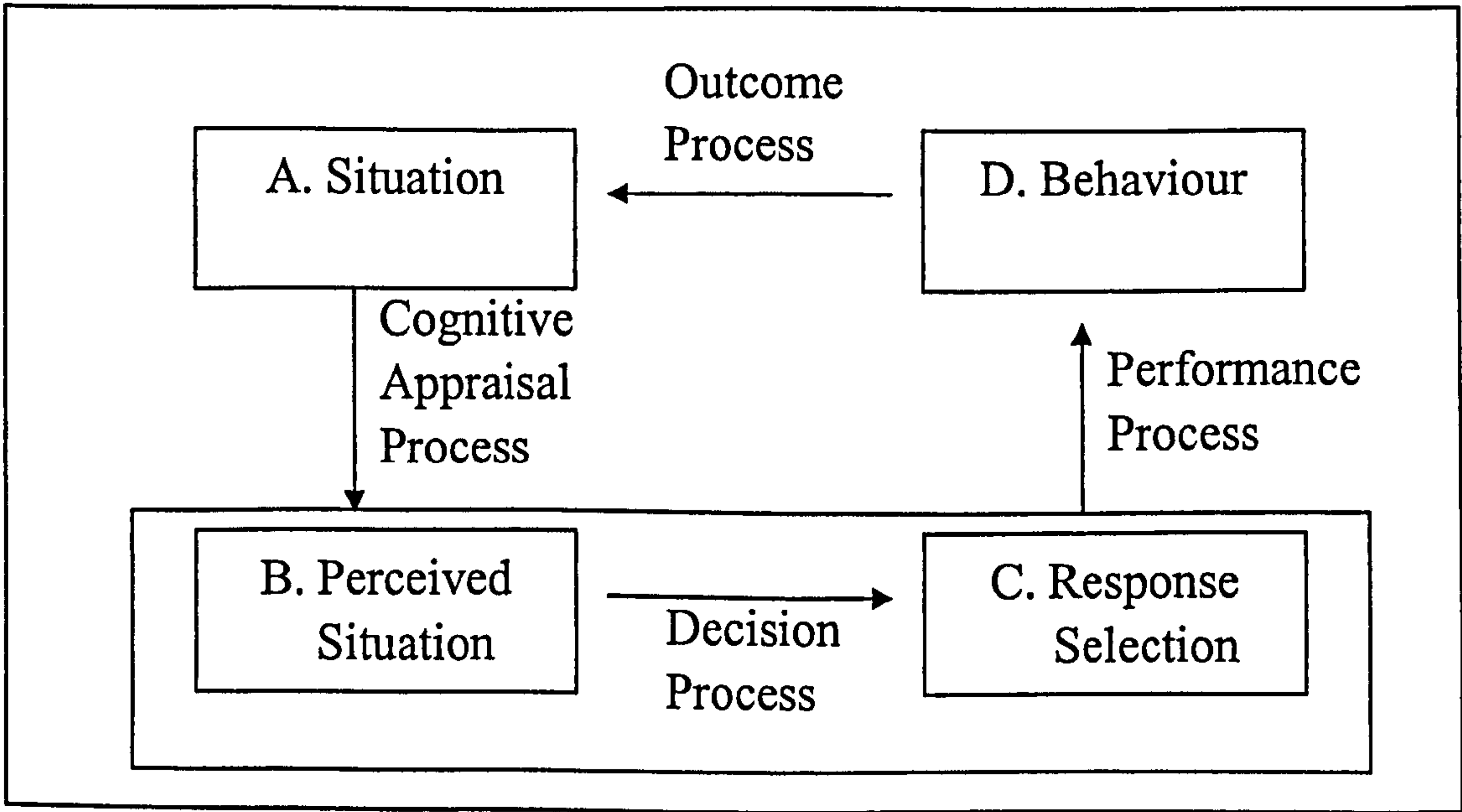
Four-stage model

McGrath (1976) is the first researcher who explains stress as a four-stage, closed-loop process beginning with situations in the environment (A), which are then perceived by the individual (B), to which the individual selects the response (C), resulting in consequences for both the individual and the situation, which closes the loop. Figure 2.1 shows that each of the four stages is connected by the linking process of cognitive appraisal, decision, performance, and outcome.

Figure 2.1

McGrath’s Paradigm for

Analysis of Stress Cycle





Gmelch & Chan (1995) comment that “most models or conceptual frameworks represent hybrids, elaborations, or extension of the McGrath model”. Cox (1978), for example, identifies five recognizable stages. The first four stages (sources of demand, perceived demand and capability, response to stress, and consequences of responses) are very close to those of McGrath’s stages; and the last stage, feedback is like the closed-loop character of McGrath’s model. Schuler (1984) proposes an integrative-transactional process model of stress which is more elaborate than McGrath’s model, but still focuses on the four primary components of environmental stressors, individual perceptions, stress, and individual responses”. To sum up the development of models used to study stress, Gmelch and Chan (1995, p.276) comment:

the four-stage postulated by McGrath has served as sound building blocks for the development of stress models. Each subsequent model appears to have been personalized with appropriate feedback loops, moderator variables, and process variables describing the relationship between the four basic stages in a manner to meet the research and applications needs of each research.

### **Administrator Stress Cycle Model**

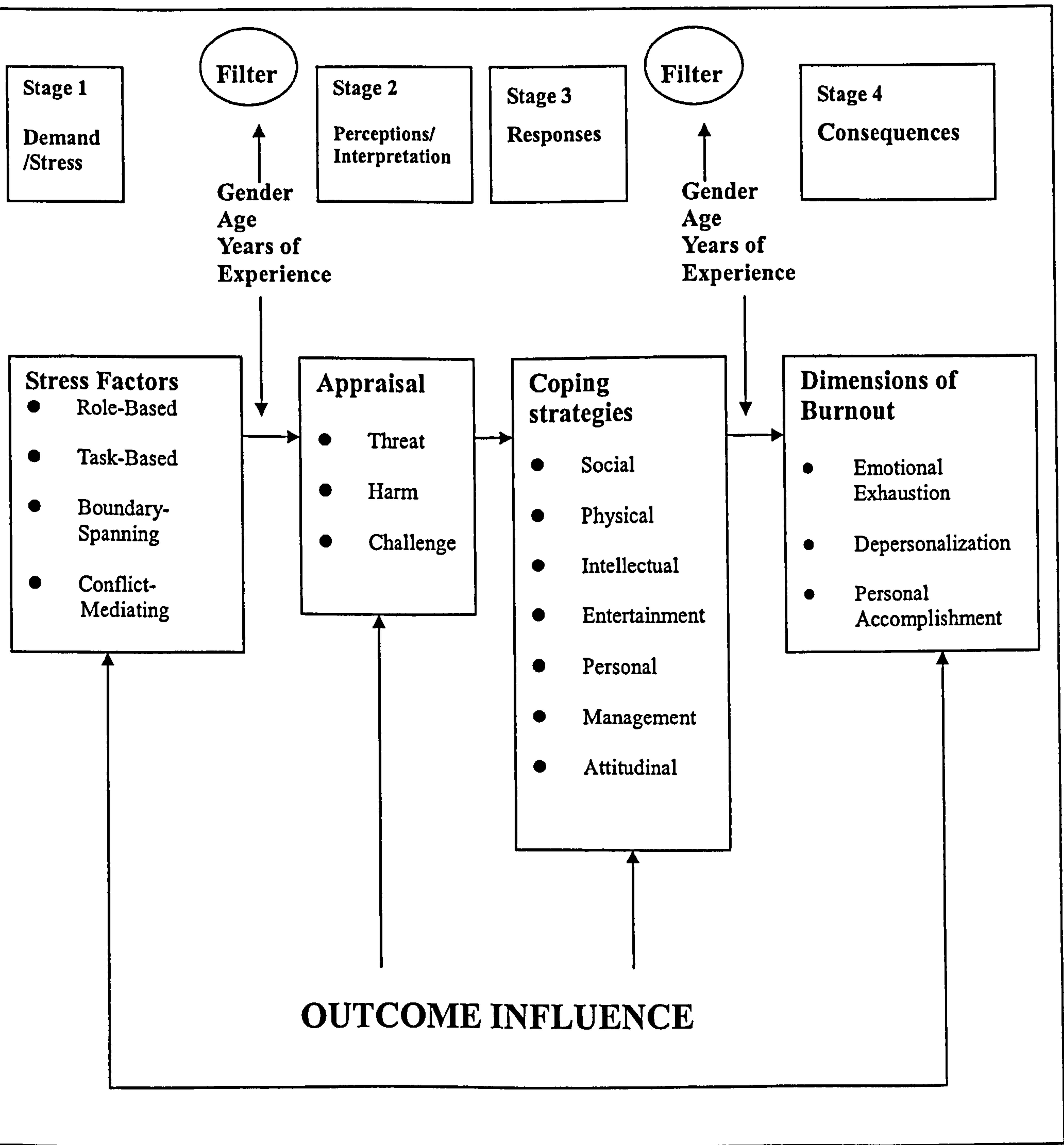
Based on McGrath’s 4-stage model, Gmelch & Chan (1995) propose a 4-stage Administrator Stress Cycle as the conceptual framework for studying administrator’s stress. Using the transactional theory, the Cycle has four major consecutive stages which reflect the causal effect from the sources of stress to the consequential impact on the individual. Figure 2.2 illustrates the Administrator Stress Cycle.

Administrator Stress Cycle - Stage 1 comprises the stressors or demands which represents the sources of stress. The sources of stress can be role-based, task-based, boundary spanning and conflict-mediating ones. Stage 2 includes the perceptions or

interpretation of the stressors, which would be different between individuals depending on their appraisal of the threat, harm, or challenges due to the stressors in Stage 1. Stage three comprises the responses to the stressors based on the interpretations in Stage 2. The responses can be reflected in their resulting actions on social, physical, intellectual, attitude or management practices. Stage 4 shows the consequential health reaction and behaviour due to the collective responses in Stage 3.



Fig. 2.2 Model of Administrator Stress Cycle (Gmelch and Chan, 1995)



The consequences of work stress could be physical, psychological or behavioral. In the case of job burnout, subjects would experience different levels of burnout in Emotional Exhaustion and Depersonalization, resulting in different levels of feelings of Personal Accomplishment. The levels of burnout depend very much on individuals, and their interpretation and responses in Stage 3 and 4 of this model.

### Summary

Strengths and weaknesses of the three major theories of studying work stress have been discussed. Among the models used to study stress, the transactional model of stress proposed by Lazarus (Lazarus, 1995; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) is the most widely accepted psychological model relating to the study of appraisal and coping of stress. Based on the concept of transactional model and the four-stage model proposed by McGrath (1976), Gmelch and Chan (1995) designed a model called the Administrator Stress Cycle, which specifically addressed the type of stress that administrators faced, their coping strategies and the job-related consequence.

## **Nature of Burnout**

### **Definition of Burnout**

Freudenberger (1980 p.13) defines burnout as when:

someone in a state of fatigue or frustration brought about by devotion to a cause, way of life, or relationship that failed to produce the expected reward.

To elaborate it further, Freudenberger stated (p.16):

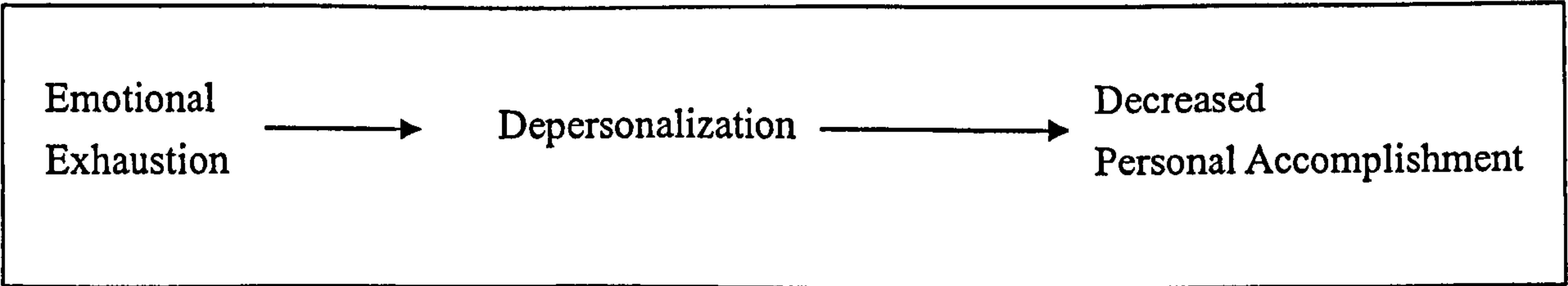
To burnout is to deplete one's life. To exhaust one's physical and mental resources. To wear oneself out by excessively striving to reach some unrealistic expectation imposed by oneself or the values of society.



Veninga and Spradley (1981) define burnout as “a debilitating psychological condition brought about by unrelieved work stress which results in depleted energy reserves” (p.6). The most widely accepted definition of burnout was constructed by Maslach (Linthicum 1994). Maslach’s burnout model has three defined elements: Emotional Exhaustion, Depersonalization, and decreased Personal Accomplishment. These three elements are viewed as coexisting together at the same time while being viewed simultaneously as a step-by-step process. For example, the first stage of burnout is usually exemplified by a high level of Emotional Exhaustion which involves a loss of energy and general fatigue from the day-to-day contact of human service work. It will in turn result in an increasing level of Depersonalization, which is characterized by a negative shift in responses to others, particularly clients, that leads to decreased Personal Accomplishment as a result of work pressures. Each of the three elements of burnout described by Maslach (1982) is presented in figure 2.3.

Figure 2.3

**The Maslach Three-Part Model of Professional Burnou**



Furthermore, Maslach and Jackson (1996) claim that burnout can be conceptualized as a continuous variable, ranging from low to high degrees of experienced feeling.

Emotional Exhaustion

According to Maslach and Jackson (1993), Emotional Exhaustion is the first serious behavioural indication of burnout. Emotional Exhaustion results when

emotional demands encounter inadequate emotional resources to meet job-related challenges. According to Maslach and Jackson (1993):

A key aspect of the burnout syndrome is increased feelings of Emotional Exhaustion. As emotional resources are depleted, workers feel they are no longer able to give of themselves at a psychological level.

Emotional Exhaustion is defined as feelings of overextension and exhaustion, caused by daily work pressure or emotional overload (Maslach and Jackson 1993; Whitaker 1996). Cherniss (1980) claims that :

Empathy and caring require a considerable expenditure of psychological energy, ..... coping and stress also deplete psychological energy. Thus, the more stress the helper experiences from any source, the less energy there is available for empathy and caring.

Using Emotional Exhaustion as a subscale in diagnosing professional burnout has proven to be very helpful. Cordes and Dougherty (1993) found that the Emotional Exhaustion subscale of the Maslach Burnout Inventory was most importantly linked to burnout regardless of occupational setting. If a worker is not receiving much emotional support from work, then Emotional Exhaustion seems to be critically high. Izraeli (1993) found that the lack of professional, positive, qualitative personal relationships was strongly associated with burnout. Emotional Exhaustion then is an important symptom that may indicate the level of burnout.

### Depersonalization

According to Maslach's (1982) clinical observations, Depersonalization is a coping device that people use to survive burnout. It results when Emotional Exhaustion is experienced at high levels. Depersonalization is apparent in negative, cynical attitudes and feelings about one's clients. This callous or even dehumanized



perception of others can result in viewing people as rightfully deserving their troubles. Depersonalization is marked by “an impersonal response towards recipients of one’s service” (Maslach and Jackson, 1993).

Friedman (1993) finds that Depersonalization and Emotional Exhaustion are the most meaningful constructs in assessing the degree of burnout people experience. Chronic Emotional Exhaustion seems to produce the characteristic of Depersonalization (Farber 1991). As Cherniss (1980) comments: “Psychological detachment helps one conserve one’s energy for the coping process”. Depersonalization is a key construct in assessing burnout.

### Decreased Personal Accomplishment

Personal Accomplishment describes feelings of competence and self-esteem about a person’s interaction with others at work (Maslach, 1982). Frankl (1963) believes that “the striving to find meaning in one’s life is the primary motivational force in man”. Koeske and Thomas (1995) found that job satisfaction is significantly reduced as people seek to find excessive meaning from work. They propose that a person’s need to experience Personal Accomplishment can result in over-involvement that leads to burnout.

“Reduced Personal Accomplishment refers to the tendency to evaluate oneself negatively, particularly with regard to one’s work with clients. Workers may feel unhappy about themselves and dissatisfied with their accomplishments on the job” (Maslach and Jackson, 1993). Personal Accomplishment is assessed by measuring feelings of competence and successful achievement in one’s work with people (Maslach and Jackson, 1993). “The typical staff member in a human service programme strives to achieve a sense of efficacy in his or her work. If this goal is

blocked, the person's self-esteem is threatened and the stress response is strong" (Cherniss, 1980). When one's need to find accomplishment from work is diminishing, a clear sign that something is wrong is clearly manifested. This is particularly true for people in education who hope to influence the world for the better. "Jobs that attract idealistic types can sour when the work seems to make little meaningful difference" (Hancock 1995). As explained by Maslach, decreased Personal Accomplishment along with Emotional Exhaustion and Depersonalization are the key variables in identifying and assessing burnout.

### Symptoms of Burnout

"Burnout is a problem of bad situation rather than bad people" (Maslach & Jackson, 1986, p.1). Although the conventional wisdom says that burnout is primarily a problem of the individual, results of extensive studies over the past twenty years have shown that burnout is not the problem of the people themselves but the social environment in which people work. Maslach & Leiter (1997, p.1) report:

It's not so much that something has gone wrong with us but rather that there have been fundamental changes in the workplace and the nature of our jobs. The workplace today is a cold, hostile, demanding environment, both economically and psychologically. People are emotionally, physically and spiritually exhausted. The daily demands of the job, the family and everything in between erode their energy and enthusiasm.....Dedication and commitment to the job are fading.

Freudenberger (1980) indicates that high achieving, idealistic, and goal-setting individuals are the most likely to burnout. He also stated that burnout is a chronic condition, something a person has been working toward over a period of weeks, months, even years. Echoing Freudenberger (1980)'s viewpoint, Farber (1984) found that those who work face to face with troubled or needy clients may be more susceptible to burnout.



Symptoms of burnout based on the work of several researchers (Askins, 1979; Collea, 1979; Freudenberger, 1975; Maslach & Pines, 1977; Mattingly, 1977; Spaniol & Caputo, 1979) can be summarized as follows:

1. Physical symptoms which include fatigue/exhaustion, tenseness of muscles and physical ailments, accidents proneness, physical distance, high blood pressure, use of drugs, heart disease and mental health.
2. Intellectual symptoms which include impairment of decision-making skills, deficiencies in processing of information, time distress, and obsessive thinking about work.
3. Social symptoms which include marriage to the job, social withdrawal, complaints/cynicism, decreased effectiveness, malicious humor, relationships at home, aversive associations and social isolation.
4. Psycho-emotional symptoms which include denial or blame, anger and depression, paranoia, dehumanization, rigid attitudes and stubborn resistance to change.
5. Spiritual symptoms which include production reduction, quality of work, absenteeism, worker's compensation claims, and vandalism and pilferage.

Cherniss (1980) compiles a list of twenty-eight symptoms most commonly related to burnout, which were quite similar to the above summary. Blase (1996) reminds educators that in the midst of environments ripe for producing stress, the need to support one another cannot be overlooked in addressing the indicators and symptoms of burnout.

### **Relationship between stress and burnout**

Reinhard and Crawford (1984, p.13) defined the relationship between stress and burnout as a stair step model:



Stress is the first step in the process leading to burnout, but it is not sufficient to produce such an effect by itself. A second step, strain, is a necessary condition of burnout. Both body and mind must be ravaged before burnout occurs.

It can be assumed, therefore, that burnout is the final stage in a progression of unsuccessful attempts to cope with a variety of stressful conditions. Burnout involves high stress and low rewards and it accumulates leading to a general erosion of the spirit. Key concepts involved in the burnout process include disappointment, disillusionment, unfulfillment, unaccomplishment or failure to meet personal and professional expectations. Job burnout occurs when a person is mentally and physically depleted below the satisfactory level of performance, which may result in relinquishing the job or the profession (Pood & Jellicorse, 1984).

Several researchers have found that high stress is a predictor of burnout (Blasé, 1982; Farber, 1984; Friesen & Sarros, 1989; Gmelch & Chan, 1995; Shumate, 1999). When individuals become stressed due to factors within the work environment, certain psychological and emotional consequences emerge. For example, Pfifferling and Geckel (1982) state that the “burnout syndrome is a synergistic issue combining high expectations, a vulnerable personality, and an environment that is not geared for personal vulnerability”. Predictors of professional burnout include role conflict and ambiguity (Schwab and Iwanicki, 1982), increased workload (Blasé, 1982), insufficient status and recognition within the organization (Frieson and Sarros, 1989), lack of job challenge (Cherniss, 1980); and individual’s perception of a significant discrepancy between effort (input) and reward (output) influenced by individual, organizational, and social factors (Farber, 1984).

## School and Burnout

Principals' roles have adjusted to match changes in schools and society. These changes require more expertise and services. New demands involving time, resources, paper work, required attendance at meetings, too many initiatives, bureaucracy, curricular change, management demands, and community participation have besieged administrators (Draper & McMichael 1996; William & Portin 1997). The energy required to resolve conflicts, meet with different groups, provide in-service staff training, and distribute information about required programmes, along with necessary adherence to policies is an overwhelming job expectation. The need to deal with job burnout among principals and to help them manage stress is a pressing issue that needs study. Role conflict, role ambiguity (Savery and Detiuk, 1986; Gmelch & Torelli, 1994) and role overload (Feitler & Tokar, 1986; Draper & McMichael, 1996; Whitaker, 1996; Barker, 1997) appear to be the sources of stresses and problems for principals. Bredeson (1991) suggests that the pressure to restructure schools during the 1990s has enhanced role overload and role ambiguity and increased the complexity of school management tasks. What is often missing in the discussions about school reform is the cumulative effect these additional responsibilities have on principals. Findings of Williams and Portin's (1997) showed that principals feel less confident of their abilities, less enthusiastic about their jobs, and experience increasing levels of frustration.

Given the increasingly complex nature of the principal's job due to changing conditions in the context of educational reform, governments must carefully examine the principal's role to retain quality principals. Evidence exists that many principals in the USA opted for early retirement. Chicago, for example, was faced with early retirements of one in six principals when reform measures were implemented in 1988



(Bradley, 1992). The US National Association of Elementary School Principals and US National Association of Secondary School Principals (1998) indicated that there was a shortage of school principals. According to Education and Manpower Bureau of Hong Kong (2004), 484 principals (about 38.3% of the total number in the primary, secondary and special schools sectors) have retired or left the profession during the period from 2000/01 to 2003/04". Although there was no sign of serious shortage of principals as at 2003/2004, Chan (2004, p.7) comments:

this gives rise to concerns about the capacity of the education sector to provide sufficient quantity of professionals, of the right calibre, to fill school leadership vacancies at a time when it is particularly important to have good leaders to lead the education reforms.

### **Research on Stress and the Principal**

Stress is a serious concern for principals and is evident in their workplace (Bailey, Fillos, & Kelly, 1987; Hiebert & Mendaglio, 1988; Kadlecek, 1982; MacPherson, 1985; Mills, 1981; Wiggins, 1983; Williamson & Campbell, 1987). Among the instruments for assessing education administrators' stress, the Administrative Stress Index designed by Gmelch and Swent has been most widely used since its invention in 1977. The following sections focus on reviewing the past studies about the relationships between the secondary school principals and the four types of stress derived from the Administrative Stress Index.

#### **First study using the Administrative Stress Index**

Gmelch and Swent (1977) surveyed Oregon public school administrators (n=1156 which was 50% of all public schools administrators including vice principals, principals, superintendents, and central office administrators working in Oregon) with the purpose of finding out what they perceived to be stressors and to categorize these to more clearly "delineate, describe and organize the numerous incidences" so as to

better discuss stress. The administrators were asked to complete a 35-item questionnaire entitled the Administrative Stress Index which was developed by Gmelch & Swent. Results of the study show that the median percentage of total life stress attributed to work was 75% and administrative constraints which deal with stressors related to meetings, workload, and compliance with federal, state, and organizational policies were perceived as causing principals the most concern.

This study ranked the top ten stressors and the categories into which they were placed. These 35 individual stressors were grouped by the authors into five categories: (1) Administrative Constraints (stressors related to inadequate time, meetings, and workload), (2) Administrative Responsibilities (typical administrative tasks such as supervision, evaluation, and negotiation), (3) Interpersonal Relations (resolving conflicts among and between students, staff members, and supervisors), (4) Intrapersonal Conflict (conflicts between performance and internal beliefs and expectations), and (5) Role Expectations (differences in one's own expectations and the expectations of groups served).

Table 2.1 shows that none of the ten stressors came from role expectations. Five of the top ten stressors fell into the category of Administrative Constraints, with two in each of the Administrative Responsibilities and Interpersonal Conflict categories. One of the top ten stressors was in the category of Interpersonal Relations.



Table 2.1  
Stressors by Category and Rank

Ranking Grouping	
<u>Administrative Constraints</u>	
1.	Complying with state, federal, and organizational rules.
2.	Feeling that meetings take up too much.
3.	Trying to complete reports and other paper work on time.
8.	Feeling that I have too heavy a workload.
10.	Being interrupted frequently by telephone calls.
<u>Administrative Responsibility</u>	
4.	Trying to gain public approval and/or financial support
6.	Evaluating staff members' performance.
<u>Interpersonal Relations</u>	
5.	Trying to resolve parent/school conflicts.
<u>Intrapersonal Relations</u>	
7.	Having to make decision that affect the lives of people.
9.	Imposing excessively high expectations on myself.

Source: Gmelch and Swent 's Oregon (1977) study

First study using four stress factor classification

In a follow-up study, Koch et al (1982) used the data from Gmelch and Swent (1977) to set clearly delineated multi-dimensionality of stress and to refine an assessment tool (Administrative Index Scale) accordingly. After analyzing the data, ten items from the 35-item survey were dropped. The remaining items were analyzed and determined to cluster around four major factors: (a) Role-Based Stress; (b) Task-Based Stress; (c) Boundary-Spanning Stress; and (d) Conflict-Mediating Stress. Findings from this study indicated that Task-Based Stress declined with age. Role-Based Stress and Conflict-Mediating Stress did decline after age 50 and boundary spanning stress actually increased with age. The descriptions of these four types of stress can be found in Chapter 1, pp 15-16.

Ever since Koch's study (1982), several researchers have used the four stress factors or four dimension of administrative stress with a total of 25 items to report their findings (Olsen, 1984; Thompson, 1985; Heinze, 1987; Torelli, 1990; Torelli, 1993; Gmelch and Torelli, 1994; Gmelch and Chan, 1995; Garwood, 1995; McGrath 1996; Kilgore, 1999; Ryan 2001).

Using the four dimensions of Role-Based Stress, Task-Based Stress, Conflict-Mediating Stress, and Boundary-Spanning Stress, Olsen (1984) found Role-Based Stress to be the most significant stressor among 346 California school principals. The secondary school principals experienced a higher level of burnout in Depersonalization compared with elementary school principals.

In Iowa and Illinois, a study conducted by Heinze (1987) concluded that 300 high school principals were occasionally bothered by task-based, role-based, or Boundary-Spanning Stresses. High school principals expressed concern for pay differences. The independent variables of age, gender, and experience did not predict stress.

Gmelch and Torelli (1994) sampled 250 Washington State administrators to measure the relationship of role conflict and ambiguity with the administrative stress cycle. They found that: (a) role conflict and ambiguity contribute specifically to Conflict-Mediating Stress; (b) burnout in administration is associated closely with the role structure of administrative positions; and (c) administrators must manage role conflict and ambiguity in order to filter some of the stress and Emotional Exhaustion from their occupation. They also concluded that administrators have become "role prisoners" of an ever expanding set of roles and responsibilities in their position.



Garwood (1995) investigated the self-reported stress levels of school-based administrators in Florida, variables related to reported stress levels, and strategies to manage stress in order to prevent burnout. The results indicated that the stress levels of administrators were moderate with stress level mean above 2.89 out of a mean stress level range of 1 (lowest) to 5 (highest). A significant difference in the stress levels of principals and assistant principals was found with principals reporting a significantly higher level of role-based and Boundary-Spanning Stress than assistant principals. No significant differences in the stress levels of administrators for high, middle or elementary schools were found.

Gmelch and Chan (1995) studied the effect of administrative stressors on 740 Washington administrators' coping responses at the elementary, junior and senior high and district levels and the consequences of those responses. The stress level was moderate. Of the four stress factors of the ASI, boundary-spanning was ranked the top while conflict-mediating came second, Task-Based Stress was third and Role-Based Stress came last.

McGrath (1996) used the Administrative Stress Index to study job stress as perceived by principals of four-year high schools in New Jersey. The results indicated that Task-Based Stress provided the highest level of stress, especially among females and non-white subjects. Role-Based Stress provided the least amount of stress to all subjects. School principals experienced significantly higher levels of Role-Based Stress than their urban counterparts. School enrolment, district factor grouping, and principal's age did not significantly affect the subjects' perceptions of stress. The job situation that caused the highest stress among New Jersey principals was complying with state, federal, and organizational rules and policies. Conversely, New Jersey principals were least bothered by the expectations

of their superiors regarding their job performance.

Kilgore (1999) investigated the relationships between the perceived levels of stress related to task-based, role-based, conflict-mediating, and boundary spanning and six demographic variables of gender, years of experience, education level, grade range of school, type of school setting and size of school population among school administrators. The subjects were 295 building level Mississippi public principals, that is, principals who served from kindergarten to grade 12 (K-12). The findings suggest that there was a significant relationship between the four types of stress and the group of independent variables. In addition, there was a significant relationship between the criterion variables and the independent variables of gender and years in current position. It was concluded that the highest stress means were found on the Role-Based Stress factor in all four grade level groups. Principals at all grade levels perceived the student standardized tests performance as a source of very high stress. Of the four sub-scales of the ASI, Role-Based Stress was at the top while conflict-mediating came second, Task-Based Stress was third and the least stressful was the Boundary-Spanning Stress.

Snyder's (1999) study was to determine the perceptions of job-related stress factors among the 173 middle school Grade 6, 7, 8 principals in Virginia. The Administrative Stress Index was used to assess factors that cause principals stress on the job and to measure their stress levels. Results indicated that (a) public middle school principals in Virginia were experiencing low to moderate levels of stress in their work and they were mainly stressed by administrative constraints such as increased workloads, excessive meetings, time constraints, and unrealistic policy demands; and (b) analysis of multiple linear regression revealed that the culminating effect of the principals' demographic characteristics contributed no more than 27.7%



to the prediction of the principals' level of job-related stress.

Ryan (2001) surveyed 171 Commonwealth of Massachusetts secondary school principals to compare the reported stress levels of the principals and their schools' scores on the 1999 MCAS. Using the Administrative Stress Index, the study reported that no significant differences were found between task-based, role-based, conflict-mediating, Boundary-Spanning Stress and student performance on the MCAS Assessments; size of school; age, experience, and gender of principals. Of the four sub-scales of the ASI, Task-Based Stress was at the top while Boundary-Spanning Stress came second, Role-Based Stress was third and the least stressful stressor was the Conflict-Mediating Stress.

### Summary

Despite the same instrument being used in different states of the same country—United States—the findings were different. Task-Based Stress was ranked the top in the research conducted by McGrath (1996); Ryan (2001). Role-Based Stress also ranked the top in the studies of Olsen (1984), Garwood (1995) and Kilgore (1999); while Boundary-Spanning Stress ranked the top in the research conducted by Gmelch and Swent (1997) and Gmelch and Chan (1995). To summarize, no conclusive finding could be drawn as to determine which stress factor was the most serious stressor experienced by the secondary school principals.

## **Research on Burnout and the Principals**

While there is still room for further understanding the reasons for the principals' stress, Day & Bakioglu (1996) have suggested that the principals' propensity to stress may be related to their professional and personal life cycles. Their four-stage Model of Leading Change explains that the headteacher's life cycles have gone through from initiation (Stage 1- Years 1-4) to development ( Stage 2 Years 4-8) and then from autonomy (Stage 3- Years 8-12) to disenchantment (Stage 4- Years 12+). This 4-stage Model of Leading Change implies a disposition moving from initiation to disillusionment and disaffection in the fourth stage, which may be compared with the notion of burnout. Therefore, burnout and disillusionment may be much related to ages and stages as it is to the particular events of headship.

Among the instruments used to assess education administrators' burnout, the Maslach Burnout Inventory (MBI) is most frequently adopted because of its widespread use and documented levels of validity and reliability. Maslach Burnout Inventory (MBI), which was formally published in 1981 (Schaufeli, Maslach, and Marek 1993), was refined over several years. It was revised specially for educators in 1996. The MBI has been used in numerous dissertations. Studies using Maslach Burnout Inventory indicate that the level of burnout of the school principals can be classified into three categories: not serious at all; low to moderate level; and high level. These levels are reflected in the scores of the three subscales on the Emotional Exhaustion, Depersonalization and Personal Accomplishment of the Maslach Burnout Inventory.



Those studies using the Maslach Burnout Inventory reported that the high school principals did not suffer from the burnout phenomenon to any serious extent include Wong (1983)\*, Quarles (1996), Carruth (1997), and Muthalib (2003)\*\*. Those studies reporting that the high school principals experienced low to moderate levels of burnout include Sarros (1988), Ogden (1992), Stouffer (1992), Smith-Stevenson et al (1994), Torelli (1993), Gmelch & Chan(1995)\*\*, Mutchler (1998), and Flynn (2000)\*\*. Those studies reporting that high school principals experienced a high level of burnout include Daly (1992), and Shumate (1999)\*\*.

The following twelve research studies using Maslach Burnout Inventory mainly focused on the relationship between secondary school principals and burnout. Ogden (1992), using ASI and MBI, surveyed the burnout level of elementary, middle school/junior high, secondary principals, and special education administrators. She found that special education administrators in Georgia perceived higher levels of administrative stress than principals. Secondary school principals experienced moderate level of Emotional Exhaustion, Depersonalization and Personal Accomplishment.

Stouffer (1992) examined the perceived burnout of secondary school administrators in Iowa. Using the MBI as well as random interviews, Stouffer found that a full third of the sample placed themselves in the high range of burnout related to Emotional Exhaustion. The interview results showed that the administrators regarded work overload, special education, student discipline, personnel functions, parents, role conflict and budget as the major stressors.

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\*- Reported under Hong Kong studies, p. 70

\*\* Reported under Studies on Stress, Coping and Burnout, p. 67

Daly (1992) conducted a study comparing the perceived burnout levels of elementary, middle and high school principals in California. The data indicated that no significant difference existed in the perceived burnout levels of principals by size or by type of school. He concluded that many principals experienced high levels of burnout and that the level of perceived burnout appeared to be increasing. Principals rated most highly on negative self-concept which included symptoms associated with self-doubt, blaming oneself, feeling guilty, having a sense of failure, feeling impatient with oneself, and feeling discouraged.

Harutunian (1992) investigated the degree to which burnout was a problem for high school principals in Connecticut within the categories of the demographic variables of age, years of experience, total years in education, school enrolment, support group, planned degree programme and enrolment in college courses. The result indicated that significant differences were found to exist within three demographic variables: age, total years in education, and enrolment in college courses. One difference was that principals who were forty-four years old or younger had higher feelings of Personal Accomplishment than the principals who were fifty years old or older. Also, principals who were in education from twenty-one to twenty-four years had much lower feelings of Depersonalization than principals who had been in education for thirty-one or more years. It was found that principals who were in education for twenty-four years or less had higher feelings of Personal Accomplishment than principals who were in education for thirty-one or more years. Finally, it was found that principals who had taken a college course in the last two to five years had higher levels of Personal Accomplishment than principals who had not taken a college course in six to ten years.



A study by Gmelch, Gates, Parkey, & Torelli (1994) identified the most salient organization, personnel, and professional factors contributing to administrator burnout and determined the relationship among these variables to each of the three dimensions of burnout. Data was obtained from 1,000 school principals using Maslach Burnout Inventory. They concluded that Emotional Exhaustion was most responsive to variables of job intensity (time, stress and conflict) and positively associated with job satisfaction and effective coping.

Using the Maslach Burnout Inventory (MBI) and the Leadership/Personality Compatibility Inventory (L/PCI), Smith-Stevenson et al (1994) surveyed 87 Mississippi high school principals' burnout level, the relationship between burnout and demographic variables and personality type. The study reported that the principals had experienced moderate to high levels of Emotional Exhaustion and Depersonalization, and a high degree of Personal Accomplishment in their work. No significance difference was found between MBI subscales and age, gender, race, years of experience, and levels of education. Principals with sympathetic variables had significantly higher levels of Emotional Exhaustion than did those with bold or technical personalities.

Whitaker (1995) studied the level of burnout of a random sample of K-12 public school principals in Colorado using Maslach Burnout Inventory. She found that 70 per cent of the principals experienced high Personal Accomplishment while 19.6 per cent scored higher on the Emotional Exhaustion subscale; principals in the 35-44 age group had higher scores on Emotional Exhaustion and Depersonalization than the other age groups; 26 per cent of the principals survey indicated that they did not plan to remain in the principalship until retirement; and principals in larger schools (500-1000+ students) were more stressful compared to principals in smaller schools.

Quarles (1996) conducted a study of burnout in heads of South Carolina independent secondary schools using the MBI. He found the mean burnout scores of the sample were in the low range on all three subscales of the MBI. No significant relationships were found between burnout and any of the school characteristics examined in the study. Female members of the sample reported significantly higher burnout scores on the Emotional Exhaustion subscale than the male participants. Quarles found that the factors that were most strongly related to burnout were organizational in nature. These included role conflict, role ambiguity, and role overload.

Carruth (1997) used the MBI and the Power Base Inventory to examine the burnout level of school principals in Los Angeles County, California. He found that 26 per cent of the sample reported high levels of Emotional Exhaustion and only 10 per cent indicated high levels of decreased Personal Accomplishment. Depersonalization was not was a significant problem. Carruth further found that principals who relied on personal power tended to experience significantly less Emotional Exhaustion. Male principals experienced significantly less Emotional Exhaustion than female principals, while principals with less administrative experience scored higher in Emotional Exhaustion. In addition, there was no significant difference between low and high socioeconomic schools and burnout measures. Carruth concluded that burnout might be able to be personally controlled based upon how a leader chose to exercise power.

Among the 740 public school principals and superintendents studied, 177 were high school principals in Gmelch and Gates (1998)'s study. The objectives were to identify the most salient personal, professional and organizational characteristics



contributing to administrator burnout. Maslach Burnout Inventory was used and regression analysis was employed to sift out the variables. Gmelch and Gates found that only the burnout dimension of Emotional Exhaustion had a significant variance, most of which was specifically related to task-related stress. Job ambiguity provided the most significant influence on both Depersonalization and decreased Personal Accomplishment dimensions of burnout.

Mutchler (1998) studied the relationships of personality type to perceived levels of job burnout among 560 Iowa high school principals using Maslach burnout Inventory (MBI) and Meyers-Briggs Type Indicator. The findings show that the secondary principals reported moderate to high levels of Emotional Exhaustion, generally low levels of Depersonalization, and high levels of Personal Accomplishment. Those principals aged between 25 and 34 years old experienced higher levels of Depersonalization. There were significant differences between the personality types of secondary principals in terms of sex, age, degree, staff size, type of community, educational and system experience.

In Flynn (2000)'s study on stress and burnout among 132 high school principals in South Carolina, it was found that the South Carolina principal's administrative constraints were related to the requirements of meetings, paperwork, and federal, state, and local requirements contributed to the feelings of stress. The male principals indicated a higher level of stress than their female counterparts. The older principals perceived less stress while principals with less administrative experience were more likely to report high levels of stress. Principals reported a low to moderate level of burnout. They exhibited moderate levels of burnout in the Emotional Exhaustion and Depersonalization subscales and a low level of burnout in the Personal Accomplishment subscale. Principals with higher enrolments exhibited higher

Emotional Exhaustion and Depersonalization scores. There was a strong correlation between the Emotional Exhaustion and the administrative constraints factor. Correlation analysis indicated a positive correlation for five categories of ASI and Emotional Exhaustion subscale and Depersonalization subscale. Negative correlation was established between all five categories of ASI and Personal Accomplishment.

### Summary

The 12 studies reviewed show that different variables such as organizational variables (Gmelch et al, 1994; Quarles 1996; Carruth 1997; Gmelch & Gates 1998) demographic variables (Harutunian, 1992; Whitaker, 1995) and personality (Smith-Stevenson et al, 1994; Mutchler, 1998) and administrative stress (Flynn, 2000) could lead to various levels of burnout in Emotion Exhaustion, Depersonalization and Personal Accomplishment. No conclusive finding could be made as to which type of independent variable would dominantly lead to a higher level of burnout.

## **Research on Coping and the Principals**

### **Definitions of coping**

There are different definitions of coping. Coping has been defined as “the process through which the individual manages the demands of the person-environment relationship that are appraised as stressful and the emotions they generate” (Lazarus & Folkman, 1984, p.19). Other researchers, like Pearlin and Shooler (1978) define coping as “the things people do to avoid being harmed by life-strain” (p.2). Haan (1982) believed that coping is “an encounter where people reach out and within themselves for resources to come to terms with “difficulties (p.256). Schuler (1984) regarded coping “is a process of analysis and evaluation to decide how to protect oneself against the diverse effects of any stressor and is



associated negative outcome yet to take advantage of its positive outcomes” (p.46)

Selye (1976) concurs with Doring’s (1993, p.7) 's statement that “it is not the amount of stress you have, but how you handle it ”. As it is impossible to avoid stress and burnout in the principalship, Maslach et al (1996, p.31) have suggested:

Future work may want to focus on those who have successfully avoided the experience of job burnout by examining the **coping mechanisms** they have developed to stay energized, positively engaged with their students, and fulfilled through their work.

The following studies review various coping strategies used by the secondary school principals from 1977 to 2003. Different coping preference scales were designed (Gmelch and Swent, 1977; Roesch, 1979; Allison, 1997). Coping resources were found (Matheney et al, 1988) and ways of reducing of stress were reported (Hiebert; 1983).

#### Studies using Gmelch and Swent (1977)’s Coping Preference Scale

Gmelch and Swent (1977) surveyed 1200 school administrators and found that coping technique use could be categorized into three general categories: (a) physiological activity (physical work or exercise); (b) cognitive control (mental defense); and (c) acquisition of interpersonal and management skills. The results of the survey indicated that 50% of the administrators used physiological techniques in coping with their tensions, and 40% of the group showed that they used some type of cognitive control such as mental defense against tension. Gmelch and Swent felt that this mental defence fostered a positive attitude toward work, and those situations related to work appear to be one of the most effective ways to deal with pressures in the workplace. Acquisition of interpersonal management skills was found to be a less useful technique for coping with stress. They explained that there could be either

one or two reasons for the low use of management skills. First, administrators do not recognize these skills as effective methods for dealing with stressful events, or second, appropriate skills have not been fully developed to the point that they can of assistance in troublesome situations. Furthermore, the researchers believed that the acquisition of interpersonal and management skills could help administrators effectively reduce stress.

In a study by Gmelch (1983), 363 school administrators responded to the question “what methods they found useful in dealing with stress”. Similar to the classifications stated in Gmelch and Swent (1977), the subjects’ responses fell into three categories: physiological activities; cognitive and psychological activities; and organizational management activities. The results showed that 60.6% of respondents sought stress reduction by physiological activities; 25.1% by cognitive activities; and 14.4% by interpersonal/organizational management skills. These findings concur with those conducted by Gmelch and Swent (1977). Swent concluded that individuals who coped would set goals for which they were accountable. Stress for these individuals was a motivation.

#### Studies using Roesch (1979)’s Coping Preference Scale

In their studies, Roesch (1979), Czerniakowski (1995), Shumate (1999), Lucas (2003); Muthalib ( 2003) used Roesch (1979) Coping Preference Scale. Roesch (1979, p.49), who developed the Coping Preference Scale, reported a total of 55 coping activities was included in this scale and divided into 23 areas, grouped according to seven factors. These seven factors were (1) recreational/inactive activities; (2) consulting techniques; (3) physical activities; (4) extra work activities; (5) proactive techniques; (6) time out techniques; and (7) change of normal routine.



According to Roesch (1979), high anxiety individuals preferred recreational or relaxing activities. Individuals with lesser degrees of anxiety indicated that they preferred time out or other low stress activities. Individuals with little experience sought advice and pursued different work activities. Women principals preferred sport and recreational activities along with other work interests, eating, and resting. In contrast, men preferred physical exercise. Younger administrators preferred to deal directly with stress by resting or eating to cope with stress. Principals from larger schools elected to spend their time in leisure activities as ways to cope with stressful work-related issues.

Czerniakowski (1995) indicated that proactive techniques were principals' preferred method of handling stress on the job, particularly drinking and cursing, followed by changing their normal routine. These principals also preferred proactive techniques to cope with burnout as well as recreational activities and change in their routine.

Using the same instrument, Shumate (1999) reported that the secondary school principals in Washington State preferred working on the weekends and taking work home to reduce their stress. Lucas (2003) reported similar finding as described by Shumate (1999). She also indicated that the majority (65%) of female high school principals in California preferred to cope with stress by spending more time on the work either at home or on the weekends. Quite contrary to the previous two findings, Muthalib (2003) found that the Malaysian secondary school principals' most preferred coping strategies to deal with stress were consulting techniques (e.g. discussing concerns with colleagues, delegating tasks, thinking about the future) and recreational activities (listening to music).

### Ways of reducing stress

Hiebert (1983) indicated that two procedures could lead to stress reduction: reducing the demand and attempting to change how the person reacts to the demand. With these categories, individuals used what was believed to be required did not engage in a great deal of commitment. The finding suggested that a person who used a positive attitude, time management, problem solving, and strategies that required regular and continuous use as well as high degree of commitment, such as exercise, nutrition, and medication had lower level of stress. Iuzzolino (1986) found that using a sense of humour was the most preferred form of responding to stress in the workplace for principals.

Atwood (1996) found that high school principals preferred reading, jogging/running, walking, time with family, and workout/exercise as coping strategies for the reduction of stress. Liming (1998)'s study found that secondary school principals having low perceived levels of stress utilized a combination of pre-stress and post-stress coping strategies. Pre-stress coping strategies centred around a positive attitude and proper organization. Post-stress coping strategies were utilized to treat the symptoms of stress and to bring the principals back to "normal".

### Relationship between coping effectiveness and stress

Hiebert & Basserman (1986), Hiebert & Mendaglio (1988) and Gmelch and Chan (1995) all found that a significant negative correlation existed between administrators' perceived stress and their perceived coping effectiveness.

### Coping Resources

Matheney et al (1988) operationally defined coping according to 12 dimensions of resources. "The perceived resources of these dimensions are believed to lessen the likelihood that demands will turn into stressors, and thus, a rich supply of them



creates a kind of general resistance to stress” (Matheny et al, 1988, p.4). According to Matheny et al (1988), these resources include self-disclosure; self-directedness; confidence; acceptance; social support; financial freedom; physical health; physical fitness; stress monitoring; tension control; structuring; and problem solving (pp.4-6).

Matheny et al (1988) commented that some individuals magnified the seriousness of demands that arose from role requirements, self-imposed requirements, and stressful life expectations. Many individuals underestimated their resources for coping with these stressful situations. In some situations people fell prey to both magnifying demands and underestimating resources. If individuals would conduct a proper assessment of perceived coping resources, it could improve the prediction of stress. Additionally, it would enable them to identify habits and conditions which interfere with a healthy lifestyle. Moreover, Matheny et al (1988) added that the most promising coping treatments included cognitive restructuring, problem solving, relaxation, social support, social skills, and stress monitoring. Their finding corroborates the previous study conducted by Billings and Moos (1984) which concluded that those people who were most likely to use cognitive strategies and less likely to use avoidance strategies showed better adaptational outcomes to stress.

#### Allison (1997) Coping Preference Scale

Allison (1997) designed a comprehensive coping preference scale for school principals. His survey research on stress and coping consisted of 643 public school principals in the province of British Columbia. Using a self-designed 26-item instrument called Coping Preference Scale, Allison identified the top five coping strategies used by the principals as follows:

1. Practice good human relation skills with staff, students and parents;
2. Maintain a sense of humor;
3. Approach problems optimistically and objectively;
4. Maintain regular sleep habits; and
5. Set realistic goals

Based on stepwise multiple regression analysis results, Allison identified eight coping strategies that were significantly associated with the principals' total Administrative Stress Index score ( $p < .05$ ). However, the issue of multi-collinearity amongst the variables was not addressed in the cited methodology. Specifically, principals who set realistic goals, approached problems optimistically and objectively, engaged in activities that supported spiritual growth, took mini-vacations, and were actively involved in their communities were found to have significantly lower stress scores on the Administrative Stress Index. In addition, principals with low stress scores chose two coping strategies related to their own health and well being (i.e. engage in regular physical exercise or less active non-work or play activities). Comparing those principals with high stress scores, they generally chose coping strategies related to their job such as working harder, including nights and weekends; talking to district administrators and other school principals, and withdrawing from situations. In general, Allison reported that principals with low stress levels had a statistically significant greater repertoire of coping techniques with a mean number of 12.08 frequently chosen coping strategies. In contrast, principals with high stress scores had a mean of 9.64 frequently chosen coping strategies. In general, Allison concluded that principals who had broad coping repertoires tended to be in better health and to experience lower stress levels, in comparison to principals with limited coping repertoires who experienced higher stress levels.



Summary

The literature findings show that there is no ready made formula or single way that will suit everyone for coping with stress (Selye, 1976; Swent, 1983). However, it appears that principals who deal with stress more effectively than others have used a variety of coping strategies (Gmelch & Swent 1977, Roesch, 1979; Hiebert, 1983; Matheney et al, 1988; Allison, 1997; Liming, 1998). Matheney et al (1988) & Allison (1997) proposed that effective coping strategies will contribute to better health and improved work performance.

## **Demographic Variables & Stress, Coping Strategies & Burnout**

The demographic variables include personal variables and school variables. Personal variables mean gender, age, educational attainment and administrative experience while school variables mean school size (enrolment) and number of assistant principals. The following studies review the relationships between the demographic variables – gender, age, educational attainment, administrative experience as a high school principal, number of students, number of assistant principals – and stress, coping strategies and burnout among high school principals.

### **Gender**

Studies on the relationship between gender and stress show that male school administrators perceived higher levels of stress than their female school administrators in Role-Based Stress, Task-Based Stress, Conflict-Mediating Stress and boundary stress in Tung's (1979) study. Sanchez (1997) found that female school administrators experienced lower levels of job-related stress than did male administrators. Kilgore (1999) reported that the male principals for Grade 9 to 12 had a higher mean of Role-Based Stress than their female counterparts. Ryan (2001) found that male principals experienced significant higher level of Role-Based Stress than their female counterparts. However, Ogden (1992), Kyte (1994), Flynn (2000), McGrath (1996), Smith-Stevenson et al (1994) and Ryan (2001) did not find any significant difference between male and female principals.

Reports related to the relationship between gender and coping strategies reveal that female principals used significantly more CPS3-Intellectual, Social and Spiritual Support to cope with stress than their male counterparts in Allison's (1997) study.



Muthalib (2003) found that there was no significant difference between gender and coping preferred strategies.

The research findings on the relationship between gender and burnout indicate that there was a significant difference between gender and the perceived burnout level in Ogden's (1992) study. Carruth (1997) found that the female principals' burnout level in Emotional Exhaustion was higher than that of their male counterparts. Smith-Stevenson et al (1994) and Flynn (2000) reported that no significant difference between gender and perceived burnout level was found.

## Age

Studies on the relationship between age and stress show that that older principals between 50 and 59 experienced more stress concerning relations particularly with those young superiors in Williamson & Campbell's (1987) study. Quite a number of studies reported that as the age of principals increased, their level of stress decreased (Gmelch & Swent, 1977; Koch et al, 1982; Wong, 1983; Leary, 1987; Blanks, 1990; Harutunian, 1992; Ogden, 1992; Dick, 1993; Kyte, 1994; Snyder, 1999; and Flynn, 2000). Several studies indicate that the administrator's age did not make a significant difference in the amount of stress perceived by principals (Bucuvalas, 1987; Heinze, 1987; Spradley, 1984; Smith-Stevenson et al, 1994; Ryan 2001).

Reports related to the relationship between age and coping strategies indicate that principals' age correlated negatively with CPS1- Good Physical Health Programme at  $p < .05$  as reported in Allison's (1997) study. Muthalib (2003) found that there was no significant difference between age and coping preferred strategies.

The research findings on the relationship between age and burnout reveal those principals aged between 25 and 34 years old experienced higher levels of Depersonalization as reported in Mutchler's (1998) study. Ogden (1992), Harutunian (1992) and Shumate (1999) reported that negative significant relationship between principals' age and Emotional Exhaustion, and Depersonalization were found. Zwick (1992) and Flynn (2000) did not find any significant relationship between age and perceived burnout level.

### **Educational Attainment**

Reports related to the relationship between educational attainment and stress show that the higher the educational attainment level of the principal, the lower the perceived level of stress as seen in Presley & Ewing (1988) and Snyder's (1999) study. Ogden (1992), Kyte (1994), Smith-Stevenson et al (1994) and Flynn (2000) found no significant difference between stress and educational attainment.

Studies on the relationship between educational attainment and burnout show that no relationship between the perceived level of burnout and educational attainment level was found as reported in Green (1992), Smith-Stevenson et al (1994) and Flynn's (2000) studies. Ogden (1992) found significant difference between the perceived level of burnout and the educational attainment. Kirk (1992) found that principals who had taken a college course in the last 2 to 5 years had higher levels of Personal Accomplishment than those who had not taken a college course in 6 to 10 years.

### **Administrative experience as a high school principal**

The research findings on the relationship between administrative experience as a high school principal and stress reveal that experienced principals had a lower level



of stress as supported in Cusack (1982); Koch et al (1982); Smith-Stevenson et al (1994); Sanchez (1997); Allison (1997), Snyder (1999); and Flynn's (2000) studies. However, Ogden (1992), Green (1992), Kyte (1994) and Ryan (2001) found no relationship between stress and years of administrative experience.

Studies on the relationship between administrative experience as a high school principal and coping strategies reveal that there was significant difference between coping preferred strategies and the number of years in administrative experience as a principal in Shumate's (1999) study while Muthalib (2003) found that no significant difference between the administrative experience as a principal and coping preferred strategies was found.

In Carruth (1997) and Muthalib's (2003) studies, they reported that the length of service in principalship had significant negative correlations with the levels of burnout in Emotional Exhaustion and Depersonalization. Zwick (1992) and Flynn (2000) did not find any significant difference between the administrative experience as a principal and perceived burnout level.

### **Number of Students (Enrolment)**

Studies on the relationship between the number of students and stress show that both district and school size were significantly associated with job stress experienced by school administrators in Zwick's (1992) report. Larger student enrolment has also been correlated with higher rates of stress for both elementary and secondary principals (Dick, 1993). However, Snyder (1999) reported that the number of students supervised increased, the level of stress decreased. No relationship between stress and school size was found in the studies of Ogden (1992); Kyte (1994); Flynn (2000); and Ryan (2001).

In Muthalib's (2003) study, he found that there was no significant difference between the school enrolment and the coping preferred strategies.

Reports related to number of students and burnout show that no significant difference between the school enrolment and perceived burnout levels was found as supported by Daly (1992), Zwick (1992) and Ogden (1992)'s studies. However, Flynn (2000) reported that principals with higher enrolments exhibited higher Emotional Exhaustion and Depersonalization scores.

### **Number of Assistant Principals**

Studies reporting no significant difference between the number of assistant principals and the perceived level of stress included Gazda (1991); Ogden, (1992); and Flynn (2000). However, Kyte (1994) reported that a significant relationship was found between the number of assistant principals and the perceived level of stress.

Flynn (2000) did not find any relationship between the number of assistant principals and the perceived level of burnout. However, Tanner et al (1991)) found that assistant principals could help to relieve principals' workload.

This review shows that the past studies mainly focused on the relationships between six demographic variables such as gender, age, educational attainment, administrative experience as a high school principal, school enrolment and the number of assistant principals and stress, coping strategies and burnout but variables such as school type, number of classes, and years of school history were seldom investigated in similar studies.



## **Research on Stress, Coping and Burnout among the Secondary School Principals**

Four studies related to stress, coping and burnout conducted in the United States and Malaysia are reviewed with a time spanning from 1992 to 2003. Types of stress factors leading to burnout, the use of androgynous behaviour and preferred coping strategies to reduce burnout would be reported.

Torelli and Gmelch (1992) reported that superintendents perceived less stress than principals in Role-Based Stress, Task-Based Stress, and Conflict-Mediating Stress. Boundary-Spanning Stress was the only stress factor in which the superintendent reported a higher level of perceived stress than principals. The mean score for Emotional Exhaustion for the building principals (Kindergarten to Grade12) were in the moderate range of the Maslach Burnout Inventory and significantly lower for superintendents. The building principals and superintendent's mean scores on Personal Accomplishment were all in the high burnout range of the Maslach Burnout Inventory. Androgynous (those who possess the flexibility of both gender traits) administrators had significantly lower mean scores on Role-Based Stress, Boundary-Spanning Stress, Emotional Exhaustion, and Depersonalization than most of the other classifications. Conversely, androgynous administrators had higher, but not significant, mean score on Personal Accomplishment. A higher score in Personal Accomplishment identified a lower burnout level. Torelli and Gmelch concluded that there was a definite pattern between sex roles and administrative stress and burnout. The androgynous principals and superintendents perceived less stressful situations and burnout than other sex role classifications.

Gmelch and Chan (1995) investigated the effect of administrative stressors on 740 Washington administrators' coping responses at the elementary, junior and senior high and district levels and the consequences of those responses. Based on the Administrator Stress Cycle model (Gmelch 1982), the study used the transactional perspective, which viewed stress as an individual's physiological or psychological response to a perceived demand. The findings show that (a) administrators reported a moderate stress level; (b) a significant negative correlation existed between administrator's perceived stress and their perceived coping effectiveness [which was similar to Hiebert & Basserman, (1986) and Hiebert & Mendaglio (1988)]; (c) a significant negative correlation existed between perceived stress factors and burnout; and (d) androgenous individuals expressed more effective coping behaviors; (e) Administrators who experience more Emotional Exhaustion and Depersonalization cope less effectively in task, role, conflict and boundary-spanning areas. Conversely, coping effectiveness in conflict, role and boundary-spanning was positively related to Personal Accomplishment. The data supported the transactional view of the Administrator Stress Cycle. Of the four sub-scales of the ASI, boundary-spanning was at the top while conflict-mediating came second, Task-Based Stress was third and Role-Based Stress came last.

Shumate (1999) surveyed 221 public high school principals in Washington State using the Administrative Stress Index, Maslach burnout Inventory (MBI), and the Roesch Coping Preference Scale. The study found that 40 percent of the principals experienced high levels of Emotional Exhaustion; 59 percent of the principals experienced moderate to high levels of Depersonalization and 61% experienced low levels of Personal Accomplishments. The results of the Administrative Stress Index indicated that the greatest stressors were "workload, time



demands, and dealing with policies”. Principals reported that they preferred working on the weekends and taking work home to reduce their stress. This study identified the best predictors for Emotional Exhaustion were role expectation, intrapersonal conflicts, age, administrative constraints, eat/sleep techniques and they accounted for 50% of the variance in Emotional Exhaustion. Intrapersonal conflicts, interpersonal relationships, workaholic activities, age were the best predictors for Depersonalization and accounted for 31% of the variance in Depersonalization. Consulting techniques, interpersonal relationship, number of students and recreational activities were the best predictors of Personal Accomplishment and they accounted for 13% of the variance of Personal Accomplishment, which has minimal practical significance.

Muthalib (2003) studied 50 public high school principals in Kuala Lumpur Malalysia using Administrative Stress Index, Maslach burnout Inventory (MBI), and the Roesch Coping Preference Scale. Results of the study show that there were moderate levels of stress and burnout among Malaysian secondary school principals. Respondents reported stress mainly came from administrative constraints and administrative responsibilities. Their most preferred coping strategies to deal with stress were consulting techniques and recreational activities. Findings reported that there were no significant correlations found between the Roesch Coping Preference scale and demographic variables of age, gender, hours worked per week, years as principals and school enrolments.

### Summary

In the studies reviewed, Muthalib (2003) did not indicate any relationships between stress and burnout among the principals. Although stress factors, demographic variables and job ambiguity were identified to be the predictors of

burnout, none of the studies reported has investigated the relationships between coping strategies and burnout. Also, none of the studies reported has taken a step forward so as to find out the significant coping moderators that could buffer the relationship between stress and burnout.

### **Stress, Coping Strategies and Burnout Studies in Hong Kong**

Although Chan's (2002) study on the identification of major stressors focused on primary school heads, it has reference value as the study was conducted against the backdrop of the education reforms in Hong Kong. The findings of this territory-wide study show that 82.8% of respondents (25.6% response rate) had moderate to extremely high stress. The top three sources of stress were complying with education reform; too much paperwork and too much responsibility. Despite suggestions made for stress management practices, this study did not investigate the effective coping strategies that the school heads had used to reduce stress.

At present, there are only two studies and one general survey related to stress and burnout of the secondary school principals in Hong Kong. The first one was conducted by Wong (1983) using a 15-item modified version Maslach Burnout Inventory inviting principals from government and aided schools to participate in this study. Results indicated that the secondary school principals did not suffer from the burnout phenomenon to any serious extent; principals within the age range of 36-45 exhibited distinctly more intense feelings of burnout; the major sources of stress for the principals were found to be: (a) poor student behaviour; (b) lack of cooperation among teachers; and (c) trying to uphold values and standards; and almost half of the principals used the consultative approach to handle stressful situations.



This is the first study of its kind in Hong Kong. However, the instruments for measuring administrative stress and coping strategies were not tested, validated and normed for educators. Besides, there were no justifications made why seven items were dropped from the original 22-item MBI. Also, principals from the private sector were excluded from the sample population.

Using person-environment theory designed by French, Rodgers and Cobb (1974), Man (1988) studied the stress levels of a stratified sample of 140 secondary school principals taken from one-third of each of the government, aided and private sectors. The results indicate that there was no significant relationship between psychological strain and age, sex, administrative training, school district, school age, number of classes and number of students enrolled. However, there was a significant relationship between psychological strain and the years of experience in the principalship, suggesting that the more experienced a principal was, the less psychological strain he/she would suffer.

The Hong Kong Federation of Education Workers (2004) conducted a territory-wide survey on teachers stress and workload in the year 2004. The sample subjects comprised all primary and secondary school teachers and principals. Only 135 principals without sector breakdown, which occupied approximately 11.5% of total principal population, returned the questionnaire. The results indicate that 33.3% of the principals were extremely stressed; 31.1% experienced very stressed; 32.6% reported generally stressed and 4 % were quite stressed. When enquired, the Teacher and Principal Development Team of the Education and Manpower Bureau indicated that there was no stress management training provided to the serving secondary principals or those principals attending the Preparation for Principal Course (Appendix C2).

### Summary

The findings show that the last study related to stress, coping strategies and burnout among Hong Kong secondary principals was done twenty-one years ago (1983), leaving a big gap of knowledge to be filled against the backdrop of the unprecedented rapid educational reforms in Hong Kong ever since 1997.

## **Coping Strategies as a Moderator between Stress-Strain Relationships**

Most studies on coping strategies adopted by school administrators as discussed earlier were mostly descriptive. Coping strategies were seldom investigated to find out if they could buffer the stress-strain relationships among the principals. Unlike western societies, Chinese societies rarely investigated whether coping could serve as a stress moderator variable in the industrial and business sectors (Siu 2002).

Although this area is rarely studied, the results of occupational stress studies among Chinese people in industrial and business sectors show that the use of coping moderators had significant effects on the job stress and strain relationships. For example, in Siu, Lu, & Cooper's (1999) study, Type A behaviour was found to be positively related to absenteeism in Hong Kong managers. Locus of control could moderate the work stress on health and strain effects of the managers in Hong Kong and Taiwan. Those managers who had more control over their environment reported less sources of stress and quitting intention, yet reported greater job satisfaction, better mental physical well-being. In Siu (2002), the study shows that organizational commitment was positively related to well-being among the blue and white-collar workers. The finding in Siu (2003) indicates that Chinese work values and organizational commitment were significant stress moderators among the 14



types of business executives in Hong Kong. Managerial self-efficacy only had a significant moderating effect in predicting physical strain among the managers in the People's Republic of China (Lu, Siu and Cooper, 2005).

As at to date, few studies have investigated whether coping strategies could be used as moderators buffering the relationship between job stress and strain among the school principals, it is therefore worth conducting research to fill this gap since the research findings reported that the use of appropriate moderators could result in business executives and workers' better health, well being, and improved job performance.

### **Model of Work Stress for the current study**

#### **Justifications for the selection of Administrator Stress Cycle Model**

Among the models of stress discussed earlier, Gmelch and Chan's (1995) transactional Administrator Stress Cycle Model seems to be the most relevant for this study as "this model offers a comprehensive view on how stress is interpreted, which is largely dependent on one's appraisal of the situations and their coping strategies (Lazarus 1995). Besides, this 4-stage model provides a broader perspective and clearer understanding of the stress from a managerial and [transactional] perspective. Also, it adheres to the basic premises of research by being able to **predict, comprehend and apply** the key concepts of stress and fulfill the basic goals of a theoretical model (Ivancevich & Mattheson, 1980, p.31). Furthermore, this model is tailor-made for investigating school administrators' stress since Boundary-Spanning Stress appears to be **unique** to the field of school administration" (Gmelch & Chan, 1995, p. 277)".

### **Reasons for selecting the components of Stages 1, 3 and 4**

At Stage 1, according to Kahn Wolfe, Quinn & Snoek (1964) and McGrath (1976), the four stress factors -role-based, task-based, boundary spanning and conflict mediating- were chosen because “the first three approximate the theorized general dimensions of stress but the last, Boundary-Spanning Stress appears to be **unique** to the field of school administration” (Gmelch & Chan, 1995, p. 277).

At Stage 3, coping strategies were chosen because identification of effective strategies may help school principals to reduce the amount of stress from the environment and to moderate the effect of stress on them (Gmelch & Swent 1981, p.19; Maslach et al, 1996, p. 31; Allison 1997, p.39).

At Stage 4, dimensions of burnout were selected instead of physical and psychological strains because physical strains can reflect psychological illnesses and they were most accurately measured by medical check-ups while psychological strain tests can give a quick and sensitive index, their symptoms may not be work-related. Lyne et al. (2000 p.198) comment that “labeling the ill-health and job satisfaction questionnaires as stress effects is potentially misleading, because these variables are determined by many factors other than occupational stress, including demographic, health behaviours, genetic predisposition, personality, personal goals, and life outside of work”.

Burnout is a work-related issue which can be very detrimental to the principals’ health and also it can be very costly to the whole organization and its stakeholders (Pines & Aronson, 1981). In order to find out the specific dimensions of burnout level, Emotional Exhaustion, Depersonalization and Personal Accomplishment as measured by the Maslach Burnout Inventory were selected.



## **Reasons for modifying the Administrator Stress Cycle Model**

The reason for the modification is that in the model proposed by Gmelch & Chan (1995, p.278), the way of assessing coping effectiveness was only investigated by asking the respondents to rate a five-point Likert-type scale to indicate their perceived coping effectiveness. Although Gmelch and Chan (1995) reported that this method for quantifying emotional reaction had been used successfully both in survey instruments (Gmelch & Swent, 1984; Gmelch, Lovrich & Wilke, 1984; Hiebert & Mendaglio, 1988) and clinical tests (Cotler & Guerra, 1976; Hiebert & Fox, 1981), such a method did not inform us of the exact coping strategies that the respondents have frequently and effectively used. Without knowledge of the type of coping strategies used, it is difficult to find out which coping moderators can buffer the relationships between perceived level of stress and perceived level of burnout among the secondary school principals.

## **The Modified Administrator Stress Cycle Model**

The Administrator Stress Cycle has four major consecutive stages, which reflect the causal effect from the sources of stress to the consequential impacts to the individual. Figure 2.4 illustrates a modified model of the Administrator Stress Cycle for the current study. Stage 1 includes the stressors or demands which represents the sources of stress as illustrated in the Administrative Stress Index (Gmelch & Swent, 1977). The sources of stress may be role-based, task-based, boundary spanning and conflict-mediating ones. Stage 2 shows the perceptions or interpretation of the stressors, which would be different between individuals depending on how they appraise the situations. It may be a threat, a harm, or a challenge. Stage 3 comprises the responses to the stressors based on the interpretations in Stage 2. The responses are in the form of coping strategies in which individuals employ them in

order to moderate or to reduce the effects of stress. These coping strategies can be broadly grouped into seven categories as measured by Allison's (1997) Coping Preference Scale which include: good physical health programme; withdrawal and recharging; intellectual, social & spiritual support; positive attitude; realistic perspective; time management & organization; and increased involvement. Stage 4 indicates the consequential action and behaviour due to the effective or ineffective uses of different coping strategies in Stage 3. The consequences under study are the dimensions of burnout as measured in the three subscales on Emotional Exhaustion, Depersonalization and Personal Accomplishment under the Maslach Burnout Inventory.

Apart from appraising the situations differently and using various coping strategies, secondary filters such as age, gender and years of administrative experiences as a principal can effect the relationship between each stage. The filters, in fact, represent moderating or conditioning variables which intervene between the stages and moderate the stress effect.

### **How the modified model is translated from concept into measurable terms**

The purpose of this study is to find out the relationships between Stage 1 demand/stressors and Stage 3 coping strategies in response to the stressors – and between Stage 3 and 4, the consequences of burnout.

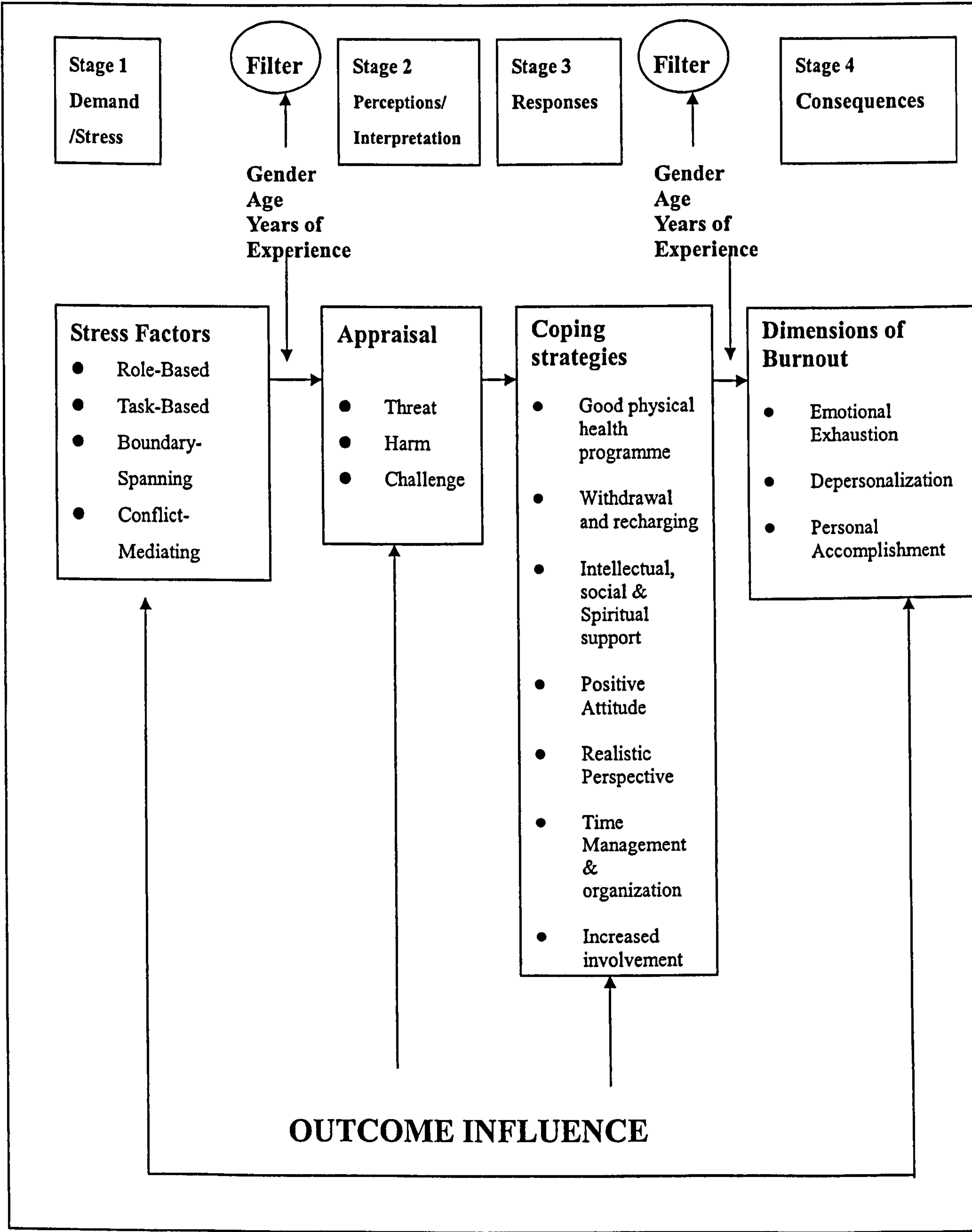
Occupational stress might be considered to be operationalized by sources of administrative stress such as role-based, task-based, boundary-spanning and conflict-mediating or alternatively by a combination of sources of stress and the moderating variables or filters such as gender, age, and years of experience of the principal. After interpreting and appraising the situation as seen in Stage 2, the



respondent will use various coping strategies as shown in Stage 3 in order to reduce or moderate the effects of stress on them. Some of the coping strategies that the respondents use may be effective (e.g. positive attitude & proper organization) while some of them may use ineffective strategy (e.g. avoid the problem completely). Apart from using coping strategies, the respondent will also combine other moderating variables such as their personality, age and experience to alleviate their stress level. Having tried to reduce or moderate stress, the principals may still experience different levels of burnout as measured by the Maslach Burnout Inventory's three subscales of Emotional Exhaustion, Depersonalization and Personal Accomplishment at Stage 4.

Whether principals have low-stress level and low-burnout level depends very much on how they appraise the stressful situation, how they use a combination of filter variables and coping strategies to reduce or moderate the stress. This model not only shows the transactional perspective from Stage 1 to Stage 4 but also identifies the most preferred coping strategies that the principals have used which can help to predict the prevalence of burnout and moderate the stress and strain relationship among secondary school principals.

Figure 2.4 Model of Administrator Stress Cycle for the Current Study





## **Research Questions and Hypotheses**

Based on the model of the current study and the findings of the literature review, three specific research questions and six hypotheses were constructed and delineated as explained in the following.

### **Research questions**

Research findings on p.46 reported that Task-Based Stress was ranked the top in the research conducted by McGrath (1996); Ryan (2001). Role-Based Stress also ranked the top in the studies of Olsen (1984), Garwood (1995) and Kilgore (1999); while Boundary-Spanning Stress ranked the top in the research conducted by Gmelch and Swent (1997) and Gmelch and Chan (1995). Using the same instrument, what type of stress will be the top stressor experienced by the Hong Kong mainstream secondary school principals. This led to formulate the first research question below.

- 1. What are the major stressors perceived to affect Hong Kong mainstream secondary school principals, as determined by the Administrative Stress Index?**

According to Allison (1997), the most popular coping techniques used by school administrators were stress management techniques, e.g. keeping a realistic perspective, maintaining a positive attitude, following a good physical health programme, and engaging in activities that support intellectual, social, and spiritual growth (p.59). Using the same Coping Preference Scale, are the most popular coping techniques used by the Hong Kong principals similar to those used by their Canadian counterparts? This led to the second research question 2 as follows:

**2. What are the coping strategies that the Hong Kong mainstream secondary principals use to reduce stress as measured by Coping Preference Scale?**

The findings of burnout studies using Maslach Burnout Inventory have showed that principals in some studies experienced not serious at all burnout level (Wong 1983; Carruth, 1997; Muthalib, 2003) some experienced low-moderate level of burnout (Smith-Steveson et al, 1994; Flynn, 2000) while some experienced high level of burnout (Mutchler, 1998; Shumate, 1999) (see p.48). Using the same instrument, what will be the level of burnout among Hong Kong secondary school principals as measured by the three subscales of the Maslach Burnout Inventory? This led to formulate the third research question below.

**3. What are the levels of burnout of the Hong Kong mainstream secondary principals as measured by the three subscales of Emotional Exhaustion, Depersonalization, and Personal Accomplishment of the Maslach Burnout Inventory (MBI)?**

Research studies discussed on p.64 have reported the relationships between six demographic variables such as gender, age, educational attainment, administrative experience as a high school principal, school enrolment and the number of assistant principals and stress, coping strategies and burnout but variables such as school type, number of classes, and years of school history were seldom investigated in similar studies. What will be the results in the Hong Kong situation when occupational stress, coping strategies and burnout are related to those six demographic variables and three additional variables, which are school type, number of classes, and years of school history? Hypothesis 1 was formulated to answer this question.



### **Hypothesis 1**

**There are no significant correlations between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history.**

Hiebert & Basserman (1986), Hiebert & Mendaglio (1988) and Gmelch and Chan (1995) all found that a significant negative correlation existed between administrators' perceived stress and their perceived coping effectiveness (p.57). Shumate (1999) reported there was significant relationship between occupational stress and coping strategies among the high school principals. Will the same finding be found when coping is only confined to strategies instead of effectiveness? Hypothesis 2 was therefore constructed as follows:

### **Hypothesis 2**

**There is no significant relationship between occupational stress and coping strategies among the mainstream secondary school principals in Hong Kong.**

Gmelch and Chan (1985) found that a significant negative correlation existed between perceived stress factors and burnout. Administrators who experience more Emotional Exhaustion and Depersonalization cope less effectively in task, role, conflict and boundary-spanning areas. Conversely, coping effectiveness in conflict, role and boundary-spanning was positively related to Personal Accomplishment (p.67). Are Hong Kong principals experiencing the same type of negative correlation or will there be no relationship at all? To answer this question, hypothesis 3 was constructed as follows:

### **Hypothesis 3**

**There is no significant relationship between occupational stress and level of burnout among the mainstream secondary school principals in Hong Kong.**

Studies have indicated that the more varied coping strategies a school principal employed, the lower their stress level and their burnout level would be (Gmelch & Swent 1977, Roesch, 1979; Hiebert, 1983; Matheney et al, 1988; Allison, 1997; Liming, 1998) (p.60). Will this be the case among Hong Kong secondary school principals? To confirm these findings, hypothesis 4 was formulated as follows:

### **Hypothesis 4**

**There is no significant correlation between coping strategies and level of burnout among the mainstream secondary school principals in Hong Kong.**

Studies have shown that stress does appear to be a significant predictor of burnout (Blasse, 1982; Farber, 1984; Friesen & Sarros, 1989). In Shumate (1999)'s study, certain demographic variables, stress factors and coping strategies were identified to be the best predictors of Maslach Burnout Inventory in the subscales of Emotional Exhaustion, Depersonalization and Personal Accomplishment (p.38). In Hong Kong context, will the predictors of burnout be the same as those found in the previous studies? To answer this question, hypothesis 5 was constructed as follows:

### **Hypothesis 5**

**Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; coping strategies**



**and occupational stress are not significant predictors of job burnout among the mainstream secondary school principals in Hong Kong.**

Studies have indicated that the use of effective coping strategies can reduce stress (Gmelch and Swent, 1977; Hiebert, 1983; Matheny et al, 1988; Dick, 1993; Czeriakowski, 1995; Atwood, 1996; Allison, 1997; Liming, 1998; Shumate, 1999). However, there does not seem to be any studies revealing the type of demographic variables and type of coping strategies that can moderate the effect between level of stress and the level of burnout among secondary school principals. To fill this gap, it is important to find out the most preferred coping strategies that can moderate the stress level and the burnout level of the secondary school principals of Hong Kong as this data can help the policy makers to design intervention programme in reducing stress and preventing job burnout for the secondary school principals. Drawn on the past findings and the practical implication, hypothesis 6 was formulated as follows:

### **Hypothesis 6**

**Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; occupational stress and; coping strategies are not significant moderators of job burnout among the mainstream secondary school principals in Hong Kong.**

## **Summary**

In the first part of this chapter, the strengths and weaknesses of the three major theories of work stress were analyzed. It was found that the transactional model of stress proposed by Lazarus (Lazarus, 1995; Lazarus & Folkman, 1984; Lazarus & Launier, 1978) is the most widely accepted psychological model relating to the study

of appraisal of stress and coping of stress. Based on the concept of transactional model and the interrelationships of the four-stage model proposed by McGrath (1976), Gmelch and Chan (1995) designed a model called the Administrator Stress Cycle, which specifically addressed the type of stress that administrators faced, their coping strategies and the burnout consequences. It is this model that the current study adopts and modifies.

In the second part, studies related to stress and principalship were analyzed. Due to changing conditions in the context of educational reform, Williams and Portin (1997) report the principals felt less confident of their abilities, less enthusiastic about their jobs, and experienced increased levels of frustration. The US National Association of Elementary School Principals and US National Association of Secondary School Principals (1998) indicated that there was a shortage of school principals. Results suggest that the top administrative stressor experienced by subjects of the same country (USA) in each study was not the same although the same instrument – the Administrative Stress Index—was used over decades.

On burnout and principalship, no conclusive findings could be drawn so as to determine which type of independent variable (organizational, demographic, personality, administrative stress) would lead to a higher level of burnout among the high school principals. On coping strategies and principalship, the literature findings show that principals who deal with stress more effectively than others have used a greater variety of coping strategies.

On demographic variables and stress, coping strategies and burnout, it was found that variables such as school type, number of classes, and years of school history were rarely investigated in the past studies. Although stress factors, demographic variables and job ambiguity were identified to be the predictors of burnout in some studies, none of the studies reported has taken a step forward as to find out the significant coping moderators that could buffer the relationship between stress and



burnout as far as secondary school principals are concerned.

Since the last study related to stress, coping strategies and burnout among Hong Kong secondary principals was done twenty-one years ago (1983), a study is warranted so as to fill the big gap of knowledge against the backdrop of the massive and rapid educational reforms ever since 1997.

In the third part of this chapter, discussions were made regarding the reasons for choosing the Gmelch & Chan's (1995) 4-stage Administrator Stress Cycle model and the ways of adapting the model for the purpose of the current study. Based on the proposed model and the previous research findings, three research questions and six hypotheses were constructed.

# **Chapter 3**

## **Methodology**

This chapter is organized around four major components. It begins with a review of the purposes of the study, three research questions and six null hypotheses. Then, it discusses the design of the study including sampling method, instrumentation pilot study, followed by a discussion of the validity and reliability of the study. Detailed data analysis procedures and the limitations of the study are examined.

### **Purposes of the Study**

There are three purposes of this research. First it aims to test a proposed model modified from the Administrator Stress Cycle Model (Gmelch and Chan 1995) across all mainstream secondary schools principals in Hong Kong in terms of their levels of perceived stressors, most frequently used coping strategies, and level of burnout so that generalizable findings can be obtained. Second, it aims to investigate the relationships between the occupational stress, coping strategies, and burnout level with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history. Third, it aims to identify the best predictors of burnout and the most effective coping strategies that can moderate the stress level and burnout level among the Hong Kong secondary school principals.

### **Research Questions and Hypotheses**

Based on the three purposes of the study, the three research questions and six null hypotheses were constructed. The three research questions addressed the first purpose of this study. The first four null hypotheses attempted to answer the



questions raised in the second purpose while the last two null hypotheses addressed the third purpose by identifying the best predictors of burnout and significant coping moderators buffering relationship between stress and burnout.

### **Research questions**

1. What are the major stressors perceived to affect Hong Kong mainstream secondary school principals, as determined by the Administrative Stress Index?
2. What are the coping strategies that the Hong Kong mainstream secondary principals use to reduce stress as measured by Coping Preference Scale?
3. What are the levels of burnout of the Hong Kong mainstream secondary principals as measured by the three subscales of Emotional Exhaustion, Depersonalization, and Personal Accomplishment of the Maslach Burnout Inventory (MBI)?

### **Hypothesis 1**

There are no significant correlations between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history.

### **Hypothesis 2**

There is no significant relationship between occupational stress and coping strategies among the mainstream secondary school principals in Hong Kong.

### Hypothesis 3

There is no significant relationship between occupational stress and level of burnout among the mainstream secondary school principals in Hong Kong.

### Hypothesis 4

There is no significant correlation between coping strategies and level of burnout among the mainstream secondary school principals in Hong Kong.

### Hypothesis 5

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; coping strategies and occupational stress are not significant predictors of job burnout among the mainstream secondary school principals in Hong Kong.

### Hypothesis 6

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; occupational stress and; coping strategies are not significant moderators of job burnout among the mainstream secondary school principals in Hong Kong.



## Design of the Study

### The approach in this study

There are two major approaches to social research, which are positivist and anti-positivist. Cohen, Manion and Morrison (2000) explain the differences between the two approaches:

Investigators adopting an objectivist (or positivist) approach to the social world and who treat it like the world of natural phenomena as being hard, real and external to the individual will choose from a range of traditional options – surveys, experiments, and the like. Others favouring the more subjectivist (or anti-positivist) approach and who view the social world as being a much softer, personal and humanly created kind will select from a comparable range of recent and emerging techniques – accounts, participant observation and personal constructs, for example. (p.6)

The positivist approach, using the normative paradigm, sees that human behaviour is rule-governed while the interpretive approach examines the view points of the individual and the concerns of the individual (Cohen, Manion and Morrison, 2000). Positivist approach is adopted in this study because of three reasons. First, this study focuses on understanding the levels of perceived stressors, most frequently used coping strategies, and level of burnout among all mainstream secondary schools in Hong Kong and on generalizing conclusions from facts obtained in the specific terms of the questionnaires rather than on finding out the feeling of the individuals or on the meaning of certain actions.

Second, in order to provide answers to the three research questions and six hypotheses, a large-scale questionnaire survey is needed. The data deriving from the survey can be analyzed objectively and statistically.

Third, since the last study related to stress, coping strategies and burnout among Hong Kong mainstream secondary principals was done twenty-one years ago (1983), it might be appropriate to update the findings among all mainstream secondary schools as a group first before probing how individuals feel and interpreting the meaning of their actions.

### Postal Survey Method

In this study, a postal survey method was used as the major method to find out the sources of stress, coping strategies, burnout level of the mainstream secondary school principals in Hong Kong. A survey packet including Demographic Information Sheet, Administrative Stress Index, Coping Preference Scale and Maslach Burnout Inventory was sent to all 450 mainstream secondary school principals in Hong Kong. There are four reasons for choosing survey method in this study. First, it can reach a great number of respondents (Cohen & Manion 2000, p.94; Wragg 1994, p.268) which can lead to generalizable findings (Nisbet & Watt, 1984, p.76). Second, using survey in this study with standardized questions can obtain analytical and descriptive information, also it can extract patterns and make comparisons with the previous studies (Bell, 1987). As Munn and Drever (1990, p.33) indicate that:

In a questionnaire survey, the aim is to get standardized information by offering everyone the same stimulus: the same questions presented in the same way, so that any variety in the answers is a true reflection of variety of views and circumstances among the respondents.

Third, Bradburn and Sudman (1988) used various examples to indicate that scientific surveys are useful in strategic planning, policy studies and programme evaluation. Hence, the data obtained from this survey would be useful for the Education and Manpower Bureau to formulate training policy for the Hong Kong



secondary school principals. Fourth, the sources of error are limited to instrument and sample only, which can be controlled beforehand (Cohen & Manion 2000, p.94).

Compared postal self-completion questionnaire with interviews, a postal self-completion questionnaire has six advantages over interviews in this study. First, a questionnaire survey helps to focus attention on certain areas of information and it collects primary information directly from the respondents. Second, a self-completion questionnaire survey can keep the identity of the respondents anonymous. Third, the overall reliability in relation to interviews is high (Cohen & Manion 2000, p.94). Fourth, the respondents can express their opinions freely in an unlimited time and unlimited space, i.e. writing on paper (Cohen & Manion 2000, p.94). Coleman (1999, p.142) has further pointed out that postal survey can “give time and space for respondents to consider their answers in privacy and at their leisure”. Fifth, the questionnaire surveys are most efficient and economical in collecting a large amount of data in a short period of time (Mason and Bramble 1989). Last, administration expenses are relatively low compared with conducting interviews (Cohen & Manion 2000, p.94).

### **Limitations of survey method**

However, there are three major limitations of using the survey method in this study. First, the information collected tends to describe rather than explain why things are the way they are (Munn and Drever, 1990, p.5). Second, the researcher finds only what he seeks. If something is not covered in the survey instrument, it will be missed unless the respondent particularly wishes to supply extra information (Nisbet and Watt, 1984, p.76)). Third, the time needed to draft and pilot the questionnaire is often underestimated and so the usefulness of the questionnaire is reduced if preparation has been inadequate (Munn and Drever, 1990, p.5).

In order to overcome the first limitation, an appropriate stress model has been chosen in which the modified Administrator Stress Cycle model does not only describe the phenomenon but also it can identify the best predictors of burnout (see hypothesis 5, see p.88) and most important of all, it can identify the most preferred coping strategies that can moderate the relationship between principals' stress and their level of burnout (see hypothesis 6, p.88). To overcome the second limitation, two open-ended questions inviting respondents to express additional ideas have been set in the modified Administrative Stress Index and the Coping Preference Scale questionnaires (Appendices 4 and 5). To overcome the third limitation, all three instruments used in this study are well-validated ones which have been used in a number of studies before. Time can be saved from drafting the questionnaires. Hence, more time can be used to modify the questionnaires after obtaining the results from the pilot study.

To make the questionnaire an effective research tool in this study, Johnson (1994, p.38) has suggested four criteria:

- (1) A clear and comprehensible questionnaire for the desired respondents;
- (2) Delivering the questionnaire directly to the desired respondents;
- (3) Motivating the respondents to complete and return the questionnaire on time and;
- (4) Making effective administrative arrangements for the return of the questionnaire.

To address Johnson's suggestions, a cover letter explaining the purposes and potential value of the research was mailed with the questionnaire directly to the



principals (Appendix 2). Personal Profile Report and Group Summary Report would be sent to the respondents upon request. This offer was presented in a request form that was enclosed in the postal survey as a means to motivate the respondents to complete and return the questionnaire (see Appendix 7). A self-addressed stamped envelope was given for efficient return of the completed questionnaire.

### **Reasons why qualitative interviews were not conducted in this study**

There are three reasons why qualitative interviews were not conducted in this study. The first reason is that it is difficult to justify on what basis the number of subjects is chosen. If the number of subjects is only 3, covering principals from government, aided and private sectors, the sample size is too small. Such a small sample size only gives highly unrepresentative views. If the number of subjects is 15 to 20, the views collected may not complement data that a survey research may miss because the sample size, which is less than 10% of the total sample population (450), is still not representative enough. If the number of subjects is more than 45, which is more than 10% of the total sample population, the author who is the single researcher in this study cannot afford the resources to do so.

The second reason is that as discussed earlier, the purpose of this study is not to investigate the relationships between stress, coping strategies and burnout of individual or a small group of mainstream secondary school principals in Hong Kong. As this study is not a case study, qualitative interviews are not appropriate.

The third reason is that in both modified the Administrative Stress Index and modified Coping Strategies questionnaires, two open-ended questions have been set to let subjects freely express their sources of stress and ways of coping stress that the questionnaires might not have included (Appendices 4 & 5). Such a provision of

open-ended questions to all subjects can facilitate the collection of extra data and also it could supplement the current survey research data. In addition, the data can allow us to understand the subjective individual points of views relating to sources of stress and ways of coping with stress.

### **Sampling Method**

#### **Non-random sampling**

Wiersma (1991) explains that purposive sampling based on “prior, identified criteria for inclusion” and on “the characteristics of the units (sites or individuals) relevant to the research problem” may be applied. Sometimes, “comprehensive sampling consists of all units with specified characteristics” or “maximum variation sampling including units with maximized differences on specified characteristics” can be used (p.265). Further to that, Wiersma (1991) has pointed out that when non-random sampling is used, representativeness is no longer argued on a probability basis but on a logical basis that the selection of cases depends on the specifics of the study.

Non-random sampling of mainstream secondary schools was adopted because the researcher needed to collect data to generalize the level of stress, coping strategies and the level of burnout among all mainstream secondary school principals in Hong Kong. Besides, the sample size is big enough to identify the predictors of burnout and coping moderators buffering stress-burnout relationships among all mainstream secondary schools principals. In order to achieve the two purposes of this study, the whole population of mainstream secondary school principals in all 450 secondary schools was chosen for the study. However, the findings of the study only represented the opinions of that particular group of secondary school principals in Hong Kong.



For the purposes of this study, a mainstream secondary school was defined as a school subsidized by different modes by the Government of the Hong Kong Special Administrative Region that offers Secondary 1 to 5 or Secondary 1 to 7 curricula. These schools prepare students for the Hong Kong Certificate of Education Examination and Hong Kong A-Level Examination. In Hong Kong, mainstream secondary schools fall into three main categories, namely, government, aided and private. According to the data obtained from the Education and Manpower Bureau, the total number of secondary schools operating as at April 2004 is 501. The total number of mainstream schools was 450. The categories which fit into the definition of mainstream school in this study were broken down as shown in Table 3.1.

Table 3.1

Total No. of Mainstream Secondary Schools in 2003-2004 for This Study

School Type	No. of Secondary Schools
Government	36
Aided	369
Private	45
Total	450

Note: Mainstream private schools are divided into caput (9 schools) and direct subsidy (36 schools).

Instrumentation

The four instruments selected for the survey were the Demographic Information Sheet including personal and school variables; Administrative Stress Index, Coping Preference Scale and Maslach Burnout Inventory.

## **Demographic Information**

The questions aimed at collecting the personal data and the school data from the respondents. Regarding the personal information of the principal, it included sex, age, qualification, number of years in the principalship. As for the school information, it included type of school; number of classes in the school, number of students enrolled, number of assistant principals, and history of the school (see Appendix 3).

## **Administrative Stress Index (ASI)**

### **Reasons why Administrative Stress Index was chosen**

The ASI instrument was specifically developed for measuring the stress level of educational administrators. It was developed and validated by Gmelch and Swent (1984) and factor-analyzed by Koch Tung, Gmelch and Swent (1982). There were two reasons why ASI was chosen in this study. First, this instrument is specifically designed to measure the level of administrative stress in the field of education. As pointed out by Gmelch & Chan (1995), Boundary-Spanning Stress has appeared to be unique to the field of school administration. Second, this instrument has been widely used to measure principals' administrative stress (McCabe 1989; Floreke 1989; Goeller 1993; Atwood 1996; Kilgore 1999; Snyder 1999; Lane 2000; and Weber-Sorice 2002) with a high level of validity and reliability.

## **Development of the instrument**

The Administrative Stress Index evolved from the 15 item index of the Job-Related Strain questionnaire (Indik, Seashore & Slesinger, 1964). This questionnaire was tested on a sample of 8,234 industrial employees representing diverse age, educational, and occupational backgrounds. The authors field tested the pilot instrument of the ASI for content clarity and clarity with a group of 25 practicing administrators.



After a revision and second pilot test involving 20 administrators, the final instrument consisting of 35 items with a 5-point Likert-type response was developed. The 35 stressors were grouped in a factor analysis procedure indicating five categories: administrative constraints, administrative responsibility, interpersonal relations, intrapersonal conflicts, and role expectations. Of the 35 stressors, 12 were retained from the Job-related Strain questionnaire. The 23 items which evolved out of stress logs and reviews of current public school administrators publications appeared to tap sources of stress which are unique to administrative roles in general, and the roles of public school administrators in particular (Cooper & Marshall, 1980). Koch, Tung, Gmelch, and Swent (1982) pointed out that the internal validity was maximized because the ASI was developed for a specific population of administrators for educational institutions.

The ASI was subjected to principal components varimax rotation. The sample used in the various rotation comprised 1,156 school administrators. Principal components analyses of the ASI revealed a weak general factor, suggesting that the scale was multi-dimensional in nature (Tung and Koch, 1980). According to Tung and Koch (1980):

Upon subsequent rotation, four interpretable factors were obtained. Each factor met the following criteria for extracted factors, the items comprising each factor loaded highly on a single sector; highly interterm correlations were obtained within factors than between factors. Ten items failed to load singularly on a particular factor. These are items 3,4,8,11,14,15,17,25, 28 and 33. Consistent with the objective of identifying orthogonal factors, these items were deleted from subsequent analyses. Rotated varimax structures for the remaining 25 items were consistent across samples with items clustering around four dimensions (p.68).

### Four dimensions of ASI

The four dimensions include Role-Based Stress, Task-Based Stress, Conflict-Mediating Stress, and Boundary-Spanning Stress. Role-based accounts for 51% of the common variance. Role-Based Stress pertains to not having enough information to perform the job satisfactorily; inability to cope with conflicting demands; resolving differences with superiors; lack of authority to perform one's duties; lack of clarity about the nature responsibilities of one's job; and the lack of knowledge of one's superior's evaluation of the administrator's performance (Gmelch & Swent, 1977). ASI items 5,6,13,16,22,30 and 34 measure this type of stress. The second dimension factor, which accounts for 22% of the common variance, is Task-Based Stress. Task-Based Stress originates from time demands related to the administrator's day-to-day administrative tasks including coordination and communication with others (Gmelch & Swent, 1977). ASI items 1, 2, 9, 10, 12, 14, 18, 26.31& 32 measure this stress type. The third dimension represents Conflict-Mediating Stress which accounts for 15% of the common variance. Conflict-Mediating Stress occurs from mediating conflicts and resolving issues among teachers, among students, between teachers and students, between parents and the school, dealing with problems of school discipline, and between the school and the community (Gmelch & Swent, 1977). ASI items 7, 20, & 23 measure this stress type. The final dimension is Boundary-Spanning Stress which accounts for 12% of the common variance. Boundary-Spanning Stress pertains to allocating financial resources; collective bargaining; dealing with official regulations seeking public support for school funds and administrative tasks related to contracts (Gmelch & Swent, 1977). ASI items 21, 24,27, 29, & 35 measure this stress type.

According to Tung and Koch (1980), when the sample (n=1156) was split randomly into two even halves for cross validation purposes, the results of validation



and cross-validation showed that the samples were fairly consistent with that obtained when the sample was run as a whole. To further prove the multi-dimensionality of the ASI, Tung and Koch (1980) reported that the coefficients of internal consistency were very high. The greatest amount of shared variance between any two factors was 14% which indicated the factors were fairly independent of each other. These data provided good empirical support for conceptualizing administrative stress as a multi-dimensional construct. Test-retest reliabiities for the ASI indicated a high level of stability with a reliability coefficient at .83 (Gmelch, Wilke, & Lovrich, 1986).

### **Using the ASI**

In this study, the four dimensions, which are Role-Based Stress, Task-Based Stress, Boundary-Spanning Stress and Conflict-Mediating Stress, would form the basis of the sources of stressors while “other stress” including 10 items (items 3,4,8,11,14,15,17,25, 28 and 33) would be dropped. Altogether there were 25 items in the modified Administrative Stress Index. Based on the pilot study, content modifications would be further made. The ASI is a 5-point Likert-scale with “1” and “2” meaning “rarely or never bothers me, “3” and “4” meaning "occasionally bothers me", and “5” meaning "frequently bothers me". An item that receives a high score indicates this area was frequently stressful. A low score means the items was not stressful or was seldom stressful. The ways of calculating the scores for the four types of stress would be reported after the modifications were made based on the pilot study results (see p.19).

### **Maslach Burnout Inventory (MBI) -Education Survey (ES)**

#### **Reasons for choosing MBI (ES)**

The MBI (ES) is a 22-item, self-report measure (Green & Walkey, 1988). It measures three aspects of the burnout syndrome: Emotional Exhaustion,

Depersonalization, and Personal Accomplishment. Each aspect of the MBI is measured by a separate subscale. Two reasons for choosing MBI-ES were that this instrument is specifically designed for measuring the burnout level of the educators with a high level of validity and reliability and it is now the most widely used index for measuring the burnout level of the school principals (Sarros, 1988; Daly, 1992; Stouffer, 1992; Harutunian, 1992; Smith-Stevenson et al., 1994; Whitaker, 1995; Czerniakowski, 1995; Gmelch & Chan, 1995; Carruth 1997; Flynn, 2000).

### **Development of instrument**

Maslach Burnout Inventory was devised with basis of initial studies that used extensive questionnaires and in-depth interviews with lawyers, police officers, child care workers, physicians, psychiatrists, nurses, prison personnel, teachers, counsellors, and ministers. The MBI was expanded upon initial observations by Freudenberger. He discovered that workers in people-related disciplines develop a common set of behavioral and physical stress symptoms. Physical signs include exhaustion, headache, sleeplessness and shortness of breath. Behavioural symptoms include irritability, inflexibility, detachment, boredom, cynicism, and impatience (Freudenberger, 1980).

Maslach and Jackson (1986) developed the instrument, assessed perceived levels of burnout among individuals in human services and education, particularly those who had a high potential for burnout, which in this study applied to secondary school principals. According to Maslach & Jackson (1996, p.6), in all of these occupations, the worker must deal directly with people about issues that either are, or could be problematic. Consequently, strong emotional feelings are likely to be present in the work setting. It is this sort of chronic emotional stress that is believed to induce burnout.



## **Elements of burnout**

The definitions of the three elements of burnout – Emotional Exhaustion, Depersonalization and Personal Accomplishments –were discussed earlier in Chapter 2, pp 34-36.

## **Reliability**

Two studies, which substantiated the reliability of MBI (Maslach and Jackson, 1996, p.12), estimated the internal consistency by Cronbach's coefficient alpha ( $n=1,316$ ). They reported the reliability coefficients of the subscales: .90 for Emotional Exhaustion; .79 for Depersonalization; and .71 for Personal Accomplishment. For the test-retest reliability of the MBI, they sampled graduate students in social welfare and administrators in a health agency. The coefficients for the subscales on this sampling were .82 for Emotional Exhaustion, .60 for Depersonalization, and .80 for Personal Accomplishment. All the coefficients were significant beyond the .001 level.

In a sample of 248 teachers by Maslach and Jackson (1996), the reliabilities for the three subscales were .60 for Emotional Exhaustion, .54 for Depersonalization, and .57 for Personal Accomplishment. Further external validation included behavioral ratings made by a person who knew the individual well. MBI scores were also correlated with job characteristics that would contribute to burnout. Finally, MBI scores were correlated with measures of hypothesized outcomes related to burnout. Maslach and Jackson (1996, p.10) reported that all three correlations “provided substantial evidence for the validity of the MBI”.

Using the MBI-ES

According to (Maslach, Jackson & Leiter, 1996, p.5), “the scores for each subscale are considered separately and are NOT combined into a single total score; thus, three scores are computed for each respondent”. The MBI is a 22-item survey utilizing a Likert scale, 0-6, with “0” meaning “never,” “1” meaning a few times a year or less, “2” meaning “once a month or less,” “3” meaning a few times a month, “4” meaning “once a week,” “5” meaning a few times a week and “6” meaning “every day”. Maslach and Jackson (1986) view burnout as a continuous variable, with each subscale reflecting a range of scores and categorized as high, moderate, or low. The higher the mean scores on the Emotional Exhaustion and Depersonalization subscales, the higher the degree of burnout, while lower mean scores on the Personal Accomplishment subscale mean a higher degree of burnout. Table 3.2 shows the categorization of MBI scores.

Table 3.2

Categorization of MBI Scores

MBI subscale	Range of experienced burnout		
	Low	Moderate	High
Emotional Exhaustion	≤16	17-26	≥27
Depersonalization	≤6	7-12	≥13
Personal Accomplishment	≥39	38-32	≤31

Source: Maslach, Jackson, Leiter (1996) p.6

In this study, the MBI-ES was used in which the content was the same as MBI-Human Services Survey (HSS) with the change of the word “recipients” in the original to “students’ in the MBI-ES. The level of burnout was obtained by scoring the three subscales of the MBI.



## **Coping Preference Scale (CPS)**

### **Reasons for choosing the Coping Preference Scale**

The Coping Preference Scale was designed by Allison (1997). The purpose of using this instrument is to measure the extent to which education administrators use each of the 26 coping strategies identified so that we can analyze the types of coping strategies that the school administrators used in moderating their stress level. The two reasons for choosing Coping Preference Scale were that first, items covered in the instrument are very comprehensive; second this instrument is specially designed for measuring the coping strategies used by education administrators with a high level of reliability at .81.

### **Development of the instrument**

According to Allison (1997), the Coping Preference Scale was based on reviews of the literature on various suggested methods for dealing with job-related stress. The questionnaire was developed by selecting the most frequently chosen coping strategies on several coping inventories (Iuzzolino 1986; Lutton 1988; Roesch 1979). The first version of the scale was piloted with a group of 52 vice-principals. They were asked to complete the questionnaire, to identify other coping mechanisms that they perceived as important, and to comment on the clarity and wording of the items. After analysis and revision of responses, 26 items remained. Subsequently, the revised scale was administered to students in a graduate research class in education. Their comments and responses led to a small number of minor editorial changes designed to improve clarity, simplicity and readability. Experimental studies indicate an internal consistency coefficient with alpha at .81 (p.42).

In a postal survey on a study about administrative stress and coping strategies, 1,455 public elementary and secondary school principals in the province of British Columbia, Canada were the subjects of the study. The response rate of the survey was 44.2% (643 returns). Allison (1997) used several principal components varimax rotated factor analyses to work out the factor grouping of this CPS data. The results indicate that a seven-factor grouping proved to be the most satisfactory and reinforced the original classifications made by Gmelch (1988). However, with the information from the factor analysis, some items were reclassified. Based on the items identified or each factor, new titles and descriptions were developed (p.43). The CPS items grouped by their factor were classified into seven categories as follows:

Table 3.3

Seven Factors of Coping Preference Scale

1	Good Physical Health Programme
2	Withdrawal & Recharging
3	Intellectual, Social & Spiritual Support
4	Positive Attitude
5	Realistic Perspective
6	Time Management & Organization
7	Increased Involvement

Using the Coping Preference Scale

There are 26 items in the Coping Preference Scale. It is a six-point scale with 0=never, 1= almost never, 3=sometimes and 5=almost always. The 26 items are grouped into seven factors. The items of each factor are presented at Table 3.4.



Table 3.4  
CPS-Items Distribution of Seven Factors

Factor	Items
1 Good Physical Health Programme	5,9,13,18
2 Withdrawal & Recharging	4,14,19,20,23,24,25
3 Intellectual, Social & Spiritual Support	8,11,12,15
4 Positive Attitude	6,17,22,26
5 Realistic Perspective	1,2,3
6 Time Management & Organization	10,21
7 Increased Involvement	7,16

Apart from scoring 26 items, respondents were requested to list one or two additional effective coping strategies they have used before in the questionnaire (Appendix 5). The level of preferred coping strategies was obtained by scoring all items of a particular factor e.g. Factor 1 score was determined by adding the scores of four items (5,9,13,18). Based on the pilot study result, content modifications and factors regroupings were made.

Since the 7-factor Coping Preference Scale has never been used in the Hong Kong context before, it was found that the 7-factor instrument had to be regrouped to 5-factor after the main study. Details of the justification for the change based on statistical facts are explained on pp 120-124.

**Pilot study**

Ten secondary school principals with one from the government sector, eight from the aided sector and one from the private sector were invited to participate in the pilot study. This is a convenience sample because the author knew the subjects in an

official capacity. A cover letter and a 5-page questionnaire including the demographic information, modified Administrative Index, Coping Preference Scale and modified Maslach Burnout Inventory were sent to the subjects on 20 May 2004.

### **Results of the pilot study**

#### **Time taken to complete the test**

Most of the respondents said that it took them about 15 minutes to complete the questionnaire and the content of the three questionnaires was appropriate.

#### **Reliability of the three instruments**

The results show that the Cronbach alpha of the modified Administrative Index was .92 indicating that this instrument was reliable. The Cronbach alpha of Coping Preference Scale was .72 implying that the internal consistency of this instrument was high. The alphas of the three subscales in the Maslach Burnout Inventory for Emotional Exhaustion, Depersonalization and Personal Accomplishment were .81, .88 and .94 respectively.

The results of the reliability tests for the three instruments showed that they all had high internal consistency for the group of secondary school principals in Hong Kong.

### **Modifications**

Based on pilot test results, content modifications of the instruments were made as follows:



### **(1) Demographic information sheet**

Expansion of categories was made to No.6: “Number of classes in your school” with additions of 20-25; 26-30; 31-35; 36-40.

### **(2) Modified ASI**

Newly-added items include No.3 “Administering School Improvement Projects that are beyond my educational expertise (e.g. construction, Information Technology & building maintenance)” and No. 18 “Administering the negotiated contracts (e.g. construction, maintenance etc.” Items provided with examples were No.24: “Trying to resolve difference between/among superiors (e.g. school managers of the School Management Committee)” and No.17: “Complying with government and organizational rules and policies (e.g. educational reforms, change of policy)”. Apart from this modification, two open-ended questions probing the additional sources of stress of the principals were set at the end of the questionnaire (Appendix 4).

### **Ways of calculating the modified ASI score**

The level of a particular type of stress was obtained by scoring all items in a particular category. The Role-Based Stress score was determined by adding the scores of seven items (5, 8, 9, 10, 14, 19, 22). The Task-Based Stress score was obtained by adding the scores of ten items (1, 2, 4, 6, 7, 11, 16, 20, 21, 25). The Conflict-Mediating Stress score was obtained by adding the scores of three items (12, 15, 24) while the Boundary-Spanning Stress score was obtained by adding the scores of five items (3, 13, 17, 18, 23). Details of the content are at Appendix 4.

**(3) Modifications of MBI**

The reasons for the modifications were that the words and the meaning of the sentence were too hard to understand. Table 3.5 shows that simple words were used to replace the original word such as Nos. 10 and 18. In Item No.20, it has been rewritten. The serving targets was changed from “my students” to “my staff and students” as in Nos. 04, 05, 07, 17 and 22.

Table 3.5  
Modified Items of MBI-ES

Item No.	Original version	Modified version
04	my students	my staff and students
05	my students	my staff and students
07	my students	my staff and students
10	Callous	Tough
17	my students	my staff and students
18	Exhilarated	Cheerful
20	I feel like I’m at the end of my rope.	I feel like I can’t take any more.
22	Students	students and staff

**(4) Modifications of Coping Preference Scale**

For Coping Preference Scale, three changes were made. First, No. 15 “Talk to district administrators or other school principals” has been changed to “Talk to EMB district administrators OR other school principals OR members of professional educational bodies”. Second, the word “biofeedback” in No.19 has been deleted. Third, “Not applicable” has been changed to “Never”. Apart from this modification, two open-ended questions probing the effective coping strategies that the principals have used were set at the end of the questionnaire (Appendix 5).



### **Ways of calculating the modified MBI score**

Each subscale has to be scored separately. The level of a particular type of burnout was obtained by scoring all items in a particular category. The Emotional Exhaustion score was determined by adding the scores of nine items (01, 02, 03, 06, 08, 13, 14, 16, & 20). The Depersonalization score was obtained by adding the scores of five items (05, 10, 11, 15, 22). The Personal Accomplishment score was obtained by adding the scores of eight items (04, 07, 09, 12, 17, 18, 19, 21). Details of the content were attached at Appendix 6.

### **Issues on MBI 7-point scale**

Regarding the content of the Maslach Burnout Inventory, four respondents commented that the responses in the form of frequencies from “never” to “every day” might not be suitable for every item and also a 7-point scale might not be a good one. One respondent was so concerned about this problem that he discussed it in great depth with the researcher on the phone. Since 40% of the respondents had such a serious concern, the researcher wrote to the Consulting Psychologists Press (CPP) on 31 May 2004 seeking for clarification. On 2 June 2004, CPP replied that the frequency scale was correct and no changes of the scale should be made if the inventory was to be used (Appendix C1).

Upon analyzing the order of the three instruments, it was found that the Administrative Stress Index was intensity-scale based, Coping Preference Scale was also an intensity-scale based followed by the Maslach Burnout Inventory which was frequency-scale based. Because of this order, the respondents would find it difficult to adapt to a frequency-scale based instrument whereby some items, to the respondents, did not seem to fit in a frequency-based scale after scoring two intensity-scale based instruments.

### **Caveat Procedures for the Main Study**

In order to avoid any confusion, two caveat procedures were implemented in the main study. The first caveat procedure was that the order of 450 three-instrument questionnaires was randomized in three sets. The first set of 150 questionnaires was arranged with Modified Administrative Stress Index came first, followed by Coping Preference Scale and ended up with Maslach Burnout Inventory. The second set of 150 questionnaires was arranged with Coping Preference Scale came first, followed by Maslach Burnout Inventory and ended up with Modified Administrative Stress Index. The final set of 150 questionnaires was arranged with Maslach Burnout Inventory came first, followed by Modified Administrative Stress Index and lastly ended up with the Coping Preference Scale. The second caveat procedure was that the instruction of the MBI-ES had changed from “Please indicate the **extent** on how you feel by circling the number” to “Please indicate the **frequencies** on how you feel by circling the number”.

In distributing the questionnaires, each of the three types mainstream of secondary schools was given three different sets of questionnaires as described in the above paragraph.

## **Main Study**

### **Validity**

According to Slavin (1992, p.78), “A measure’s validity refers to the degree to which it actually measures the concept it is supposed to measure.” Slavin (1992, p.79) further discussed that there are five major types of validity: face validity, content validity, predictive validity, concurrent validity, and construct validity. In this study, it would focus on content validity, predictive validity, concurrent validity,



construct validity, and validity of postal questionnaires.

## **Content Validity**

Slavin (1992) pointed out that content validity can be achieved when

The content of a test matches some objective criterion such as the content of a book, the skill required to do a certain job, or knowledge deemed to be important for some purpose.... Content validity is usually established by showing a comparison between the concepts tested by the test items and those covered in the text .....(pp 78-79)

All content of the three instruments -ASI, CPS, MBI (ES)- were well-validated. In order to ensure that there were no ambiguous, irrelevant, non-applicable items included in the three questionnaires for the Hong Kong secondary school principals, a pilot test including ten principals from government, aided and private sectors was carried out before the main study. Based on the feedback of the ten respondents, the instruments were modified to ensure that the content and wording were relevant, appropriate and understandable so that the possibility of misinterpretation was kept at a minimum. Since “the concept tested in the modified questionnaires matched those covered in the well-validated instruments” (Slavin, 1992, p.79), as shown in the pilot study, the three questionnaires could be considered to have content validity in the Hong Kong context.

## **Concurrent Validity and Predictive Validity**

Slavin (1992, p.79) describes concurrent validity as “the correlation between scores on a scale and scores on another scale or measure of established validity given at about the same time” while predictive validity as “the degree to which scores on a scale or test predict later behaviour”. To find out if concurrent validity and predictive validity existed among stress, coping strategies and job burnout, Pearson

Product-Moment Correlations coefficients and stepwise regression analysis would be used respectively. An example testing similar validities by using the same statistical tests was conducted by Shumate (1999).

### **Construct Validity**

Yin (1994) explains construct validity is the establishment of “ correct operational measures for the concepts being studied,” (p.143). Slavin (1992) explains the term construct validity as follows:

Construct validity refers to the degree to which scores on a scale have a pattern of correlations with other scores or attributes that would be predicted by a well established theory.... Construct validity is high when we can demonstrate that a scale not only correlates with other measures with which it is supposed to correlate but also fails to correlate with measures of concepts from which it is proposed to be different. (p.80)

In order to find out if the modified three instruments have an acceptable construct validity, confirmatory factor analyses were used to test the goodness of fit to the sample data.

### **Validity of postal questionnaires**

Cohen and Manion (1989), quoting Belson (1975, 1986), say that the validity of postal questionnaires depends on (1) whether respondents who complete questionnaires do so accurately and (2) whether non-respondents would have the same distribution of answers as those respondents who complete questionnaires. To ensure the respondents could complete the questionnaires accurately, three precautions were undertaken. First, all relevant items and instructions for completing the three questionnaires were written in the most clear and accurate manner after the pilot study so that any possibility of misunderstanding could be



minimized. Second, the cover letter explained every important aspect of the study including the background, significance, importance of the respondents' contribution; the ways the research results are used; suggested time needed to complete the survey; and the way of returning the completed questionnaire. Third, all printed pages of the postal questionnaires would be checked before the mailing so that none of the pages would be missing

## **Reliability**

### **Reliability of the Instruments**

Based on Slavin (1992, p.75), reliability refers to “the degree to which a measure is consistent in producing the same readings when measuring the same things”. Wiersma (1991) clarifies the term “research reliability” by saying that

Reliability of research concerns the replicability and consistency of the methods, conditions, and the results... Internal reliability refers to the extent that data collection, analysis, and interpretation, are consistent given the same conditions.... External reliability deals with the issue of whether or not independent researchers can replicate studies in the same or similar settings (p.7).

### **Methods to increase reliability**

In the pilot study, although the overall coefficient alphas of the three instruments were within acceptable level with ASI at .92, Coping Preference Scale at .72 and Maslach Burnout Inventory at .81 for Emotional Exhaustion, .88 for Depersonalization and .94 for Personal Accomplishment, it is important to ensure the reliability level was also acceptable in the main study. To this end, the following two methods were used.

First, the whole population of 450 mainstream secondary school principals in Hong Kong were all invited to participate in this study. By doing so, the sample size chosen was big and representative enough to generalize the findings. This supported what Cohen and Manion (1989) said:

Correct sample size depends upon the purpose of the study  
and the nature of the population under scrutiny (p.104)

Second, coefficient alphas were calculated to estimate the internal consistency of each of the four factors of the modified Administrative Stress Index; seven factors of the Coping Preference Scale and the three subscales of the Maslach Burnout Inventory. By doing so, we could find out if the existing factor groupings were suitable in the Hong Kong context. If the alpha of the individual factor was too low, exploratory factor analysis (EFA) would be computed to find out possible factor regrouping. If the EFA factor regroupings did not fit into any conceptually-acceptable category, the researcher would try to reclassify the factors by reshuffling the items using the original CPS version as a basis as far as possible. After this step was taken, the reliability tests for the regrouped factors would be computed.

### **Methods of Increasing Response Rate**

A review of the literature specific to the field of administrative stress studies done in Hong Kong has shown various response rates, with return rates of 57.6 % for Wong's study (1983) on Hong Kong secondary school principals on burnout syndrome (Note: The subjects only included government and aided sectors); 65.7% for Man's study (1988) on Hong Kong secondary school principals on job stress (Note: Only one-third of each sector of the three types of schools was taken); 48.5% for Cheng (1993) on Hong Kong secondary assistant school principals on



occupational stress; and 25.6 % for Chan's study (2002) on Hong Kong primary school headteachers' work stress. In the territory-wide survey on stress and teachers for all Hong Kong primary and secondary schools conducted by the Hong Kong Federal Education Workers (2004), the response rate from school heads from primary and secondary sectors without breakdown was 11.7%. These findings indicated that the response rates of similar research were not high in Hong Kong context. In view of the recent educational reforms, principals were heavily loaded with work. Also, when the data of this study was collected, it was in the month of June which was the busiest month for the principals as it was drawing near the close of an academic year. Hence, there would be difficulty to secure a response rate that would be adequate for analysis.

As the author did not have any voluntary official position with the related professional bodies and it was their normal practice not to sponsor study from an independent researcher, the author did not receive any support such as an endorsement letter for the current study.

To ensure that an adequate response could be secured, the author sought advice from the ten principals who were subjects in the pilot study. Most of the principals suggested the best way to secure an acceptable response rate was to telephone each principal explaining the purpose and significance of the study within a week after the questionnaire was sent out. By talking to 450 principals individually, they would have a better understanding of the study. Hence, the response rate might be higher. Although it was highly time-consuming, the principals opined that it was worth doing as it was the most effective way of getting an adequate response rate for analysis. The author followed the advice from these principals.

## **Data Collection**

There were two parts in the postal package. The first part was two letters including a letter from the researcher's supervisor confirming the purpose of the study (Appendix 1) and a letter from the researcher stating the reasons and importance of the survey (Appendix 2). Both letters from the supervisor and the researcher stressed that the information collected was solely used for the study. The second part included four questionnaires which were the demographic information, modified Administrative Stress Index, Coping Preference Scale and Maslach Burnout Inventory. A form requesting for Personal Profile Report and Group Summary Report and a self-addressed stamp envelope were sent together with the questionnaire to facilitate the return of completed questionnaire. The questionnaires were sent on 7 June 2004 and the data collection was closed on 3 August 2004.

## **Ethical Concerns in Research**

### **Methods addressing ethical concerns**

There were four common ethical concerns in conducting surveys and polls as suggested by Babbie (2004). The four concerns are voluntary participation; no harm to respondents; anonymity and confidentiality; and analysis and reporting. Based on Babbie's suggestions, the author used the solutions as depicted in Table 3.6 to address the four concerns related to ethical issues. First, in order to increase voluntary participation, the format and design of the three questionnaires were consistent and the words of the questionnaires were bold enough to hold the attention of the respondents (see Appendices 3-6). The value and justification of the survey were elaborated in the cover letter (see Appendix 1). In addition, a personal profile report and group summary report would be delivered to the respondents upon request as the participants had every right to know their stress level, coping strategies and



burnout level and also the group performance. Second, sensitive questions were avoided such as asking a respondent's marital status.

Third, in the cover letter, it explained that the self-addressed stamped envelopes were coded to allow the author to follow-up non-respondents. Survey materials which did not have any coded number were separated from the envelopes to ensure the respondents' confidentiality. This arrangement could help to achieve anonymity as the respondents had two options. They could either choose to be known by sending back the questionnaire in a pre-coded envelope or they could choose to wipe out the pre-coded number or tear off a small part of the postal label that had a pre-coded number on it. By using this choice-method, the author could spot the non-respondents for follow-up and the respondents could choose to be anonymous if they wanted to. It was noted that the returned envelopes showed that only eight respondents had used the said methods to remain anonymous. To ensure confidentiality, only group results would be reported and also the data would be destroyed after the study was completed (see Appendix 2).

Fourth, the purposes, significance and possible contribution of this study were explained in the cover letter (Appendix 1). Having no sponsor in this study implied that it was a fully independent study without any possible influence charged on the results from any sponsoring body. Finally, care was taken to ensure that the results of the questionnaires were used for the original purposes only. Appropriate statistical analyses were used to draw reliable and valid conclusions. Based on the statistical analyses results, reporting could be objective.

Table 3.6 Solutions to Ethical Problems in the Survey Study

(Modified from Babbie 2004, pp 63-68)

Ethical Concerns	Solutions
1. Voluntary participation	<ul style="list-style-type: none"><li>● Survey design improved</li><li>● Value and justification of the survey made clear in the cover letter</li><li>● Personal Profiles &amp; Group Summary Profiles offered upon request</li></ul> <p>(Note: Appendices 3 to 6 supported the first bullet point while the next two bullet points were explained in the cover letter at Appendix 1.)</p>
2. No harm to respondents	<ul style="list-style-type: none"><li>● Sensitive questions avoided e.g. marital status</li></ul>
3. Anonymity and confidentiality	<ul style="list-style-type: none"><li>● Choices given for anonymity. All questionnaires had no number on it. However, respondents could choose to return the pre-coded envelopes or wipe out the pre-coded number.</li><li>● Confidentiality was guaranteed as group results would only be reported.</li><li>● All data would be destroyed after the study was completed.</li></ul> <p>(Note: These three bullet points were explained in the cover letter at Appendix 1.)</p>

Data Analysis Procedures

Statistical analyses tests

Descriptive statistics including percentage, mean scores, standard deviation and frequency analysis were computed for demographic data. To find out the answers to the three research questions, similar statistical procedures together with rank orders were used to find out the major stressors as measured by the modified Administrative Stress Index, the most preferred coping strategies as reflected by the Coping Preference Scale and the burnout level of the three subscales as measured by the



Maslach Burnout Inventory. Pearson Product-Moment Correlations coefficients were computed to determine if significant relationships existed, if any, in the first four hypotheses. For hypothesis 5, stepwise regression analysis was employed to find out, if any, the best predictors of burnout. For hypothesis 6, hierarchical regression analysis was used to identify the coping strategy factor, if any, that could moderate between stress level and burnout level.

Cronbach Alpha Reliability Test was used to find out the overall reliability of each instrument and each factor of the three instruments. If the alpha of any factor in any instrument was too low, exploratory factor analysis would be used to identify the best combination of items that could be regrouped in the appropriate factor. Using EQS programme, Confirmatory Factor Analysis was computed to find out if construct validity could be established among the modified Administrative Stress Index, Coping Preference Scale and the Maslach Burnout Inventory in the Hong Kong context.

### **Testing of factor reliabilities of ASI, MBI and CPS**

Since the Administrative Stress Index (ASI), the Coping Preference Scale (CPS) and the Maslach Burnout Inventory (MBI) have never been used for the target group of secondary school principals before in Hong Kong, reliabilities tests of the original factor groupings for the main study would be computed before further analyses were made. Results show that the reliabilities of the ASI four factors and MBI three factors were all within acceptable level (Chapter 5 pp 211-213). However, the reliabilities of the last two CPS factors were below an acceptable level. The following provided a detailed explanation for changing the seven-factor CPS to five factors.

**Reasons why the 7-factor Coping Preference Scale  
had to be reduced to 5 factors**

The Cronbach alpha of 26-item CPS in this study is .88. However when the alphas of the 7 factors of the CPS were computed, Table 3.7 shows that factors 6 and 7 had very low alphas at .19 and -.03 respectively.

Table 3.7  
Reliabilities of Seven Coping Preferred Factors

	Coping Factors	Alpha
1	Good Physical Health Programme	.73
2	Withdrawal & Recharging	.78
3	Intellectual, Social & Spiritual Support	.64
4	Positive Attitude	.63
5	Realistic Perspective	.55
6	Time Management & Organization	.19
7	Increased Involvement	-.03

Allison (1997) only reported that the overall alpha of the CPS was .81 but he did not indicate the alpha of each of the seven factors. As there was no information available from Allison (1997), no data could be used to compare with the present study. Nevertheless, Allison (1997, p.43) said that:

However, with the information from the [Principal Components Varimax Method], factor analysis of some items were reclassified.

From the above statement, it shows that the classification of the seven factors was not solely based on the loadings distribution from the Principal Components Varimax Method factor analysis. It clearly indicates that some of the items were reclassified according to their face validity. In view of the low alphas of factors 6



and 7 in the current study, it warranted the need for computing Exploratory Factor Analysis so that new factor groupings could be established which might be more appropriate for this study.

### **Exploratory Factor Analysis of Coping Preference Scale**

Appendix 8 shows the results of the Exploratory Factor Analysis. The highest loading (figures printed in bold) of each coping strategy were selected from the six factors. Using this principle, a new combination of six factors was formed as reflected in Appendix 9.

Items grouped according to the factor loadings at Appendix 8 were translated into the item content as shown in Appendix 9. According to the newly-formed six groups of factors, it was difficult to identify each factor with an appropriate new title or description as the items in each group were conceptually unfit for one particular title.

Since the content grouping of the six factors could not conceptually fit into the correct heading, the factors were regrouped again based on the original 7 CPS factors grouping as far as possible for they were more acceptable in concept and content. Three regroupings were done. The first one was that Items 10, 21 from Factor 6 and Item 07 from Factor 7 were reallocated to Factor 5. These three items were conceptually related and acceptable to be grouped under Factor 5-Realistic Perspective. The content of Items 10, 21 and 07 was shown at Table 3.8.

Table 3.8

Content of the 3 Reallocated Items from the Original Factors 6 and 7 to  
Factor 5-Realistic Perspective

Item No.	Content
10	Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)
21	Establish office procedures so that visitors are screened (e.g. limit “open door policy”) and unplanned interruptions are kept to a minimum
07	Work harder (including evenings and weekends)

The second regrouping included Items 12 and 16 under Factor 2-Withdrawal and Recharging. The content of Item 12 was “Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)” while Item 16 says “Community involvement (e.g. coaching, service club membership, volunteering, etc.)

The last regrouping was that Item 25 which says “Socializing (e.g. lunch with other, playing cards, etc)” was regrouped under Factor 3-Intellectual, Social & Spiritual Support.

Table 3.9 presents the item combination comparison between the original 7-factor CPS and the newly-regrouped 5-factor CPS.



Table 3.9

Comparison between the Original 7-factor CPS and the New 5-Factor CPS by Items

Factor	Original items	Regrouped items
1 Good Physical Health Programme	5,9,13,18	5,9,13,18
2 Withdrawal & Recharging	4,14,19,20,23,24,25	4, <u>12</u> ,14, <u>16</u> ,19,20,23,24
3 Intellectual, Social & Spiritual Support	8,11,12,15	8,11,15, <u>25</u>
4 Positive Attitude	6,17,22,26	6,17,22,26
5 Realistic Perspective	1,2,3	1,2,3, <u>7</u> , <u>10</u> , <u>21</u>
6 Time Management & Organization (2 items)	10,21	-----
7 Increased Involvement (2 items)	7,16	-----

Note: Numbers underlined means item reallocated.

The items distribution of the newly-regrouped 5-factor Coping Preference Scale is tabulated at Table 3.10.

Table 3.10 Newly-Regrouped 5-Factor Coping Preference Scale

Factor	Items
1 Good Physical Health Programme	5,9,13,18
2 Withdrawal & Recharging	4,12,14,16,19,20,23,24
3 Intellectual, Social & Spiritual Support	8,11,15,25
4 Positive Attitude	6,17,22,26
5 Realistic Perspective	1,2,3,7,10,21

There are two reasons why factor loadings were not given to each of the five factors. First, since the factors were grouped according to concept and content, it is impossible to give a loading for each of the regrouped factors. Because of this, it is unlikely to give a weighting for each of the factors. Second, it is easier to compare the findings of similar research where only alphas of the factors were reported as Allison (1997) instead of loadings and weightings.

**Reliability of the new 5-factor CPS**

Table 3.11 depicts that the Cronbach alpha values of the first four factors of the 5-factor were very close to those with the original 7-factor version except that alpha value of Factor 5 was at .40 which was relatively low.

Table 3.11  
Comparison of Alphas between the Original CPS Version and the New CPS Version

Factor		Original 7-factor alphas	Regrouped 5-factor alphas
1	Good Physical Health Programme	.73	.73
2	Withdrawal & Recharging	.78	.76
3	Intellectual, Social & Spiritual Support	.64	.65
4	Positive Attitude	.63	.63
5	Realistic Perspective	.56	.40
6	Time Management & Organization (2 items)	.20	—
7	Increased involvement (2 items)	-.03	—

Although the alpha value of Factor 5 in the 5-factor CPS version was relatively low, which was at .40, it was still higher than those of the Factors 6 & 7 in the 7-factor version. The new 5-factor CPS was acceptable in this study because the overall alpha of CPS was at .88, which was high and the alpha values of the new 5-factor version of Factors 1 to 4 were very close to the original 7-factor version. Based on



these two statistical facts, the new 5-factor CPS version would be used as a basis for all subsequent statistical analysis.

### **Ways of calculating the modified CPS score**

The level of a particular type of coping factor was obtained by scoring all items in a particular category. The CPS1-Good Physical Health Programme score was determined by adding the scores of four items (05, 09, 13, 18). The CPS2-Withdrawal & Recharging score was obtained by adding the scores of eight items (04, 12, 14, 16, 19, 20, 23, 24). The CPS3-Intellectual, Social & Spiritual Support score was obtained by adding the scores of four items (08, 11, 15, 25). The CPS4-Positive Attitude score was obtained by adding the scores of four items (06, 17, 22, 26). The Realistic Perspective score was obtained by adding the scores of five items (01, 02, 03, 07, 10, 21). For the content items, see Appendix 5.

### **Assumptions**

It was assumed that mainstream secondary school principals in Hong Kong have no problem in comprehending and responding to questionnaire items in English, and hence no translation of any parts of the questionnaire from English into Chinese would be required.

It was assumed that the sample used in this research represented the general situation in the mainstream secondary schools in the government, aided and private sectors of Hong Kong.

## **Critique of the Research Method**

### **Types of school and sample size**

Compared with the previous studies which mainly focussed on public secondary schools (Shumate, 1999, Muthalib 2003), this study covered all three main types of mainstream secondary school which were government, aided, and private. Due to limited resources, only one-third of the total sample subjects in all three types of secondary schools were randomly chosen in Man's (1988) study but in this study, all subjects in the three types of mainstream secondary school were all invited. By school types and sample size of the target population, this study was designed in the most comprehensive manner.

### **Using choice-method for survey return**

In order to observe confidentiality and anonymity of the respondents, all questionnaires and return envelopes were not coded as in Allison's (1997) study. As a result, it was impossible for Allison (1997) to do any non-return follow-up. However, in some studies, all questionnaires were coded (Harvey 2002, Peterson 2003) which might infringe the confidentiality of the respondents. To strike the balance, all questionnaires in this study were not coded but all return envelopes were coded. As explained on pp115-116, respondents were provided choices in sending their questionnaires back. The result of using the choice-method shows that only eight out of 315 respondents chose to remain anonymous by wiping out the pre-coded number on the envelope. This choice-method could solve the problems of keeping respondents' anonymity and following-up on non-respondents.



### **Data Collection- Reactive versus Proactive approach**

Follow-up mailings have shown to be an effective way to maximize the response rate in mail surveys. Babbie (2004 p.260) reported that “trends were noted in the response rates with mail surveys when follow-up mailings were sent. Specifically, within two weeks after the first mailing, approximately 40% of the questionnaires were generally returned. An additional 20% were received after the initial follow-up mailing, while another 10% were received after the second follow-up mailing. It is recommended that such follow-up mailings occur within two to three weeks of the initial mailing”. This three-mailing method with initial postal survey followed by two follow-up mails within two to three weeks is quite reactive and it is difficult to obtain an adequate response rate especially when the survey was done in June as this month is close to the end of the academic year.

Quite contrary to this classic approach, the researcher used a proactive approach as to telephone each of the 450 respondents explaining the purpose and significance of the study within a week after the questionnaire was sent out. By acting on the pilot study principals’ advice for taking this proactive approach, the author successfully reached 97% of the sample population in four weeks by phone after the questionnaires were sent and received encouraging responses. Details of the remarks made by some of the school principals on phone were described in Appendix 10.

This proactive approach has revealed four unexpected findings. First, more than ten principals requested the author to fax them the questionnaires instead of posting the questionnaires again so that they could help the author to save time and money. Second, it was checked that some respondents had returned the questionnaire weeks ago but due to mail loss, the author still could not receive them

on the day the author called them. Because of this, the respondents volunteered to ask the author to send the questionnaire to them again. Third, some principals were so enthusiastic to help that they asked the author to wait till late July. This group of principals finally sent their questionnaire in July as promised. Fourth, some principals indicated very clearly that they did not plan to fill out the questionnaire but they said they would change their mind as very few researchers were so caring about their stress and burnout problems.

It could be argued that the proactive telephoning method might interrupt the principals' time. Also, it might violate the rule of voluntary participation as some of the principals might be the researcher's friends, colleagues, classmates and teachers. Because of these relationships, the respondents might be obliged to help. Moreover, since the researcher explained the purpose and significance of the research to the respondents, the respondents might give socially desirable scorings.

For the first concern, it could not be substantiated because the researcher would still call the respondents if they did not respond after two mailings. Calling the principal would definitely be done. It was just a matter of timing. The late calling after the second mailing might result in the possible fact that the principals could not be reached as they were on summer holidays. For the second concern, it might be, to a certain extent, true but compared with the total target population of 450, the percentage of researcher's acquaintances was very small. In fact, not all the acquaintances that the researcher had telephone contact returned the questionnaires. Same thing might happen even if the calling was made after the two mailings. For the third concern, the respondents could choose to be anonymous and non-anonymous in returning the questionnaire, so they did not have to provide socially desirable scorings. Although telephone contact was made, second mailing and third mailing



by fax and by post were also sent to respondents.

### **Caveat procedures in handling the Maslach Burnout Inventory**

Responding to the concerns raised in the pilot test on “issues on MBI 7-point scale” (p.108), randomizing the order of the questionnaires in three sets and rewording the instruction of the Maslach Burnout Inventory Instrument were done. This caveat procedure was necessary as it could minimize any possible confusion of filling out a frequency-scaled instrument (MBI) after having completed two intensity-scaled instruments first (ASI, CPS). The finding shows that only three out of 315 respondents in the main study had made similar remarks as those made in the pilot study whereas in the pilot study, four out of 10 principals had expressed the same concern. In the pilot study, principals’ concerns regarding the validity of the Maslach Burnout Inventory were not substantiated as the Confirmatory Factor Analysis result indicates that the instruments were valid in the Hong Kong context (pp 209-211).

### **Limitations**

Participation in the study was totally voluntary. Whether the response rate could be adequate for analysis depended upon the willingness of respondents to participate in the study.

The level of stress and degree of burnout as perceived by the principals might be influenced by other factors outside the job, such as personal, family, and financial, that may have affected the survey results.

The level of stress, coping skills preferences and degree of burnout as perceived by the principals might be varied according to their memories of stressful situations,

coping experiences and the past feelings of Emotional Exhaustion, Depersonalization and Personal Accomplishment with their job.

Despite strict confidentiality being assured, the accuracy of survey results depended on the self-perception, openness and honesty of principals in responding to the questions.

### Summary

With regard to the design of this study, justifications were made for using the non-random sampling postal survey method. Reasons for choosing, ways of modifying and using the three instruments --- Administrative Stress Index, Allison Coping Preference Scale and Maslach Burnout Inventory --- were provided. Five types of validity (content, predictive, concurrent, construct and postal), which would be tested in the main study, were explained. Reliability and methods of increasing the reliability of the study were discussed. Ethical issues of this study were addressed. As for the procedures for data analysis, apart from the appropriate statistical tests for finding out the answers of the three research questions and the six hypotheses, statistical reasons were given why the newly-regrouped 5-factor Coping Preference Scale would be used as a basis for analysis in the main study. Assumptions and limitations of this study were examined. A critique of research methods revealed that this study has adopted a comprehensive sample covering all three types of mainstream secondary school. The use of choice method for survey return achieved the purposes of maintaining respondents' anonymity and following-up on non-respondents. Proactive approach of data collection was proved to be an effective way to maximize response rate. Caveat procedures of randomizing the order of the questionnaires in three sets and rewording the instruction of the Maslach Burnout Inventory Instrument raised the levels of reliability. Limitations of the study were discussed.



## Chapter 4

### Results

The purpose of this chapter is to present the findings obtained from the postal survey collected from the mainstream secondary school principals in Hong Kong. There are two parts in this chapter. The first part begins with the report of the response rate, followed by the presentation of demographic information. The findings of the administrative stressors, preferred coping strategies and levels of burnout are reported in the second part. Then, the relationships between stress, coping strategies and burnout among mainstream secondary school principals are presented. Predictors and coping moderators of burnout are then identified.

#### Response rate

450 questionnaires were sent out to government, aided and private mainstream secondary schools. Three hundred and twenty-seven secondary school principals responded with a 72.6% return rate. However, 12 of them were incomplete, therefore only 315 questionnaires were used for data analysis. Table 4.1 shows that the overall usable questionnaires return rate was adjusted to 70%. It also shows the breakdown of each type of school with over 50 % for each category which was adequate for analysis and reporting (Babbie, 2004, p.261). Among these three types of schools, the highest return rate was government school (81%), aided school (70%) came second and private school came third (60%). With a 70% return rate, the results of this questionnaire survey could be considered as representative of the opinions with regard to the stress level, coping strategies and burnout level of the Hong Kong mainstream secondary school principals in 2003-2004.

Table 4.1  
Response Rate of the Postal Survey with Regard to Stress, Coping Strategies and Burnout of the Hong Kong Secondary School Principals in 2003-2004

Type of school	No. of schools received questionnaires	No. of schools returned usable questionnaires	Percentage of return
Government	36	28	81%
Aided	369	259	71%
Private*	45	27	60%
Total	450	315	70%

\* Private schools include direct subsidy and caput schools.

Response rate of Personal Profile Report and Group Summary Report

63% of respondents requested for personal profile report and 66% asked for group summary report.

Demographic Findings

The aim of this section is to describe the demographic data collected from the secondary school principals in the study. The information in each table presented the frequencies and percentages.

Table 4.2 shows the gender of school principals who participated in the study. 220 (69.8%) of the respondents were male principals and 95 (30.2%) were female principals.

Table 4.2  
Gender of Principals

Gender	Frequency	Percent
Male	220	69.8
Female	95	30.2
Total	315	100.0



Table 4.3 categorizes the respondents by age. The age range was from 36 to 65. The age group 51 to 55 which occupied 38.3% represented more than one-third of the total sample population. Although 60 is the official retiring age, four principals were still hired in the age category between 61 and 65.

Table 4.3  
Age Distribution of Principals

Age	Frequency	Percent
Below 36	1	0.3
36-40	8	2.6
41-45	49	15.7
46-50	76	24.3
51-55	120	38.3
56-60	55	17.6
61-65	4	1.3
Total	313	100.0

Note: Two respondents did not identify their age.

Table 4.4 depicts the education qualification levels of participating principals. 85 (27.1%) had obtained bachelor degree. 208 (66.2%) had master degree. 21 (6.7%) had attained doctoral degree. Master degree holders remained as the majority in this study.

Table 4.4  
Education Qualification Level

Qualification	Frequency	Percent
Bachelor	85	27.1
Master	208	66.2
Doctorate	21	6.7
Total	314	100.0

Note: One respondent did not specify his/her qualification.

Table 4.5 shows the number of years that the respondents had served as a principal. More than one-third (35.2%) of principals served between five and ten years which ranked top on the list; one to four years ranked second (29.8%) and eleven to fifteen years followed as third (16.8%).

Table 4.5  
Number of Years Serving as a Principal

Years	Frequency	Percent
1-4	94	29.8
5-10	111	35.2
11-15	53	16.8
16-20	30	9.5
21-25	15	4.8
26-30	8	2.5
31-35	2	0.6
36-40	2	0.6
Total	315	100.0

Table 4.6 shows the type of secondary school that the principals served. Majority of the respondents served in aided schools which occupied 82.2% of the total population. The percentage of government school and private school was very close with 9.2% and 8.6% respectively.

Table 4.6  
Type of Secondary School

Type	Frequency	Percent
Government	29	9.2
Aided	259	82.2
Private	27	8.6
Total	315	100.0



Table 4.7 describes the Number of Classes. 54.9% (173) of schools had 26 to 30 classes which was the majority. There were two schools (0.6%) which had the smallest Number of Classes with 1 to 5 whereas there was only one school (0.3%) that had over 40 classes.

Table 4.7  
Number of Classes

Number	Frequency	Percent
1-5	2	0.6
6-10	4	1.3
11-15	11	3.5
16-20	10	3.2
21-25	64	20.3
26-30	173	54.9
31-35	37	11.7
36-40	13	4.1
Over 40	1	0.3
Total	315	100.0

Table 4.8 shows the student enrollment data for secondary schools. The smallest enrolment was less than 320 students while the largest enrollment was over 1200. 52.1% of the principals worked in schools with 1001-1200 students while 1.9% of the principals served less than 320 students.

Table 4.8  
Number of Students

Number	Frequency	Percent
Less than 320	6	1.9
320-500	10	3.2
501-800	21	6.7
801-1000	78	24.8
1001-1200	164	52.1
Over 1200	36	11.4
Total	315	100.0

Table 4.9 presents the number of assistant principals assisting the principals in the secondary schools. 67.6% of principals had two assistant principals; 8.3% of assistant principals had no principals while 0.3% of principal had over four assistant principals.

Table 4.9  
Number of Assistant Principals

Number	Frequency	Percent
0	26	8.3
1	53	16.8
2	213	67.6
3	22	7.0
4	1	0.3
Total	315	100.0

Table 4.10 describes the history of schools. 24.1% of schools had a history of 21 to 30 years which was the majority. Those schools that had 1 to 5 years of history occupied 7.3% while those that had over 100 years of history occupied 3.8%.

Table 4.10  
History of School

Years	Frequency	Percent
1-5	23	7.3
6-10	21	6.7
10-20	43	13.7
21-30	76	24.1
31-40	63	20.0
41-50	34	10.8
Over 50	43	13.7
Over 100	12	3.8
Total	315	100.0



### **Summary of Demographic Findings**

Of the 315 respondents, the data indicated that 69.8% were male and 30.2% were female. Their typical age was between 51 to 55. The principals were very likely master degree holders. 35.2% of respondents have served as a principal for five to ten years. 82.2% of the school principals worked in the aided schools. More than half of the sample population had 26 to 30 classes. On average, the principals worked in schools with 1001-1200 students. 67.6% of principals had two assistant principals while 8.3% of principals had no assistant principals. 24.1% schools had a history between 21 and 30 years which was the majority whereas 17.5% schools had a history of over 50 years.

### Research Question 1

**What are the major stressors perceived to affect Hong Kong secondary school principals, as determined by the modified Administrative Stress Index?**

By responding to the 25 work-related situations as listed in the modified Administrative Stress Index (ASI), the major stressors perceived by the mainstream secondary school principals could be determined (see Appendix 4). Principals were required to circle the appropriate response that best reflected the degree of stress associated with each event described in the list. These responses were divided into six categories on the 1 to 5 Likert-type scale: “not applicable” (coded NA), “almost never” (coded 1), rarely (coded 2), “sometimes” (coded 3), “usually” (coded 4), and “almost always (coded 5). The Hong Kong mainstream secondary school principals experienced a moderate level of stress.

#### Rank Order of ASI 25 items

The result of individual stressors in Table 4.11 was reported in rank order beginning with the question number containing the highest mean response with standard deviation. The range of the means was from 1.85 to 3.31. The difference in the range was 1.46, almost one and a half scale points on a five-point Likert-type scale.

The data from the top ten stressors in Table 4.11 indicate that the secondary school principals in Hong Kong were stressed due to boundary-spanning constraints (Rank 1-Item No.17; Rank 6-Item No. 06), heavy workloads (Rank 2-Item No 21; Rank 3-Item No. 16; Rank 4-Item No. 02; Rank 5- Item No. 20; Rank 7-Item No. 01; Rank 8-Item No.07; Rank 9- No.06) and mediating conflicts (Rank 10-Item No.12). Although Task-Based Stress category occupied eight items on the top ten list, the type of stress that ranked the top was Boundary-Spanning Stress as depicted in Item No.17: Complying with government and organizational rules and policies (e.g. educational reforms, change on policies) with a

mean at 3.31 and a SD at 1.11.

Despite being under stress from both external and internal sources, the data suggested that the principals had confidence in performing their duties especially in working smoothly with their superiors as represented by low scores in Item No. 24-Trying to resolve differences between/among superiors (e.g. school managers of the School Management Committee) (ranked 24<sup>th</sup>) and Item No. 10- Not knowing what my supervisor thinks of me, or how he/she evaluates my performance (ranked 25<sup>th</sup>).

Table 4.11  
Principals’ Responses to Work Related Stressors as Described in the Modified Administrative Stress Index by Rank Order

Rank	Item	Situations	Category	M	SD
1	17	Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)	BSS	3.31	1.11
2	21	Trying to complete reports and other paper work on time	TBS	3.14	1.06
3	16	Feeling that I have too heavy a work load, one that cannot possibly finish during the normal work day	TBS	2.95	1.15
4	02	Supervising and coordinating the tasks of many people	TBS	2.88	1.16
5	20	Feeling that meetings take up too much time	TBS	2.84	1.07
6	03	Administering School Improvement Projects that are beyond my educational expertise (e.g. construction, Information Technology & building maintenance)	BSS	2.84	1.11
7	01	Being interrupted frequently by telephone calls	TBS	2.84	0.99
8	07	Imposing excessively high expectations on myself	TBS	2.76	1.13
9	06	Having my work frequently interrupted	TBS	2.66	1.14



		by staff members who want to talk			
10	12	Trying to resolve parent/school conflicts	CMS	2.66	0.96
11	18	Administering the negotiated contracts (e.g. construction, insurance, maintenance etc)	BSS	2.59	0.95
12	23	Trying to gain public approval and/ or financial support for school programmes	BSS	2.57	0.96
13	15	Handling student discipline problems	CMS	2.53	0.93
14	13	Preparing and allocating budget resources	BSS	2.52	1.02
15	25	Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time	TBS	2.51	1.13
16	04	Writing memos, letters and other communications	TBS	2.48	1.07
17	08	Knowing I can't get information needed to carry out my job properly	RBS	2.40	0.95
18	05	Thinking that I will not be able to satisfy the conflict-demands of those who have authority over me	TBS	2.30	1.00
19	22	Trying to influence my immediate supervisor's actions and decisions that affect me	RBS	2.24	0.95
20	09	Trying to resolve differences with my superiors	RBS	2.19	1.00
21	19	Being unclear on just what the scope and responsibilities	RBS	2.19	0.85
22	11	Feeling that I have too much responsibility delegated to me by my supervisor/s	TBS	2.00	0.93
23	14	Feeling that I have too little authority to carry out responsibilities assigned to me	RBS	1.98	0.93
24	24	Trying to resolve differences between/among superiors (e.g. school managers of the School Management Committee)	CMS	1.97	0.94

25	10	Not knowing what my supervisor thinks of me, or how he/she evaluates my performance	TBS	1.85	0.85
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Note: TBS=Task-Based Stress; RBS=Role-Based Stress; BSS=Boundary-Spanning Stress; CMS=Conflict-Mediating Stress

Table 4.12 presents an analysis of the four stress factors with Boundary-Spanning Stress perceived to be the most stressful with a mean score of 2.76. Task-Based Stress came in second, followed by Conflict-Mediating Stress and Role-Based Stress.

Table 4.12  
Stress Factor Scores on the Administrative Stress Index by Rank Order

Rank	Stress Factors	N	M	SD
1	Boundary-Spanning Stress	315	2.76	0.76
2	Task-Based Stress	315	2.71	0.74
3	Conflict-Mediating Stress	315	2.39	0.72
4	Role-Based Stress	315	2.15	0.66

Open-ended responses

The final section of the modified Administrative Stress Index (Appendix 4) requires the principals to describe stressful situations that bother them at work. The reason for providing this open-ended section is to supplement what may be missing in the standard administrative stress questionnaire. 58 (18.4 %) respondents have provided additional situations about their job that bothered them. There was a total of 90 entries with 15 entries repeated as specified in the modified Administrative Stress Index. Results at Appendix 11 indicate that a total of 85 entries with 55 items included in the open-ended answer list. Out of the 85 entries, 58 items further provided examples of the four types of stressors while 27 items belonged to “Others”. Details of the content are provided on p. 277.

Research question 2

What are the coping strategies that the Hong Kong secondary principals use to reduce stress as measured by Coping Preference Scale?

Rank Order of the 26-item Coping Preference Scale

Table 4.13 depicts the rank order of the 26-item Coping Preference Scale. Among the top ten preferred coping strategies, half of them belonged to Factor 5- Realistic Perspective (Items Nos: 01, 02, 10, 08, 07) followed by Factor 4-Positive Attitude (Items Nos: 17, 06). Although there were six items of Factor 5- Realistic Perspective, the most preferred coping strategy was No. 17 “Approach problems optimistically and objectively” which belonged to Factor 4-Positive Attitude. The least preferred coping strategies items belonged to Factor 2-Withdrawal & Recharging (Items No: 25 and 26).

Table 4.13

Rank Order of Coping Preference Scale

Rank	Item	Strategies	Factor	M	SD
1	17	Approach problems optimistically and objectively	4-PA	3.80	0.83
2	06	Practise good human relation skills with staff, students and parents	4-PA	3.78	0.82
3	01	Set realistic goals (recognize job limitation )	5-RP	3.71	0.68
4	02	Delegate responsibility	5-RP	3.70	0.73
5	13	Maintain regular sleep habits	1-GPHP	3.64	0.99
6	10	Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)	5-RP	3.55	0.80
7	08	Engage in activities that support spiritual growth (inspirational music, art, reading, or religion)	3-ISSS	3.43	1.10
8	03	Maintain a sense of humour	5-RP	3.40	0.94



9	09	Maintain good health habits (e.g. watch weight, eat balanced meals, reduce intake of caffeine and refined sugar, keep proper concentrations of vitamins, etc.)	1-GPHP	3.36	1.10
10	07	Work harder (including evenings and weekends)	5-RP	3.33	0.99
11	11	Talk with family members or close friends	3-ISSS	3.18	1.05
12	12	Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)	2-W&R	3.17	0.89
13	22	Create more positive and self-supportive mental sets (e.g. use positive self-talk, recognize pros as well as cons, etc.)	4-PA	3.15	1.09
14	26	Utilize in-service opportunities to increase repertoire of management and communication skills	4-PA	3.00	0.90
15	24	Seek solitude, slow down work pace, take time to reflect	2-W&R	2.84	1.01
16	18	Regular physical exercise (e.g. aerobics, athletics, bicycling, fitness club, jogging, hiking, skiing, swimming, tennis, walking etc)	1-GPHP	2.82	1.22
17	14	Break from daily routine or temporarily change to a less stressful task	2-W&R	2.70	0.99
18	20	Compartmentalize work and non-work life	2-W&R	2.67	1.04
19	25	Socializing (e.g. lunch with other, playing cards, etc)	3-ISSS	2.60	1.01
20	05	Engage in active non-work or play activities (e.g. boating, camping, fishing, gardening, golfing, painting, playing a musical instrument, etc.)	1-GPHP	2.54	1.17
21	23	Take min-vacations (e.g. weekends away, etc.)	2-W&R	2.47	1.10
22	16	Community involvement (e.g. coaching, service club membership, volunteering, etc.)	2-W&R	2.45	1.15

23	15	Talk to EMB district administrators OR other school principals OR members of professional educational bodies	3-ISSS	2.31	1.15
24	21	Establish office procedures so that visitors are screened (e.g. limit "open door policy") and unplanned interruptions are kept to a minimum.	5-RP	2.19	1.11
25	04	Withdraw physically from the situation (e.g. leave the office or the school for a time)	2-W&R	2.11	1.17
26	19	Use relaxation and stress management techniques (e.g. auto-hypnosis, meditation, yoga, etc)	2-W&R	1.83	1.26

Note: 1-GPHP=Good Physical Health Programme; 2-W&R=Withdrawal and Recharging; 3-ISSS=Intellectual, Spiritual, & Social Support; 4-PA=Positive Attitude; 5=Realistic Perspective

### Rank Order of 5-factor Coping Preference Scale

Table 4.14 presents an analysis of the five groups of preferred coping strategies. Positive Attitude (CPS4) was the most preferred coping strategy used by the principals with Realistic Perspective (CPS5) came in second, Good Physical Health Programme (CPS1) as third and followed by Intellectual, Social & Spiritual Support (CPS3) and Withdrawal & Recharging (CPS2).

Table 4.14

Regrouped Coping Preference Scale Responses by Rank Order

Rank	Factor	Coping Factors	M	SD
1	CP4	Positive Attitude	3.44	0.63
2	CP5	Realistic Perspective	3.31	0.44
3	CP1	Good Physical Health Programme	3.09	0.84
4	CP3	Intellectual, Social & Spiritual Support	2.88	0.75
5	CP2	Withdrawal & Recharging	2.53	0.67

### Open-ended responses

The final section of the Coping Preference Scale required principals to provide additional effective coping techniques that they had personally used in handling tensions and pressures of their job (Appendix 5). There was a total of 101 entries, of which, 28

repeated the items as specified in the Coping Preference Scale. Results at Appendix 12 show that out of 75 entries, 51 items were further elaborations of the five coping strategies of the Coping Preference Scale. Details of the content are provided on pp 280-282.

**Research question 3**

**What are the levels of burnout of the Hong Kong secondary principals as measured by the three subscales of Emotional Exhaustion, Depersonalization, and Personal Accomplishment of the Maslach Burnout Inventory (MBI)?**

High, moderate, or low level of burnout was measured according to the categories in Table 4.15. High scores of Emotional Exhaustion and Depersonalization mean high level of burnout whereas high score of Personal Accomplishment means low level of burnout.

Table 4.15  
Categorization of MBI Scores

MBI subscale	Range of experienced burnout		
	Low	Moderate	High
Emotional Exhaustion	≤16	17-26	≥27
Depersonalization	≤6	7-12	≥13
Personal Accomplishment	≥39	38-32	≤31

Source: Maslach et al. (1996)- Maslach Burnout Inventory Manual

Table 4.16 depicts the comparison of the three categories of burnout as experienced by mainstream secondary school principals in Hong Kong who took part in the study. Personal Accomplishment ranked the highest with a mean rating of 34.98, followed by Emotional Exhaustion (20.55) and Depersonalization (8.00). According to the categorization of MBI in Table 4.15, principals in this study experienced a moderate level of Emotional Exhaustion, a moderate level of Depersonalization and a moderate level of Personal Accomplishment.



Table 4.16

MBI: Means of Emotional Exhaustion, Depersonalization and Personal Accomplishment

Rank	Category	Range	Mean	SD
1.	Emotional Exhaustion	0-52	20.55	10.53
2.	Depersonalization	0-22	8.00	4.53
3.	Personal Accomplishment	0-35	34.98	7.13

Table 4.17 indicates that 28 percent of the principals experienced a high level of burnout in Emotional Exhaustion, 32% moderate level of burnout in Emotional Exhaustion and 40% low level of burnout in Emotional Exhaustion. Overall, 60% of principals experienced moderate to high levels of burnout in Emotional Exhaustion. 19 % of the principals showed that they experienced a high level of burnout in Depersonalization, 40% moderate level of burnout in Depersonalization and 41% low level of burnout in Depersonalization. Overall, 59% of principals experienced moderate to high levels of burnout in Depersonalization. 38% of principals perceived that they experienced low level of Personal Accomplishment, 33% moderate level on Personal Accomplishment and 29% high level of Personal Accomplishment. Low scores on Personal Accomplishment increased the overall levels of burnout in Emotional Exhaustion and Depersonalization.

Table 4.17

MBI Cut-off Points and Percent of Principals in Each Subscale

MBI Subscale	Range of Experienced Burnout					
	Low Lower Third	Percent	Moderate Middle Third	Percent	High Upper Third	Percent
		N(%)		N(%)		N(%)
EE	≤16	127(40%)	17-26	100(32%)	≥27	87(28%)
DP	≤6	130(41%)	7-12	125(40%)	≥13	59(19%)
PA	≥39	119(38%)	38-32	103(33%)	≤31	92(29%)

Table 4.18 shows the rank order of Emotional Exhaustion. Of the 9 items, Item No.2 “I feel used up at the end of the workday.” had the highest mean response of 3.30 and a standard deviation of 1.62 while Item No.20 “I feel like I can’t take anymore.” had the lowest mean response of 1.76 and a standard deviation of 1.62.

Table 4.18  
Rank Order in MBI Emotional Exhaustion

Rank	No.	Item	M	SD
1	02	I feel used up at the end of the workday.	3.30	1.62
2	14	I feel I’m working too hard on my job.	3.18	1.74
3	01	I feel emotionally drained from my work.	2.35	1.39
4	03	I feel fatigued when I get up in the morning and have to face another day on the job.	2.34	1.64
5	08	I feel burned out from my work.	2.00	1.56
6	16	Working with some people directly puts too much stress.	1.97	1.39
7	06	Working with people all day is really a strain for me.	1.91	1.55
8	13	I feel frustrated by my job.	1.82	1.24
9	20	I feel like I can’t take anymore.	1.76	1.62

Table 4.19 presents the rank order of Depersonalization. Of the 5 items, Item No.10 “I’ve become more tough toward people since I took this job” had the highest mean response of 2.71 and a standard deviation of 1.69 while that Item No.15 “I don’t really care what happens to some students and staff” had the lowest mean response of 0.52 and a standard deviation of 0.92.

Table 4.19

Rank Order of MBI Depersonalization

Rank	No.	Item	M	SD
1	10	I've become more tough toward people since I took this job.	2.71	1.69
2	22	I feel students and staff blame me for some of their problems.	2.02	1.32
3	11	I worry that this job is hardening me emotionally.	1.81	1.52
4	05	I feel I treat some students and staff as if they were impersonal objects.	1.00	1.35
5	15	I don't really care what happens to some students and staff.	0.52	0.92

Table 4.20 presents the rank order of Personal Accomplishment. Of the 8 items, Item No.4 “I can easily understand how my staff and students feel about things” had the highest mean response of 4.75 and a standard deviation of 1.10 while Item No.17 “I can easily create a relaxed atmosphere with my students and staff” had the lowest mean response of 3.96 and a standard deviation of 1.40.



Table 4.20

## Rank Order of Personal Accomplishment Scores

Rank	No.	Item	M	SD
1	04	I can easily understand how my staff and students feel about things.	4.75	1.10
2	19	I have accomplished many worthwhile things in this job.	4.56	1.12
3	07	I deal very effectively with the problems of my students and staff.	4.55	1.13
4	09	I feel I'm positively influencing other people's lives through my work.	4.51	1.35
5	18	I feel cheerful after working closely with my students and staff.	4.40	1.18
6	21	In my work, I deal with emotional problems very calmly.	4.32	1.40
7	12	I feel very energetic.	4.08	1.39
8	17	I can easily create a relaxed atmosphere with my students and staff.	3.96	1.40

**Hypothesis 1**

**There are no significant correlations between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, Years as High School Principal, school type, number of classes, number of students, number of assistant principals and years of school history. (Null Hypothesis)**

The findings of this hypothesis were divided into two parts. First, the results of the relationships between gender and stress, coping and burnout were reported. Second, the correlations between age, highest earned qualification, Years as High School Principal, school type, number of classes, number of students, number of assistant principals and years of school history and stress, coping and burnout were presented.

T-test was used to determine the relationships, if any, between gender and stress, gender and coping strategies and gender and burnout level. The results are as follows:

**Gender and stress**

Table 4.21 shows that no significant gender differences were found for stress except in Role-Based Stress where male principals scored significantly higher than the female principals ( $t=2.45$ ,  $P<0.05$ ).

**Gender and coping strategies**

Table 4.21 reports that no significant gender differences were established for Good Physical Health Programme (CPS1), Withdrawal and Recharging (CPS 2) and Realistic Perspective (CPS5). However, female principals in this study had a significant higher score than their male counterparts both in Intellectual, Social and Spiritual Support (CPS3) ( $t=-2.90$ ,  $p<0.01$ ) and in Positive Attitude (CPS4) ( $t=-3.54$ ,  $p<0.05$ ) suggesting that female principals used significantly more Intellectual, Social and Spiritual Support (CPS3) strategies and Positive Attitude (CPS4) strategies to reduce stress than their male counterparts.

**Gender and burnout**

As presented in Table 4.21, female principals had a significant higher level of burnout in Emotional Exhaustion than the male principals ( $t= -2.05$ ,  $p<0.05$ ) while the male principals experienced a significant higher level of burnout in Depersonalization

The Pearson Product-Moment Correlation coefficients were computed to determine the relationship, if any, between the four subscales of the ASI, five factors of CPS, three subscales of MBI and age, highest earned qualification, Years as High School Principal, school type, number of classes, number of students, number of assistant principals and years of school history.

The correlations between Gender (GENDER) and stress, coping preferences and burnout level confirmed the relationships as reported in Table 4.21. Table 4.22 shows that Age (AGE) correlated significantly with Good Physical Health Programme (CPS1) at  $p < .05$ . Significant negative correlations were found between Age (AGE) and Task-Based Stress (TBS), and Emotional Exhaustion (EE), and Depersonalization (DP). The highest degree earned (EDUCATION) had negative correlations with Role-Based Stress (RBS) at  $p < .05$  but it had a significant positive correlation with Withdrawal and Recharging (CPS2) at  $p < .05$ .

Table 4.22 indicates that Years as High School Principal (YRSHSPRI) had significant negative correlations with Role-Based Stress (RBS), Boundary-Spanning Stress (BSS), Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < .05$ . Positive correlations were established between Years as High School Principal (YRSHSPRI) and Good Physical Health Programme (CPS1) and Withdrawal and Recharging (CPS2) at  $p < 0.5$ . No significant correlations were found between School Type and ASI, and CPS, and MBI. Only one negative correlation was established between the Number of Classes (NOC) and Depersonalization (DP) at  $P < .05$ . The Number of Students (NOS) had negative significant correlations with Conflict-Mediating Stress (CMS) and Depersonalization (DP) at  $p < .05$ . Also, it correlated significantly with Intellectual, Social and Spiritual Support (CPS3) at  $p < .05$ . The Number of Assistant Principals (NOAP) correlated positively with Good Physical Health Programme (CPS1) at  $p < 0.5$ . The school history had positive significant correlations with Good Physical Health Programme (CPS1), and Intellectual, Social and Spiritual Support (CPS3).

Among the nine demographic variables, Years as High School Principal (YRSHSPRI) had the greatest (six) of significant relationships followed by Gender (GENDER) (five) and Age (AGE) (four). The results show that since there were relationships between occupational stress, coping strategies, and burnout with all



than the female principals ( $t=2.57$ ,  $p<0.01$ ). No significant gender difference for Personal Accomplishment was found.

Table 4.21

T-test: Gender for ASI, CPS and MBI

	Male		Female			
	Mean	SD	Mean	SD	t	p
<b>Administrative Stress Index</b>						
Task-Based Stress	2.67	0.73	2.79	0.78	-1.41	0.16
Role-Based Stress	2.21	0.66	2.02	0.67	2.45	0.02 *
Conflict-Mediating Stress	2.39	0.72	2.38	0.73	0.20	0.84
Boundary-Spanning Stress	2.73	0.77	2.84	0.74	-1.11	0.27
Overall	2.52	0.62	2.54	0.56	-0.26	0.80
<b>Coping Preference Scale</b>						
1. Gd Phy Health Programme	3.15	0.83	2.95	0.84	1.91	0.06
2. Withdrawal & Recharging	2.54	0.67	2.51	0.66	0.42	0.67
3. Intellectual, Social & Spiritual Support	2.80	0.73	3.06	0.77	-2.90	0.01 **
4. Positive Attitude	3.39	0.67	3.54	0.53	-2.06	0.04 *
5. Realistic Perspective	3.30	0.45	3.34	0.44	-0.77	0.44
Overall	3.00	0.51	3.01	0.50	-0.51	0.61
<b>Maslach Burnout Inventory</b>						
Emotional Exhaustion	19.75	10.15	22.39	11.20	-2.05	0.04 *
Depersonalization	8.43	4.59	7.01	4.24	2.57	0.01 **
Personal Accomplishment	34.96	7.11	35.02	7.20	-0.07	0.94

\*: Significant at .05 level ; \*\*: Significant at .01 level

Table 4.22  
Correlations between Demographic Variables and ASI, CPS & MBI

	DEMOGRAPHIC VARIABLES							
	AGE	EDUCATION	YRSHSPRI	SCH TYPE	NOC	NOS	NOAP	HISTORY
TBS	-0.12 *	0.00	-0.04	0.06	-0.09	-0.10	-0.03	0.01
RBS	-0.07	-0.12 *	-0.13 *	-0.03	-0.06	-0.11	-0.06	0.02
CMS	-0.05	-0.01	-0.06	-0.04	-0.10	-0.14 *	-0.05	0.00
BSS	-0.09	-0.08	-0.13 *	0.04	-0.02	-0.05	0.01	0.06
CPS1	0.11 *	-0.01	0.13 *	-0.02	0.04	0.06	0.12 *	0.12 *
CPS2	0.01	0.13 *	0.13 *	0.05	0.03	0.06	0.04	0.09
CPS3	-0.01	0.04	0.05	-0.02	0.10	0.14 *	-0.01	0.14 *
CPS4	0.04	0.04	0.08	-0.02	0.02	0.07	-0.04	0.07
CPS5	0.03	0.04	0.06	-0.05	0.00	0.04	-0.01	-0.01
EE	-0.15 **	0.01	-0.18 **	-0.04	-0.08	-0.07	-0.04	0.00
DP	-0.24 **	0.05	-0.22 **	0.02	-0.12 *	-0.14 *	0.03	-0.07
PA	0.06	0.03	0.10	-0.04	0.01	0.04	0.02	-0.03

\*: significant at the .05 level (2-tailed)

\*\*: significant at the .01 level (2-tailed)

Note: YRSHSPRI=Years as High School Principal; SCH TYPE=School Type; NOC=Number of Classes; NOS=Number of Students; NOAP= Number of Assistant Principals

TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress; BSS=Boundary-Spanning Stress; CPS1 =Good Physical Health Programme; CPS2=Withdrawal and Discharging; CPS3=Intellectual, Social and Spiritual Support; CPS4=Positive Attitude; (CPS5) =Realistic Perspective; EE=Emotional Exhaustion; DP=Depersonalization; PA=Personal Accomplishment

**There is no significant relationship between occupational stress and coping strategies among the secondary school principals in Hong Kong. (Null Hypothesis)**

The Pearson Product-Moment Correlation coefficients were computed to determine the relationship, if any, between the subscales of the ASI and the five factors of CPS. Table 4.23 shows that all significant correlations were negative. In the category of Task-Based Stress (TBS), it had negative significant correlations with Good Physical Health Programme (CPS1); Positive Attitude (CPS4) and Realistic Perspective (CPS5) at  $p<.01$ , and Withdrawal and Discharging (CPS2) at  $p<.05$ . Role-Based Stress (RBS) had negative significant correlations with Good Physical Health Programme (CPS1) and Intellectual, Social and Spiritual Support (CPS3) at  $p<.05$ ; and Positive Attitude (CPS4) and Realistic Perspective (CPS5) at  $p<.01$ . Conflict-Mediating Stress had negative significant correlation with Positive Attitude (CPS4) at  $p<.01$ . Boundary-Spanning Stress had negative significant correlations with Good Physical Health Programme (CPS1); Positive Attitude (CPS4) and Realistic Perspective (CPS5) at  $p<.01$ , and Withdrawal and Discharging (CPS2) at  $p<.05$ . Although 13 negative correlations were statistically significant, there was very small practical significance, with the largest coefficient of determination ( $r$ ) of only about 4% ( $-0.21 \times -0.21$ ).

Table 4.23  
Correlation between ASI and CPS

	CPS Subscale									
	CPS1		CPS2		CPS3		CPS4		CPS 5	
TBS	-0.19	**	-0.11	*	-0.09		<b>-0.21</b>	**	-0.15	**
RBS	-0.13	*	-0.09		-0.12	*	-0.19	**	-0.15	**
CMS	-0.06		-0.06		-0.08		-0.16	**	-0.07	
BSS	-0.16	**	-0.14	*	-0.10		-0.16	**	<b>-0.17</b>	**

\*: significant at the .05 level (2-tailed)  
\*\*: significant at the .01 level (2-tailed)  
Numbers printed in bold means  $-0.21 \times -0.21=4\%$ ;  $-0.17 \times -0.17=3\%$

TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress; BSS=Boundary-Spanning Stress; CPS1 =Good Physical Health Programme; CPS2=Withdrawal and Discharging; CPS3=Intellectual, Social and Spiritual Support; CPS4=Positive Attitude; (CPS5) =Realistic Perspective

Result: Since there were relationships between occupational stress and coping strategies, hypothesis 2 was rejected.



There is no significant relationship between occupational stress and level of burnout among the secondary school principals in Hong Kong. (Null Hypothesis)

The Pearson Product-Moment Correlation coefficients were computed to determine the relationship, if any, between the subscales of the ASI and the three subscales of MBI. Task-Based Stress (TBS) correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p<.01$  but it had a significant negative correlation with Personal Accomplishment (PA) at  $p<.01$ . Role-Based Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p<.01$  and it had a negative correlation with Personal Accomplishment (PA) at  $p<.01$ . Conflict-Mediating Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p<.01$  whereas it had a significant negative correlation with Personal Accomplishment (PA) at  $p<.01$ . Boundary-Spanning Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p<.01$  while it had a significant negative correlation with Personal Accomplishment (PA) at  $p<.01$ .

Table 4.24 shows that Emotional Exhaustion (EE) and Depersonalization (DP) had positive significant correlations with all four types of stressor while Personal Accomplishment (PA) had negative significant correlations with all four types of stressor at  $p<.01$ .

Table 4.24  
Correlations between ASI and MBI

ASI Subscale	MBI Subscale		
	EE	DP	PA
TBS	0.63 **	0.42 **	-0.41 **
RBS	0.45 **	0.39 **	-0.39 **
CMS	0.40 **	0.32 **	-0.29 **
BSS	0.48 **	0.37 **	-0.35 **

\*\* : significant at the .01 level (2-tailed)

Note: TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress; BSS=Boundary-Spanning Stress; EE=Emotional Exhaustion; DP=Depersonalization; PA=Personal Accomplishment

Result: As there were relationships between occupational stress and level of burnout, hypothesis 3 was rejected.

There is no significant correlation between coping strategies and level of burnout among the secondary school principals in Hong Kong. (Null Hypothesis)

The Pearson Product-Moment Correlation coefficients were computed to determine the relationship, if any, between the subscales of the CPS and the three subscales of MBI. Table 4.25 shows that all CPS factors had negative significant correlations with Emotional Exhaustion (EE) at  $p<.01$  except Intellectual, Social and Spiritual Support (CPS3) whose significant level was at  $p<.05$ . Quite to the contrary, all CPS factors correlated significantly with Personal Accomplishment (PA) at  $p<.01$ . There were negative significant correlations between Good Physical Health Programme (CPS1); Positive Attitude (CPS4); Realistic Perspective (CPS5) and Depersonalization (DP) at  $p<.01$ .

However, no significant relationships were found between Withdrawal and Discharging (CPS2), Intellectual, Social and Spiritual Support (CPS3) and Depersonalization (DP).

Table 4.25  
Correlations between CPS and MBI

CPS Subscale	MBI Subscale					
	EE		DP		PA	
CPS1	-0.28	**	-0.18	**	0.25	**
CPS2	-0.18	**	-0.07		0.26	**
CPS3	-0.13	*	-0.07		0.28	**
CPS4	-0.32	**	-0.33	**	0.42	**
CPS5	-0.18	**	-0.15	**	0.29	**

\*: significant at the .05 level (2-tailed)  
 \*\*: significant at the .01 level (2-tailed)

Note: CPS1 =Good Physical Health Programme; CPS2=Withdrawal and Discharging; CPS3=Intellectual, Social and Spiritual Support; CPS4=Positive Attitude; (CPS5) =Realistic Perspective; EE=Emotional Exhaustion; DP=Depersonalization; PA=Personal Accomplishment

Result: Since there were relationships between coping strategies and level of burnout, hypothesis 4 was rejected.



Demographic variables including gender, age, highest earned qualification, Years as High School Principal, school type, number of classes, number of students, number of assistant principals and years of school history; coping strategies and occupational stress are not significant predictors of job burnout among the secondary school principals in Hong Kong. (Null Hypothesis)

Step 1: The Pearson Product-Moment Correlation coefficients were computed to determine the relationship, if any, between the demographic variables, coping strategies, occupational stress and burnout. This step has been done in Hypotheses 1 to 4. The significant relationships between demographic variables, coping strategies, occupational stress and MBI- 3 subscales are reported as follows:

Predictor Correlations between MBI and Demographic Variables

Table 4.26 was extracted from Tables 4.21 and 4.22. Significant negative correlations were found between Age (AGE) and Emotional Exhaustion (EE), and Depersonalization (DP). Years as High School Principal (YRSHSPRI) had significant negative correlations with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < 0.5$ . One negative correlation was established between the Number of Classes (NOC) and Depersonalization (DP) at  $P < .05$ . The Number of Students (NOS) had a negative significant correlation with Depersonalization (DP) at  $p < .05$ .

Table 4.26  
Predictor Correlations: Demographic Variables and MBI

Demographic Variables	Maslach Burnout Inventory		
	EE	DP	PA
Gender	0.12*	-0.14*	0.00
Age	-0.15**	-0.24**	0.06
Highest Earned Degree	0.01	0.05	0.03
Years as High School Principal	-0.18**	-0.22**	0.10
School Type	-0.04	0.02	-0.04
Number of Classes	-0.08	-0.12*	0.01
Number of Students	-0.07	-0.14*	0.04
Number of Assistant Principals	-0.04	0.03	0.02
School History	0.00	-0.07	-0.03

\*: significant at the .05 level (2-tailed)  
\*\*: significant at the .01 level (2-tailed)



Predictor Correlations between MBI and Administrative Stress Index

Table 4.24 depicts that all categories of ASI stressors had either positive significant correlations or negative significant correlations with all three subscales of MBI at  $p < .01$ . Task-Based Stress (TBS) correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < .01$  but it had a significant negative correlation with Personal Accomplishment (PA) at  $p < .01$ . Role-Based Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < .01$  and it had a negative correlation with Personal Accomplishment (PA) at  $p < .01$ . Conflict-Mediating Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < .01$  whereas it had a significant negative correlation with Personal Accomplishment (PA) at  $p < .01$ . Boundary-Spanning Stress correlated significantly with Emotional Exhaustion (EE) and Depersonalization (DP) at  $p < .01$  while it had a significant negative correlation with Personal Accomplishment (PA) at  $p < .01$ .

Predictor Correlations between MBI and Coping Strategies

Table 4.25 shows that all CPS factors had negative significant correlations with Emotional Exhaustion (EE) at  $p < .01$  except Intellectual, Social and Spiritual Support (CPS3) whose significant level is at  $p < .05$ . Quite to the contrary, all CPS factors correlated significantly with Personal Accomplishment (PA) at  $p < .01$ . There were negative significant correlations between Good Physical Health Programme (CPS1); Positive Attitude (CPS4); Realistic Perspective (CPS5) and Depersonalization (DP) at  $p < .01$ . However, no significant relationships were found between Withdrawal and Discharging (CPS2), Intellectual, Social and Spiritual Support (CPS3) and Depersonalization (DP).

Step 2. All significant positive and negative correlations extracted from Tables 4.24, 4.25 and 4.26 were used as predictors to enter into the stepwise regression to determine which were the best predictors of burnout.

Results

Predictors of MBI-Emotional Exhaustion (EE)

The results of the stepwise regression for the Emotional Exhaustion subscale are displayed in Table 4.27. Predictors entered into this stepwise regression were Gender (GENDER), Age (AGE), years as high school principal (YRSHSPRI), Task-Based Stress (TBS), Role-Based Stress (RBS), Conflict-Mediating Stress (CMS), Boundary-Spanning Stress (BSS), Good Physical Health Programme (CPS1), Withdrawal & Recharging (CPS2), Intellectual & Social & Spiritual Support (CPS3), Positive Attitude (CPS4), Realistic Perspective (CPS5). The stepwise regression analysis indicated that Task-Based Stress (TBS), Positive Attitude (CPS4), Years as High School Principal (YRSHSPRI), Role-Based Stress (RBS) and Gender (GENDER) were the best predictors for Emotional Exhaustion (EE), and accounted for 47% of the variance in Emotional Exhaustion. Among these predictors, Task-Based Stress has the highest  $\Delta R^2$ , suggesting that Task-Based Stress is the strongest predictor of Emotional Exhaustion.

Table 4.27  
Stepwise Regression Results for Emotional Exhaustion Score

	Variables	Cumulative $R^2$	$\Delta R^2$	B	Standardized Beta	p-value
1	Task-Based Stress	.39	.39**	6.96	.49	.000**
2	Positive Attitude	.43	.04**	-3.25	-.2.0	.000**
3	Years as High School Principal	.45	.02**	-.93	-.12	.004**
4	Role-Based Stress	.46	.01*	2.26	.14	.006**
5	Gender	.47	.01**	2.57	.11	.010**

Note: N = 310; F(5,305)=54.122, p<.01;  $R^2$ =0.47  
\*: p<.05    \*\*: p<.01

Predictors of MBI-Depersonalization (DP)

The results of the stepwise regression for the Depersonalization subscale are shown in Table 4.28. Predictors entered into this stepwise regression were Gender (GENDER), Age (AGE), Years as High School Principal (YRSHSPRI), No. of Classes (NOC), No. of Students (NOS), Task-Based Stress (TBS), Role-Based Stress (RBS), Conflict-Mediating Stress (CMS), Boundary-Spanning Stress (BSS), Good Physical Health Programme



(CPS1), Positive Attitude (CPS4), Realistic Perspective (CPS5). The stepwise regression analysis indicates that Task-Based Stress (TBS), Positive Attitude (CPS4), Years as High School Principal (YRSHSPRI), Gender (GENDER), Role-Based Stress (RBS) and Age (AGE) were the best predictors for Depersonalization (DP), and accounted for 32% of the variance in Depersonalization. Among these predictors, Task-Based Stress has the highest  $\Delta R^2$ , suggesting that Task-Based Stress is the strongest predictor of Depersonalization.

Table 4.28  
Stepwise Regression Result for Depersonalization

	Variables	Cumulative R <sup>2</sup>	$\Delta R^2$	B	Standardized Beta	p-value
1	Task-Based Stress	.17	.17**	1.70	.28	.000**
2	Positive Attitude	.23	.06**	-1.51	-.21	.000**
3	Years as High School Principal	.27	.04**	-.38	-.12	.035*
4	Gender	.30	.03**	-1.24	-.13	.011*
5	Role-Based Stress	.31	.01*	1.03	.15	.010**
6	Age	.32	.01*	-.53	-.13	.021*

Note: N = 309; F(6,303)=23.603, p<.01; R<sup>2</sup>=0.32

\*: p<.05 \*\*: p<.01

Predictors of MBI-Personal Accomplishment (PA)

The results of the stepwise regression for the Personal Accomplishment subscale are presented in Table 4.29. Predictors entered into this stepwise regression were Task-Based Stress (TBS), Role-Based Stress (RBS), Conflict-Mediating Stress (CMS), Boundary-Spanning Stress (BSS), Good Physical Health Programme (CPS1), Withdrawal & Recharging (CPS2), Intellectual, Social & Spiritual Support (CPS3), Positive Attitude (CPS4) and Realistic Perspective (CPS5). The stepwise regression analysis indicates that Positive Attitude (CPS4), Task-Based Stress (TBS) and Role-Based Stress (RBS) were the best predictors for Personal Accomplishment (PA), and accounted for 31% of the variance in Personal Accomplishment. Among these predictors, Positive Attitude has the highest  $\Delta R^2$ , suggesting that Positive Attitude is the strongest predictor of Personal Accomplishment.



Table 4.29  
Stepwise Regression Result for Personal Accomplishment

	Variables	Cumulative R <sup>2</sup>	$\Delta R^2$	B	Standardized Beta	p-value
1	Positive Attitude	.17	.17**	3.723	.330	.000**
2	Task-Based Stress	.28	.11**	-2.279	-.238	.000**
3	Role-Based Stress	.31	.03**	-2.105	-.197	.001**

Note 1: None of the demographic variables was significantly related to Personal Accomplishment, so TBS, RBS, CMS, BSS were entered first.

Note 2: N = 309; F(3,306)=46.411, p<.01; R<sup>2</sup>=0.31

\*: p<.05 \*\*: p<.01

Result: Since three demographic variables (Gender, Age, Years as High School Principal), one coping strategy factor (Positive Attitude) and two occupational stress factors (Task-Based Stress, Role-Based Stress) were significant predictors of job burnout, hypothesis 5 was partially rejected.

**Hypothesis 6**

**Demographic variables including gender, age, highest earned qualification, Years as High School Principal, school type, number of classes, number of students, number of assistant principals and years of school history; occupational stress and; coping strategies are not significant moderators buffering occupational stress and job burnout among the secondary school principals in Hong Kong. (Null Hypothesis)**

**Procedures**

A series of hierarchical regression analyses were conducted to test the moderating effects of demographic variables and 5-factor coping strategies on stressor-strain relationships when the MBI 3 subscales of Emotional Exhaustion (EE), Depersonalization (DP) and Personal Accomplishment (PA) were regressed in separate regression analyses. Before performing the hierarchical regression analysis, demographic variables were examined to test for any confounding effects. Only Gender (GENDER), Age (AGE) and Years as High School Principal (YRSHSPRI) were found to be statistically significant in predicting the Emotional Exhaustion (EE), therefore these variables were controlled for in the regression analysis. By regressing the dependent variable-Emotional Exhaustion (EE), on the independent variables separately in a hierarchical manner, four steps were conducted: the demographic variables were entered first, in the second step, all four stressors (TBS, RBS, CMS, BSS) were entered. In the third step, CPS1 (Good Physical Health Programme) was entered. In the fourth step, TBS x CPS1, RBS x CPS1, CMS x CPS1, BSS x CPS1 were entered. Similar procedures were repeated for CPS2 (Withdrawal & Recharging), CPS3 (Intellectual, Social & Spiritual Support), CPS4 (Positive Attitude) and CPS5 (Realistic Perspective).

For Depersonalization (DP), only (GENDER), Age (AGE) and Years as High School Principal (YRSHSPRI), Number of Classes (NOC), and Number of Students (NOS) were found to be statistically significant in predicting the Depersonalization (DP), therefore these variables were controlled for in the regression analysis. By regressing the dependent variable - Depersonalization (DP) on the independent variables separately in a hierarchical manner, four steps which were the same as computing Emotional Exhaustion (EE) were conducted. For Personal Accomplishment (PA), no demographic variables were found to be statistically significant in predicting Personal Accomplishment (PA), therefore no demographic variables were entered in the regression analysis. A 4-step procedure, which was the same as computing Emotional Exhaustion (EE) and

Results

Among the 15 interactions tested, only three interactions were found to be significant. The first one depicted in Table 4.30 shows that Positive Attitude (CPS4) moderated the relationship between Role-Based Stress (RBS) and Depersonalization significantly ( $p=.023$ ).

Table 4.30  
Hierarchical Regression Analyses Predicting Depersonalization

Independent variables	Unstandardized $\beta$	Standardized $\beta$	Sig.	
Block 1 (Enter)				
Gender	-1.29	-.13	.008	**
Age	-.48	-.12	.039	*
Years as High School Principal	-.37	-.11	.045	*
No of Classes	.01	.02	.863	
No of Students Enroled	-.30	-.07	.450	
				$\Delta R^2=.100^{**}$
Block 2 (Enter)				
TBS	-2.37	-.39	.335	
RBS	6.57	.97	.010	**
CMS	-.80	-.13	.721	
BSS	3.40	.57	.149	
CPS4	.72	.10	.608	
				$\Delta R^2=.222^{**}$
Block 3 (Enter)				
TBS $\times$ CPS4	1.10	.70	.117	
RBS $\times$ CPS4	-1.70	-.92	.023	*
CMS $\times$ CPS4	.27	.16	.686	
BSS $\times$ CPS4	-.83	-.56	.216	
				$\Delta R^2=.021^*$

Note:  $F(14,295)=11.026, p<.01; R^2=.344^{**}$   
\*:  $p<.05$     \*\*:  $p<.01$   
TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress;  
BSS=Boundary-Spanning Stress; CPS4=Positive Attitude



The second significant interrelation depicted in Table 4.31 shows that Positive Attitude (CPS4) moderated the relationship between Boundary-Spanning Stress (BSS) and Personal Accomplishment (PA) (  $p=.046$ ).

Table 4.31  
Hierarchical Regression Analysis using CPS4-Positive Attitude Predicting Personal Accomplishment

Independent variables	Unstandardized $\beta$	Standardized $\beta$	Sig.	
Block 1 (Enter)				
TBS	0.49	.05	.899	
RBS	2.42	.23	.535	
CMS	-5.11	-.52	.144	
BSS	-7.63	-.82	.038	*
CPS4	-1.10	-.10	.619	
				$\Delta R^2=.314^{**}$
Block 2 (Enter)				
TBS $\times$ CPS4	-.80	-.32	.465	
RBS $\times$ CPS4	-1.40	-.48	.217	
CMS $\times$ CPS4	1.66	.63	.105	
BSS $\times$ CPS4	2.09	.89	.046	*
				$\Delta R^2=.023^*$

Note 1: None of the demographic variables was significantly related to Personal Accomplishment, so TBS, RBS, CMS, BSS and CPS4 were entered first.

Note 2:  $F(9, 300)=16.90, p<.01; R^2=.336^{**}$   
\*:  $p<.05$     \*\*:  $p<.01$

TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress;  
BSS=Boundary-Spanning Stress; CPS4=Positive Attitude

The third significant interaction depicted in Table 4.32 shows that Realistic Perspective (CPS5) moderated the relationship between Boundary-Spanning Stress (BSS) and Personal Accomplishment (PA) ( $p=.026$ ).

Table 4.32  
Hierarchical Regression Analysis using CPS5- Realistic Perspective (RP) Predicting Personal Accomplishment

Independent variables	Unstandardized $\beta$	Standardized $\beta$	Sig.	
Block 1 (Enter)				
TBS	0.31	0.03	.96	
RBS	1.18	0.11	.84	
CMS	-6.18	-0.62	.24	
BSS	-12.27	-1.31	.02	*
CPS5-RP	-6.50	-0.41	.069	
				$\Delta R^2=.256^{**}$
Block 2 (Enter)				
TBS $\times$ CPS5-RP	-.86	-.32	.607	
RBS $\times$ CPS5-RP	-1.02	-.33	.555	
CMS $\times$ CPS5-RP	1.85	.68	.236	
BSS $\times$ CPS5-RP	3.57	1.36	.026	*
				$\Delta R^2=.027^*$

Note 1: None of the demographic variables was significantly related to Personal Accomplishment, so TBS, RBS, CMS, BSS and CPS4 were entered first.

Note 2:  $F(9,300)=13.196, p<.01; R^2=.284^{**}$

\*:  $p<.05$     \*\*:  $p<.01$

TBS=Task-Based Stress; RBS=Role-Based Stress; CMS=Conflict-Mediating Stress;  
BSS=Boundary-Spanning Stress; CPS5-RP=Realistic Perspective

Result: Since two coping strategy factors (Positive Attitude, Realistic Perspective) were found to be the significant moderators buffering between occupational stress (Role-Based Stress, Boundary-Spanning Stress) and job burnout (Depersonalization, Personal Accomplishment), hypothesis 6 was partially rejected.

## Summary

The return rate of the questionnaires was 70%. Findings of the three research questions show that Hong Kong secondary school principals experienced a moderate level of stress. Among the four administrative stressors, Boundary-Spanning Stress was ranked the top. As regards the use of coping strategies, the most preferred coping strategy to deal with stress was the use of Positive Attitude. Principals' burnout levels in Emotional Exhaustion, Depersonalization and Personal Accomplishment were moderate.

Statistical results of the first four hypotheses show that there were significant relationships between occupational stress, coping strategies, and burnout with all demographic variables except school type; correlation between occupational stress and coping strategies; significant relationship between occupational stress and level of burnout; and correlation between coping strategies and level of burnout. Based on these findings, the best predictors for burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment were found. Stepwise regression analyses results show that Task-Based Stress, Positive Attitude, Years as High School Principal, Role-Based Stress and Gender were the best predictors for Emotional Exhaustion, and accounted for 47% of the variance in Emotional Exhaustion. Also, it indicates that Task-Based Stress, Positive Attitude, Years as High School Principal, Role-Based Stress, Gender, and Age were the best predictors for Depersonalization, and accounted for 32% of the variance in Depersonalization. Moreover, it shows that Positive Attitude, Task-Based Stress and Role-Based Stress were the best predictors for Personal Accomplishment, and accounted for 31% of the variance in Personal Accomplishment. Based on the findings of null hypothesis 5, hierarchical regression analyses were used to identify coping moderators buffering the effect of stress on burnout. The results of null hypothesis 6 show that using Positive Attitude could moderate the effect of Role-Based Stress on Depersonalization. Also, it could buffer the effect of Boundary-Spanning Stress on Personal Accomplishment. In addition, using Realistic Perspective could moderate the effect of Boundary-Spanning Stress on Personal Accomplishment.



## **Chapter 5**

### **ANALYSIS, SYNTHESIS AND DISCUSSION**

The purposes of this chapter are to analyze, synthesize and discuss the findings as reported in Chapter 4. This chapter is divided into four sections including the analysis of the findings, a discussion of main issues and challenges noted earlier in Chapter 2, an examination of the five types of validity and the level of reliability of the three instruments as described in Chapter 3, and a critique of the qualitative dimension.

#### **Analysis of Findings**

The findings of the three research questions and six hypotheses were analyzed by comparing and contrasting the current findings with those of the studies reviewed in Chapter 2.

##### **Research Question 1**

The aim of this research question was to determine the major stressors perceived by the Hong Kong secondary school principals who participated in this study.

Table 5.1 shows that a comparison of similar studies done in Hong Kong, Mississippi and Massachusetts in different years yielded different results. While Boundary-Spanning Stress was the top stressor in the current study, it was the bottom stressor in Kilgore's (1999) study and second top stressor in Ryan's (2001) study. Role-Based Stress was the bottom stressor in the current study but it was the top stressor in the Mississippi's study and the third stressor among the Massachusetts principals.

Table 5.1  
Comparison of Stressor Ranking among Hong Kong, Massachusetts and Mississippi  
Secondary School Principals

Rank	Current Study (2004) Hong Kong	Rank	Ryan (2001) Massachusetts	Rank	Kilgore (1999)* Mississippi
1	Boundary-Spanning	1	Task-Based	1	Role-Based
2	Task-Based	2	Boundary-Spanning	2	Conflict-Mediating
3	Conflict-Mediating	3	Role-Based	3	Task-Based
4	Role-Based	4	Conflict-Mediating	4	Boundary-Spanning

\* Grade 9-12 principals

Table 5.2 provides a comparison of the top three stressors identified in this study (modified 25-item) with other studies using the same instrument with 35 items. Despite being separated by time (1977 to 2004), space (Asia and America) and the reduction of items from 35 to 25 items in the Administrative Stress Index, the current study shared similar outcomes with other studies pertaining to stress in principalship with Boundary-Spanning Stressor item no. 17 “Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)” as one of the top three stressors in Brimm (1983) and Gmelch and Swent (1977). Also, Task-Based Stressors item no. 21 “Trying to complete reports and other paper work on time” and item no. 16 “Feeling that I have too heavy a workload)” in this study were also found among the top three stressors in the studies of Muthalib (2003), Flynn (2000) and Snyder(1999).

Further analysis shows that the overall level of stress among the mainstream secondary school principals in this study was 2.51, suggesting that the Hong Kong secondary school principals experienced a moderate level of stress. However, some administrators did experience high levels of stress. This finding corroborates Gmelch and Chan (1995).



Table 5.2

## Analysis of Studies Using the Administrative Stress Index

Study	Top Three Stressors	
Current Study (2004) Hong Kong	1	Complying with government and organizational rules and policies (e.g. educational reforms, change of policies). (BSS)
	2	Trying to complete reports and other paper work on time. (TBS)
	3	Feeling that I have too heavy a workload, one that cannot possibly finish during the normal work day. (TBS)
Muthalib (2003) Kuala Lumpur	1	Supervising and coordinating the tasks of many people. (TBS)
	2	Trying to complete reports and other paperwork on time. (TBS)
	3	Attempting to meet social expectations. (RBS)
Flynn (2000) South Carolina	1	Feeling that meetings take up too much time. (TBS)
	2	Feeling that I have too heavy workload, one that I cannot possibly finish during the workday. (TBS)
	3	Trying to complete reports and other paperwork on time. (TBS)
Snyder (1999) Virginia	1	Feeling that I have too heavy workload, one that I cannot possibly finish during the workday. (TBS)
	2	Trying to complete reports and other paper work on time. (TBS)
	3	Feeling that meetings take up too much time. (TBS)
Kyte (1994) Tennessee	1	Trying to resolve parent/school conflicts. (CMS)
	2	Imposing excessively high expectations on myself. (TBS)
	3	Feeling that I have too heavy workload, one that I cannot possibly finish during the workday. (TBS)
Brimm (1983) Tennessee	1	Complying with government and organizational rules and policies (e.g. educational reforms, change of policies). (BSS)
	2	Having to make decision that affect the lives of people.
	3	Trying to resolve parents/school conflicts. (CMS)
Gmelch and Swent (1977) Oregon	1	Complying with government and organizational rules and policies (e.g. educational reforms, change of policies). (BSS)
	2	Feeling that meetings take up too much time. (TBS)
	3	Trying to gain public approval and financial support for school activities. (BSS)

(BSS)=Boundary-Spanning Stress

(TBS)=Task-Based Stress

(CMS)=Conflict-Mediating Stress



## Research Question 2

**It aims to find out the preferred coping strategies that the Hong Kong mainstream secondary principals used to reduce stress.**

Table 5.3 compares the top ten coping strategies used by the Hong Kong mainstream secondary school principals and those used by the British Columbia principals. The result shows that those seven coping strategies used by the Hong Kong principals were the same as those adopted by their counterparts in British Columbia. They were Item no.17: "Approach problems optimistically and objectively"; Item no. 6:"Practise good human relation skills with staff, students and parents; item no.1: "Set realistic goals (recognize job limitation )"; Item no.02: "Delegate responsibility"; Item no. 13: "Maintain regular sleep habits"; Item no. 03: "Maintain a sense of humour"; and Item no.07: " Work harder (including evenings and weekends). When Table 5.3 is examined, it shows that the coping strategies used by the principals in Hong Kong and British Columbia were for the most part stress management techniques which involved strategies that could moderate the effects of stress on the person, as contrast to stressor management techniques that involved strategies to reduce the source of stress in the environment.

Table 5.3

Comparison of the Top Ten Coping Strategies Used by Hong Kong Secondary School Principals and the British Columbia School Principals

Preferred Coping Strategy			Preferred Coping Strategy		
Rank	Item	Current Study (2004) Hong Kong	Rank	Item	Allison (1997) British Columbia
1	<b><u>17</u></b>	Approach problems optimistically and objectively	1	<b><u>06</u></b>	Practise good human relation skills with staff, students and parents
2	<b><u>06</u></b>	Practise good human relation skills with staff, students and parents	2	<b><u>03</u></b>	Maintain a sense of humour
3	<b><u>01</u></b>	Set realistic goals (recognize job limitation )	3	<b><u>17</u></b>	Approach problems optimistically and objectively
4	<b><u>02</u></b>	Delegate responsibility	4	<b><u>13</u></b>	Maintain regular sleep habits
5	<b><u>13</u></b>	Maintain regular sleep habits	5	<b><u>01</u></b>	Set realistic goals (recognize job limitation )
6	10	Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)	6	<b><u>02</u></b>	Delegate responsibility
7	08	Engage in activities that support spiritual growth (inspirational music, art, reading, or religion)	7	11	Talk with family members or close friends
8	<b><u>03</u></b>	Maintain a sense of humour	8	05	Engage in active non-work or play activities (e.g. boating, camping, fishing, gardening, golfing, painting, playing a musical instrument, etc.)
9	09	Maintain good health habits (e.g. watch weight, eat balanced meals, reduce intake of caffeine and refined sugar, keep proper concentrations of vitamins, etc.)	9	12	Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)
10	<b><u>07</u></b>	Work harder (including evenings and weekends)	10	<b><u>07</u></b>	Work harder (including evenings and weekends)

Note: Numbers printed in bold and underlined mean subjects in both studies used the same coping strategy.

**Comparison of Coping Preference Scale Factors by Rank Order between Allison (1997) and the current study (2004)**

The rank order of coping preference scale factors between this study and those of Allison (1997) is very similar despite the regrouping of items from seven factors to five. CPS4-Positive Attitude ranked the top in this study while it ranked the second in Allison’s (1997) study. The rest of the rank sequence was the same with CPS3-Good Physical Health Programme ranked the third and CPS4 Intellectual, Social and Spiritual Support ranked fourth and CPS5-Withdrawal and Recharging ranked the bottom. Based on the responses from the two open-ended questions, new items that will be possibly included in the Coping Preference Scale were suggested.

**Table 5.4**  
**Comparison of Coping Preference Scale Factors by Rank Order between Allison (1997) and the Current Study (2004)**

Current Study (2004)			Allison (1997)		
Rank	Factor	CPS factor	Rank	Factor	CPS Factor
1	4	Positive Attitude	1	5	Realistic Perspective
2	5	Realistic Perspective	2	4	Positive Attitude
3	1	Good Physical Health Programme	3	1	Good Physical Health Programme
4	3	Intellectual, Social and Spiritual Support	4	3	Intellectual, Social and Spiritual Support
5	2	Withdrawal & Recharging	5	7	Increased Involvement
			6	6	Time Management and Organization
			7	2	Withdrawal & Recharging



### Research Question 3

**The purpose is to determine the levels of burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment of the Hong Kong secondary principals.**

The burnout level of secondary school principals was compared and contrasted in three aspects: total percentage of principals experiencing different levels of burnout as measured by the 3 subscales; group means of 3 subscales; and breakdown of items in the three subscales.

An examination of Table 5.5 shows that the percentages of Hong Kong principals who experienced moderate level of burnout in Emotional Exhaustion (32%) and Depersonalization (33%) were very close to those of their counterparts in Shumate's (1999) study with 33 % and 33% respectively whereas the percentages of Hong Kong principals who experienced high level of burnout in Emotional Exhaustion (28%) and Depersonalization (19%) were very close to those of their counterparts in Carruth's (1999) study with 26% and 27% respectively. Overall, the percentage of principals who showed moderate to high levels of Emotional Exhaustion in this study was 60% which was quite close to that of Shumate (1999) at 73%. Similar finding was observed in the Depersonalization subscale where the percentage of principals who showed moderate to high levels of Depersonalization in this study was 59% which was exactly the same as that of Shumate (1999).

Table 5.5 shows that among the three studies, the percentage of principals in the present study experienced the highest level of Personal Accomplishment. Although the overall moderate to high levels of burnout in Emotional Exhaustion and Depersonalization identified in this study were similar to Shumate’s, the percentage of principals in this study had experienced a higher level of Personal Accomplishment than Shumate’s by 17% (29% - 12%).

Table 5.5  
Comparisons of MBI Subscale Scores among Hong Kong, Washington and California Secondary School Principals

	Current Study (2004) Hong Kong			Shumate (1999) Washington			Carruth (1997) California		
	Low	Moderate	High	Low	Moderate	High	Low	Moderate	High
EE	40	32	28	27	33	40	51	23	26
DP	41	40	19	41	33	26	80	13	7
PA	38	33	29	61	27	12	84	5	11

Note: All numbers are in percentage.  
EE= Emotional Exhaustion   DP=Depersonalization   PA=Personal Accomplishment

Group means of 3 subscales

Comparing the means of MBI scores of six previous research studies and the current study, the results at Table 5.6 show that this study supports the findings of Flynn (2000), Mutchler (1998), Smith-Stevenson et al (1994) and Stouffer (1992) who found moderate levels of burnout in the Emotional Exhaustion and Depersonalization subscales among the secondary school principals. Also, the finding confirms the results of Ogden’s (1992) that secondary school principals in Georgia and their counterparts in Hong Kong experienced moderate levels of burnout in all three subscales.

Table 5.6  
Comparison of MBI Mean Scores between the Current Study and Six Previous Studies

**MBI Sub-Scales**

	Emotional Exhaustion	Depersonalization	Personal Accomplishment
Current Study (2004) Hong Kong	20.55(moderate)	8.00 (moderate)	34.98 (moderate)
Muthalib (2003) Kuala Lumpur High School Principals	15.51 (low)	6.31 (low)	35.29 (moderate)
Flynn (2000) South Carolina High School Principals	21.48 (moderate)	6.81 (moderate)	39.56 (low)
Mutchler (1998) Iowa High School Principals	23.43 (moderate)	8.85 (moderate)	39.58 (low)
Smith-Stevenson et al (1994) Mississippi High School Principals	19.24 (moderate)	7.32 (moderate)	39.13 (low)
Ogden (1992) Georgia High School Principals	19.67 (moderate)	7.06 (moderate)	37.03 (moderate)
Stouffer (1992) Iowa Secondary Administrators	21.4 (moderate)	8.6 (moderate)	40.7 (low)



Comparison of items in Emotional Exhaustion, Depersonalization and Personal Accomplishment among Hong Kong, Kuala Lumpur, and California secondary school principals

Emotional Exhaustion

A comparison between the current study, Muthalib (2003) and Shumate (1999), shows that the ranking of the top three items of Emotional Exhaustion in the three studies were exactly the same (Table 5.7), suggesting the respondents from Hong Kong, Kuala Lumpur and California shared similar level of burnout in Emotional Exhaustion even though they were of different ethnic groups in different educational systems across space and time.

Table 5.7  
Comparison of MBI-Emotional Exhaustion Top Three Items among Hong Kong, Kuala Lumpur and California Secondary School Principals

Studies	Rank	Items
Current Study (2004) Hong Kong	1	I feel used up at the end of the workday.
	2	I feel I'm working too hard on my job.
	3	I feel emotionally drained from my work.
Muthalib (2003) Kuala Lumpur	1	I feel used up at the end of the workday.
	2	I feel I'm working too hard on my job.
	3	I feel emotionally drained from my work.
Shumate (1999) California	1	I feel used up at the end of the workday.
	2	I feel I'm working too hard on my job.
	3	I feel emotionally drained from my work.

Depersonalization

Table 5.8 indicates that the current study and Muthalib (2003) had the same No.1 item while Shumate (1999) and the current study shared the same No.2 item. For the third item, all three studies were the same. This analysis suggests that the respondents in this study had similar feeling in terms of ranking the top three Depersonalization items.

Table 5.8  
Comparison of MBI-Depersonalization Top Three Items among Hong Kong, Kuala Lumpur and California Secondary School Principals

Studies	Rank	Items
Current Study (2004) Hong Kong	1	I've become more tough toward people since I took this job.
	2	I feel students and staff blame me for some of their problems.
	3	I worry that this job is hardening me emotionally.
Muthalib (2003) Kuala Lumpur	1	I've become more tough toward people since I took this job.
	2	I feel I treat some students and staff as if they were impersonal objects.
	3	I worry that this job is hardening me emotionally.
Shumate (1999) California	1	I feel I treat some students and staff as if they were impersonal objects.
	2	I feel students and staff blame me for some of their problems.
	3	I worry that this job is hardening me emotionally.

Personal Accomplishment

Table 5.9 shows that the first item and second item in the current study were the same as those in Shumate (1999), while the third item was the same as that of Muthalib (2003).

**Table 5.9**  
**Comparison of MBI-Personal Accomplishment Top Three Items among Hong Kong, Kuala Lumpur and California Secondary School Principals**

Studies	Rank	Items
Current Study (2004) Hong Kong	1	I can easily understand how my staff and students feel about things.
	2	I have accomplished many worthwhile things in this job.
	3	I deal very effectively with the problems of my students and staff.
Muthalib (2003) Kuala Lumpur	1	I feel I'm positively influencing other people's lives through my work.
	2	I deal very effectively with the problems of my students and staff.
	3	In my work, I deal with emotional problems very calmly.
Shumate (1999) California	1	I can easily understand how my staff and students feel about things.
	2	I feel cheerful after working closely with my students and staff.
	3	I have accomplished many worthwhile things in this job.



## Hypothesis 1

Hypothesis 1 enquired if there were any significant relationships between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history.

### Gender

Table 4.21 shows that there was no significant difference between male and female principals in the overall level of stress, which was similar to the findings of Ryan (2001). However, male principals experienced significant higher level of Role-Based Stress than their female counterparts ( $t=2.45$ ,  $p<0.05$ ). This finding supported Kilgore (1999)'s study of Mississippi principals where male principals for Grade 9 to 12 had a higher mean of Role-Based Stress than their female counterparts.

Female principals used significantly more CPS3-Intellectual, Social and Spiritual Support to cope with stress than their male counterparts ( $t=-2.85$ ,  $p=0.01$ ). Similar results were found in the use of CPS4-Positive Attitude as a coping strategy to reduce stress ( $t=-2.06$ ,  $p=0.04$ ). This finding supports those found by Allison (1997).

The female principals' burnout level in Emotional Exhaustion was higher than that of their male counterparts ( $t=-2.05$ ,  $p=0.04$ ). This corroborates the previous study of Carruth (1997). However, male principals' burnout level in Depersonalization was higher than that of their female counterparts ( $t=2.57$ ,  $p=0.01$ ). This finding did not converge with the results of Smith-Stevenson et al (1994) and Flynn (2000) whereby no significant difference between gender and perceived burnout level was found.

The following analysis between occupational stress, coping strategies, and burnout with age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history was based on the findings at Table 4.22 (p.153).

### Age

Table 4.22 shows that age correlated negatively with Task-Based Stress at  $p < 0.05$  which means principals' levels of reported Task-Based Stress declined with age. This finding was consistent with those studies conducted by Gmelch & Swent (1977), Koch et al (1982), Wong (1983), Leary (1987), Blanks (1990), Ogden (1992), Harutunian (1992), Dick (1993), Kyte (1994), Snyder (1999), and Flynn (2000).

The result showed that principals' age correlated positively with CPS1- Good Physical Health Programme at  $p < .05$  suggesting that when the principals grew older, they preferred to use physical health programme as a means to moderate stress levels. This finding is not consistent with Allison (1997).

Significant negative correlations were found between principals' age and Emotional Exhaustion, and Depersonalization suggesting principals' levels of burnout in Emotional Exhaustion and Depersonalization decreased with increasing age. This finding corroborates previous studies of Ogden (1992), Harutunian (1992) and Shumate (1999).

### Educational Attainment level

The highest degree earned had negative correlations with Role-Based Stress at  $p < .05$ , indicating that those principals with a higher qualification had less Role-Based Stress. This supported the studies of Presley & Ewing (1988) and Snyder (1999).

The result also shows that principals' educational attainment had a significant positive correlation with Withdrawal and Recharging (CPS2) at  $p < .05$ , suggesting that those principals who had a higher degree preferred to use coping strategies related to Withdrawal and Recharging more.

#### Administrative experience as a high school principal

Administrative experience as a high school principal had significant negative correlations with Role-Based Stress, Boundary-Spanning Stress, indicating that the more experienced principals perceived lower level of stress related to role-based and boundary-spanning. This finding concurs with those studies conducted by Cusack (1982); Koch et al (1982); Sanchez (1997); Allison (1997), Snyder (1999); and Flynn (2000).

Positive correlations were established between principals' years of administrative experience and Good Physical Health Programme (CPS1). Results also showed that positive correlations between and principals' years of administrative experience and Withdrawal and Recharging (CPS2) at  $p < 0.5$  was supported. Principal's working experience had significant negative correlations with the levels of burnout in Emotional Exhaustion and Depersonalization) at  $p < 0.5$  suggesting that these results concur with the findings in Carruth (1997) and Muthalib (2003).

#### School Type

No significant correlations were found between school type and ASI, and CPS, and MBI. As none of the previous studies discussed in the literature covered three types of secondary schools which included government, aided and private, no comparisons could be made.



### Number of Classes & Number of Students

Only one negative correlation was established between the Number of Classes (NOC) and Depersonalization (DP) at  $P < .05$ . The same result was found in the Number of Students (NOS). Increased enrolment had a negative significant correlations with Conflict-Mediating Stress (CMS) and Depersonalization (DP) at  $p < .05$ , showing the higher the enrolment, the more likely the principals would experience less Conflict-Mediating Stress (CMS) and a low level of burnout in Depersonalization. Although Snyder (1999) did not indicate specifically the type of stress, her study suggests that as the number of students supervised increased, the level of stress decreased. However, there are no similar past findings, further validation in future study is needed.

### No. of Assistant Principals

Only one significant relationship was found. The number of assistant principals (NOAP) correlated positively with Good Physical Health Programme (CPS1) at  $p < 0.5$ . This finding suggests that as principals have more assistant principals to alleviate their workload, they may be able to spare more time to take physical programme to reduce their stress. Although this finding is quite similar to Tanner et al (1991) who found that assistant principals could help to relieve principals' workload, there are no similar past findings. Hence, this area might warrant further study.

### School History

Only two positive significant relationships were found. The first one is that school history had a significant correlation with Good Physical Health Programme (CPS1); second, it also had a significant relationship with Intellectual, Social and Spiritual Support (CPS3). As most schools with a long history usually have effective

operational systems in place and a number of senior staff assisting the principals, principals working in this type of “over 50 years or 100 years” schools could afford to spend more time to revitalize themselves by doing more physical exercises. While revitalized physically, the principals would also prefer to seek various types of intellectual support, social support and spiritual support as a coping strategy to reduce their stress in handling the problem of maintaining the hard-earned and long-envied reputation of the schools. As no past studies on the relationships between school history and stress, coping and burnout were found, no comparisons could be made. This finding can be validated in future research.

Among the nine demographic variables, only three variables were found to have the greatest number of significant correlations with stress, coping strategies and burnout. They were principals’ years of administrative experience which had the highest number of significant relationships (six), followed by gender (five) and age (four). These findings supported the model proposed by Gmelch and Chan (1995) (Chapter 2, p.32) that the personal variables --- gender, age and years of administrative experiences --- were the key important variables that could affect the levels of stress and burnout.

## **Hypothesis 2**

Hypothesis 2 was to determine if there was any significant relationship between occupational stress and coping strategies among the secondary school principals in Hong Kong.

The results show that that all significant correlations were negative. Although 13 negative correlations were statistically significant, there was very small practical significance, with the largest coefficient of determination ( $r$ ) at about 4%. This finding



was similar to that of Shumate (1999) where the largest coefficient of determination ( $r$ ) is only about 5%.

Data suggested that the respondents did not increase the use of Good Physical Health Programme (CPS1) to reduce stressors related to task-based, role-based and boundary-spanning. Table 4.5 shows that one-third of principals in this study served in the principalship for less than four years while another one-third of principals worked in a range from five to ten years. These two groups of principals, who served in the principalship for less than ten years, added up to 65% of the total sample population. Since these groups of principals might not be very experienced, they might have to spend more time in mastering the skills of performing the principal's duties. As a result, they might not be able to spend time to do Good Physical Health Programme (CPS1). Another possible reason is that the principals' schedules in this study were already overextended due to increased responsibilities arising from the educational reforms and so they didn't have time to do physical exercises. For the same reason, principals might not find time to reduce Task-Based Stress and Boundary-Spanning Stress by Withdrawing and Recharging (CPS2) as it requires plenty of time. This supports the finding of Research Question No.2 (see Table 4.14, p.144) that doing Good Physical Health Programme (CPS1) ranked third and using Intellectual, Social and Spiritual Support (CPS2) ranked fourth, showing that these two groups of coping strategies were not the most preferred activities adopted by the principals.

Table 4.23 shows that when the level of Role-Based Stress increased, the principals seldom used Intellectual, Social and Spiritual Support (CPS3) to reduce this type of stress. This finding seems to suggest that the secondary school principals in this study were more assertive, proactive and self-reliant instead of seeking various types of



support when solving the problems brought by Role-Based Stress such as getting information needed to carry out the jobs properly; trying to resolve differences with the superiors; finding out the scope and responsibilities; and seeking more authority to carry out responsibilities.

While the levels of stress related to task-based, role-based, conflict-mediating and boundary-spanning increased, the principals indicated that they seldom used Positive Attitude (CPS4) to reduce the negative effect of these four types of stress. Although Positive Attitude (CPS4) was ranked the top preferred coping factor, the finding here does not seem to support that this coping strategy was frequently used in reducing stressors related to task-based, role-based, conflict-mediating and boundary-spanning. Since the largest coefficient of determination ( $r$ ) among these four relationships was only 4% (see Table 4.23), the practical significance is very small implying that negative correlation was not strong enough to allow any statistical judgment to be made. The same reasoning applies to the negative significant correlation between increased levels of Task-Based, Role-Based and Boundary-Spanning Stress and the infrequent use of Realistic Perspective (CPS5) to reduce stress. It is because among these three negative significant relationships, the largest coefficient of determination ( $r$ ) was only 3% (see Table 4.23, p.154).

### Hypothesis 3

This hypothesis was to determine if there was any significant relationship between occupational stress and the level of burnout among secondary school principals in Hong Kong.

The results show that all four types of stress had positive significant correlations with Emotional Exhaustion and Depersonalization. It suggests that when stress levels of task-based, role-based, conflict-mediating and boundary-spanning had increased, the level of burnout in Emotional Exhaustion and Depersonalization increased. Principals indicated that increased supervising and coordinating the tasks of many people, being unclear on just what the scope and responsibilities were, handling student discipline problems and administering the negotiated contracts would increase their level of burnout in feelings of being overextended/exhausted by their work and impersonal responses toward service provided to staff and students.

Results show that all four types of stress factors had negative significant correlations with Personal Accomplishment at  $p < .01$ . These data suggest that when principals' stress related to task-based, role-based, conflict-mediating and boundary-spanning had increased, the level of burnout in Personal Accomplishment decreased. Specifically, trying to complete the workload that one cannot possibly finish during the normal work day; trying to influence the immediate supervisor's action and decisions that affect the principals; trying to resolve the differences between school and parents; and complying with government and organizational rules and policies would decrease the burnout in the feelings of competence and successful achievement. These findings confirm those with Gmelch and Chan (1995) and Flynn (2000). However, the results were only the same as Shumate (1999) between occupational stress and Emotional Exhaustion, and occupational stress and Depersonalization while there were partial convergences between occupational stress and Personal Accomplishment.

#### **Hypothesis 4**

This hypothesis was to determine if there was any significant relationship between coping strategies and level of burnout among the secondary school principals in Hong Kong.

The data indicate the principals experienced less burnout level in Emotional Exhaustion when they used as variety of coping strategies of whatever type. By contrast, those who used fewer coping strategies were likely to experience a higher level of Emotional Exhaustion. The results also show that if more coping strategies were used, of whatever type, the higher the level of Personal Accomplishment the principals would feel. In short, principals using more coping strategies would experience a decreased level of burnout in Emotional Exhaustion and Depersonalization while they would experience a higher level of Personal Accomplishment. Past research mainly focused on the study of the relationship between stress and the use of a variety of coping strategies. Findings informing us of the relationship between burnout and the use of a variety of coping strategies are rare, so there is no scope for comparison.

#### **Hypothesis 5**

This hypothesis was to find out if there were any significant predictors of burnout among secondary school principals in Hong Kong.

Although the predictor variables identified in each subscale of the Maslach Burnout Inventory were not the same, Table 5.10 (Data extracted from Tables 4.26-4.28, pp157-160) depicts that Task-Based Stress, the frequency of using Positive Attitude (CPS4) and the Years as a Principal were found to be the common predictors of Emotional Exhaustion, Depersonalization and Personal Accomplishment among the



mainstream secondary school principals. Of the three common predictors, Task-Based Stress has the highest  $\Delta R^2$  across all three burnout subscales, suggesting that Task-Based Stress has the highest level of predicting burnout.

Table 5.10  
Common Predictors of MBI-Emotional Exhaustion, Depersonalization and Personal Accomplishment

	Task-Based Stress	CPS4-Use of Positive Attitude	Years as a Principal	Role-Based Stress	Gender	Age	Total % Accounting for Variance
EE	.39	.04	.02	.01	.01	---	.47
DP	.17	.06	.04	.03	.01	.01	.32
PA	.17	.11	.02	---	---	---	.31

EE=Emotional Exhaustion    DP=Depersonalization    PA=Personal Accomplishment

Note: All numbers are  $\Delta R^2$ .

Although the variables identified as predictors of Emotional Exhaustion, Depersonalization and Personal Accomplishment between this study and those of Shumate’s (1999) were not exactly the same, Table 5.11 shows that the total percentages accounting for variance in Emotional Exhaustion and Depersonalization for both studies (Chinese subjects vs Western subjects) were very close whereas the total percentages accounting for variance in Personal Accomplishment between both studies were far apart. For the total percentage of combined variables predicting Emotional Exhaustion, it was 50% in Shumate’s study while the combined variables in this study could explain 47% of Emotional Exhaustion variance, suggesting that the predictors relating to Emotional Exhaustion in both studies were relevant and strong. For the total percentage of combined variables predicting Depersonalization, it was 31% in Shumate’s study while the combined variables in this study could explain 32 % of Depersonalization

variance, indicating the predictors for Depersonalization in both studies were relatively relevant and strong. While the combined variables identified could account for 13% of Personal Accomplishment variance in Shumate’s study, this study could explain 31% of Personal Accomplishment variance, suggesting that the predictors in Shumate’s study, though significant, were not strong predictors whereas in this study the predictors were relatively strong in predicting the level of Personal Accomplishment of the mainstream secondary school principals.

Table 5.11  
Comparisons of Total Percentages Accounting for Variances of the Three MBI Subscales between the Current Study and Shumate (1999)

	Total % Accounting for Variance	
	Current Study (2004) Chinese subjects	Shumate (1999) Western subjects
Emotional Exhaustion	47	50
Depersonalization	32	31
Personal Accomplishment	31	13

Hypothesis 6

This hypothesis was designed to find out the type of coping strategy factor that could buffer the stress and burnout relationships among mainstream secondary school principals in Hong Kong.

The findings show that there were three significant interactions. First, CPS4-Positive Attitude moderated the effect of Role-Based Stress on Depersonalization. Second, CPS4-Positive Attitude buffered the effect of Boundary-Spanning Stress on Personal Accomplishment. Third, CPS5-Realistic Perspective moderated the effect of

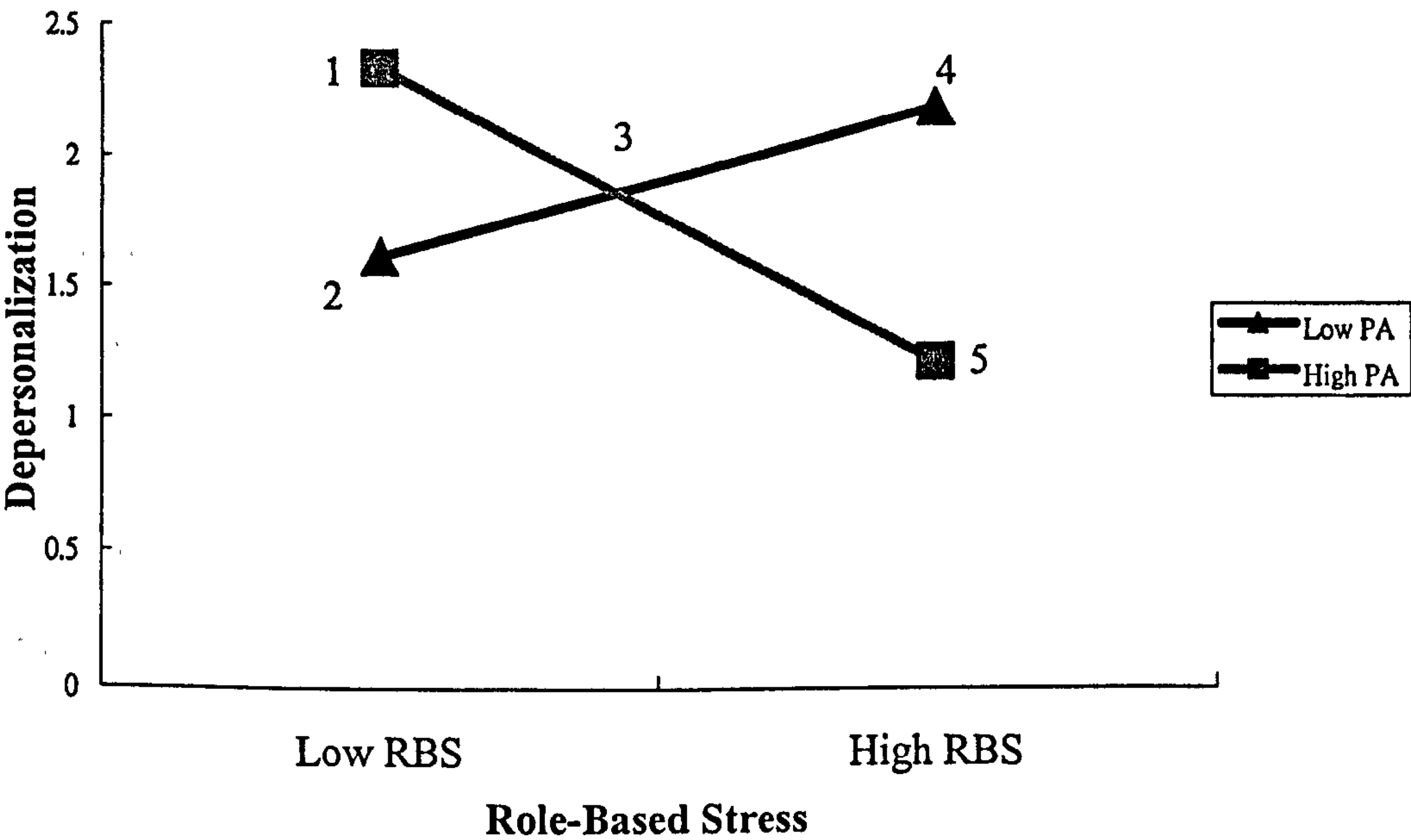
### Boundary-Spanning Stress on Personal Accomplishment.

To analyze the first significant interaction, based on Cohen and Cohen (1983), the beta value and constant of the moderated regression equation obtained at Step 3 (Chapter 4, p.162) were used to plot the regression of Depersonalization on CPS4-Positive Attitude at two levels of stress for the principals: high stress (+1 SD above the sample mean), and low stress (-1 SD below the sample mean (see fig 5.1).

Fig 5.1 shows that when the Role-Based Stress level was low, the use of low level CPS4-Positive Attitude (Point 2) was more effective than using a high level of CPS4-Positive Attitude (Point 1). However, when the Role-Based Stress increased, the use of high level CPS-Positive Attitude (Point 5) could effectively buffer the negative effect of Role-Based Stress on Depersonalization rather than using a low level of CPS-Positive Attitude (Point 2). Compared to the use of low level and high level of CPS-Positive Attitude in managing high Role-Based Stress, it could be seen that respondents with a high level of CPS4-Positive Attitude could maintain a relatively lower level of Depersonalization even when Role-Based Stress level was high. Hence, both low and high levels use of CPS4-Positive Attitude could moderate the effect of Role-Based Stress on Depersonalization.



**Fig. 5.1 Moderating Effect of the Use of Positive Attitude  
(CPS4) on the Relationship between  
Role-Based Stress (RBS) and Depersonalization (DP)**



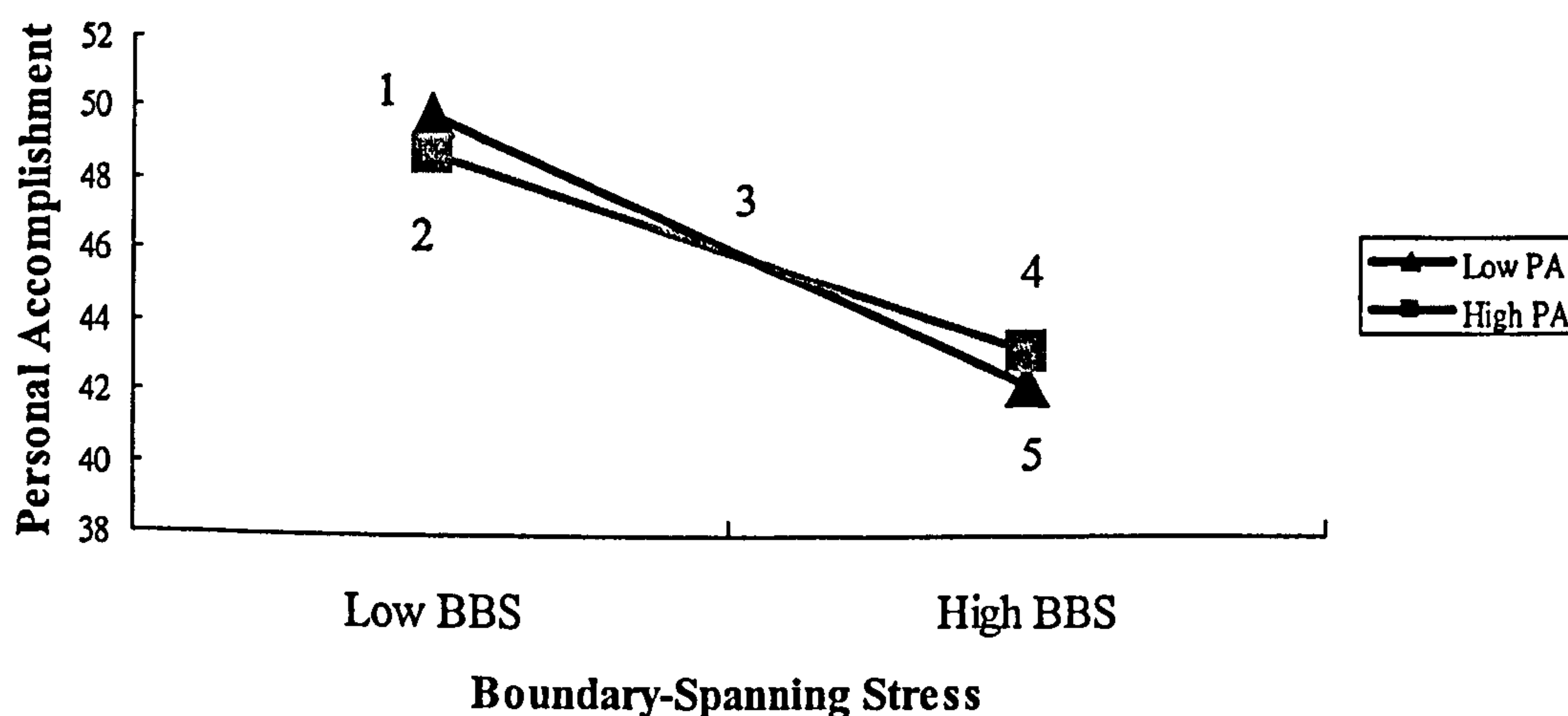
Low PA=Low Positive Attitude

High PA=High Positive Attitude

The same procedure was used to analyze the second significant interaction which states that Positive Attitude (CPS4) moderated the relationship between Boundary-Spanning Stress (BSS) and Personal Accomplishment.

Fig 5.2 shows that when the Boundary-Spanning Stress was low, the use of a low or a high level of CPS4-Positive Attitude (Points 1 & 2) did not moderate much the effect of Boundary-Spanning Stress on the Personal Accomplishment as the level of Personal Accomplishment was still high (50)\*. However, principals could maintain a relatively higher level of Personal Accomplishment after they used CPS4-Positive Attitude regardless of their level (Points 4 & 5) even when Boundary-Spanning Stress level was high. Hence, CPS4-Positive Attitude moderated the effect of Boundary-Spanning Stress on Personal Accomplishment especially when the Boundary-Spanning Stress was high.

**Fig. 5.2 Moderating Effect of the Use of Positive Attitude (CPS4) on the Relationship between Boundary-Spanning Stress (BSS) and Personal Accomplishment(PA)**



Low PA=Low Positive Attitude

High PA=High Positive Attitude

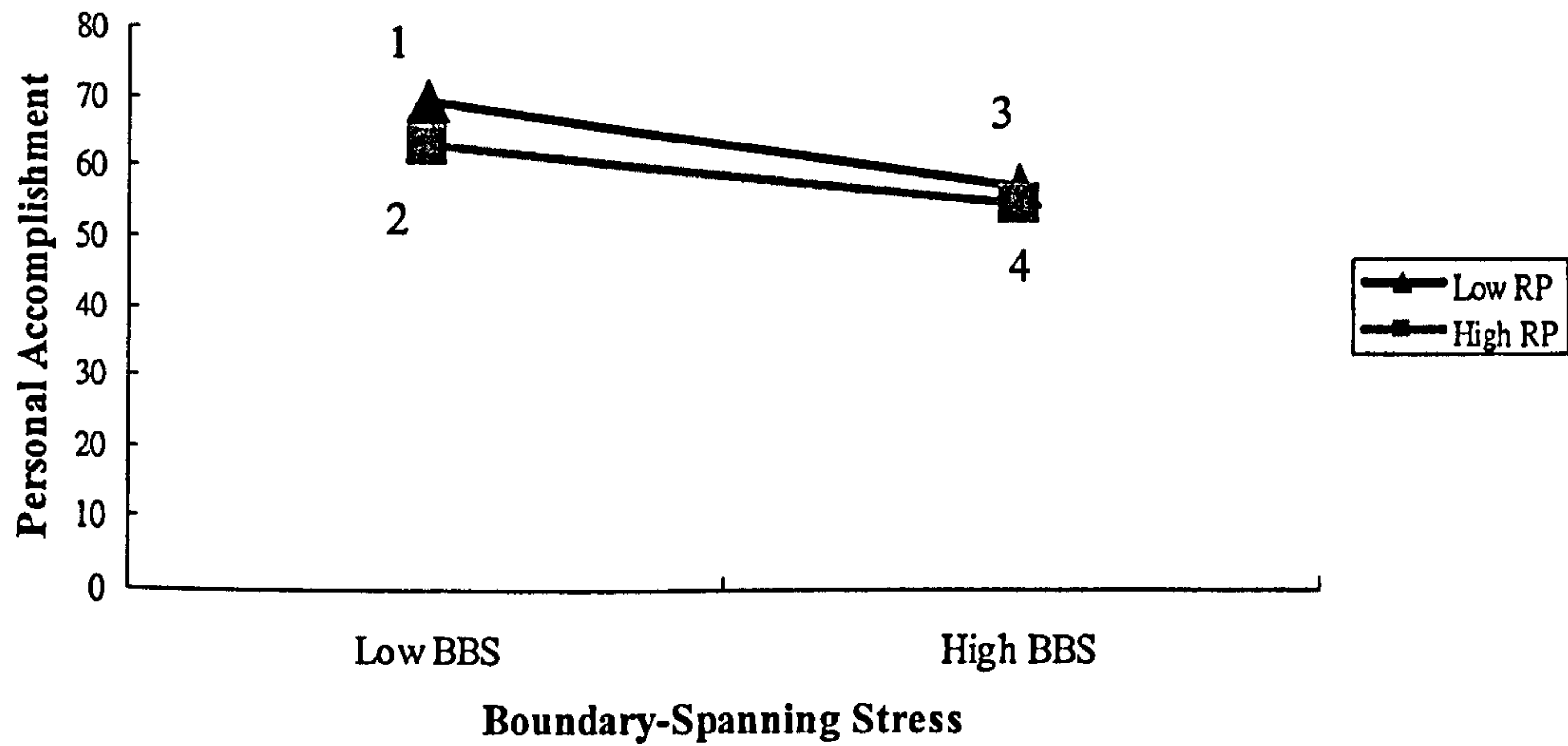
\* The lower the number, the higher the Personal Accomplishment is (see Table 3.2, p.102).

The same procedure was used to analyze the third significant interaction which shows CPS5-Realistic Perspective moderated the relationship between Boundary-Spanning Stress (BSS) and Personal Accomplishment.

Fig 5.3 shows that the use of CPS5-Realistic Perspective did exert a moderating effect on Personal Accomplishment disregard the level of Boundary-Spanning Stress. However, there was not much difference in using a low level (Points 1 and 3) or a high level (Points 2 and 4) of CPS5-Realistic Perspective in buffering the negative effect of Boundary-Spanning Stress on Personal Accomplishment. Respondents using either a low or a high level of CPS5-Realistic Perspective could maintain a relatively small difference of Personal Accomplishment level even when Boundary-Spanning Stress level was high. Hence, CPS5-Realistic Perspective moderated the effect of Boundary-Spanning Stress on Personal Accomplishment. As there was no previous study on coping moderators between stress and burnout, no comparisons could be made.



**Fig. 5.3 Moderating Effect on the Use of Realistic Perspective (CPS5)  
on the Relationship between  
Boundary-Spanning (BSS) Stress and Personal Accomplishment (PA)**



Low RP=Low Realistic Perspective

High RP=High Realistic Perspective

## **Discussion**

The discussion is divided into two parts. The first part is to discuss the findings derived from the quantitative analyses while the second part is to explore the qualitative findings derived from the responses to the open-ended questions of the modified Administrative Stress Index and the modified Coping Preference Scale.

### **Quantitative Dimension**

#### **Top stressor perceived by the mainstream secondary school principals**

Among the four types of administrative stress as measured by the modified Administrative Stress Index, boundary-spanning was perceived as the major stressor perceived by the mainstream secondary school principals. When the five items of Boundary-Spanning Stress is examined, Table 5.12 shows the mainstream secondary school principals regarded “complying with government and organizational rules and policies (e.g. educational forms, change of policies) as the top stressor.

Table 5.12

Items of Boundary Stress among Hong Kong Secondary School Principals as Described in the Modified Administrative Stress Index by Rank Order

Rank	Item	Situations	Category	M	SD
1	17	Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)	BSS	3.31	1.11
6	03	Administering School Improvement Projects that are beyond my educational expertise (e.g. construction, Information Technology & building maintenance)	BSS	2.84	1.11
11	18	Administering the negotiated contracts (e.g. construction, insurance, maintenance etc)	BSS	2.59	0.95
12	23	Trying to gain public approval and/ or financial support for school programmes	BSS	2.57	0.96
14	13	Preparing and allocating budget resources	BSS	2.52	1.02

BSS=Boundary-Spanning Stress

With the introduction of education reforms ever since 1997, the role of the principal has changed significantly, having become more demanding in recent years, which has led to an increase in stress levels (Williams & Portin, 1997). As discussed earlier in Chapter 1, in order to carry out the major educational reforms, the principals have to implement reform initiatives such as school-based management, school self-evaluation, change of medium of instruction policies and the set up of Incorporated Management Corporation, change of secondary academic structure moving from seven years of secondary education to six years, and so on. The execution of such reform initiatives implied that the principals would have additional workload. Although the school-based management initiative seemed to give a greater autonomy to the schools,



the schools have to shoulder a higher level of accountability to the key stakeholders and the members of the public such as self-evaluation findings to be externally validated by the EMB.

Apart from carrying out these education reforms, the principals have to deal with change of policies. One major change of policy is the curriculum reforms. An example is the incorporation of four key tasks (reading to learn, information technology skills, project learning and moral & civic education) into the eight key learning areas. Although EMB has provided an additional capacity enhancement grant to implement curriculum reform, the principals still had to cope with the problems of learning the new curriculum reforms themselves, motivating staff to improve their competence in taking up the curriculum leadership roles within their subjects and across subjects; building trust and co-operation; and facing possible failures disregard heavy input of time, energy and manpower. This may increase the level of stress to the principals as the ability of staff may vary in delivering a curriculum that can address the requirements of the curriculum reforms. Another major change of policy is that the principals have to fulfil the 150-hour Continuous Professional Development requirement in three years' time, suggesting that the principals have to work longer hours even on holidays.

All these reforms and change of policies imposed by the government suggest that the principals had to take on more workload, work longer hours and shoulder greater responsibilities. This could directly increase the level of Task-Based Stress. Since Task-Based Stress was the strongest predictor of Emotional Exhaustion and Depersonalization (Chapter 4, pp 158-160), any increase of Task-Based Stress would be very likely to raise the levels of burnout in Emotional Exhaustion and Depersonalization among the mainstream secondary schools.

The current findings supported Williams and Portin (1997)'s comments that the pressures for school reforms, legislative reform initiatives, site-based decision making, increased social complexity, increased responsibilities and a host of other changes contribute to increased stress levels of principals. Each of these changes requires the principal to take on additional time and responsibilities. However, at the same time, the principals have not been relieved of other duties and responsibilities that have traditionally been a part of their job e.g. building maintenance, instructional leadership, maintaining a safe environment, responding to teacher and staff requests, conducting teacher evaluations, managing the budget, overseeing co-curricular and extra-curricular activities, and maintaining discipline. They have not been given additional manpower, such as principal assistant, to relieve their heavy workload. The current finding further corroborates Chan's (2002) study whose subjects were experiencing the same education reforms in Hong Kong although the subjects were primary schoolheads.

It appears that the changes in education in Hong Kong have brought more responsibilities which are being "layered" one on top of the other to the principals. This layering of responsibility continues to be the challenge of balancing leadership priorities for curriculum improvement and instructional supervision while at the same time meeting managerial demands of site-based making and reform implementation. The finding supported the fact that the recent educational reforms did have a strong impact on the stress level of the mainstream secondary school principals as the top administrative stressor perceived by the principal is "complying with government and organizational rules and policies (e.g. educational forms, change of policies).

Principals in this study report the greatest difficulty in coping Boundary-Spanning Stress when they have to reconcile the competing demands of different stakeholders which may or may not coincide with their own vision and values. This source of stress



seems more likely to lead to burnout/ disillusionment at the later stage of headship professional and personal life cycle. However, it is clear that everyone is not affected in the same way or at the same time whatever the incidents of particular stresses.

### **Stress and Coping strategies**

Quite contrary to the Shumate (1999) and Lucas's (2003) studies, principals in this study did not resort to "work harder" as the most frequent-used strategy to reduce stress. Instead they used Positive Attitude (CPS4) and Realistic Perspective (CPS5), which ranked as the top two coping strategy factors to deal with their stress. It appears that having a positive outlook and attitude towards the job and keeping things in perspective would serve as good pre-stress coping strategies. Table 4.13 (p.142) shows that principals in this study used various pre-stress coping strategies such as "approach problems optimistically and objectively", "practise good human relation skills with staff, students, and parents", "set realistic goals", "delegate responsibility", and "prioritize and use time management techniques" to manage situations or tasks. These pre-stress coping strategies seemed to be quite effective as the data suggest that the principals in this study were experiencing a moderate level of stress and a moderate level of burnout amidst those educational reforms. Principals liked to use more pre-stress coping strategies because they were less time-consuming compared with those post-stress coping strategies. As noted earlier, when the levels of moderate and high of Emotional Exhaustion were combined, it is plausible to speculate that the burnout level in Emotional Exhaustion of the principals was high and similar finding was identified in the subscale of Depersonalization (see Table 4.17, p.145). Because of this, it appears that using the pre-stress coping strategies in the long run may not be adequate to cope with the increasing stress arising from the education reforms.



## **Burnout Levels**

Flynn (2000), Mutchler (1998) and Smith-Stevenson et al (1994) report that burnout levels of Emotional Exhaustion and Depersonalization of the school principals were moderate and the Personal Accomplishment was low. Quite contrary to these previous findings, the result at Table 4.16 (p.146) shows that although the principals experienced moderate levels of burnout in Emotional Exhaustion and Depersonalization, their level of Personal Accomplishment could still remain at a moderate level, suggesting that the principals had a high level of resilience and a high level of coping effectiveness towards their work. Principals' moderate Personal Accomplishment could be possibly attributed to their preference for using Positive Attitude (CPS4) as their most preferred coping strategy. Because of this, they helped to moderate the level of burnout in Personal Accomplishment. However, results reported at Table 4.16 only indicate the averages of the three subscales. When the percentages of principals who experienced Emotional Exhaustion and Depersonalization were examined, it is noted that the levels of burnout (see Table 4.17, p.146) were high. The percentage of principals who experienced burnout in Emotional Exhaustion ranging from moderate to high was 60% and the percentage of principals who experienced burnout level of Depersonalization ranging from moderate to high was 59%. This trend is worth our attention. Since levels of burnout in Emotional Exhaustion and Depersonalization have been gradually on the rise, they might lower the principals' feeling of Personal Accomplishment and affect their well-being if intervention programmes were not implemented at the right time.

### **Relationship between gender, age and years of experience as a principal & stress, coping strategies and burnout**

The demographic variables that had the most significant correlations with stress, coping strategies and burnout were gender, age and years of experience as a principal. For gender, statistical results show that male principals have experienced significant higher level of Role-Based Stress than their female counterparts and also a higher level of burnout in Depersonalization. For coping strategies, female principals have used significantly more Intellectual, Social and Spiritual Support (CPS3) and Positive Attitude (CPS 4) strategies to reduce their stress than their male counterparts. This finding suggests that male principals did not always use coping strategies to cope with role-based stress. Such data implies that it may be necessary to allocate more resources to develop coping strategies intervention programme for the male principals because they occupied nearly 71% of the total secondary school principal population (Education Manpower Bureau, 2004a) and also, the finding in this study indicates that male principals' role-based stress was significantly higher than that of the female counterparts (Table 4.21, p. 151).

There was a consistent pattern that the principals' stress and burnout level declined with age. However, their preference of using Good Physical Health Programme (CPS1) to reduce stress has gone up with the increase of age. These findings seem to suggest that since the principals have continuously built up capacity in terms of accumulating intellectual, social and organization capitals as years went by, their abilities and skills of handling stress related to task, role, boundary-spanning and conflict-mediating have enhanced and matured. Hence, it is possible that both their stress level and burnout level, as suggested in this study, have decreased with age. However, Day & Bakioglu (1996) have given us a clue that the principals' propensity to stress and burnout may be



related to their professional and personal life cycles. Their 4-stage Model of Leading Change implies a disposition from initiation to disenchantment and disaffection in the fourth/final stage (number of years of working experience as a principal is at 12 or above), which may be compared with the notion of burnout. Therefore, burnout and disenchantment may be much related to ages and stages as it is to the particular events of headship.

### **Demographic variables and coping factors**

One conspicuous finding between demographic variables and coping strategies was that Table 5.13 shows that when the levels of demographic variables such as age, years of experience, educational level, school history and the number of assistant principals have increased, the principals would tend to use Good Physical Health Programme (CPS1), Withdrawal & Recharging (CPS2) and Intellectual, Social and Spiritual Support (CPS3) to reduce their stress level. The possible explanation for this finding was that when school principals' age, years of experience and education level increased, they would be more experienced in task completion, role clarifications, conflict mediation and above all they could master the skills to meet the boundaries as set out by the government and the sponsoring bodies. With this continuously improving competence of knowledge and skills about their job, the assistance of deputy principals and possible good number of student intake as the school has a longer history, the principals in this study could spare more leisure time to do those time-demanding post-stress activities such as doing physical exercise, going on retreats and seeking different types of Intellectual, Social and Spiritual Support.



Table 5.13

Relationships between the Use of CPS1, CPS and CPS 3 and the Increased Levels of Five Types of Demographic Variables

<div>Coping Strategies</div> <div>Demographic Variables</div>	CPS1 Good Physical Health Programme	CPS2 Withdrawal & Recharging	CPS3 Intellectual, Social and Spiritual Support
<u>INCREASE:</u>			
1.Age	✓	x	x
2. Years of Experience	✓	✓	x
3. Education Level	x	✓	x
4.Assistant Principals	✓	x	x
5.School History	✓	x	✓

✓= Used strategies    x = Not used

Depersonalization and Number of Classes and Number of Students

The finding shows that when schools had more classes and more students, the school principals experienced lower burnout levels in Depersonalization. This is contrary to Flynn (2000)’s finding. The possible interpretation for this finding is that as the number of students increased, the school would have to employ more staff to manage the school. Apart from the assistance of the deputy principals, the principals could delegate the tasks to various unit coordinators to deal with student affairs and problems. Hence, three-quarters of the principals in this study did not have to handle the students’ problems so frequently and so directly compared with those schools with fewer students. As a result, principals with high enrolment and more classes would experience a lower level of Depersonalization. As there is no similar past finding, further investigation of other possible reasons is needed.

Contrary to this finding, it is worth noting that one-quarter (25.1 %) of the schools in this study had either no assistant principals (8.3%) or only one assistant principal

(16.8%). Since this group of school principals cannot hire more staff due to low enrolments, they had to handle student problems more frequently and directly by themselves. As a result, low-enrolment school principals might experience a higher level of burnout in Depersonalization.

### **Relationship between school type and stress and burnout**

No significant differences were found between any stress factor and school type. Although caput and direct subsidy mainstream secondary schools were classified under private by the Education and Manpower Bureau, the mode of funding for this type of schools is similar to government and aided schools in that every student is financed by the government. Since the private school principals in this study did not have to face significant financial problems, it is reasonable to find that they did not have a significant level of high stress or burnout compared with government and aided schools. Besides, some of the direct subsidy schools in this study were formerly well-established aided schools, suggesting that they might have less difficulty in recruiting good quality students. Since no previous study was done across government, aided and private mainstream secondary schools, no comparisons could be made.

### **Relationship between stress and coping strategies**

Despite significant relationships between stress and coping strategies among the school principal being found, the practical significance was small. There is no ready made formula or single way that will suit everyone for coping with stress (Selye, 1976; Swent, 1983). However, principals who deal with stress more effectively than others have used a variety of different coping strategies. Specifically, Allison (1997)'s findings indicate that low-stressed principals used a greater variety of coping strategies than the highly-stressed principals.

Further analysis in this study shows that low-stressed principals used a greater variety of coping strategies than those high-stressed principals. Based on the respondents' total ASI scores, they were divided at the top 25<sup>th</sup> percentiles and the bottom 25<sup>th</sup> percentiles. Respondents were classified as a high stress group in the top 25<sup>th</sup> percentile whereas those who scored in bottom 25th percentile belonged to the low stress group. T-test results at Table 5.14 show that the low-stress group of principals had scored significantly higher means than the high-stress group of principals in all five coping factors at  $p < .05$ . This finding suggests that low-stressed principals used a greater variety of coping methods to reduce stress than the high-stressed principals. This result corroborates previous studies of Gmelch & Swent, 1977; Roesch, 1979; Hiebert, 1983; Matheny et al., 1988; Liming, 1999; and Allison, 1997.

Table 5.14  
Comparison of High-Stressed Principals and Low-Stressed Principals  
in the Use of Coping Strategies

CPS factors	Low Stress		High Stress		t-value	p
	Mean	SD	Mean	SD		
1. Good Physical Health Programme	3.24	0.87	2.93	0.80	2.40	0.02*
2. Withdrawal & Recharging	2.65	0.70	2.40	0.68	2.30	0.02*
3. Intellectual, Social, Spiritual Support	3.01	0.78	2.75	0.78	2.05	0.04*
4. Positive Attitude	3.70	0.52	3.28	0.67	4.42	0.00*
5. Realistic Perspective	3.48	0.41	3.23	0.43	3.78	0.00*

\*significant at .05 level



Principals who used a variety of coping strategies not only reduced their stress but they could also reduce their burnout level as supported in the findings of hypothesis 4 that the more coping strategies used, the school principals would experience a lower level of Emotional Exhaustion and Depersonalization as well as a higher level of Personal Accomplishment. As principals mature in terms of headship, it may be that the use of the variety of strategies is ever more important in postponing the onset of disillusionment and possibly the more serious consequences of burnout.

### **Predictors of burnout**

Statistical analysis of the results indicates that stressors related to task-based and role-based, coping strategies related to the use of Positive Attitude and personal variables related to gender, age and years as a principal were predictors of burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment. Among these predictors, Task-Based Stress seemed to be the strongest predictor of Emotional Exhaustion and Depersonalization (Chapter 4, pp159-161), implying that the levels of burnout in Emotional Exhaustion and Depersonalization among the mainstream secondary schools would increase if they have to take on a continuously increasing amount of additional workload arising from the education reforms. These predictors do not only rest on a descriptive level but they have practical implications in designing the content of stress-management programme and the recruitment of new principals. The suggestions will be discussed in Chapter 6 under “Implication”.

### **Moderators between stress and burnout**

Past research on stress, coping and burnout for school administrators rarely explored whether the use of coping strategies could moderate between stress and burnout. One of the major contributions in this study is the identification of coping

moderators buffering the relationship between stress and burnout. Further analyses show that CPS4-Positive Attitude moderated the effect of Role-Based Stress on Depersonalization (fig 5.1). Also, it could buffer the effect of Boundary-Spanning Stress on Personal Accomplishment (fig 5.2). In addition, CPS5-Realistic Perspective moderated the effect of Boundary-Spanning Stress on Personal Accomplishment (fig 5.3).

These findings have significant implications. Since Boundary-Spanning Stress was perceived as the top stressor among the mainstream secondary school principals in this study and the burnout levels in Emotional Exhaustion and Depersonalization of were on the rise with moderate to high levels (see Table 4.17), the identification of the appropriate coping moderators --- CPS4-Positive Attitude and CPS5-Realistic Perspective --- would, to a certain extent, serve as evidence-driven data for designing a stress-reduction programme for the principals. By strengthening and reinforcing the use of CPS4-Positive Attitude and CPS5-Realistic Perspective coping strategies in the intervention programme, the principals might experience a lower level of Role-Based Stress and Boundary-Spanning Stress. As a result, the principals' burnout level in Depersonalization will decrease (fig 5.1) and their level of Personal Accomplishment may substantially increase (figures 5.2-5.3), as suggested in the findings of this study. Although the level of Personal Accomplishment in the current study was moderate, there was a tendency that its level would gradually fall if no appropriate stress-reduction programme is introduced as an intervention for the principals at the right time.

## **Validity**

### **Five types of validity tested**

Although ASI, CPS and MBI were well-validated instruments, they have never been used by the secondary school principals in Hong Kong before. It is therefore important to find out if the five types of validity – content, concurrent, predictor, construct, and postal questionnaire – of the three modified instruments were established in the Hong Kong context.

### **Content validity**

Content validity was achieved by modifying, deleting and adding items in the questionnaires based on the respondents' feedback in the pilot study. Details of the modifications for the Administrative Stress Index were described in Chapter 3 p.107; Coping Preference Scale in Chapter 3 p.108; and Maslach Burnout Inventory in Chapter 3, p 108. Content validity was established because the concept tested in the modified questionnaires basically matched those covered in the well-validated instruments and also the content modifications, as suggested by the pilot study subjects, suited the Hong Kong context.

### **Concurrent Validity**

The findings of the six hypotheses show that correlations between one scale and another scale were established. Concurrent validity was found among all six hypotheses. Although the first null hypothesis was partially rejected, significant relationships between occupational stress, coping strategies, and burnout with all demographic variables were established except school type. The result of the second null hypothesis suggests significant relationships between occupational stress and coping strategies among the secondary school principals in Hong Kong were



established. The results of the third null hypothesis test indicated that there was a significant relationship between occupational stress and level of burnout. A similar result was found in the fourth null hypothesis, showing that significant correlations between coping strategies and levels of burnout were statistically confirmed. Despite the fifth null hypothesis being partially rejected, significant predictors of burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment were identified. Although the sixth null hypothesis was partially rejected, significant coping moderators buffering stress and level of burnout were found.

### **Predictive Validity**

The findings of null hypothesis 5 show that demographic variables and stress, coping strategies could predict the level of burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment. Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress and gender were the best predictors for Emotional Exhaustion, and accounted for 47% of the variance in Emotional Exhaustion. Also, Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress, gender and age were the best predictors for Depersonalization, and accounted for 32% of the variance in Depersonalization. Moreover, Positive Attitude, Task-Based Stress and Role-Based Stress were the best predictors for Personal Accomplishment, and accounted for 31% of the variance in Personal Accomplishment. Based on these findings, predictive validity was established in this study.

### **Construct Validity**

To find out if the modified three instruments had an acceptable construct validity, confirmatory factor analyses were used to test the goodness of fit to the sample data.

Although the results at Table 5.15 showed that all chi-square values ( $X^2$ ) were significant in the modified Administrative Stress Index, Coping Preference Scale and Maslach Burnout Inventory, it would be inappropriate to conclude that the three models were rejected.

Table 5.15  
Confirmatory Factor Analysis:  
Goodness of Fit Summaries for ASI, CPS and MBI

	$X^2$	df	p	NFI	NNFI	GFI	AGFI	CFI	RMSEA
ASI	393.353	227	0.001*	0.87	0.92	0.89	0.84	0.94	0.05
CPS	418.896	256	0.001*	0.83	0.83	0.90	0.87	0.92	0.05
MBI	309.308	185	0.001*	0.90	0.95	0.88	0.88	0.96	0.05

\* significant

Note: ASI=Administrative Stress Index; CPS=Coping Preference Scale; MBI= Maslach Burnout Inventory;  $X^2$ = chi-square; p=probability level; NFI=Bentler-Bonett Normal Fit Index; NNFI= Bentler-Bonett Non-Normed Fit Index; CFI=Comparative Fit Index; RMSEA=Root Mean Square Error of Approximation

There are three reasons supporting why the three models could be established. First, Maruyama (1997) indicated that “sample size can have unwanted effects (p.200)” and “larger sample will have a much poorer fit, for its chi-square will be slightly more than twice as great as that in the smaller sample. Because of this relation of fit to sample size, a number of alternative fit indexes have been developed that are less sensitive to sample size (p.200)”. In this study, the chi-squared values ( $X^2$ ) would be sensitive as the sample size, which was 315, was big.

Second, Raykov & Marcoulides (2000) said that “large chi-square values for the independent model are quite frequent in practice---particularly when the variables of interest exhibit some interrelationship”. In this study, interrelationships were established as presented in Tables 4.23, 4.24 and 4.25 (pp154-156).



Third, Stevens (2002, p.435) quoting Bollen and Long (1993) have pointed out that “Do not rely on the chi-square statistic as the only basis for assessing fit. The use of several indexes is encouraged”. When Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) were examined as depicted in Table 5.12, the values of CFI and RMSEA of the three models were all within acceptable levels with all CFI’s values above 0.9 and RMSEA’s values at 0.05. These indices show that the sample data fit well to the models. These results give evidence to the construct validity of the modified Administrative Stress Index, the factor-regrouped Coping Preference Scale and the modified Maslach Burnout Inventory in the Hong Kong context.

### **Postal questionnaire validity**

Postal questionnaire validity was established because the three precautions suggested on Chapter 3 p.92 were all successfully enforced. For the first precaution, all relevant items and instructions of completing the three questionnaires were modified in the most clear and accurate manner based on the feedback collected from the pilot study. Details can be seen from Appendices 4 to 6. For the second precaution, the cover letters at Appendices 1 and 2 clearly explained every important aspect of the study including the background; significance; importance of the respondents’ contribution; ways the research results would be used; suggested time needed to complete the survey; and the way of returning the completed questionnaire. For the third precaution, all printed pages of the postal questionnaires were checked before the mailing. All 315 returned questionnaires showed none of the pages were missing.



The analysis results of the five types of validity – content, concurrent, predictor, construct, and postal questionnaire – among the three modified instruments show that they were all established among the mainstream secondary school principals in the Hong Kong context.

## Reliability

Before accepting the original factor groupings of the three modified instruments as a basis for statistical analyses, overall reliabilities and factor reliabilities of each of the three instruments were tested. Such data could add strength to the methodology design and contribute to the body of research on stress, coping and burnout among the secondary school principals. As reported in Chapter 3, pp 120-124, statistical reasons were provided for the reduction of factors from 7 to 5 in the Coping Preference Scale.

Results of the overall reliability tests of the three instruments show that they were all within acceptable level while the factor alphas of the three instruments indicate some variations. The following provides a detailed reliability analysis of the three instruments.

### Modified Administrative Stress Index

The overall alpha of the modified Administrative Stress Index was .93. This indicated an acceptable level of reliability for use of the instrument in the study. Similarly, for the sample of principals in the actual study (N=315), Table 5.16 shows that the reliability coefficients were adequate for the first three scales: Task-Based Stress (alpha=.87), Role-Based Stress (alpha= .84), Boundary-Spanning Stress (alpha= .79) while it is generally considered to be below the accepted level for Conflict-Mediating Stress (alpha= .60).

Table 5.16  
Reliabilities of Modified ASI Four Stress Factors

	Stress Factor	alpha
1	Task-Based Stress	.87
2	Role-Based Stress	.84
3	Boundary-Spanning Stress	.79
4	Conflict-Mediating Stress	.60

5-factor Coping Preference Scale

The overall alpha of the Coping Preference Scale was .88 showing that the reliability was within acceptable level. Likewise, the reliability coefficients at Table 5.17 were adequate for the first two factors: CPS1-Good Physical Health Programme (alpha= .73) and CPS2-Withdrawal & Recharging (alpha= .76) while it is generally considered to be below the accepted level for CPS3-Intellectual, Social and Spiritual Support (alpha= .65), CPS4-Positive Attitude (alpha= .63) and CPS5-Realistic Perspective (alpha= .40). Despite the alpha of the last factor being low, it was still higher than those of the original 7-factor version with .20 and -.026 for factors 6 and 7 respectively.

Table 5.17  
Reliabilities of Five Coping Preferred Factors

	Coping Preferred Factor	alpha
1	Good Physical Health Programme	.73
2	Withdrawal & Recharging	.76
3	Intellectual, Social & Spiritual Support	.65
4	Positive Attitude	.63
5	Realistic Perspective	.40

Maslach Burnout Inventory

Table 5.18 shows that the Cronbach alphas were .91, .67 and .85 for Emotional Exhaustion, Depersonalization & Personal Accomplishment respectively. All three subscales of the MBI were within an acceptable level of reliability.

Table 5.18  
Reliabilities of MBI-Emotional Exhaustion, Depersonalization & Personal Accomplishment

MBI subscale	alpha
Emotional Exhaustion	.91
Depersonalization	.67
Personal Accomplishment	.85

Babbie (2004, p.275) commented that “survey research is generally weak on validity and strong on reliability” by supporting that “the artificiality of the survey format puts a strain on validity” whereas reliability is strong because “by presenting all subjects with a standardized stimulus, survey research goes a long way toward eliminating unreliability in observations made by the researcher”. The findings of this study only confirm half of Babbie’s views. While Babbie opined that the validity on survey was normally weak, the results of the five types of validity analysis –content, concurrent, predictor, construct, and postal questionnaire – supported that they were all empirically established in this study.



## **Qualitative Dimension**

### **Modified Administrative Stress Index**

As explained in Chapter 4, p.141, principals were probed for additional sources of stress (Appendix 4) at the open-ended question section. Results at Appendix 11 show that the principals' main concerns were to deal with conflicts and under-performance of staff. They were also very concerned about the reduction of classes and the redundancy of surplus teachers due to the falling birth rate. Finally, stressors relevant to boundary-spanning such as attending too many seminars and the fate of the school were also their concerns.

These concerns, which were not identified on the modified Administrative Stress Index, may warrant inclusion if this instrument is used for future research.

### **Allison Coping Preference Scale**

As explained in Chapter 4, p.144, principals were probed for additional effective coping strategies (Appendix 5). Results at Appendix 12 indicate that specifically, items such as "enjoy time with my family members" (CPS2- Withdrawal and Recharging), "pray" (CPS3-Intellectual, Social and Spiritual Support), "empowerment & self-empowerment", "self-enrichment by studies" (CPS5-Realistic Perspective) were the effective coping strategies that the principals had used before.

These strategies, which were not identified on the Coping Preference Scale, may warrant inclusion if this instrument is used for future research.

## Summary

This chapter analyzed the findings of the three research questions and the six hypotheses by comparing and contrasting the results of the past studies as stated on Chapter 2. Although separated by time (1977 to 2004), space (Asia and America) and the reduction of items from 35 to 25 items in the Administrative Stress Index, the current study shared similar outcomes with other studies pertaining to stress in principalship with Boundary-Spanning Stressor as one of the top three stressors in Brimm (1983) and Gmelch and Swent (1977). Despite items have been regrouped from seven factors to five factors, the rank order of coping preference scale factors between this study and that of Allison (1997) was very similar. CPS4-Positive Attitude ranked the top in this study while it ranked the second in Allison's (1997) study. Since the levels of burnout in Emotional Exhaustion, Depersonalization and the level of Personal Accomplishment were moderate, they might suggest that the principals in this study perceived a high level of coping effectiveness. However, further analysis suggested that it may be plausible to speculate that the burnout levels of Emotional Exhaustion and Depersonalization were high, which deserve our attention.

Since Boundary-Spanning Stress item – “Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)” -- was the top stressor as perceived by the mainstream secondary school principals, it is reasonable to say that the educational reforms did pose tremendous stress on them. Quite contrary to the past studies, principals in this study did not resort to “work harder” as the most frequently-used strategy to reduce stress, instead they used Positive Attitude and Realistic Perspective as their most preferred coping strategies. Although analysis indicates that the overall level of stress was moderate, the levels of burnout in

Emotional Exhaustion and Depersonalization seem to be gradually on the rise.

Analysis of the relationships between demographic variables and stress and burnout show that male principals, who were more significantly stressed than their female counterparts, did not always use coping strategies to cope with stress. Such a finding did signify that male principals may need stress-reduction programme as the role-based stress of male principals was higher than that female principals in Hong Kong. When the principals' age, years of experience, educational level, school history and the number of assistant principals have increased, they would tend to use Good Physical Health Programme (CPS1), Withdrawal & Recharging (CPS2) and Intellectual, Social and Spiritual Support (CPS3) to reduce their stress level. When schools had more classes and more students, the school principals experienced lower burnout level in Depersonalization.

Further analysis in this study shows that low-stressed principals used a greater variety of coping strategies than the high-stressed principals. Task-Based Stress was proved to be the strongest predictor of Emotional Exhaustion and Depersonalization, implying that the levels of burnout in Emotional Exhaustion and Depersonalization among the mainstream secondary schools would increase if they had to take on continuous increasing amount of additional workload arising from the education reforms. This suggests that the principals' feeling of Personal Accomplishment might drop and their well-being would be affected in the long run if intervention programmes were not implemented at the right time.

While past research on stress, coping and burnout for school administrators rarely investigated if the use of coping strategies could buffer between stress and burnout, this



study has identified that CPS4-Positive Attitude could moderate the effect of Role-Based Stress on Depersonalization, and the effect of Boundary-Spanning Stress on Personal Accomplishment. Besides, CPS5-Realistic Perspective could moderate the effect of Boundary-Spanning Stress on Personal Accomplishment. Such findings could provide evidence to inform the content of stress-reduction programme for mainstream secondary school principals.

Apart from quantitative analysis, findings of qualitative analysis indicate that additional identified sources of stress and effective coping strategies could be included in the modified Administrative Stress Index and modified Coping Preference Scale in future research.

A comprehensive examination of five types of validity with regard to the three modified instruments indicates that they were all established. As construct validity was statistically confirmed, it suggests that the three modified instruments were suitable to be used in the Hong Kong context. The overall reliabilities of the three modified instruments were proved to be high and most of factor reliabilities of the three instruments were within acceptable levels. Other concerns related to administrative stress and suggestions for effecting coping strategies provided by the principals were discussed.

## **Chapter 6**

### **Conclusions, Implications and Recommendations**

This research study has investigated the sources of stress that the mainstream secondary school principals perceived, their most preferred coping strategies in dealing with job-related stress and the level of job burnout they experienced. This chapter begins with the findings and analyses of three research questions and six hypotheses. It is then followed by a detailed review of the proposed modified model on the Administrator Stress Cycle. Based on the findings and analyses, conclusions were drawn. In light of the conclusions, implications for theory and practice will be discussed. Limitations and contributions of this study will be reported. Based on the conclusions and the implications, a set of recommendations to four groups of educational practitioner -- the policy makers, the school supervisors and sponsoring bodies, the school principals, and potential researchers was made.

#### **Overview of findings & analyses: Research questions and hypotheses**

##### **Research Questions**

1. What are the major stressors perceived to affect Hong Kong mainstream secondary school principals, as determined by the Administrative Stress Index?

Findings of the first research questions show that Hong Kong secondary school principals experienced moderate level of stress. Among the four stress factors, Boundary-Spanning Stress was ranked the top, Task-Based Stress came in second, followed by Conflict-Mediating Stress and Role-Based Stress. Despite being separated by time (1977 to 2004), space (Asia and America) and the reduction of items from 35 to 25 items in the Administrative Stress Index, the current study shared

similar outcomes with other studies pertaining to stress in principalship with Boundary-Spanning Stressor as one of the top three stressors in Brimm (1983) and Gmelch and Swent (1977).

2. What are the coping strategies that the Hong Kong mainstream secondary principals use to reduce stress as measured by Coping Preference Scale?

The answers to the second research question indicate that the most preferred coping strategy to deal with stress was the use of CPS4-Positive Attitude, the second one was CPS5- Real Perspective, CPS1-Good Physical Health Programme ranked the third and CPS3- Intellectual, Social and Spiritual Support ranked fourth and the last one was CPS2- Withdrawal and Recharging was the least preferred coping strategy. Although items have been regrouped from seven factors to five factors, the rank order of coping preference scale factors between this study and that of Allison (1997) was very similar. CPS4-Positive Attitude ranked the top in this study while it ranked the second in Allison (1997)'s study. The rest of the rank sequence was the same.

3. What are the levels of burnout of the Hong Kong mainstream secondary principals as measured by the three subscales of Emotional Exhaustion, Depersonalization, and Personal Accomplishment of the Maslach Burnout Inventory (MBI)?

Findings of the third research question indicate that the mean of the principals' burnout levels in Emotional Exhaustion, Depersonalization and Personal Accomplishment were moderate. However, when the percentages of the three subscales were examined, it was found that the percentage of principals who showed moderate to high levels of Emotional Exhaustion and Depersonalization were 60%



and 59% respectively while the percentage of principals who experienced a moderate to high level of Personal Accomplishment was 62%, suggesting that the Emotional Exhaustion and Depersonalization among the principals were high, which might gradually lead to a low level of Personal Accomplishment.

## **Hypotheses**

### **Hypothesis 1**

There are no significant correlations between occupational stress, coping strategies, and burnout with gender, age, highest earned qualification, years as a high school principal, school type, number of classes, number of students, number of assistant principals and years of school history.

The first null hypothesis was partially rejected because significant relationships between occupational stress, coping strategies, and burnout with all demographic variables were all established except school type. Analysis of hypothesis 1 shows that among the nine demographic variables, only three variables correlated most either negatively significant or positively significant with stress, coping strategies and burnout. These were principals' years of administrative experience which had the highest number of significant relationships (six) followed by gender (five) and age (four).

### **Hypothesis 2**

There is no significant relationship between occupational stress and coping strategies among the mainstream secondary school principals in Hong Kong.

The second null hypothesis was rejected, suggesting that significant relationship between occupational stress and coping strategies among the secondary school

principals in Hong Kong was established. Analysis of hypothesis 2 indicates that although 13 negative correlations between occupational stress and coping strategies were statistically significant, the practical significance was very small with the largest coefficient of determination ( $r$ ) at about 4%.

### Hypothesis 3

There is no significant relationship between occupational stress and level of burnout among the mainstream secondary school principals in Hong Kong.

The third null hypothesis was rejected, indicating significant relationship between occupational stress and level of burnout was supported. Analysis of hypothesis 3 shows that all four types of stress had positive significant correlations with Emotional Exhaustion and Depersonalization, suggesting that when stress levels of task-based, role-based, conflict-mediating and boundary-spanning increased, the level of burnout in Emotional Exhaustion and Depersonalization increased. Also, all four types of stress factors had negative significant correlations with Personal Accomplishment, suggesting that when principals' stress related to task-based, role-based, conflict-mediating and boundary-spanning increased, the level of Personal Accomplishment would decrease.

### Hypothesis 4

There is no significant correlation between coping strategies and level of burnout among the mainstream secondary school principals in Hong Kong.

The fourth null hypothesis was rejected, showing that significant correlation between coping strategies and level of burnout was statistically confirmed. Analysis of hypothesis 4 indicates that the more coping strategies used, disregard the type, the



principals would experience a decreased level of burnout in Emotional Exhaustion and Depersonalization and a higher level of Personal Accomplishment.

### Hypothesis 5

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; coping strategies and occupational stress are not significant predictors of job burnout among the mainstream secondary school principals in Hong Kong.

The fifth null hypothesis was partially rejected. Stepwise regression analyses results show that Task-Based Stress, Positive Attitude, years as high school principal, Role-Based Stress and gender were the best predictors for Emotional Exhaustion, and accounted for 47% of the variance in Emotional Exhaustion. Also, it indicates that Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress, gender, and age were the best predictors for Depersonalization, and accounted for 32% of the variance in Depersonalization. Moreover, it indicates that Positive Attitude, Task-Based Stress and Role-Based Stress were the best predictors for Personal Accomplishment, and accounted for 31% of the variance in Personal Accomplishment.

Analysis of hypothesis 5 shows that three common predictor variables for the Emotional Exhaustion, Depersonalization and Personal Accomplishment were found. They were Task-Based Stress, Positive Attitude (CPS4) and the Years as a High School Principal. Among these predictors, Task-Based Stress was the strongest predictor in Emotional Exhaustion and Depersonalization while Positive Attitude was the strongest predictor in Personal Accomplishment.



## Hypothesis 6

Demographic variables including gender, age, highest earned degree, experience as a principal, school type, number of classes, number of students, number of assistant principals, school history; occupational stress and; coping strategies are not significant moderators of job burnout among the mainstream secondary school principals in Hong Kong.

The sixth null hypothesis was partially rejected. The results of the hierarchical regression analyses testing if the five CPS factors could moderate the four stressors and the subscales of MBI indicate that there were three significant interactions. First, CPS4-Positive Attitude moderated the effect of Role-Based Stress on Depersonalization. Second, CPS4-Positive Attitude buffered the effect of Boundary-Spanning Stress on Personal Accomplishment. Third, CPS5-Real Perspective moderated the effect of Boundary-Spanning Stress on Personal Accomplishment.

Analysis result of the first significant interaction shows that respondents with high level of Positive Attitude (CPS4) could maintain a relatively lower level of Depersonalization even when Role-Based Stress level was high. Result of the second significant interaction indicates that high level use of Positive Attitude (CPS4) could buffer the negative effect of Boundary-Spanning Stress on Personal Accomplishment. Result of the third significant interaction shows that principals with high level of use of Real Perspective (CPS5) could maintain a relatively higher level of Personal Accomplishment even when Boundary-Spanning Stress level was high.

## **Review of the Proposed Model for This Study**

### **Modified Model of Administrator Stress Cycle**

The proposed modified model at figure 2.4 is established with a slight modification reducing the number of factors from seven to five in the Coping Preference Scale. This modified model on Administrator Stress Cycle, which was statistically confirmed, was depicted at fig 6.1 (p.228). It is supported because significant relationships were found between stages 1 and 3, and stages 3 and 4 of the stress cycle. Specifically, significant relationships of hypotheses 2,3,4 were statistically confirmed while significant relationships hypotheses 1,5 and 6 were also partially established; predictors of burnout were identified; and significant coping moderators between stress and burnout were found. The following further explains the significant relationships, the predictors and the moderators of the model.

### **Significant relationships established**

Findings of the first four hypotheses indicate that the first null hypothesis was partially rejected because significant relationships between occupational stress, coping strategies, and burnout with all demographic variables were found except school type. The second null hypothesis was rejected, suggesting that significant relationship between occupational stress and coping strategies among the secondary school principals in Hong Kong was established. The third null hypothesis was rejected, indicating significant relationship between occupational stress and level of burnout was supported. The fourth null hypothesis was rejected, showing that significant correlation between coping strategies and level of burnout was statistically confirmed.

### Predictors of burnout identified

Task-Based Stress, the use of Positive Attitude and Years as a High School Principal were found to be the common strong predictors of Emotional Exhaustion, Depersonalization and Personal Accomplishment (Table 5.10). Stepwise regression analyses results show that Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress and Gender were the best predictors for Emotional Exhaustion. Also, it indicates that Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress, Gender, and Age were the best predictors for Depersonalization. Moreover, it indicates that Positive Attitude, Task-Based Stress and Role-Based Stress were the best predictors for Personal Accomplishment.

### Significant coping moderators found

Two coping moderators were identified. They were Positive Attitude (CPS4) and Real Perspective (CPS5). The use of Positive Attitude (CPS4) could moderate the effect of Task-Based Stress on Depersonalization. Also, it could buffer the effect of Boundary-Spanning Stress on Personal Accomplishment. The use of Real Perspective (CPS5) could moderate the effect of Boundary-Spanning Stress on Personal Accomplishment.

### Significant demographic variables

Findings indicate that principals' years of administrative experience, gender and age correlated most either negatively significant or positively significant with stress, coping strategies and burnout. Such findings corroborate Gmelch & Chan (1995)'s study.

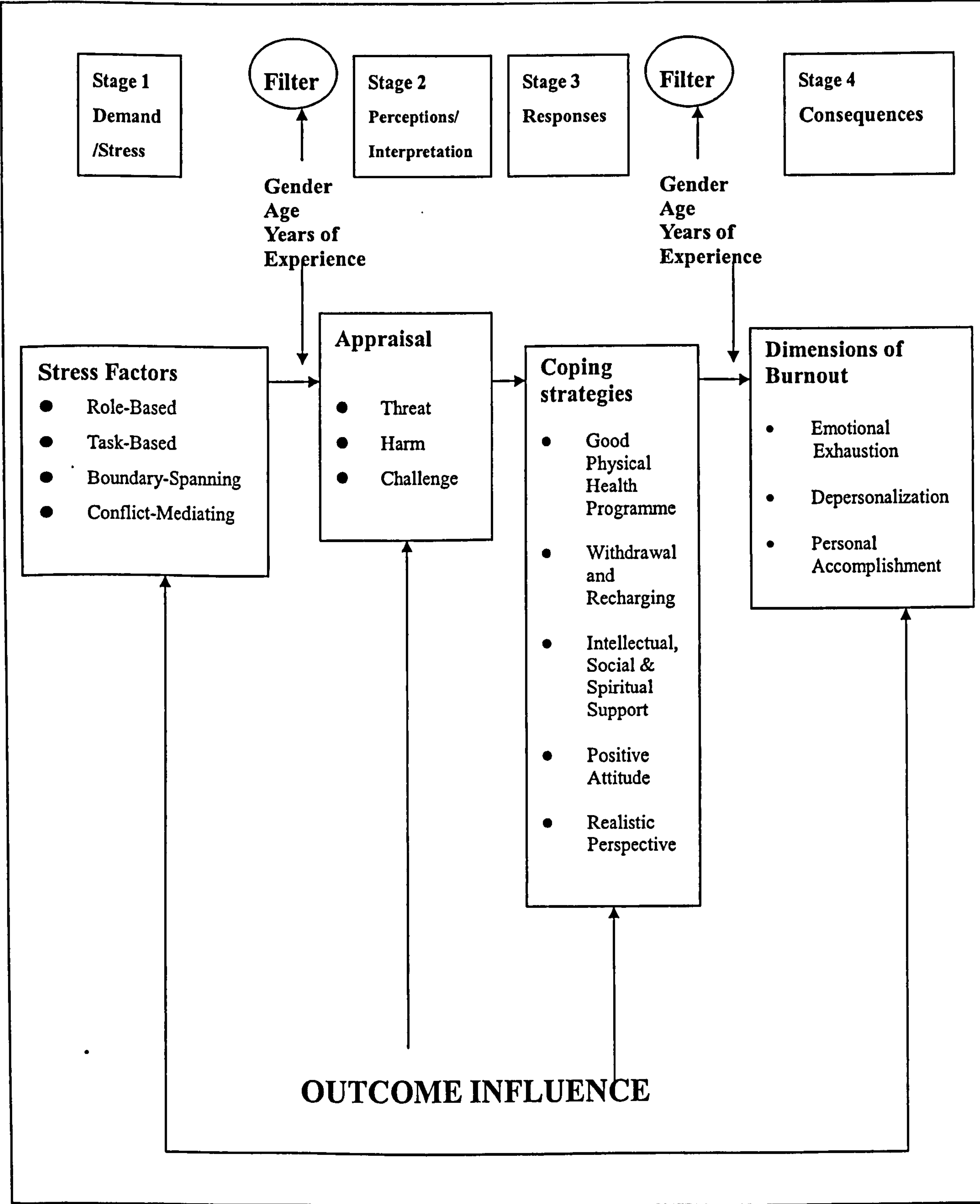


This modified model provides a broader perspective and clearer understanding of stress from a managerial and transactional perspective. This study supported the view as proposed by Lazarus (1995) that work stress is a transaction between the person and the environment, and the outcome of those stressful transactions are mediated by appraisal and coping. This model adheres to the basic premises of research as stated by Ivancevich & Mattheson, (1980, p.31) that it can comprehend the relationships between stress, coping strategies and predict the type of variables that can lead to burnout. In addition, this model goes a step further as it has identified the appropriate coping moderators that can buffer the effect of stress on burnout.

However, there are two limitations of this model. First, this model did not study the aspect of how individual interacted with their environment, which supported Cox (1993)'s view. Second, it did not study the individual's appraisal process in relation to the coping strategies used.

Chapter 6 Conclusion, Implications and Recommendations

**Figure 6.1 Modified Model of Administrator Stress Cycle (Gmelch and Chan, 1995) for the Current Study**



## **Conclusions**

This study has contributed to educational practices by building upon the previous research on stress, burnout, and coping strategies among mainstream secondary school principals. Based on the findings and analyses, the following conclusions were made.

### **On stress, coping strategies and burnout**

Since Boundary-Spanning Stress item – “Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)” -- was the top stressor as perceived by the mainstream secondary school principals, it is reasonable to confirm that the educational reforms did pose great stress on them. This finding echoed Chan’s (2002) study whose subjects were experiencing the same education reforms in Hong Kong although the subjects were primary schoolheads. In the present study, the principals used Positive Attitude and Real Perspective as their most preferred coping strategies to reduce stress. While the levels of burnout in Emotional Exhaustion, Depersonalization were moderate, the feelings of Personal Accomplishment was also moderate, suggesting that the principals in this study perceived a high level of coping effectiveness against the backdrop of the unprecedented rapid educational reforms. Although mean scores of burnout in Emotional Exhaustion, Depersonalization and Personal Accomplishment were moderate, further analysis indicated that it might be reasonable to speculate that the burnout levels of Emotional Exhaustion and Depersonalization were high, which deserve our attention. Since Task-Based Stress was statistically confirmed to be the strongest predictor of Emotional Exhaustion and Depersonalization, it implies that the levels of burnout in Emotional Exhaustion and Depersonalization among the mainstream secondary schools would increase if they have to continuously take on



increasing amount of additional workload arising from the education reforms. This suggests that the principals' feeling of Personal Accomplishment might drop and their work performance and well-being would be adversely affected in the near future if intervention programmes were not implemented at the right time.

### **On demographic variables and stress and burnout**

Analysis of the relationships between demographic variables and stress and burnout show that male principals, who were more significantly stressed related to role-based than their female counterparts, did not always use coping strategies to cope with stress. Principals' levels of reported Task-Based Stress declined with age. Their levels of burnout in Emotional Exhaustion and Depersonalization decreased with increasing age. When the principals' age, years of experience, educational level, school history and the number of assistant principals have increased, they would tend to use time-consuming coping strategies as Good Physical Health Programme (CPS1), Withdrawal & Recharging (CPS2) and Intellectual, Social and Spiritual Support (CPS3) to reduce their stress level. When schools had more classes and more students, the school principals experienced lower burnout level in Depersonalization. There was no significant difference between government, aided and private mainstream secondary school principals in stress and burnout levels.

### **On coping strategies, burnout predictors, coping moderators**

Analysis in this study shows that low-stressed principals used a greater variety of coping strategies than the high-stressed principals. This finding is in congruence with Gmelch & Swent, 1977; Roesch, 1979; Hiebert, 1983; Matheny et al, 1988; Liming, 1999; and Allison, 1997. Using a variety of coping strategies did not only result in low stress, but also this study has confirmed that principals would experience a decreased level of burnout in Emotional Exhaustion and Depersonalization and yet a

higher level of Personal Accomplishment.

Strong predictors predicting Emotional Exhaustion, Depersonalization and Personal Accomplishment were found. The best predictors predicting Emotional Exhaustion were Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress and gender, which explained 47% of the variance in Emotional Exhaustion. Task-Based Stress, Positive Attitude, Years as a High School Principal Role-Based Stress, Gender, and Age were the best predictors of Depersonalization, which accounted for 32% of the variance in Depersonalization. The best predictors predicting Personal Accomplishment were Positive Attitude, Task-Based Stress and Role-Based Stress, which explained 31% of the variance in Personal Accomplishment. Task-Based Stress, Positive Attitude and Years as a High School Principal were found to be the common predictors of Emotional Exhaustion, Depersonalization and Personal Accomplishment. Among these predictors, Task-Based Stress was found to be the strongest predictor in predicting Emotional Exhaustion and Depersonalization while Positive Attitude was the strongest predictor in Personal Accomplishment. This finding supported the previous research that high stress especially task-based is a predictor of burnout (Blasé, 1982; Farber, 1984; Friesen & Sarros, 1989; Gmelch & Chan, 1995; Shumate, 1999). Since Task-Based Stress is on the rise as a result of the continuous education reform, it is very likely the levels of Emotional Exhaustion and Depersonalization would increase.

### **On validity and reliability of instruments**

The analysis results of the five types of validity – content, concurrent, predictor, construct, and postal questionnaire – with regard to the three modified instruments show that they were all established. Specifically, Confirmatory Factor Analysis results give evidence to the construct validity of the three instruments, suggesting that



the modified Administrative Stress Index, the 5-factor Coping Preference Scale; and the modified Maslach Burnout Inventory are suitable to be used in the Hong Kong context. Results of the overall reliability tests of the three modified instruments show that the alphas were relatively high while the factor alphas of the three instruments were mostly within acceptable levels.

### **On Modified Model of Administrator Stress for the Current Study**

The modified model on Administrator Stress Cycle is established with a slight modification reducing the number of factors from seven to five in the Coping Preference Scale. This newly-established transactional model supported the study of Gmelch and Chan (1995). This 4-stage model does not only show us the relationships among stress, coping strategies and burnout, but also it can predict the variables that lead to job burnout. In addition, it went a step further as to identify coping moderators buffering the effect of stress on burnout, in which past studies seldom investigated.

This study, which is a pioneer of its kind, has confirmed that the implementation of educational reforms did have great impact on the stress level of mainstream secondary school principals. The findings have added three new dimensions of knowledge related to the study of work stress among the mainstream secondary school administrators. First, it is the use of flexible (e.g. using choice method for survey return) and balanced (e.g. randomizing the order of questionnaires) research methods as reviewed in Chapter 3, pp 125-129. Second, this study has successfully identified the type of coping moderators that can buffer the effect of stress on burnout among the principals. Third, the three modified instruments were all statistically confirmed valid and the newly-modified model on Administrator Stress Cycle was established.



## Implications

Theoretical and practical implications for the current study were discussed in the following.

### Theory

The results of this study lend support to the transactional view of stress and the conceptualization of the stress cycle. Significant relationships were found between stages 1 and 3, and stages 3 and 4 of the stress cycle (fig 6.1). Also, the significantly strong correlations between administrative stress and Positive Attitude and Real Perspective add to the contribution of intervening variables in moderating the effect of stress on burnout. Since empirical evidence shows that the model is suitable in the Chinese Hong Kong context, it is worth validating in similar ethnic groups and other ethnic groups settings as well.

### Practice

#### Removing barriers

Boundary-Spanning Stress factor was found to be the top stressor that bothered the secondary school principals most in this study. The top stressor item was “compliance with the government and organizational rules and policies” (e.g. educational reform, change of policies). Findings of this study have indicated that due to boundary stress, there was a rising trend in the burnout levels of Emotional Exhaustion and Depersonalization, implying that the principals’ feeling of Personal Accomplishment at work would gradually drop and their health would deteriorate if they have to consistently deal with such work stress without substantial support, policy changes or intervention programme.

While support has been given to schools for carrying out various education and curriculum reforms, the government needs to recognize the increased responsibilities and workload of the principals arising from the continuous education reforms and the burnout consequences. Apart from providing schools with resources, the government needs to study feasible ways of removing principals' unnecessary duties, simplifying their current duties and restructuring their job duties brought by the rapid and massive education reforms. By so doing, principals could be given time and space to function effectively and to grow continuously in the midst of educational reforms. This echoes what Whitaker (1996, p.69) has recommended:

The principal's role must be rewarding, fulfilling and challenging. To remain in the job, principals need to feel that they are continually growing as professionals and as individuals. Principals must feel that they are admired and respected by others, have advancements and professional growth opportunities, and have enough autonomy to make changes that will significantly impact the learning environment in their buildings. It is up to the central office staff [Education and Manpower Bureau] to design ways to facilitate the continued growth of principals, and to remove some of the barriers inhibiting the growth.

#### Predictors for recruitment purposes

One of the important contributions of this study is the identification of predictors of burnout in the subscales of Personal Accomplishment, Emotional Exhaustion, and Depersonalization. The predictors of burnout identified in this study could assist school management committees in the principal recruitment. For instance, questions could be tailored for the interview process to find out how prospective principals might respond to stressful situations related to Boundary-Spanning Stress and

Task-Based Stress. In addition, the recruitment selection boards could ask the potential principals to complete the modified Administrative Stress Index, Coping Preference Scale and the modified Maslach Burnout Inventory so that they could assess the potential principal's level of stress, their coping strategies and their level of burnout as a reference before the appointment is made.

## Limitations

The findings of this study have the following four limitations:

The research was confined to government, aided and private mainstream secondary schools in Hong Kong. No international secondary schools, secondary private independent schools and evening secondary schools were involved in this study. Therefore, the findings could only be applied to the mainstream secondary schools.

Due to the limited time and resources, the single researcher in this study did not carry out any case studies or interviews which might be able to find out the underlying causes of the principals' perceived administrative stress, their unfolded coping strategies and the hidden causes of their burnout among the mainstream secondary school principals in Hong Kong.

There was method variance in the self-report measures in occupational stress research. Although Spector (1987, 1992) demonstrated that method variance was not an artifact in self-reported affect and perceptions at work, the current study still has the limitation of relying on a single source of data --- survey questionnaire.



This survey took place at one point in time, creating a snapshot of the feelings and beliefs of the sample at that precise time. The time of the school year during which this study was conducted could influence responses in a different manner than had the survey been administered at another time of the year. For instance, level of stress may be comparatively lower in January after a long Christmas holiday.

### **Contribution of this study**

The study makes three important contributions. First, predictors of burnout in the subscales of Emotional Exhaustion, Depersonalization and Personal Accomplishment were identified. Stepwise regression results show that Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress and Gender were the best predictors for Emotional Exhaustion. Task-Based Stress, Positive Attitude, Years as a High School Principal, Role-Based Stress, Gender, and Age were the best predictors for Depersonalization. Positive Attitude, Task-Based Stress and Role-Based Stress were the best predictors for Personal Accomplishment.

Second, two significant coping moderators buffering the relationship between stress and burnout among the principals were found. They were Positive Attitude (CPS4) and Real Perspective (CPS5). The use of Positive Attitude (CPS4) could moderate the effect of Task-Based Stress on Depersonalization. Also, it could buffer the effect of Boundary-Spanning Stress on Personal Accomplishment. The use of Real Perspective (CPS5) could moderate the effect of Boundary-Spanning Stress on Personal Accomplishment.

Third, the construct validity of the three instruments --- modified Gmelch and Swent Administrative Stress Index; the factor-regrouped Allison Coping Preference Scale; and the modified Maslach Burnout Inventory --- was established in the Hong Kong context. When Comparative Fit Index (CFI) and Root Mean Square Error of

Approximation (RMSEA) were examined, the values of CFI and RMSEA of the three models were all within acceptable levels with all CFI's values above 0.9 and RMSEA's values at 0.05. These indices show that the sample data fit well to the models. These results give evidence to the construct validity of the modified Administrative Stress Index, the factor-regrouped Coping Preference Scale and the modified Maslach Burnout Inventory, suggesting that these three instruments are suitable in the Hong Kong context.

## **Recommendations**

Based on the conclusions and the implications, recommendations to the policy makers, the school supervisors and sponsoring bodies, the school principals, and potential researchers were made.

### **Recommendations to Policy Makers**

1. The results of this study suggest that the policy makers should look for ways to reduce administrative responsibilities and constraints in the principalship as the findings have shown that Boundary-Spanning Stress would reduce the level of Personal Accomplishment among the mainstream secondary school principals if coping strategies were not consciously and appropriately used. To help serving principals cope better with the existing demands of their work, policy makers could provide additional manpower, such as hiring an executive assistant, to relieve the increasing workload of the principals.

2. As indicated by the Teacher and Principal Development Team of the Education and Manpower Bureau (Appendix C2), there is currently no formal training programme on stress-management for the serving principals. EMB can make use of the findings in this study to design a stress-management programme for serving



principals. These findings can include the common predictors of burnout, types of coping moderators that can buffer the effect of stress on burnout, and the application of a greater variety of coping strategies. To make this programme complete, the government can consider providing a comprehensive programme including stress management workshop, peer sharing, counseling, regular physical and mental fitness workshops, retreats, diet consultation and health evaluations. In addition, the government should provide **TIME and INCENTIVE** for the principals to participate in these activities. For time, the annual school calendar could reflect a policy of no scheduled activities during either winter or spring vacations as well as on some holiday weekends. This would allow principals a chance for participating in Withdrawal and Recharging activities serving the purposes of real relaxation and self-renewal. For incentive, the government can consider recognizing those times used for stress management workshops and self-renewal as Continuous Professional Development hours. Moreover, the government could encourage male principals to join the programme as they did not prefer using coping strategies to cope with role-based stress.

3. Apart from designing stress management programmes for the serving principals, the government could make it a pre-requisite specifying that those teachers attending the Aspiring Principalship Training should take stress-management programme. A log of time spent on stress management activities could be a part of the certification programme. Requiring a log might establish the habit of participating in self-renewal activities. In addition, arrangement can be made to observe a number of administrators at work in their schools so that the participants can anticipate the types of stress they will face before taking up the post of principalship in future.



### Recommendations to School Supervisors & School Sponsoring Bodies

Since Boundary-Spanning Stress include four other areas such as administering School Improvement Projects that are beyond the principals' educational expertise (e.g. construction, Information Technology & building maintenance); administering the negotiated contracts (e.g. construction, insurance, maintenance etc); trying to gain public approval and/ or financial support for school programme; and preparing and allocating budget resources, school supervisors and the School Management Committee members should be able to assess if the principals have sufficient capabilities to handle those tasks. If school supervisors have found that the school principals have problems in handling those tasks, they should offer appropriate assistance. The government can provide training to supervisors to identify sources of principals' stress, offer work-related consultancy and counseling. Sponsoring bodies can provide stress-management sharing sessions for all schools operating under their jurisdiction.

### Recommendations to School Principals

1. While the findings show that Task-Based Stress and burnout level in Emotional Exhaustion and Depersonalization declined with age, analyses show that there is a rising trend of Exhaustion and Depersonalization among the principals. In view of this, younger principals who experienced a higher level of Emotional Exhaustion and Depersonalization could consider adopting the less-used coping strategies such as Good Physical Health Programme, Intellectual, Social & Spiritual Support, Withdrawal & Recharging to reduce stress. They should take time or make time to participate in those post-stress coping activities even at the expense of not completing all of the work. By using a variety of coping strategies, it does not only help to prevent the younger principals' levels of burnout from rising but also it may help to

raise their level of work productivity.

2. As there is no formal training or network on stress management, principals could consider organizing support groups as a way of venting their work frustrations but above all, a venue to share their success stories and a place to build an arsenal of effective coping strategies to endure the effects of job stress. Apart from establishing professional support group, it is also important for principals to have family, friends, and peers to turn to when the need for emotional support arises. This sharing will enable the principal to release the burdens of the day and get uplifted which can reignite the spirit to achieve.

3. Since the findings indicate that low-stressed principals have adopted a greater variety of coping strategies, the principals can develop more interests or hobbies that are not related to the school system. Hence, such interests or hobbies can help the principals to broaden their knowledge, skills and attitude both in depth and breadth in coping with problems. The knowledge acquired about many things and skills in several areas make for a more intelligent person, thus increasing the repertoire of coping skills in dealing with work and non-work stress.

#### Recommendations to Potential Researchers/Future Research

1. Replication of this study with multiple ways of data collection such as interviews and observation and with the data collection month at the beginning of the academic year may yield a different but a fuller picture of the stress, coping strategies and burnout level of the mainstream secondary school principals in Hong Kong.

2. Since 60% of principals in this study have moderate to high level of burnout in Emotional Exhaustion and 59% of principals have moderate to high level of burnout



in Depersonalization, further research into the effects of Emotional Exhaustion and Depersonalization in the principalship could be explored.

3. As there were no past studies that could validate some of the findings in this study, these areas may warrant investigation in future studies. These areas include (1) the relationship between Good Physical Health Programme and the number of assistant principals; (2) the relationships between School History and Good Physical Health Programme, and Intellectual, Social and Spiritual Support; (3) the relationships between increased enrolment and Depersonalization, and Conflict-Mediating Stress.

4. As the three modified instruments in this study have been proved to be valid and suitable in the Hong Kong context, which is mainly inhabited by the Chinese community, replication of this study in ethnic Chinese communities such as Guangzhou, Shanghai, Macau and Taiwan would yield comparative information concerning sources of stress, coping strategies utilized by the principals and their level of job burnout among the same ethnic group working in different educational and political systems. By the same token, this concept can be extended to countries where the subjects are non-Chinese.

5. Replication of this study utilizing English School Foundation secondary schools, private independent international schools and private market-driven secondary schools would yield comparative information concerning the sources of stress, coping strategies utilized by principals and their job burnout level in different types of secondary school environment in Hong Kong.

6. The modified Administrative Stress Index, which only investigated the four types of administrative stress, could not address the ways principals managed changes



brought about by the continuous education reforms. It seems that the modified Administrative Stress Index instrument was not sensitive to change. It may be worth designing an instrument, specifically, to find out the principals' ways of managing changes and their related stress level index.

## Summary

This chapter reviewed the findings of the three research questions and the six hypotheses. Based on the findings, the proposed model of the Administrator Stress Cycle was confirmed with a slight modification reducing seven factors to five in the Coping Preference Scale. Conclusions of the study were made on five areas including stress, coping strategies and burnout; demographic variables and stress and burnout; coping strategies, burnout predictors and coping moderators; validity and reliability of the instruments; and the modified model of Administrator Stress Cycle. Drawn on the conclusions, implications on theory and practice were discussed. Limitations and contributions of this study were examined. Based on the conclusions, a set of recommendations to four groups of educational practitioners were made.

## References

- Allison, D. (1997) Coping with stress in the principalship, Journal of Educational Administration, 35, 39-55.
- Askins, J. (1979, July) Beating the 9-5 grind, San Jose Mercury News, pp.1L,6L.
- Atwood, W.C. Jr (1996) Stress among high school principals in California high schools, EdD dissertation, University of Southern California, Dissertation Abstracts International, 58/01, 35.
- Babbie, E.R. (2004) The Practice of Social Research, 10<sup>th</sup> edition, Thomson-Wadsworth.
- Bailey, W., Fillos, R., & Kelly, B. (1987) Exemplary principals and stress-How do they cope? NASSP Bulletin 71, 77-81.
- Baker, D. B., & Karasek, R.A. (2000) Stress, In B.S. Levy, & D.H. Wegman, Occupational Health (Eds) Recognizing and Preventing Work-Related Disease and Injury (4<sup>th</sup> ed) (pp. 419-436), Philadelphia: Lippincott Williams & Wilkins.
- Barker, S. (October, 1997) Principal applicant drought oppresses districts nationwide, NASSP Newsleader, 45 (2), 14.
- Beehr, T. A. (1984) Stress coping research: Methodological issues, In A. S. Sethi & S. Schuler (Eds.), Handbook of Organizational Stress Coping Strategies, Cambridge, M. A.: Ballinger Publishing Company.
- Beehr, T. A., & Bhagat, R. S. (1985) Introduction to human stress and cognition in organizations, In T. A. Beehr & R. S. Bhagat (Eds.), Human Stress and Cognition in Organization: An Integrated Perspective, New York: John Wiley & Sons.
- Beehr, T. A. & Franz, T. M. (1986) The current debate about the meaning of job stress, Journal of Organizational Behaviour Management, 8 (2), 5-18.
- Bell, J. (1987) Doing your Research Project – A Guide for First-Time Researchers in Education and Social Science, Great Britain: Open University Press.
- Belson, W.A. (1975) Juvenile Theft: Causal Factors, London: Harper and Row.



- Belson, W.A. (1986) Validity in Survey Research, Alder: Gower Publishing Company.
- Billings, A.G. & Moos, R.H. (1984) Coping, stress, and social resources among groups with unipolar depression, Journal of Personality and Social Psychology, 46, 877-891.
- Birnbaum, M. H. & Sotordeh, Y. (1991) Measurement of stress: Scaling the magnitudes of life changes, Psychological Science, 2, 236-243.
- Blanks, O. (1990) An analysis of stress and coping skills among public school principals in North Carolina, EdD dissertation, South Carolina State College, Dissertation Abstracts International, 51/10, 3278A.
- Blase, J.J. (1982) A social psychological grounded theory of teacher stress and burnout, Educational Administration Quarterly, 18(4), 93-113.
- Blasé, J.J. (1984) A data-based model of how teachers cope with work stress, Journal of Educational Administration, Vol. 22. No.2, 173-191.
- Blasé, O. N. Jr (1996) A Wellness Prescription of Stress Levels by Secondary School Principals, Unpublished dissertation for the Doctor in Education, George Washington University.
- Bradburn, N.M. & Sudman, S. (1988) Polls and Surveys: Understanding What They Tell Us, San Francisco: Jossey-Bass.
- Bradley, W. J. (1992), The changing principalship in Chicago, Education and Urban Society, 26 (3), 238-247.
- Bredeson, P. V. (1991, April), Letting Go of Outlived Professional Identities: A Study of Role Transition for Principals in Restructured Schools, Paper presented at the annual meeting of the American Educational Research Association, Chicago, Illinois.
- Brief, A. P., & George, J.M. (1995), Psychological stress and the workplace: A brief comment on Lazarus' outlook, In R., Crandall & P.L. Perrewe (Eds), Occupational Stress: A Handbook (pp. 15-20), Washington D.C. Taylor & Francis.
- Bucuvalas, M. (1987) The perception of stress levels by secondary school principals in relation to age, experience in position, educational preparation and size of school student population, District of Columbia, EdD dissertation, George Washington



University, Dissertation Abstracts International, 47 /12, 4245.

Caplan, R.D., (1998) Person-Environment Fit, In J.M. Stellman, Encyclopaedia of Occupational Health and Safety (4<sup>th</sup> ed) (pp34, 15-34, 17), Geneva: ILO.

Carlton, P.W. & Brown, G.R. (1983) The Stress Game:Administrative Roulette, Principal, 10.

Carr, A. (1994) Anxiety and depression among school principals –Warning, principalship can be hazardous to your health, Journal of Educational Administration, 32 (3) (3), 18-34.

Carruth, R. J. (1997) High school principal burnout: A study relating perceived levels of professional burnout to principal's reliance in social bases of power, EdD dissertation, University of La Verne, 1997, Dissertation Abstracts International, 58/05, 1510.

Chan, A. (2004) Re-thinking the Education Reform: People, Process, Priority and Professionalism, Paper presented at the first Hong Kong Principals Conference, March, 2004, Website address: [www.hksssc.edu.hk](http://www.hksssc.edu.hk), date site last accessed- 20 Aug 2005.

Chan, D.W. (1998) Stress, coping strategies, and psychological distress among secondary school teachers in Hong Kong, American Educational Research Journal, Vol.35, No.1, 145-163.

Chan, Y. M.Y. (2002) Stress Faced by School Headteachers: A Study of Sources of Stress of Local Primary School Headteachers, Unpublished MEd thesis, The University of Hong Kong.

Cheng, K.M. (1996) Stress and Job Satisfaction Among Teachers in a Laissez-Faire Context where Carrots Are Already Out of Stock, Unpublished Master thesis, The University of Hong Kong.

Cheng, K.M. (2002) Reinventing the wheel: educational reform, In Lau, S.K. (Eds) The First Tung Chee-hwa Administration: the First Five Years of the Hong Kong Special Administration Region, The Chinese University of Hong Kong Press.

Cheng, K. K.L. (1993) Occupational Stress as Perceived by Assistant Principals in Hong Kong Aided Secondary Schools, Unpublished MEd thesis, The University of Hong Kong.

Cheng, Y.C. (1994) Principal's leadership as a critical indicator of school performance: Evidence from multi-levels of primary schools, School Effectiveness and School Improvement: An Internal Journal of Research Policy and Practice, 5, 299-317.

Cherniss, C. (1980) Professional Burnout in Human Service Organizations, New York: Praeger.

Chichon, D.J. and Koff, R.H. (1980). Stress and teaching. NASSP, 64 (434),91-104.

Chisolm, P. (1996) Coping with stress, Maclean's 109, No.2 (8 January): 33.

Cohen, A. (1989) Reducing Stress in Schools: A School Administors' Guide to Managing Personal and Building-Level Stress, Longmont CO: Sopris West.

Cohen, L. and Manion, L. and Morrison, K. (2000) Research Methods in Education, 5th Edition, London: Routledge Falmer.

Collea, F. (1979, January) Fate Control, Paper presented at the meeting of the California Association of School Psychologists and Psychiatrists, Asilomar, California.

Coleman, M. (1999) What makes for effective research in a school or college? In Middlewood, D., Coleman M. and Lumby, J. (Eds), Practitioner Research in Education – Making a Difference, London: Paul Chapman Publishing Ltd.

Cooper, C.L., & Marshall, J. (1976). Occupational sources of stress: a review of the literature relating to coronary heart disease and mental ill health, Journal of Occupational Psychology, 49, 11-28.

Cordes, C.L. & Dougherty, T.W. (1993) A review and an integration of research on job burnout, Academy of Management Review 18, No. 4: 621-656.

Cotler, S.B., & Guerra, J.J. (1976) Assertion Training: A Humanistic-Behavioral Guide to Self-Dignity, Champaign, IL: Research Press.

Cox, T., & Cox, S. (1985) The role of the adrenals in the psychophysiology of stress, In E. Karas (Eds), Current Issues in Clinical Psychology, London:Plenum Press.

Cox, T. (1978) Stress, London: Macmillan.

Cox, T. (1993) Stress Research and Stress Management: Putting Theory to Work



(HSE Contract Research Report No. 6 (1993), Centre for Organizational Health and Development, Department of Psychology, University of Nottingham.

Crowell, G.W. (1991) The use of coping skills in the management of job-related stress among secondary public school principals in Mississippi, PhD dissertation, University of Mississippi, Dissertation Abstracts International, 52/06, 1958.

Cusack, J. (1982) Stress and the principalship: A comparative study of elementary and secondary principals in Virginia public schools, EdD dissertation, Virginia Polytechnic Institute and State University, Dissertation Abstracts International, 43/10, 3164.

Czerniakowski, J.J. (1995) Stress, burnout and coping strategies among elementary school principals in Pennsylvania, EdD dissertation, The Pennsylvania State University, Dissertation Abstracts International, 56/12, 4618.

Daly, S. (1992). Principal burnout in the public schools: A study comparing the perceived burnout levels of elementary, middle, and high school principals EdD dissertation, University of La Verne, 1992, Dissertation Abstracts International, 53/07, 2177.

Day, C. & Bakioglu, A. (1996) Development and disenchantment in the professional life of headteachers, In Goodson, J. and Hargreaves, A. (Eds) Teachers Professional Lives, London, Falmer Press, 205-224.

Delonibus, N., & Thompson, S. (1979) Why they leave and where they go? NASSP Bulletin, 63, 1-10.

Dick, R.J. (1993) Relationships of burnout levels, coping preferences and selected demographic variables among Minnesota elementary principals, PhD dissertation, University of Minnesota, Dissertation Abstracts International, 54/11, 3941.

Doring, A. (1993) Stressed? Who me?, Keynote Address to the Association of Catholic Secondary Schools, Queensland.

Draper, J., & McMichael, P. (1996) I am the eye of the needle and everything passes through me: Primary Headteachers explain their retirement, School Organisation, 16(2), 149-163.

Duvall, F. (1996) An analysis of the relationship between stress and public school administrators, EdD Dissertation, University of Central Florida, Orlando,



Edwards, J.R., & Cooper, C.L. (1990) The Person-Environment Fit Approach to Stress: Recurring problems and some suggested solutions, Journal of Organizational Behaviour, 11, 293-307.

Fisher, S. (1986) Stress and Strategy, London: Lawrence Erlbaum Associates.

Fisher, S. (1994) Stress in Academic Life: The Mental Assembly Line, The Society for Research into Higher Education & Open University Press.

Fisher, S. (1996) Life stress, personal control, and the risk of disease, In C. L. Cooper (Eds.), Handbook of Stress, Medicine and Health (pp. 121-136), CRC Press.

**Education & Manpower Bureau (Hong Kong) publications:**

Curriculum Development Council (2001) Learning to learn - Life-long Learning and Whole-person Development, Education & Manpower Bureau, Hong Kong

Education Commission (1997) Education Commission Report No.7, September 1997-Quality School Education, Education & Manpower Bureau, Hong Kong.

Education Commission (2000) Learning for Life, Learning through Life—Reform Proposals for the Education System in Hong Kong, Education Blueprint for the 21<sup>st</sup> Century, Education & Manpower Bureau, Hong Kong.

Education Commission (2003) Review of the Academic Structure of Senior Secondary Education, Education & Manpower Bureau, Hong Kong.

Education Commission (2004) Progress Report on the Education Reform (3), Education & Manpower Bureau, Hong Kong.

Education & Manpower Bureau (2000) Transforming Schools into Dynamic and Accountable Professional Learning Communities – School-based Management Consultation, Advisory Committee on School-based Management, School-based Management Consultation Document, Hong Kong.

Education Manpower Bureau (2004) Teacher Statistics, Education & Manpower Bureau, Hong Kong.

Fallon, B.J. (1981) An approach to living: The third world escape from stress and burnout, NASSP Bulletin, 65, 28-30.

- Farber, B.A. (1984) Stress and burnout in suburban teachers, Journal of Educational Research, 77 (6), 321-325.
- Farber, B.A. (1991) Crisis in education: Stress and burnout: Assumptions, myths and issues, Crisis in Education: Stress and Burnout in the American Teacher, San Francisco, CA: Jossey Bass Publishers.
- Feitler, F. C., & Tokar, E. B. (1986) School administrators and organizational stress: Matching theory, hunches and data, The Journal of Educational Administration, 24 (2), 254-269.
- Floerke, K. L. (1988) Occupational stress factors as perceived by public school superintendents in Arkansas, EdD dissertation, University of Arkansas, Dissertation Abstracts International, 49/07, 1637.
- Flynn, P.D. (2000) Identification of the level and perceived causes of stress and burnout among high school principals in South Carolina, PhD dissertation, University of South Carolina, Dissertation Abstracts International, 61/07, 2532.
- Folkman, S., Lazarus, R.S., Gruen, R.J., & Delongis, A. (1986) Appraisal, Coping Health Status and Psychological Symptoms, Journal of Personality and Social Psychology, 53(3), 571-579.
- Frankl, V. (1963) Man's Search for Meaning, Boston: Beacon Press.
- French J.R.P. Jr, (1974) Person role fit, in McLean A. (Eds), Occupational Stress, Charles C. Thomas, Springfield, IL.
- French, Rodgers and Cobb (1974) Adjustment as person-environment Fit, In B.V. Coelho, D.A. Hamburg and J.E. Adams (Eds), Coping and Adaptation, New York: Basic Books, 316-33.
- Freudenberger, H. J. (1975) The staff burnout syndrome in alternative institutions, Psychotherapy: Theory, Research and Practice, 12, 73-82.
- Freudenberger, H, J. (1980) Burnout: The High Cost of High Achievement, New York: Anchor.
- Friedman, I.A. (1993) Burnout in teachers: The concept and its unique core meaning, Educational and Psychological Measurement, 53, No.4: 1035.



Friesen, D; & Sarros, J. C. (1989) Sources of burnout among educators, Journal of Organizational Behavior, 10 (2), 179-188.

Fullan, M. (1991) The New Meaning of Educational Change, New York: Teachers College Press.

Garwood, P.L. (1995) Burnout level stress of school-based administrators, EdD dissertation, Florida International University, Dissertation Abstracts International, 56/12, 4621.

Gazda, R. (1991) The secondary school principal's organizationally based stress: Sources and coping strategies, EdD dissertation, University of Massachusetts, Dissertation Abstracts International, 52/10, 3487.

Gmelch, W. H. (1977) Beyond Stress to Effective Management, Eugene, OR: Oregon School Study Council, ERIC Document Reproduction Service No. ED 140440.

Gmelch, W. H. (1983) Stress, health, and coping strategies of public school administrators, Phi Delta Kappan, 64, 512-514.

Gmelch, W. H. (1988) Educators' response to stress towards a coping taxonomy, Journal of Educational Administration, 26 No.2, 221-31.

Gmelch, W.H. & Chan, W. (1994) Thinking on Stress for Success, Thousand Oaks, CA: Corwin Press.

Gmelch, W.H. & Chan, W. (1995) Administrator stress and Coping effectiveness: Implications for Administrator evaluation and development, Journal of Personnel Evaluation in Education, 9: 275-285.

Gmelch, W.H. & Gates, G (1998) The impact of personal professional, and organizational characteristics on administrator burnout, Journal of Educational Administration, 36, No. 2: 146.

Gmelch, W. H., Gates, G, Parkay, F. W., & Torelli, J. A. (1994, April) The Impact of Personal, Professional, and Organizational Characteristics on Administrator Burnout, Paper presented at the annual meeting of the American Educational Research Association.



- Gmelch, W. H., Koch, J. L., Tung & R., & Swent, B. (1982) Job stress among school administrators: Factorial dimensions and different effects, Journal of Applied Psychology, 67(4), 493-499.
- Gmelch, W.H., Lovrich, N.P., & Wilke, P.D. (1984) Stress in academe: A national perspective, Research in Higher Education, 20(4), 477-490.
- Gmelch, W. H., & Swent, B. (1977) Stress at the desk and how to creatively cope, Oregon School Study Council Bulletin, 21, 31.
- Gmelch, W.H., & Swent, B. (1981) Stress and the principalship: strategies for self-improvement and growth, NASSP Bulletin, Vol 65, No. 449, 14-19.
- Gmelch, W.H., & Swent, B. (1984) Management team stressors and their impact on administrators' health, Journal of Educational Administration, 22 (2), 192-205.
- Gmelch, W.H. & Torelli, J.A. (1994) The association of role conflict and ambiguity with administrator stress and burnout, Journal of School Leadership, 4, 341-356.
- Goeller, K. A. (1992) Indiana female principals' perceptions of occupational stress and effective coping resources, PhD dissertation, Indiana State University, Dissertation Abstracts International 54/05, 1610A.
- Gray-Grant, J. (1992) Surrey investigates job stress illuminated by deaths of school officials, The Vancouver Sun, 7 February, 1992, p.84.
- Green, E.G. & Walkey, F.H. (1988) A confirmation of the three-factor structure of the Maslach Burnout Inventory, Educational and Psychological Measurement, 48, 579-584.
- Green, T.H. (1992) A study of the levels of burnout as perceived by public school principals in the state of Maine, EdD dissertation, Peabody College for Teachers of Vanderbilt University, Dissertation Abstracts International, 53/07, 2181.
- Haan, N, (1982) The assessment of coping, defense, and stress, In L. Goldberger and S, Breznitz (Eds.), Handbook of Stress: Theoretical and clinical aspects, New York: The Free Press.
- Hancock, L. (1995) Working your nerves: The toughest jobs, Newsweek, 7 March.

- Harling, P. (1989) The organizational framework for educational leadership, In T. Bush Ed, Managing Education: Theory and Practice (pp.20-27), Milton Keynes, UK: The Open University.
- Harris, J. R. (1995) An examination of the Transaction Approach in occupational stress research, In R. Crandall & P.L. Perrewe (Eds), Occupational Stress: A Handbook (pp. 21-28), Washington D.C.: Taylor & Francis.
- Harrison, J. (1991) The relationship between perceived sources of stress, coping preferences, and selected demographic variables exhibited by public elementary school principals of Texas, EdD dissertation, Texas A & M. University, Dissertation Abstracts International, 52/11, 3782.
- Harutunian, H. (1992) An investigation of burnout as perceived by public high school principals, PhD dissertation, University of Connecticut, Dissertation Abstracts International, 54/05, 1653.
- Harvey, T.A. (2002) Professional Vitality and the Principalship: A Construct Validity Study, EdD dissertation, University of Maine, Dissertation Abstracts International, 63/06, 2062.
- Heibert, B. & Basserman, D. (1986) Coping with job demands and avoiding stress: A gram of prevention, The Canadian Administrator, 26(1), 1-6.
- Heibert, B., & Fox, E.G (1981) The reactive effects of self-monitoring anxiety, Journal of Canadian Psychology, 28, 187-193.
- Heibert, B. (1983) A framework for planning stress interventions, Canadian Counselor, 17, 51-61.
- Heibert, B., & Mendaglio, S. (1988, April) A Transactional Look at School Principal Stress, Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, ERIC Document Reproduction Service No. ED 296 267.
- Heinze, K. L. (1987) The dimensionalities of stress and their relationships to administrative characteristics, PhD dissertation, University of Iowa, Dissertation Abstracts International, 48/10, 2499.
- Holmes, T.H., & Rahne, R.H. (1967) The Social Readjustment Rating Scale, Journal of Psychosomatic Research, 11, 213-218.



Hong Kong Federation of Education Workers (2004 June) Survey on Teachers Stress and Workload, Website address: [www.hkfew.org.hk/html\\_event/survey/040608.htm](http://www.hkfew.org.hk/html_event/survey/040608.htm), date site last accessed – 30 August 2004.

Hui, K.P. & Chan, W. (1996) Teacher stress and guidance work in Hong Kong secondary school teachers, British Journal of Guidance and Counseling, Vol.24, No.2, 1996.

Indik, B., Seashore, S.E. & Slesinger, J. (1964) Demographic correlates of psychological strain, Journal of Abnormal and Social Psychology, 69 (1), 26-28.

Iuzzolino, R.D. (1986) Perceived job-related stressors and coping strategies among high school principals in Pennsylvania, EdD dissertation, Pennsylvania State University, Dissertation Abstracts International, 47/07, 2396.

Ivancevich, J.M., & Mattheson, M.T. (1980) Stress and Work: A Managerial Perspective, Glenview, IL; Scott Foresman.

Izraeli, D.N. (1993) Work/family conflict among women and men managers in dual-career couples in Israel, Journal of Social Behaviour and Personality 8, No.3: 371-388.

Johnson, D. (1994) Research Methods in Educational Management, Harlow: Longman Group UK Ltd.

Kadlecek, D. J. (1982) An analysis of the relationship between stress and the public school principalship, EdD dissertation, Illinois State University, Dissertation Abstracts International, 44/ 01, 31.

Kahn, R.L., Wolfe, D.M., Quinn, R.P., & Snoek, J.D. (1964) Organizational Stress: Studies in Role Conflict and Ambiguity, New York: Wiley Press.

Kilgore, L. (1999) The relationship between school principals' perceived levels of stress and selected demographic variables, PhD dissertation, University of Southern Mississippi, Dissertation Abstracts International, 60/06, 1849.

Kirk, H.K. (1992) An investigation of burnout as perceived by public high school principals, PhD dissertation, The University of Connecticut, Dissertation Abstracts International, 54, 1653A.



Koch, J., Tung, R., Gmelch, W., & Swent, B. (1982) Job stress among school administrators: Factorial dimensions and different effects, Journal of Applied Psychology, 67 (4), 493-499.

Koeske, G.F. & Thomas, K. (1995) The impact of over-involvement on burnout and job satisfaction, American Journal of Orthopsychiatry 65, No.2 (April): 282.

Kyriacou, C., & Sutcliffe, J. (1978) A model of teacher stress, Educational Studies, 4, pp.1-6.

Kyte, K. F. (1994) Perceptions of occupational stress among public school principals in Tennessee, EdD dissertation, East Tennessee State University, Dissertation Abstracts International 56/09, 2665.

Lacey, J. I. (1967) Somatic response patterning and stress: Some revisions of activation theory, In M.H. Appleby & R. Trumbull (Eds.) Psychological Stress, New York: Appleton-Century-Crofts.

Lane, S.C. (2000) Stress type and leadership style in the principalship, PhD dissertation, University of Oregon, Dissertation Abstracts International 61/07, 2538.

Lau, P.S.Y. (2002). Teacher Burnout in Hong Kong secondary schools, Unpublished Ph.D. thesis, The Chinese University of Hong Kong.

Lazarus, R.S. (1995) Psychosocial stress in the workplace, In R. Crandall & P.L. Perrewe (Eds), Occupational Stress: A Handbook (pp 3-14), Washington D.C.: Taylor & Francis.

Lazarus, R.S., & Folkman, S. (1984) Stress, Appraisal, and Coping, New York: Springer.

Lazarus, R.S. & Launier, R. (1978) "Stress-related transaction between person and environment", In L.A. Pervin & M. Lewis (Eds), Perspectives in International Psychology, New York: Plenum.

Leary, J. (1987) Stress, time management, and selected demographic factors of elementary school principals in Connecticut, PhD dissertation, University of Connecticut, Dissertation Abstracts International, 48/12, 3022.

Lee, C.O. (2001) The Relationship between External Environments and Teacher Stress, Unpublished EdD thesis, The Chinese University of Hong Kong.

Leithwood, K., Begley, P.T., & Cousins, J.B. (1992) Developing Expert Leadership for Future Schools, London: Falmer.

Liming, R.W. (1998) Stress: sources and coping strategies of secondary public school principals, PhD dissertation, University of Denver, Dissertation Abstracts International, 59/08, 2800.

Linthicum, G.H. (1994) An analysis of the extent to which school district superintendents experience burnout, EdD dissertation, University of Montana, Dissertation Abstracts International, 55/08, 2232,

Lu, C.Q. (2001) Managerial Self-efficacy and its Effects on Chinese Managers' Work Related Attitudes and Performance [in Chinese], Ph.D dissertation in Applied Psychology, Beijing Institute of Psychology, Chinese Academy of Sciences.

Lu, C.Q., Siu, O.L., Cooper, C.L. (2005) Managers' occupational stress in China: the Role of Self-efficacy, Personality and Individual Differences 38,569-578.

Lucas, L. M. (2003) Stress and coping preferences among female high school principals in California, EdD dissertation, University of La Verne, Dissertation Abstracts International, 64/05, 1479.

Lutton, T. (1988) A study of burnout, stress, and coping strategies among elementary principals, EdD dissertation, University of La Verne, Dissertation Abstracts International, 50/03, 586.

Lyne, K.D., Barrett, P.T., Williams, C., Coaley, K. (2000) A psychometric evaluation of the Occupational Stress Indicator, Journal of Occupational and Organizational Psychology, 73, 195-220.

MacPherson, M. A. (1985) Burnout and the school principal, The Canadian Administrator, 25 (1), 1-4.

Man, K.C. (1988) A Study of Job Stress of Secondary School Principals in Hong Kong, [in Chinese], Unpublished MEd thesis, the Chinese University of Hong Kong.

Maruyama, G.M. (1997) Basics of Structural Equation Modeling, Thousand Oaks, CA: Sage.

Maslach, C. (1976) Burned out, Human Behavior, 5 (3), 16-22.



- Maslach, C. (1981) Understanding burnout: problems, progress and promise, In W.S. Paine(Ed.), Proceedings of the First National Conference on Burnout, Philadelphia.
- Maslach, C. (1982) Burnout: The Cost of Caring, Englewoord Cliffs, NJ:Prentice-Hall, Inc.
- Maslach, C. (1982) Understanding burnout: Definitional issues in analyzing a complex phenomenon, In W.S. Paine (Eds), Job Stress and Burnout (pp. 29-40) Beverly Hills: Sage Publications.
- Maslach, C, Jackson, S.E. (1981) Maslach Burnout Inventory Manual, Consulting Psychologists Press, Inc., Palo Alto, California, 1<sup>st</sup> edition.
- Maslach, C, Jackson, S.E (1993) Maslach Burnout Inventory Manual, Consulting Psychologists Press, Inc., Palo Alto, California, 2<sup>nd</sup> edition.
- Maslach, C, Jackson, S.E., Leiter, M.P. (1996) Maslach Burnout Inventory Manual, Second Edition. Consulting Psychologists Press, Inc., Palo Alto, California, 3<sup>rd</sup> edition.
- Maslach, C., & Leiter, M. (1997) The Truth About Burnout, San Francisco: Jossey-Bass.
- Maslach, C., & Pines, A (1977) The burnout syndrome in the day care setting, Child Care Quarterly, 6, 100-113.
- Mason, J.W. (1971) A re-evaluation of the concept of non-specificity in stress theory, Journal of Psychiatric Research, 8, 323-333.
- Mason, E.J. and Bramble, W.J. (1989) Understanding and Conducting Research – Application in Education and the Behavioural Sciences, New York: McGraw-Hill.
- Matheny, K.B., Curlette, W.L., Aycock, D, W., Pugh, J. L., & Taylor.H. F. (1988) Coping Resources Inventory for Stress Manual, Atlanta: Health Prisms.
- Matteson, M.T., & and Ivancevich, J.M. (1987) Controlling Work Stress, San Francisco: Jossey-Bass.
- Mattingly, K. (1977) Sources of stress and burnout in professional child care work, Child Care Quarterly, 6, 127-137.



- McCabe, M. L. (1989) Influential factors conducive to the occupational stress of female principals in Texas, EdD dissertation, Texas State University, Dissertation Abstracts International, 50/05, 116A,
- McGrath, J. E. (1970) Social and Psychological Factors in Stress, New York: Holt, Rinehart and Winston.
- McGrath, J. E. (1976) Stress and Behaviour in Organizations, Chicago: Rand McNally,
- McGrath, M. (1996) A study of stress as perceived by principals of four-year public high schools in New Jersey, EdD dissertation, Seton Hall University, Dissertation Abstracts International, 57/ 03, 954.
- Mills, R.J. (1981) Psychological stress and coping techniques among selected elementary school principals, EdD dissertation, University of California, Los Angeles, Dissertation Abstracts International, 42, 10A.
- Munn, P. & Drever, E. (1990) Using Questionnaires in Small-scale Research-A Teacher's Guide, Great Britain: The Scottish Council for Research in Education.
- Murphy, J. & Hallinger, P. (1993) Restructuring Schools: Learning from Ongoing Effects, Newbury Park, CA:Corwin.
- Mutchler, K.D. (1998) The relationships of personality type to perceived levels of job burnout among secondary principals, EdD dissertation, Drake University. Dissertation Abstracts International, 60/07, 2312.
- Muthalib, N.A.A. (2003) Occupational stress and coping strategies as perceived by secondary school principals in Kuala Lumpur, Malaysia, PhD dissertation, University of Illinois at Urbana-Champaign, Dissertation Abstracts International 64/03, 729.
- Nelson, D.L., & Sutton, C. (1990) Chronic work stress and coping: A longitudinal study and suggested new directions, Academy of Management Journal, 33, 859-869.
- Ngo, F.P. (1995) Stress Among Primary School Teachers in Hong Kong, Unpublished Masters thesis, The University of Hong Kong.

Nisbet, J. & Watt, J. (1984) Case Study. In Bell, J., Bush, T., Fox, A., Goodey, J. and Goulding, S (Eds), Conducting Small-scale Investigations in Educational Management London: Paul Chapman Publishing in association with the Open University, 72-92.

Ogden, D.L. (1992) Administrative stress and burnout among public school administrators in Georgia, PhD dissertation, Georgia State University, Dissertation Abstracts International, 53/05, 1349.

Olsen, C. F. (1984) The relationship of selected variables and perceived burnout among principals, EdD dissertation, University of Southern California, 1984, Dissertation Abstracts International, 45/11, 3257.

Parkes, K.R. (1990) Coping, negative affectivity, and the work environment: Additive and interactive predictors of mental health, Journal of Applied Psychology, 75, 399-409.

Pearlin, L. I., Menaghan, E.G., Lieberman, M.A., & Mullen, J.T. (1981) The stress process, Journal of Health and Social Behaviour, 22, 337-356.

Pearlin, L. I., & Schooler, C. (1978) The structure of coping, Journal of Health and Social Behavior, 19, 2-21.

Pennock, J. (1991) Managing the Megaschool, Principal (March), 33-35.

Peterson, T.R. (2003) Iowa School Superintendents' and Secondary School Principals' Perceived Stress in the Workplace, EdD dissertation, University of South Dakota, Dissertation Abstracts International 64/08, 2731.

Pfifferling, J., & Geckel, J. (1982) Beyond burnout: Obstacles and prospects, In W. S. Paine (Ed.), Job stress and burnout: Research, Theory, and Intervention Perspectives (pp. 257-266), Beverly Hills, CA: Sage.

Pines, A., & Aronson, E., (1988) Career Burnout: Causes and Cures, New York: Free Press.

Pood, E., & Jellicorse, J.L. (1984) Communication climate and administrative burnout: A technique for relieving some of the pressures, Association for Communication Administration Bulletin, 49, 48-56.



Presley, P.H. & Ewing, E.J. (1988) Job-related stress factors and special educational administrative positions, Case in Point, 2 (2), 5-8.

Quarles, H.R. Jr. (1996) Burnout in heads of independent schools in South Carolina, PhD dissertation, University of South Carolina, Dissertation Abstracts International 57/07, 2783.

Quick, J.C., & Quick, J.D. (1984) Organizational Stress and Preventive Management, New York: McGraw-Hill.

Raykov, T., & Marcoulides, G.A. (2000) A First Course in Structural Equation Modeling, Mahwah, NJ: LEA.

Reinard, J.C. & Crawford, J.E. (1984) Managing Communication Stress: The implications for communication administrators, Association for Communication Administration Bulletin, 49, 13-21.

Roesch, M.B. (1979) A study of the relationship between degree of stress and coping preferences among elementary school principals, EdD dissertation, George Peabody College for Teachers of Vanderbilt University, Dissertation Abstracts International, 41/02, 488.

Ryan, T.F. (2001) A comparison of the reported levels of Massachusetts secondary principals and their schools' scores on the 1999 MCAS, EdD dissertation, Seton Hall University, Dissertation Abstracts International, 62/01, 44.

Sanchez, S.H. (1997) Identifying factors that elementary principals perceived contributing to stress, EdD dissertation, University of La Verne, California, Dissertation Abstracts International, 58/05, 1530.

Sarros, J.C. (1988), Administrator burnout: Findings and future directions, Journal of Educational Administration, 26, 184-196.

Savery, L.K., & Detiuk, M. (1986) The perceived stress levels of primary and secondary principals, Journal of Educational Administration, 24 (2), 272-281.

Schaufeli, W.B., Maslach, C. and Marek, T. (1993) Professional Burnout: Recent Developments in Theory and Research, Historical Development of the Burnout Concept, Washington, DC: Taylor and Francis.



Schuler, R. S. (1984) Organizational stress and coping: A model and overview, In A. S. Sethi and R. S. Schuler (Eds.), Handbook of Organizational Coping Strategies, Cambridge: Ballinger.

Schwab, R. L., & Iwanicki, E. F. (1982) Who are our burned out teachers? Educational Research Quarterly, 1(2), 272-281.

Selye, H. (1956) The Stress of Life, London: Longman Green and Company.

Selye, H. (1976) The Stress of Life, 2<sup>nd</sup> ed, New York: McGraw-Hill.

Selye, H. (1975) Stress Without Distress, New York: Penguin Books.

Shumate, J. (1999) Stress, burnout, and coping strategies among Washington State high school principals, EdD dissertation, Seattle Pacific University, Dissertation Abstracts International, 60/08, 2760.

Siu, O.L. (1995) Occupational stress among school teachers: A review of research findings relevant to policy formation, Chinese University Education Journal, v23 n2, 105-124.

Siu, O.L. (2002) Occupational Stressors and Well-being among Chinese Employees: The Role of Organizational Commitment, Applied Psychology: An International Review, 51 (4), 527-544.

Siu, O.L. (2003) Job Stress and Job Performance among employees in Hong Kong: The Role of Chinese Work Values and Organizational Commitment, International Journal of Psychology, 38 (6), 337-347.

Siu, O.L., Lu, L., Cooper, C.L. (1999) Managerial Stress in Hong Kong and Taiwan: a Comparative Study, Journal of Managerial Psychology, Vol. 14, No. 1, 6-25.

Slavin, R.E. (1992) Research Methods in Education, Boston: Allyn and Bacon.

Smith-Stevenson, R. & Saul, C.E. (1994) An Investigation into Burnout among Mississippi High School Principals, Paper presented at the Annual Meeting of the Mid-South Educational Research Association, ERIC Document Reproduction Service No.385 933.

Snyder, T.H. (1999) Factors of job-related stress as perceived by middle school principals in Virginia, EdD dissertation, University of East Tennessee State, Dissertation Abstracts International, 60/11, 3864.

Spaniol, L., & Caputo, J. (1979) Professional Burnout: A Personal Survival Kit, Lexington, Mass: Human Services Associates.

Spector, P.E. (1987) Method variance as an artifact in self-reported affect and perception at work: Myth or significance problem? Journal of Applied Psychology, 72: 438-443.

Spector P.E. (1992) A consideration of the validity and meaning of self-report measures of job conditions, International Review of Industrial and Organizational Psychology, Cooper, C.L. and Robertson, I.T. (Eds) Wiley, Chicester.

Spradley, C.W. (1984) The relationship among elementary principals characteristics and job stress factors and perceived effectiveness and frequency of use of stress coping techniques, Doctoral dissertation, University of Missouri, Kansas City, Dissertation Abstracts International, 45, 03A.

Stevens, J. (2002) Applied Multivariate Statistics for the Social Sciences 4<sup>th</sup> ed, Mahwah, NJ: LEA.

Stouffer, R. (1992) Perceived Stress of Secondary Public School Administrators in Iowa, PhD dissertation, the University of Iowa, Dissertation Abstracts International, 53/11, 3769.

Sutherland, V.J., & Cooper, C.L. (1991) Understanding Stress: Psychological Perspective for Health Professionals. Psychology and Health, Series 5, London: Chapman and Hall.

Tanner, C. K. , Schnittjer, C.J., & Atkins, T.T. (1991) Effects of the use of Management Strategies on Stress Levels of High School Principals in the United States, Educational Administration Quarterly, v27 n2 203-224.

Thomas, R.A. (1999) The study of stress in principalship: Towards an improved methodology, Journal of School Leadership 9, 375-399.

Thompson, J. W. (1985) Stress and burnout: A comparison of principals in North Carolina school districts, PhD dissertation, University of North Carolina at Chapel Hill, Dissertation Abstracts International, 47/04, 1148.



Torelli, J. A. (1990, April) Sex Roles and Perceived Job Stress of Washington Elementary Principals, Paper presented at the annual meeting of the American Educational Research Association, Boston, MA., ERIC Document Reproduction Service No. ED 324 765.

Torelli, J. A. (1993) Occupational stress and burnout in education administration, EdD dissertation, Washington State University, Dissertation Abstracts Internatioinal, 54/ 12, 4328.

Torelli, J. A., & Gmelch, W.H. (1992) Occupational Stress and Burnout in Educational Administration, Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA, ERIC Document Reproduction Service No. ED 352 698.

Travers, C. J., & Cooper, C. L. (1996) Teachers Under Pressure: Stress in the Teaching Profession, London and New York: Routledge.

Tung, R.L. (1979) Occupational stress profiles of male versus female administrators, New York: American Psychological Association, ERIC Document Reproduction Service No.ED 190 936.

Tung, R.L., & Koch, J.L. (1980) School administrators: Sources of stress and ways of coping with it, White Collar and Professional Stress, New York: John Wiley and Sons, 63-87.

Veninga, R. C., & Spradley, J. P. (1981) The Work Stress Connections: How to Cope with Job Burnout, Boston: Little, Brown & Company.

Weber-Sorice, C.A. (2002) The relationships among principals characteristics, school demographic variables, preventive coping resources, and stressors of public school principals in Florida, PhD dissertation, University of Florida, Dissertation Abstracts International, 64/03,757.

Whitaker, K.S. (1995) Principal burnout: Implications for professional development, Journal of Personnel Evaluation in Education, 9 (3), 287-296.

Whitaker, K.S. (1992) Principal burnout and personality type: Do relationships exist? Record, 87-94.



Whitaker, K.S. (1996) Exploring causes of principal burnout, Journal of Educational Administration, 34(1), 60-77.

Wiersma, W. (1991) Research Methods in Education, Fifth Edition, U.S.A. Allyn and Bacon.

Wiggins, T. (1983, April) Occupational Stressors and Administrative Role in Educational Organizations, Paper presented at the annual meeting of the American Educational Research Association, Montreal, Quebec, Canada. ERIC Document Reproduction Service No. ED 229 874.

Williams, R. C., & Portin, B. (1997) The Changing Role of the Principal in Washington State, Association of Washington School Principals, Olympia, WA.

Williamson, J., & Campbell, L. (1987) Stress in the principalship: What causes it ? NASSP Bulletin, 71, 500.

Wong, P.M. (1983) Burnout Syndrome Among Hong Kong Secondary School Principals, Unpublished MEd thesis, The University of Hong Kong.

Wragg, E.C. (1994) Conducting and analysing interviews, In Bennett, N., Glatter, R., and Levacic, R. (Eds), Improving Educational Management through Research and Consultancy, pp 267-282, London: The Open University.

Yeung, L.H.K.(1997) Occupational Stress Among Hong Kong Secondary School teachers, Unpublished Masters Thesis, The Hong Kong Polytechnic University.

Yin, R.K. (1994) Designing single- and multiple-case studies, In Bennett, N., Glatter, R., and Levacic, R. (Eds), Improving Educational Management Through Research and Consultancy, pp 135-154, London: The Open University.

Zwick, B.P. (1992) Administrative burnout: a comparative study of the levels and perceptions of burnout of high school principals and superintendents. PhD dissertation, Ohio University, Dissertation Abstracts International, 53/07, 2202.

## **Appendices**

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- 5 Coping Preference Scale
- 6 Modified Maslach Burnout Inventory-ED
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Modified Administrative Stress Index
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**Appendix 1**  
**Letter from Supervisor**





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SCHOOL OF  
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Tel: +44 (0)1604 630180  
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7 June 2004

TO WHOM IT MAY CONCERN

This is to certify that Ms LI Nim Yu, Kitty is the student in the Educational Leadership and Management Strand of our Doctorate in Education Program.

Ms LI is currently doing her doctoral dissertation under my supervision on "A study of the stress, coping strategies and job burnout among secondary school principals in Hong Kong". I would be grateful if you could kindly render your support to facilitate her collection of data for the dissertation. Please be rest assured that the information gathered will be only used for the study.

If you have any queries, please do not hesitate to contact me at 44-(0)1733-236241 or email me at [bernardbarker@waitrose.com](mailto:bernardbarker@waitrose.com).

Yours sincerely,

Bernard Barker  
Lecturer

**Appendix 2**  
**Letter from Researcher**

7 June 2004

Dear Principal,

**Re: Survey on stress, coping strategies and job burnout among  
secondary school principals in Hong Kong**

I am a doctoral student studying at the University of Leicester, UK. I am now conducting a research on investigating the levels of stress, most frequently used coping strategies, and level of burnout among secondary school principals in Hong Kong. I have chosen this research topic because principals have faced tremendous job pressures in meeting various challenges in the midst of educational reforms.

In order to make this study possible, will you please help me by taking a little of your valuable time to complete the enclosed survey. Please be assured that your anonymity, as well as the confidentiality of your responses, is guaranteed. Only group results will be reported. The data will be destroyed after the completion of the study. Completing the survey only takes about 10-15 minutes.

Your participation in this study is important and critical because your input would provide valuable insights for the educational administrators in understanding the sources of stress and coping strategies that they experience. Also, the results of the study will be submitted to the Education and Manpower Bureau policy makers so that they can look at the captioned topic in the right perspective with objective evidence. It is hoped that the results may facilitate the Education and Manpower Bureau for future formulation of educational strategies and training policies.

Please accept my deepest appreciation in advance for your time, participation and support in this study. If you would like to receive a copy of your personal profile and a copy of the group summary, please complete and return the enclosed form.

I would be most grateful if you could return the completed survey in the pre-coded self-addressed stamped envelope by 9 July 2004. Envelopes are coded to allow me to follow-up non-respondents. Survey materials are separated from the envelopes to maintain your confidentiality. If you have any queries, please feel free to call me at 9185 4700 or email me at [kittynyli@netvigator.com](mailto:kittynyli@netvigator.com).

Yours respectfully,



Li Nim Yu, Kitty

Encl.



## Appendix 3

### Demographic Information

Please tick (✓) the appropriate box.

1. Your sex	<input type="checkbox"/> male	<input type="checkbox"/> female
2. Your age	<input type="checkbox"/> Below 36	<input type="checkbox"/> 36-40
	<input type="checkbox"/> 41-45	<input type="checkbox"/> 46-50
	<input type="checkbox"/> 51-55	<input type="checkbox"/> 56-60
	<input type="checkbox"/> 61-65	
3. Highest qualification	<input type="checkbox"/> Bachelor	<input type="checkbox"/> Master
	<input type="checkbox"/> Doctorate	
4. Number of years in the principalship	<input type="checkbox"/> 1-4	<input type="checkbox"/> 5-10
	<input type="checkbox"/> 11-15	<input type="checkbox"/> 16-20
	<input type="checkbox"/> 21-25	<input type="checkbox"/> 26-30
	<input type="checkbox"/> 31-35	<input type="checkbox"/> 36-40
5. Type of school	<input type="checkbox"/> Government	<input type="checkbox"/> Aided
	<input type="checkbox"/> Caput	<input type="checkbox"/> Direct Subsidy
6. Number of classes in your school	<input type="checkbox"/> 1-5	<input type="checkbox"/> 6-10
	<input type="checkbox"/> 11-15	<input type="checkbox"/> 16-20
	<input type="checkbox"/> 21-25	<input type="checkbox"/> 26-30
	<input type="checkbox"/> 31-35	<input type="checkbox"/> 36-40
	<input type="checkbox"/> over 40	
7. Number of students enrolled	<input type="checkbox"/> Less than 320	<input type="checkbox"/> 320 - 500
	<input type="checkbox"/> 501-800	<input type="checkbox"/> 801- 1000
	<input type="checkbox"/> 1001-1200	<input type="checkbox"/> Over 1200
8. Number of Assistant Principals	<input type="checkbox"/> 0	<input type="checkbox"/> 1
	<input type="checkbox"/> 2	<input type="checkbox"/> 3
9. History of your school	<input type="checkbox"/> 1-5 years	<input type="checkbox"/> 6-10 years
	<input type="checkbox"/> 10 -20 years	<input type="checkbox"/> 21-30 years
	<input type="checkbox"/> 31- 40 years	<input type="checkbox"/> 41-50 years

If it is over 50 years, please write down the exact number of years below.

\_\_\_\_\_ years.

**Appendix 4**  
**Modified Administrative Stress Index**



## Modified Administrative Stress Index

School administrators have identified the following 25 work related situations as sources of concern. It's possible that some of these situations bother you more than others. How much are you bothered by each of the situations listed below? Please circle the appropriate responses.

Not  
Applicable
     
 Rarely or  
Never  
Bothers Me
     
 Occasionally  
Bothers  
Me
     
 Frequently  
Bothers  
Me

1. Being interrupted frequently by telephone calls	N/A	1	2	3	4	5
2. Supervising and coordinating the tasks of many people	N/A	1	2	3	4	5
3. Administering School Improvement Projects that are beyond my educational expertise (e.g. construction, Information Technology & building maintenance)	N/A	1	2	3	4	5
4. Writing memos, letters and other communications	N/A	1	2	3	4	5
5. Thinking that I will not be able to satisfy the conflict-demands of those who have authority over me	N/A	1	2	3	4	5
6. Having my work frequently interrupted by staff members who want to talk	N/A	1	2	3	4	5
7. Imposing excessively high expectations on myself	N/A	1	2	3	4	5
8. Knowing I can't get information needed to carry out my job properly	N/A	1	2	3	4	5
9. Trying to resolve differences with my superiors	N/A	1	2	3	4	5
10. Not knowing what my supervisor thinks of me, or how he/she evaluates my performance	N/A	1	2	3	4	5
11. Feeling that I have too much responsibility delegated to me by my supervisor/s	N/A	1	2	3	4	5
12. Trying to resolve parent/school conflicts	N/A	1	2	3	4	5
13. Preparing and allocating budget resources	N/A	1	2	3	4	5

	<u>Not Applicable</u>	<u>Rarely or Never Bothers Me</u>	<u>Occasionally Bothers Me</u>	<u>Frequently Bothers Me</u>		
14. Feeling that I have too little authority to carry out responsibilities assigned to me	N/A	1	2	3	4	5
15. Handling student discipline problems	N/A	1	2	3	4	5
16. Feeling that I have too heavy a work load, one that cannot possibly finish during the normal work day	N/A	1	2	3	4	5
17. Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)	N/A	1	2	3	4	5
18. Administering the negotiated contracts (e.g. construction, insurance, maintenance etc)	N/A	1	2	3	4	5
19. Being unclear on just what the scope and responsibilities	N/A	1	2	3	4	5
20. Feeling that meetings take up too much time	N/A	1	2	3	4	5
21. Trying to complete reports and other paper work on time	N/A	1	2	3	4	5
22. Trying to influence my immediate supervisor's actions and decisions that affect me	N/A	1	2	3	4	5
23. Trying to gain public approval and/ or financial support for school programs	N/A	1	2	3	4	5
24. Trying to resolve differences between/among superiors (e.g. school managers of the School Management Committee)	N/A	1	2	3	4	5
25. Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time	N/A	1	2	3	4	5

Please feel free to list ONE or TWO situations about your job, if any, that bother you.

26. \_\_\_\_\_

27. \_\_\_\_\_

**Appendix 5**  
**Modified Coping Preference Scale**



## Coping Strategies

The following are some of the ways that people deal with job pressures. Please indicate the extent to which you use any or all of these identifying coping strategies by **circling** the number.

	Never	Almost Never	Sometimes	Almost Always	
1. Set realistic goals (recognize job limitation )	0	1	2	3	4 5
2. Delegate responsibility	0	1	2	3	4 5
3. Maintain a sense of humour	0	1	2	3	4 5
4. Withdraw physically from the situation (e.g. leave the office or the school for a time)	0	1	2	3	4 5
5. Engage in active non-work or play activities (e.g. boating, camping, fishing, gardening, golfing, painting, playing a musical instrument, etc.)	0	1	2	3	4 5
6. Practise good human relation skills with staff, students and parents	0	1	2	3	4 5
7. Work harder (including evenings and weekends)	0	1	2	3	4 5
8. Engage in activities that support spiritual growth (inspirational music, art, reading, or religion)	0	1	2	3	4 5
9. Maintain good health habits (e.g. watch weight, eat balanced meals, reduce intake of caffeine and refined sugar, keep proper concentrations of vitamins, etc.)	0	1	2	3	4 5
10. Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)	0	1	2	3	4 5
11. Talk with family members or close friends	0	1	2	3	4 5
12. Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)	0	1	2	3	4 5
13. Maintain regular sleep habits	0	1	2	3	4 5
14. Break from daily routine or temporarily change to a less stressful task	0	1	2	3	4 5
15. Talk to EMB district administrators OR other school principals OR members of professional educational bodies	0	1	2	3	4 5
16. Community involvement (e.g. coaching, service club membership, volunteering, etc.)	0	1	2	3	4 5
17. Approach problems optimistically and objectively	0	1	2	3	4 5

	Never	Almost Never	Sometimes	Almost Always	
18. Regular physical exercise (e.g. aerobics, athletics, bicycling, fitness club, jogging, hiking, skiing, swimming, tennis, walking etc)	0	1	2	3	4 5
19. Use relaxation and stress management techniques (e.g. auto-hypnosis, meditation, yoga, etc)	0	1	2	3	4 5
20. Compartmentalize work and non-work life	0	1	2	3	4 5
21. Establish office procedures so that visitors are screened (e.g. limit "open door policy") and unplanned interruptions are kept to a minimum.	0	1	2	3	4 5
22. Create more positive and self-supportive mental sets (e.g. use positive self-talk, recognize pros as well as cons, etc.)	0	1	2	3	4 5
23. Take min-vacations (e.g. weekends away, etc.)	0	1	2	3	4 5
24. Seek solitude, slow down work pace, take time to reflect	0	1	2	3	4 5
25. Socializing (e.g. lunch with other, playing cards, etc)	0	1	2	3	4 5
26. Utilize in-service opportunities to increase repertoire of management and communication skills	0	1	2	3	4 5

Apart from the techniques mentioned above, please feel free to list **ONE** or **TWO** additional effective coping techniques, if any, that you personally have used in handling the tensions and pressures of your job.

27. \_\_\_\_\_

\_\_\_\_\_

28. \_\_\_\_\_

\_\_\_\_\_

**Appendix 6**  
**Modified Maslach Burnout Inventory-ED**



# **MBI-Educators Survey**

The following statements are the feelings showing how educators view their job and the people with whom they work closely. Please indicate the frequencies on how you feel by circling the number.

Never      A few  
times  
a year  
or less      Once  
a month  
or less      A few  
times  
a month      Once  
a week      A few  
times  
a week      Every  
day

1. I feel emotionally drained from my work.	0	1	2	3	4	5	6
2. I feel used up at the end of the workday.	0	1	2	3	4	5	6
3. I feel fatigued when I get up in the morning and have to face another day on the job.	0	1	2	3	4	5	6
4. I can easily understand how my staff and students feel about things.	0	1	2	3	4	5	6
5. I feel I treat some students and staff as if they were impersonal objects.	0	1	2	3	4	5	6
6. Working with people all day is really a strain for me.	0	1	2	3	4	5	6
7. I deal very effectively with the problems of my students and staff.	0	1	2	3	4	5	6
8. I feel burned out from my work.	0	1	2	3	4	5	6
9. I feel I'm positively influencing other people's lives through my work.	0	1	2	3	4	5	6
10. I've become more tough toward people since I took this job.	0	1	2	3	4	5	6
11. I worry that this job is hardening me emotionally.	0	1	2	3	4	5	6
12. I feel very energetic.	0	1	2	3	4	5	6
13. I feel frustrated by my job.	0	1	2	3	4	5	6
14. I feel I'm working too hard on my job.	0	1	2	3	4	5	6
15. I don't really care what happens to some students and staff.	0	1	2	3	4	5	6
16. Working with some people directly puts too much stress.	0	1	2	3	4	5	6
17. I can easily create a relaxed atmosphere with my students and staff.	0	1	2	3	4	5	6
18. I feel cheerful after working closely with my students and staff.	0	1	2	3	4	5	6
19. I have accomplished many worthwhile things in this job.	0	1	2	3	4	5	6
20. I feel like I can't take anymore.	0	1	2	3	4	5	6
21. In my work, I deal with emotional problems very calmly.	0	1	2	3	4	5	6
22. I feel students and staff blame me for some of their problems.	0	1	2	3	4	5	6

**Appendix 7**  
**Request for Personal Profile Report & Group Summary Report**

## Reply Slip

Please tick (✓) the appropriate box.

To: Ms Li Nim Yu, Kitty

Please send me:

☐ a personal profile report.

☐ a group summary report.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

**\*\*Please put this slip in the enclosed self-addressed stamped envelope.**



**Appendix 8**  
**Exploratory Factor Analysis- Coping Preference Scale**

### Exploratory Factor Analysis- Coping Preference Scale

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
C1	<b>0.673</b>			-0.103	0.137	
C2	<b>0.727</b>		0.105	0.106		
C3	<b>0.570</b>	0.235	-0.290	0.122		0.112
C4		0.193	-0.121	0.305	0.708	
C5	0.161	<b>0.657</b>			0.340	0.242
C6	<b>0.484</b>	0.256	0.159			-0.146
C7		-0.173				<b>-0.747</b>
C8	0.281	<b>0.410</b>	0.301		0.299	-0.343
C9	0.174	<b>0.710</b>	0.194	0.185		-0.101
C10	<b>0.491</b>	0.307	0.137	0.221		
C11	0.235		<b>0.446</b>	-0.108	0.452	-0.267
C12	0.265	0.232	0.408		<b>0.421</b>	0.183
C13	0.323	<b>0.448</b>	0.281		0.165	
C14		0.191	0.228	0.224	<b>0.642</b>	
C15		0.101	<b>0.730</b>	0.111	0.160	-0.121
C16	0.152		<b>0.672</b>			
C17	<b>0.761</b>		0.178		0.109	
C18		<b>0.792</b>		0.141		0.176
C19		0.413		<b>0.618</b>	0.166	
C20	0.197	<b>0.424</b>	0.191	0.285	0.207	0.306
C21				<b>0.701</b>	0.112	
C22	0.353		0.237	<b>0.522</b>	0.218	
C23			0.340	0.280	0.397	<b>0.555</b>
C24	0.288	0.132	0.227	<b>0.452</b>	0.346	0.145
C25	0.174	0.191	<b>0.547</b>	0.299	0.157	0.163
C26	0.185	0.143	<b>0.519</b>	0.461	-0.133	

Rearranging Items Factors by Using Eigenvlaue > 1  
 Factor loading (Rotated by Principal Components Varimax Method)  
 Total Explained Variance = 54.322%  
 Note: Number printed in **bold** means that it is of the highest value across the six factors of a particular item.

**Appendix 9**

**Item Content of the Six-factor Groupings According to Exploratory Factor Analysis**



**Item Content of the Six-Factor Groupings According to  
Exploratory Factor Analysis**

<b><i>Factor 1</i></b>	
01.	Set realistic goals (recognize job limitation )
02.	Delegate responsibility
03.	Maintain a sense of humour
06.	Practise good human relation skills with staff, students and parents
10.	Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)
17.	Approach problems optimistically and objectively
<b><i>Factor 2</i></b>	
05.	Engage in active non-work or play activities (e.g. boating, camping, fishing, gardening, golfing, painting, playing a musical instrument, etc.)
08.	Engage in activities that support spiritual growth (inspirational music, art, reading, or religion)
09.	Maintain good health habits (e.g. watch weight, eat balanced meals, reduce intake of caffeine and refined sugar, keep proper concentrations of vitamins, etc.)
13.	Maintain regular sleep habits
18.	Regular physical exercise (e.g. aerobics, athletics, bicycling, fitness club, jogging, hiking, skiing, swimming, tennis, walking etc)
20.	Compartmentalize work and non-work life
<b><i>Factor 3</i></b>	
11.	Talk with family members or close friends
12.	Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)
15.	Talk to EMB district administrators OR other school principals OR members of professional educational bodies
16.	Community involvement (e.g. coaching, service club membership, volunteering, etc.)
25.	Socializing (e.g. lunch with other, playing cards, etc)
26.	Utilize in-service opportunities to increase repertoire of management and communication skills
<b><i>Factor 4</i></b>	

19.	Use relaxation and stress management techniques (e.g. auto-hypnosis, meditation, yoga, etc)
21.	Establish office procedures so that visitors are screened (e.g. limit “open door policy”) and unplanned interruptions are kept to a minimum.
22.	Create more positive and self-supportive mental sets (e.g. use positive self-talk, recognize pros as well as cons, etc.)
24.	Seek solitude, slow down work pace, take time to reflect
<b>Factor 5</b>	
04.	Withdraw physically from the situation (e.g. leave the office or the school for a time)
12.	Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)
14.	Break from daily routine or temporarily change to a less stressful task
<b>Factor 6</b>	
07.	Work harder (including evenings and weekends)
23.	Take min-vacations (e.g. weekends away, etc.)

## Appendix 10

### Remarks Made by Some of the Subjects on Phone



### **Remarks made by some of the school principals on phone**

- a. I will spread the message of your study to our sister schools and ask them to complete it.
- b. Can you wait for me cause I can only complete the questionnaire in early July?
- c. I cannot locate your postal questionnaire. Can you fax it to me now so that I can fax it back to you today?
- d. I have not thought of filling out your questionnaire as I really have got too many questionnaires from different organizations. Since this survey is about us, I will try to contribute.
- e. Just send the questionnaire to me again as I don't want to spend time to locate it.
- f. I have sent the completed questionnaire to you a few days ago.
- g. Since you still have not received it, why don't you send one to me again?

**Appendix 11**  
**Summary of Additional Items to the Open-ended Questions of**  
**Modified Administrative Stress Index**

**Summary of Additional Items Provided by the Respondents  
to the Open-ended Questions of  
Modified Administrative Stress Index**

<b>Task-based stress</b>		<b>No.</b>
1	Performance appraisal & promotion especially regarding of staff	1
2	Dealing with the over-sensitive, but rather good subordinates.	1
3	Explaining to teachers about educational reforms, programs, and reviews.	2
4	Teaching staff who lack skills in handling personal matters.	1
5	Not enough time, working for long hours supervising subordinates.	1
6	Reduction of classes.	5
7	Redundancy of surplus teachers.	5
8	Leading teachers to face challenges of curriculum reform	1
9	Passive attitude of some teachers.	1
10	I'm constantly looking for better ways of doing things but I don't know whether I would say that this habit "bothers me"	1
11	Dealing with problems due to under-performed teachers e.g. training	4
12	Feeling unable to push senior staff to fulfill the mission.	1
13	Too much engrossed in the administrative talks, leaving very little time to have personal contact with staff/students/past students & all other people individually.	1
14	Not easy to see the results of hard work/ job effectiveness.	1
15	Negative attitude of the staff towards changes.	2
16	To orientate the staff in the same vision and mission.	1
17	Trying to motivate less able students.	1
18	Improving the teaching effectiveness	1
19	Students' academic improvement.	1
20	Plan ahead to lead the school in the context of rapid changing pace of education reform.	1
	Subtotal	33
<b>Role-based stress</b>		
1	Lack authority in recruitment and in handling staff discipline.	1
<b>Conflict-mediating stress</b>		
1	Solving interpersonal conflict among staff	10



<b>Boundary-spanning stress</b>		
1	Having to deal with problems involving legal aspect.	1
2	No flexibility in financing for aided schools.	1
3	Having to comply with & implement policies against my belief e.g. NET Scheme	1
4	Coping with the educational reforms	1
5	External Review conducted by EMB.	1
6	Changing from five bands to three bands has directly affected the teaching effectiveness and the morale of the frontline workers.	1
7	Unreasonable policies with ostensible unconvincing explanations.	1
8	Too many changes in a short period of time.	1
9	Unreasonable demand for performance or value-addedness irrespective of intake of pupils & resources available.	1
10	Tedious and bureaucratic procedures in finance and personnel matters in the sponsoring body group.	1
11	Implementing new policies which involve additional workload to teachers.	1
12	Resources and financial exploration.	1
13	Too much government interference.	1
14	Inadequate resources	1
	Sub-total	14
<b>Others</b>		
1	Establishing networks outside the educational circle	1
2	Too many seminars about educational reforms/attend too many seminars functions too frequently/Principal Development Courses	4
3	Risk of student suicide.	1
4	Future of development of the school (or fate of the school)	4
5	Lack of educational management knowledge and expertise among school managers and even school supervisor.	2
6	Uncertainty about EMB's policy in education (Education Reform.)	1
7	To look after/mentor/develop/tolerate certain personnel posted by the central, with problems in personality or performance.	1
8	How long should I stay in the principalship.	1
9	The relationship with primary school within the through-train	1

	system.	
10	Relationship with schools within the same school sponsoring body.	1
11	Coercion & irresponsibility of mass media newspaper.	1
12	Transfer to another new school.	1
13	To do some administrative works from the school sponsoring body.	1
14	Ageing of population	1
15	Too many invitations, especially by non-education organizations.	1
16	Worsening of social ethic that is effecting the youths, but we have no say (no means of influencing)	1
17	Students' family problem.	1
18	Being transferred to other school in the same group.	1
19	Junk mails	1
	Subtotal	27
	Total number of entries	85

Note: Total number of types of items: 55  
 Total number of entries =85

**Appendix 12**  
**Summary of Additional Items to the Open-ended Questions of**  
**Coping Preference Scale**



**Summary of Additional Items Provided by the Respondents  
to the Open-ended Questions of  
Coping Preference Scale**

<b>CPS1 - Good Physical Health Program</b>		<b>No.</b>
1	Exercise/Tai Chi	1
2	Body massage	2
	Subtotal	3
<b>CPS2 - Withdrawal &amp; Recharging</b>		
	Withdrawal	
1	Taking longer vacation during summer holiday (i.e. three weeks)	1
2	Take some rest during lunch hour in the office	1
3	Take a rest or ramble in the country parks or on the beaches	1
4	Education tour (visit) with other principals for a week during the School period once a term.	1
5	The stress from other task e.g. my children will help me keep away from my job pressures.	1
6	Leave the problem in the workplace and not to bring it home.	1
7	Plan for early retirement	1
8	Quit the job, if one cannot manage the school in the ways promulgated by EMB, or the public at large.	1
	Recharging	
9	Play with my kids.	1
10	Music appreciation like Baroque & the Adagios played in different situations are helpful in softening tensions.	1
11	Create more family activities and celebrations to enliven life such as trips, dine-outs, shopping, entertainment	1
12	Developing new hobbies and learning new things e.g. brewing tea	1
13	Drink some wine at dinner time	1
14	Go to the salon.	1
15	Keep a pet.	1
	Subtotal	15
<b>CPS3 - Intellectual, Social &amp; Spiritual Support</b>		
	Intellectual	
1	Logotherapy: Victor Frankls' measures for searching of meaning.	1
2	Keep myself always "well prepared" through continuous studies,	1

	reading of latest issues in Education.	
3	Reading to seek change of mind set.	1
	Social	
4	To participate in social functions organized by fellow principals (e.g. local or overseas tours, dinner, lunch etc).	2
5	Enjoy time with my family members.	3
6	Establishing different, voluntary, non-official, informal support groups such as Christian Fellowship, friendship group & professional sharing groups with a purpose to nurture mutual support, encouragement, burden and happiness sharing. I have attended five to six informal groups which can fulfill the said purposes.	1
7	Write emails.	1
	Spiritual	
8	Pray	16
9	God as a reference point for all my endeavours	1
10	Read Bible and meditate the words.	1
11	Spiritual retreat. I work for Catholic Church regularly.	1
	Subtotal	29
<b>CPS4 - Positive attitude</b>		
1	Keep life as simple as possible	1
2	Viewing things at different perspectives and putting oneself in other's shoes and be more far-sighted.	1
3	Take what you do seriously but yourself lightly.	1
4	Love people more whenever there is trouble.	1
5	Practising the feat of strength	1
6	Learn to let go.	1
7	To find meaning in the hard work routinely carried out.	2
8	Concern others.	1
9	Identifying the real role of oneself and avoid over-expectation on oneself.	1
10	Maintain a positive attitude with all people that you work with.	1
11	Fall back and have an objective view of the nature of the tension and pressure.	1
	Subtotal	12
<b>CPS5 - Real Perspective</b>		
1	Go through checklist once for crisis management in administrator's handbook	1
2	Consult expertise in relevant fields	1

3	Empowerment & Self-empowerment	3
4	Creative management -Using forward-looking strategies to plan and implement manpower & financial resources so as to assist and support the teachers. For example, more than ten years ago, our school has hired executive assistants to help the teachers manage and implement administrative matters so that teachers can save more space and time to collaborate with different organizations in more than 20 projects. This resulted with a good quality educational development in our school.	1
5	Sharing workload, experiences and resources among district principals.	1
6	Keep abreast of the world and society trend to ensure that good, timely decision are made.	1
7	Building up an effective team with good communication.	1
8	Exercise professionalism to handle work-related problems.	1
9	Self-empowerment	1
10	Self-enrichment such as undertaking active learning e.g. EdD degree. Professional growth can surely help in coping job pressures.	3
11	Be clear about your vision and commitment.	1
12	I enjoy teaching very much therefore I often take part in developing and teaching our school-based curriculum.	1
	Subtotal	16
	Total	75

Note: Total number of types of items=51

Total number of entries =75



## **Appendix 13**

### **Modified Administrative Stress Index - Distribution of Scores in Percentage**

# **Modified Administrative Stress Index - Distribution of Scores in Percentage**

	Not Applicable	Rarely or Never Bothers Me	Occasionally Bothers Me	Frequently Bothers Me			
	0	1	2	3	4	5	
1. Being interrupted frequently by telephone calls	.6	11.4	19.0	48	16.2	4.8	100
2. Supervising and coordinating the tasks of many people	.0	13.4	25.2	29.6	23.2	8.6	100
3. Administering School Improvement Projects that are beyond my educational expertise (e.g. construction, Information Technology & building maintenance)	4.1	13.3	22.2	32.7	22	5.7	100
4. Writing memos, letters and other communications	.0	21.3	30.2	30.7	14.6	3.2	100
5. Thinking that I will not be able to satisfy the conflict-demands of those who have authority over me	1.0	23.2	36.7	26.7	10.8	1.6	100
6. Having my work frequently interrupted by staff members who want to talk	.3	16.2	31.7	28.4	16.5	7.0	100
7. Imposing excessively high expectations on myself	1.3	14.6	28.0	28.3	22.0	5.7	100
8. Knowing I can't get information needed to carry out my job properly	1.9	18.4	34.9	33.0	10.5	1.3	100
9. Trying to resolve differences with my superiors	3.2	27.1	36.3	23.2	8.6	1.6	100
10. Not knowing what my supervisor thinks of me, or how he/she evaluates my performance	3.8	38.9	36.9	17.3	2.5	.6	100
11. Feeling that I have too much responsibility delegated to me by my supervisor/s	3.8	33.8	34.1	22.6	5.1	.6	100
12. Trying to resolve parent/school conflicts	.3	11.4	32.4	38.4	13.4	4.1	100
13. Preparing and allocating budget resources	1.0	18	30.5	34.0	14.3	2.2	100

	<u>Not Applicable</u>	<u>1</u>	<u>Rarely or Never Bothers Me</u> <u>2</u>	<u>Occasionally Bothers Me</u> <u>3</u>	<u>4</u>	<u>Frequently Bothers Me</u> <u>5</u>	
14. Feeling that I have too little authority to carry out responsibilities assigned to me	3.1	35.9	33.0	22.9	4.1	1.0	100
15. Handling student discipline problems	.3	14.0	33.2	40.4	9.9	2.2	100
16. Feeling that I have too heavy a work load, one that cannot possibly finish during the normal work day	.6	9.9	28.0	29.3	21.0	11.2	100
17. Complying with government and organizational rules and policies (e.g. educational reforms, change of policies)	.0	6.3	15.6	33.0	28.6	16.5	100
18. Administering the negotiated contracts (e.g. construction, insurance, maintenance etc)	1.6	12.1	34.9	34.6	14.9	1.9	100
19. Being unclear on just what the scope and responsibilities	3.2	21.2	42.3	28.2	4.5	.6	100
20. Feeling that meetings take up too much time	1.0	10.2	28.3	34.9	18.4	7.2	100
21. Trying to complete reports and other paper work on time	1.0	6.4	20.8	33.3	29.2	9.3	100
22. Trying to influence my immediate supervisor's actions and decisions that affect me	2.9	22.3	40.1	24.5	9.2	1.0	100
23. Trying to gain public approval and/ or financial support for school programs	2.2	12.8	34.5	33.5	15.4	1.6	100
24. Trying to resolve differences between/among superiors (e.g. school managers of the School Management Committee)	6.7	34.4	35.0	17.2	5.7	1.0	100
25. Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time	1.6	23.5	24.8	30.1	16.5	3.5	100

Note: All numbers in grids are expressed in percentage.



**Appendix 14**  
**Modified Coping Preference Scale - Distribution of Scores in Percentage**

## Coping Preference Strategies Distribution of Scores in Percentage

	Never 0	Almost Never 1	2	Sometimes 3	4	Almost Always 5	
1. Set realistic goals (recognize job limitation )	.0	.3	4.1	27.7	59.9	8.0	100
2. Delegate responsibility	.0	.6	3.8	31.2	54.6	9.8	100
3. Maintain a sense of humour	.6	1.6	11.8	40.4	33.8	11.8	100
4. Withdraw physically from the situation (e.g. leave the office or the school for a time)	8.3	26.3	22.0	33.8	8.3	1.3	100
5. Engage in active non-work or play activities (e.g. boating, camping, fishing, gardening, golfing, painting, playing a musical instrument, etc.)	5.4	15.6	20.6	39.1	16.8	2.5	100
6. Practise good human relation skills with staff, students and parents	.0	.3	6.7	24.0	52.4	16.6	100
7. Work harder (including evenings and weekends)	.0	5.8	10.9	37.3	36.4	9.6	100
8. Engage in activities that support spiritual growth (inspirational music, art, reading, or religion)	.3	7.0	8.9	34.0	32.7	17.1	100
9. Maintain good health habits (e.g. watch weight, eat balanced meals, reduce intake of caffeine and refined sugar, keep proper concentrations of vitamins, etc.)	.9	5.1	15.9	28.3	37.1	12.7	100
10. Prioritize and use time management techniques (i.e. management by objectives, set up blocks of time for specific activities, etc.)	.6	.6	6.2	36.8	47.9	7.9	100
11. Talk with family members or close friends	.6	6.3	16.5	35.9	32.1	8.6	100
12. Engage in less-active non-work or play activities (e.g. dine out, attend cultural or sporting events, movies, crafts, listen to music read or watch TV, etc.)	.3	3.5	15.0	46.2	29.9	5.1	100
13. Maintain regular sleep habits	.3	1.9	11.8	22.3	45.9	17.8	100
14. Break from daily routine or temporarily change to a less stressful task	2.5	10.8	19.4	49.7	16.2	1.4	100
15. Talk to EMB district administrators OR other school principals OR members of professional educational bodies	7.3	17.5	25.3	37.8	10.5	1.6	100
16. Community involvement (e.g. coaching, service club membership, volunteering, etc.)	4.1	17.2	29.2	30.5	16.8	2.2	100
17. Approach problems optimistically and objectively	.0	.6	5.2	27.3	47.9	19.0	100

	Never 0	Almost Never 1	2	Sometimes 3	4	Almost Always 5	
18. Regular physical exercise (e.g. aerobics, athletics, bicycling, fitness club, jogging, hiking, skiing, swimming, tennis, walking etc)	2.5	14.3	19.4	34.3	21.6	7.9	100
19. Use relaxation and stress management techniques (e.g. auto-hypnosis, meditation, yoga, etc)	13.0	33.0	24.4	19.7	6.4	3.5	100
20. Compartmentalize work and non-work life	1.5	14.2	21.3	43.9	16.5	2.6	100
21. Establish office procedures so that visitors are screened (e.g. limit “open door policy”) and unplanned interruptions are kept to a minimum.	5.8	23.8	27.6	31.7	10.5	.6	100
22. Create more positive and self-supportive mental sets (e.g. use positive self-talk, recognize pros as well as cons, etc.)	1.9	7.6	11.5	38.5	33.2	7.3	100
23. Take min-vacations (e.g. weekends away, etc.)	4.1	16.8	24.1	39.7	13.7	1.6	100
24. Seek solitude, slow down work pace, take time to reflect	1.6	8.0	22.3	43.9	20.7	3.5	100
25. Socializing (e.g. lunch with other, playing cards, etc)	2.2	12.4	27.0	41.9	14.9	1.6	100
26. Utilize in-service opportunities to increase repertoire of management and communication skills	1.0	5.1	16.2	50.5	24.6	2.6	100

Note: All numbers in grids are expressed in percentage.



**Appendix 15**  
**MBI-Educators Survey - Distribution of Scores in Percentage**

# **MBI-Educators Survey - Distribution of Scores in Percentage**

	Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day	
	0	1	2	3	4	5	6	
1. I feel emotionally drained from my work.	4.5	29.4	21.7	27.2	6.1	10.5	.6	100
2. I feel used up at the end of the workday.	2.9	12.5	18.8	22.7	12.5	22.0	8.6	100
3. I feel fatigued when I get up in the morning and have to face another day on the job.	12.1	24.5	21.7	19.7	6.1	12.7	3.2	100
4. I can easily understand how my staff and students feel about things.	.0	.7	1.6	14.3	13.4	45.6	24.4	100
5. I feel I treat some students and staff as if they were impersonal objects.	51.6	21.9	11.6	8.1	4.2	1.9	.6	100
6. Working with people all day is really a strain for me.	18.3	31.4	17.9	15.1	9.3	6.4	1.6	100
7. I deal very effectively with the problems of my students and staff.	.3	1.9	3.2	11.3	19.0	48.1	16.1	100
8. I feel burned out from my work.	16.3	29.4	22.7	12.8	8.0	9.9	1.0	100
9. I feel I'm positively influencing other people's lives through my work.	.3	1.9	7.7	14.2	14.2	35.8	25.8	100
10. I've become more tough toward people since I took this job.	9.7	21.0	14.2	21.4	13.3	18.1	2.3	100
11. I worry that this job is hardening me emotionally.	22.8	26.7	21.2	12.5	10.6	5.2	1.0	100
12. I feel very energetic.	.6	3.5	10.0	21.3	16.1	35.0	13.5	100
13. I feel frustrated by my job.	10.6	38.8	22.8	17.2	7.7	2.6	.3	100
14. I feel I'm working too hard on my job.	7.1	13.8	13.2	22.5	15.1	19.3	9.0	100
15. I don't really care what happens to some students and staff.	68	18.4	9.4	2.6	1.0	.6	.0	100
16. Working with some people directly puts too much stress.	9.3	37.2	23.4	15.1	9.0	4.1	1.9	100
17. I can easily create a relaxed atmosphere with my students and staff.	1.3	3.2	9.7	25.9	15.5	32.4	12.0	100
18. I feel cheerful after working closely with my students and staff.	.3	1.0	5.5	16.7	20.3	40.8	15.4	100
19. I have accomplished many worthwhile things in this job.	.0	1.6	2.6	13.8	21.5	41.5	19.0	100
20. I feel like I can't take anymore.	22.7	35.1	15.5	8.7	8.7	7.4	1.9	100
21. In my work, I deal with emotional problems very calmly.	.3	3.9	7.8	16.2	15.5	36.2	20.1	100
22. I feel students and staff blame me for some of their problems.	4.8	41.7	22.4	16.7	8.0	5.4	1.0	100

Note: All numbers in grids are expressed in percentage.

## **Correspondence**

- C1 Reply from Consulting Psychologists Press (CPP) dated 1 June 2004
- C2 Email from Teacher and Principal Development Team of the Education and Manpower Bureau dated 18 & 28 March 2004



**Correspondence**

**C1**

**Reply from Consulting Psychologists Press (CPP) dated 1 June 2004**

Kitty Li

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寄件者: "Kitty Li" <kittynyli@netvigator.com>  
收件者: <kittyli@emb.gov.hk>  
傳送日期: Monday, 29 August 2005 7:16  
主旨: Fw: Meanings of the Scales 1-6

— Original Message —

From: perms  
To: 'kittyli'  
Sent: Wednesday, June 02, 2004 10:57 PM  
Subject: RE: Meanings of the Scales 1-6

June 2, 2004

Dear Kitty Li Nim Yu:

I will answer your questions below each one.

—Original Message—

From: kittyli [mailto:kittynyli@netvigator.com]  
Sent: Monday, May 31, 2004 7:09 AM  
To: perms  
Subject: Meanings of the Scales 1-6

Dear Ms McLaine,

How are you?

1. Thank you very much for sending me the agreement. I will send you the necessary credit card details or cheque details in due course. I should be grateful if you could kindly solve the following problem for me.
2. Could you kindly please check if the scales 1-6 of the Educator Survey mean the following?  
0=never, 1=a few times a year or less, 2=once a month or less, 3= a few times a month, 4= once a week, 5=a few times a week, 6= every day.

I asked this important question because some respondents have raised doubts about the meaning of the scales in the pilot test and asked if there is any need to change the meaning

*Eliza McLane:* The questions and answers might not sound right to your subjects. However, please remember that the questions might not be cross functional bicultural and for that reason the intended meaning might be lost. The questions are intended in the manner that they are written. However, if you were to change the wording I am concerned that the psychometrics and reliability might be lost.

Appreciate if you could give me a reply as soon as possible!

Best regards,

Li Nim Yu, Kitty  
Hong Kong

**Correspondence**

**C2**

**Email from Teacher and Principal Development Team of the Education and  
Manpower Bureau dated 18 & 27 March 2004**



主要識別身分

寄件者: <iriskwong@emb.gov.lk>  
收件者: "kittyli" <kittynyli@netvigator.com>  
傳送日期: Thursday, 18 March, 2004 17:17  
主旨: Re: Stress management training for secondary school principals

Dear Ms Li,

Thank you for your email.

The purpose of the Preparation for Principalship Course, part of the Certification for Principalship process, is to provide professional preparation for school leadership. The Course covers the following six core areas of leadership:

- i. strategic direction and policy environment
- ii. learning, teaching and curriculum
- iii. teacher professional growth and development
- iv. staff and resources management
- v. quality assurance and accountability
- vi. external communication and connection to the outside world

Seen in this light, "stress management training" has not been included in the Preparation for Principalship Course.

I will find out the answer of your second question and will revert back as soon as possible.

For further enquiries, please contact me at 3150 8035.

Mrs Iris Kwong  
Senior Professional Development Officer  
Teacher and Principal Development Team  
Education and Manpower Bureau

主要識別身分

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寄件者: <iriskwong@emb.gov.hk>  
收件者: "kittyli" <kittynyli@netvigator.com>  
傳送日期: Saturday, 27 March, 2004 11:37  
主旨: Re: Stress management training for secondary school principals

Dear Ms Li,

I refer to my previous mail.

I have checked and found that 'stress management training' has not been organized for secondary school principals according to our record. You may wish to know that the values, knowledge, skills and attributes needed by Hong Kong principals as they pursue continuing professional development can be clustered into the same six core areas:

- i. strategic direction and policy environment
- ii. learning, teaching and curriculum
- iii. teacher professional growth and development
- iv. staff and resources management
- v. quality assurance and accountability
- vi. external communication and connection to the outside world

For further enquiries, please contact me at 3150 8035.

Mrs Iris Kwong,  
Senior Professional Development Officer  
Teacher and Principal Development Team  
Education and Manpower Bureau