Work Stress and Coping Among Professionals

Edited by

Chan Kwok-bun

BRILL SOCIAL SCIENCES IN ASIA 11

Work Stress and Coping Among Professionals

Social Sciences in Asia

Edited by

Vineeta Sinha
Syed Farid Alatas
Chan Kwok-bun

VOLUME 11

Work Stress and Coping Among Professionals

Edited by

Chan Kwok-bun

BRILL

LEIDEN • BOSTON
2007

This book is printed on acid-free paper.

Library of Congress Cataloging-in-Publication Data

Work stress and coping among professionals / edited by Chan Kwok-bun.
p. cm. — (Social sciences in Asia, ISSN 1567-2794 ; v. 11)
Includes bibliographical references and index.
ISBN-13: 978-90-04-15480-3
ISBN-10: 90-04-15480-9 (pbk. : alk. paper)
1. Professional employees—Job stress—Singapore. I. Chan, Kwok B.

HF5548.85.W677 2006
158.7'2095957—dc22

2006051679

ISSN 1567-2794
ISBN 978 90 04 15480 3

PRINTED IN THE NETHERLANDS

CONTENTS

ACKNOWLEDGEMENTS

The forerunner of this book is a research grant awarded to me in 1988 (I left Canada for Singapore in 1987) as principal investigator by the National University of Singapore. The project has given birth to nine articles published in scholarly journals. In assembling these writings, I had the good fortune of adding to the book new pieces on police officers by a team of researchers led by my psychology colleague, George Bishop. The book manuscript was improved by the competent copyediting of Jim O'Brien, and, later, Farheen Mukri. I want to thank my long-time sociology colleagues, Vineeta Sinha and Syed Farid Alatas, with whom I edit for Brill Academic Publishers the journal, *Asian Journal of Social Sciences*, and the rather successful companion book series, Social Sciences in Asia, which we created together before I left Singapore for Hong Kong in 2001. I treasure their professionalism, our friendship, and their hearty commitment to scholarly publishing. As always, my two secretaries, Anna Lo and Christie Tang, provide the all-necessary support, patiently and competently. To both women I remain grateful.

I would also like to thank the David C. Lam Institute for East-West Studies, Hong Kong Baptist University, for a small grant to enable the preparation of the subject index for this book.

Chapter 2 is a revised version of an essay by Hing Ai-yun which first appeared in *Economic and Industrial Democracy*, 1992, 13, pp. 401–415, under the title of "The Work experience of engineers in Singapore".

Chapter 3 is a revised version of an essay by Boey Kam-weng and his associates which first appeared in *Singapore Medical Journal*, 1997, 38(6), pp. 256–260, under the title of "Work stress and psychological well-being among the nursing profession in Singapore".

Chapter 4 is a revised version of an essay by Boey Kam-weng and his associates which first appeared in *Chinese Journal of Mental Health*, 1998, 11(2), pp. 1–20, under the title of "Stress coping strategy and psychological well-being of nurses: The Singapore experience".

Chapter 7 is a revised version of an essay by Ko Yiu-chung and his associates which first appeared in *Journal of Developing Societies*,

2000, 16(2), pp. 181–200, under the title of "Stress and coping of Singapore Teachers: A quantitative and qualitative analysis".

Chapter 8 is a revised version of an essay by myself which first appeared in *Asian Journal of Social Science*, 2002 30(3), pp. 657–685, under the title of "Coping with work stress, work satisfaction, and social support: An interpretative study of life insurance agents".

Chapter 9 is a revised version of essay by Gina Lai and her associates which first appeared in *Journal of Asian and African Studies*, 2000, 35(2), pp. 209–228, under the title of "Institutional context and stress appraisal: The experience of life insurance agents in Singapore".

Chapter 10 is a revised version of an essay by myself and my associates which first appeared in *Social Science & Medicine*, 2000, 50, pp. 1415–1432, under the title of "Work stress among six professional groups: The Singapore experience".

CHAPTER ONE

INTRODUCTION SOCIETY, STRESS AND COPING: THE DIALECTIC OF PERSON-ENVIRONMENT FIT AND HUMAN ADAPTATION[1]

CHAN KWOK-BUN

Stress is a fact of life. Fight or flight—often, although not always, that is the choice one makes in the everyday game of life. Almost 30 years ago, while I was a doctoral student in sociology, I posed the following question in my first essay (1977) on stress and coping: why do some individuals view a stressful life situation as one for growth and self-actualisation, while others view the same situation with fear? This question is of interest to both organisations and individuals. While firms and enterprises need to count on their employees to perform, produce and prevail in an increasingly globalised and competitive business environment, individuals themselves desire professional growth and personal satisfaction from their work. The aspirations of workers may often deteriorate into disillusionment due to bureaucratic constraints, interpersonal politics, and the general sense of a lack of work autonomy. A lack of fit between person and environment often heightens the level of stress that is experienced by the individual. The extent to which organisations enable (or disable) their workers to achieve organisational and personal goals affects how individuals appraise and manage work stress. Understanding the factors that account for the different responses of individuals to the same stressful stimuli may aid in building a work environment that provides a good fit between the worker and the organisation.

The chapters in this book attempt to explain the observed variability of stress and coping experiences amongst members of seven professional groups: engineers, nurses, police officers, teachers, insurance agents, doctors and lawyers. The data is based on two separate

[1] I would like to acknowledge the research assistance of Ko Yiu-chung and Kate Chan in the writing of this chapter.

studies. The first study constructed profiles of six professional groups (lawyers, doctors, nurses, engineers, teachers and life insurance agents) with respect to their sources of work stress and ways of coping. This study also examined the relationship between subjective reports of stress levels and selected personality variables such as Type A personality, self-esteem and internal-external control. The second study investigated work stressors and the coping with stress in relation to the health and well-being of police officers in Singapore.

The Methodological Logic

The core research method used in the first study is the survey. This is a research strategy that focuses on generality—regular patterns that recur in many cases. To follow the general survey protocol, a random sample may be selected from the Singapore population so that the findings based on the sample can be generalised to the population. However, we did not follow this sampling method. Instead, we first chose six professional groups and then selected a sample from each of those groups before constructing and administering a questionnaire.

Our study consisted of not one but six samples, and each sample was used to study the behaviour of workers in a particular occupation. In this way our study can be said to combine the case study strategy with the survey method. It is a case study because we examine the stress experience that is specific to each professional group. Each group is supposed to provide a particular context within which the same phenomenon related to work stress is analysed. However, we also designed our research to make use of the logic of the survey, as one of our aims was to find generalities and patterns.

In his recent book, Ragin (2000:21) wrote that "social scientists often face a fundamental dilemma when they conduct social research. On the one hand, they can emphasize the *complexity* of social phenomena—a common strategy in ethnographic, historical research—and offer sensitive, in-depth case studies of specific instances. On the other hand, they can make broad, homogenizing assumptions about cases and document *generalities*" (emphases mine). In reviewing the methodologies of social science, Ragin distinguished two approaches. First is the case-oriented strategy that addresses a relatively small number of cases in an in-depth manner, paying attention to each

case as an interpretable whole. In this approach, an in-depth knowledge of cases provides the basis for constructing limited generalisations that hold for the cases studied. Second is the variable-oriented strategy, which looks for broad patterns across many cases, and draws inferences based on these patterns. To summarise, Ragin (2000:22) wrote that "for the case-oriented researcher, confidence comes from depth; for the variable-oriented researcher, it comes from breadth". As a middle ground between depth and breadth, Ragin suggests the comparative case method.

We agree with Ragin about the need to emphasise both depth and breadth in social research. However, the method we used was different from Ragin's. What we are presenting in this book is a set of essays that try to capture the complexity of the stress experience of each and every occupational group. This is similar to what Ragin takes as a case-oriented strategy. But our study was intended to go beyond findings, based merely on the case method. Thus, in this book we have included two comparative essays (Chapters 10 and 11), the aim of which is to establish the generalities of the phenomena of stress and of coping. But instead of comparing the cases following Ragin's qualitative comparative method, we compare the phenomena across the six groups using the quantitative method.

The Value of our Data

The research process of our first survey included a literature search and review, exploratory in-depth interviews and the survey itself. It began in 1988 and was completed in 1992. Individual essays on each professional group were published in professional journals in the 1990s.

In one sense our data is dated as it is now over 10 years old, but in another sense data need not be obsolete simply on the basis of the time of its collection. Most of the time, data is collected as evidence that supports theoretical ideas. As long as the theoretical ideas are still valid, the old data should not be regarded as outdated. In this book, our data is mainly used to provide empirical evidence for the stress and coping process developed by the cognitive or appraisal approach. As this approach still is one of the most powerful ways of understanding the stress and coping process, we see no grounds to believe that our data is inapplicable.

From a historical viewpoint, our data is precious as it captures the general characteristics of the work environment in Singapore before the Asian financial crisis. That environment has deteriorated markedly since and has plausibly increased the stress levels of one's work, rather dramatically. For a long time Singapore has impressed the world as an efficient society. This reputation is probably a product of the industry of its workers. Hence, it is natural for us to hypothesise that work stress has been and continues to be a common phenomenon in Singaporean society. Our study can thus be used to provide empirical evidence for the general characterisation of Singapore society today.

Organisation of this book

Stress and coping research have become prominent since Hans Selye published his influential book *The Stress of Life* in 1956. By the early 1980s, Lazarus and Folkman (1984:1) observed that "it is virtually impossible to read extensively in any of the biological or social sciences without running into the term *stress*. The concept is even more extensively discussed in the health care fields, and it is found as well in economics, political science, business, and education". It is thus not surprising that stress has been analysed from multiple theoretical perspectives.

One characteristic of the chapters of this book is that they adopt a common theoretical perspective used in the analysis of stress and coping. The overarching theoretical assumption is that stress and coping are best understood by the cognitive approach which looks at stress as an inevitable process when a person is forced to make an adjustment to environmental events that are appraised as threatening or harmful (Lazarus & Folkman, 1984). As Folkman (2001:296) explains, "the concept of appraisal helps explain why people respond differently to a given stressful event, or, for that matter, why the same person might respond differently at different times to the same event. One student, for example, remains calm as he or she approaches an important exam, whereas another student becomes highly anxious".

However, the appraisal as an interpretive, mental process is difficult to observe. Psychologists have to find a way to go around this problem. As Mandler (1984:254) explained, "when such a demand or effect [of appraisal] is obvious, we need not speak complexly about

cognitive interpretations but can talk directly about stressor effects. The advantage of being able to talk about stressors rather than interpreted stress and threats is that it enables us to make contact with an older literature that defined stress exclusively in terms of environmental, physical variables". Following Mandler's rationale, our study turned its attention to examining stressors as the major detection of stress experienced by our respondents.

The cognitive approach of stress not only provides us with the key concepts of appraisal and stressors, but also furnishes a set of useful concepts for our analysis of coping. Amongst them are the notions of perceived control, hardiness of personality, self-esteem and the availability of social support, which are important buffers against stress. In short, the logic that connects the various chapters and dictates their inclusion in this book is that they deal with work stress using the cognitive framework.

Our book attempts to provide rich empirical evidence for the cognitive approach to the study of stress and coping. This theoretical perspective was developed by Western psychologists. The main contribution of this book is to demonstrate the utility of the perspective for understanding work stress in Singapore. The book also provides a description of the work environment and work culture of Singaporean society. The scale of coverage of occupational groups is quite extensive, including engineers, nurses, police officers, teachers, insurance agents, doctors and lawyers. This book will appeal to scholars and the general public who are interested in occupations, and their relation to work stress within the work culture of Singaporean society.

Stress Proliferation

The comparative analysis reported in Chapter 10 shows that the average stress level amongst six of the seven professional groups (excluding the police, who were not subjects in this first survey study) is moderate. The data, however, reveals that some groups are more stressed than others. Teachers are ranked the most stressed group, followed by lawyers, nurses, engineers, insurance agents and doctors. People who are exposed to the same stressors are not necessarily affected in the same way. The nature of inter-relationships amongst various stressors partly accounts for the individual differences in stress reactions. Stressors rarely remain isolated over time, but tend to

cluster in an individual's life. Serious stressors usually generate additional stressors in a phenomenon that is known as 'stress proliferation' (Pearlin, 1999). For example, the chronic stressor in the form of performance pressure may force an individual into a helpless abdication of personal goals, resulting in a series of other stressors such as a feeling of not having enough time for family or for self-enrichment. Subsequent stressors in turn exacerbate earlier ones, and the vicious circle continues.

How do the compounded effects affect the professional groups? We may want to assess the relevance of different kinds of chronic stress sources—threats, demands, structural constraints, under-reward, complexities, uncertainty and conflict (Wheaton, 1999)—to the effects of stress on the professional groups. In the 1990s, when our first survey study was conducted, Singapore was undergoing fast economic transformation and intense pressure to compete on a global scale. Accordingly, professionals faced a work environment that imposed incessant demands for change on individual workers. Change such as this requires professionals to keep stretching their capacity: the more capable they are, the more is expected of them by their organisations. Achieve a maximum individual output with a minimum input of organisational resources, or quit—that is the game that individual workers must learn to play to sharpen their competitive edge.

Performance and Time Pressure

The professionals reported the highest level of stress related to performance pressure. Excessive work demands have become the single most potent source of performance pressure for all groups of professionals. The demands mainly arise from work overload, which often reflects inadequate organisational planning. In Chapter 2, on the work experience of engineers, we observe how multinationals and local companies have achieved a 40% return on their investment mainly due to the pool of skilled professionals, who must constantly update their knowledge to compete in an industry that worships innovation. The engineers in the survey felt that they were always fighting for time: they had to keep pace with changes in developing new products and coordinating production processes while struggling with time-consuming administrative tasks and paperwork. The engineers regard such tasks as tedious, demanding valuable professional

time that can be put to better use. In Chapter 3 on nurses, Chapters 5 and 6 on police officers and Chapter 7 on teachers, we show that labour-power shortages have exerted tremendous strain on these workers. Working long hours to manage work volumes also applies to the doctors and lawyers. The insurance agents in Chapters 8 and 9 may face a unique form of time pressure, because they do not follow a fixed work routine; their work requires them to constantly adjust to the schedules of their clients.

The professionals find themselves shouldering heavy workloads while racing to meet deadlines. Thus, job demands may reduce the possibilities for exerting control over one's work (Lennon, 1999). Control may take the form of freedom to control one's self, others and organisational policies and procedures (Halaby & Weakliem, 1989). Another form of control is termed 'occupational self-direction', and is defined as the use of initiative and personal judgement on the part of the worker (Kohn & Schooler, 1982). To cope with time constraints, individuals are forced to react to short-term demands rather than being able to formulate long-term strategies to ease the impact of an increasingly aggravating situation. As the anxieties that arise from the lack of control can only be eased by gaining more time to plan and schedule tasks, which is hardly available, the professionals face endless uncertainties and anxieties. Time constraints as primary stressors take their toll on all professional groups, and apparently give rise to such secondary stressors as fear of making mistakes, lack of time to plan career prospects and the sacrifice of family time.

Interpersonal and Value Conflicts

One way to manage a heavy workload is to get work done through others—to delegate. However, the division of labour in teamwork is not as easy as it seems, because it involves interpersonal skills that promise no clear-cut results. For example, having been technically trained in universities, engineers find that relegating and delegating work is frustrating because they do not find the persuasion and motivation of others to be a familiar practice. A gap thus exists between training and practice: the engineers, who have been trained in school to use their minds, are ill-equipped to use their hearts at work. The harsh reality of having to function in a bureaucracy based on authority,

power and vertical hierarchy further complicates such interpersonal politics. Nurses share a similar plight as the engineers when it concerns uncooperative colleagues: given their low ranking in the organisation, they believe that they do not have a voice. Interpersonal conflicts are also evident amongst lawyers and insurance agents. Lawyers may have to deal with various tensions with other people (for example, judges) in the legal system, while insurance agents must resolve conflicts with their clients.

It is interesting to note that insurance agents have learned to practise emotion management to disengage and avoid confrontations with nasty clients, while police officers apply anger management when they handle rough criminals. Interpersonal conflicts therefore appear to be more of a challenge than a threat to the insurance agents and police.

Conflict is not restricted to the interpersonal aspect: it can also be a conflict of values. Teachers have worked hard to manage their regular and extra duties, such as in organising and supervising extracurricular activities. However, to them competence is not merely about getting the work done—they resent not being able to spend time in teaching, in relating to students, in developing instructional programmes and in their own self-enhancement. Some police officers also rate the existence of corrupt practices, which contradict their own beliefs, as being severely stressful to them.

Balancing Work and Family

With the Singaporean government's strong emphasis on the family and the professionals' own desire to be capable of meeting the demands of both work and family, it is no surprise that work-family conflicts are the second most stressful situation for all professionals with the exception of nurses. The strain is the direct result of the need to sacrifice family time to manage work overload.

With their work pace accelerated, doctors and lawyers have found they are spending less time than before with their families. The police and insurance agents have to operate on an 'on call' basis: the police stand by to report for duty, while the insurance agents need to respond to client requests at almost any time of the day. These two groups of professionals may not be able to set aside regular family time, though some insurance agents manage to ensure somehow that

they separate work from family life. The engineers have to borrow family time to stay overtime at the workplace, while the teachers borrow family time to finish off their work at home. The nurses, who, like the teachers, are mostly female, find meeting the expectations of their dual roles—worker and housewife—taxing. They, however, experience a low stress level in the work-family relationship. Unlike the teachers, they may be able to leave some of their work stress behind in the workplace instead of bringing it home, because the nature of their job requires them to finish all of their work at the hospital.

Job Satisfaction and Work Stress

As the professionals strive to reduce work tension through their efforts, commitment or even sacrifice, do they feel well rewarded or under-rewarded? In terms of professional standing, doctors and lawyers enjoy a higher social status and more professional pride than the other groups. The engineers appear to be under-rewarded: they may be making millions of dollars of profit for the company, but they receive only a modest salary. However, like the insurance agents, the engineers derive job satisfaction from being able to apply their technical knowledge and expertise. Likewise, the insurance agents, whose income may also not be directly proportionate to their investment of time and hard work, gain satisfaction from helping to protect others from the injuries of life. The same cannot be said of the teachers and nurses. Both groups find that their job satisfaction is low as they hold a relatively low status in their work organisations and in society, while their chances of achieving professional pride are minimal. The police officers also suffer from the bureaucratic character of their work organisation, in that many rate unfair evaluations by their seniors as a stressor. These observations show that some groups are more affected than others by the status strain that typically leads to personal devaluation and deflated self-esteem (Rosenberg & Pearlin, 1978). Such status strain is often a result of conflict with the bureaucracy.

Work Autonomy as Source of Satisfaction

How professionals view themselves is dependent on how much work autonomy they enjoy and whether they receive support from their organisation. Work autonomy is related to how one manages to use one's time and decides on one's own work schedule. While different individuals might thrive on varying levels of autonomy, organisational support is always a source of motivation. One's patterns of stress reactions are largely determined by the interaction between one's personal attributes and the immediate work situation. Karasek and Theorell (1990) propose that control over work improves the health outcomes of individuals who experience high levels of psychological demands on their work. As it happens, the doctors, who are the least stressed group in our study, have the most work autonomy. Because most of them run their own practices, they are free to decide on their work volume and tempo. They are largely accountable to themselves.

With the exception of the doctors and insurance agents, the rest of the professional groups are employed workers with rigid work schedules. Like the doctors, insurance agents are free to organise their work schedule; the harder they work, the better their income. Doctors run their practices as enterprises; an insurance agent is part employee and part entrepreneur. Doctors and insurance agents are able to take the initiative, make personal judgements about work, and follow 'occupational self-direction' (Kohn & Schooler, 1982). They tend to develop intellectual flexibility and form a high regard for their own competence because they are in control (Kohn & Schooler, 1983). The other professional groups need to operate in compliance with structural constraints, with limited channels of feedback and little hope of influencing or changing the system. Their preclusion from involvement in the larger decision-making process of their organisations results in a general sense of helplessness.

Coping Through Control

To appreciate how crucial social support and self-esteem are to one's mastery of the coping process, we can examine the 'three-way sources of variance model' proposed by Lazarus, Averill and Option (1974). According to this model, the variation in coping behaviour is a function of three main sources:

a. types of coping responses—attack, avoidance, information seeking and repression;
b. types of personal dispositions—hostility, anxiety, intellectual resources and defensiveness; and
c. types of situational variables—physical danger, ego-threat and desirable goal objects.

Lazarus and his colleagues assert that if our theoretical attention is focused not on coping behaviour in general, but on the specific coping responses only, the model can then be interpreted in such a way that the situational and personal dispositional variables, filtered by the intervening process of cognitive appraisal, become the antecedent conditions of the coping responses.

Averill (1973) classifies control as behavioural, which involves an effort to act on the environment; cognitive, which relates to the way a potentially harmful event is interpreted; and decisional, which considers options that are open to the individual. To Rothbaum, Weisz and Snyder (1982), control is categorised as either primary or secondary. Primary control is an attempt to change the environment, and secondary control is an attempt to fit the environment, possibly through one's appraisal of the situation. We can thus deduce that when the resources in personal disposition are available, individuals can gain maximum decision control of the environment. Some of them may interpret the threat as a challenge, react with confidence and act on the environment to obtain a better fit between themselves and their situation.

To what extent do our professional groups adopt the various forms of control as coping strategies? Some of the common strategies include planning, changing perspectives, self-enhancement and working harder. While these coping strategies are problem-focused, some individual workers have come to view the status quo of organisational constraints with a sense of resignation. Going with the flow gives them a temporary sense of illusory control. Besides turning to themselves for internal psychological coping, the professionals also learn to take care of their physical well-being through relaxation, and to address their social needs through interaction with family and friends. Some find spiritual solace in religion. By nurturing their mental, physical, social and spiritual needs, the professionals maintain a level of self-esteem that is vital for their functioning.

Self-Esteem and Coping

Self-esteem as an essential coping resource is well explained by White (1974). He states that the level of self-esteem, as one of the important "internal conditions", must be enhanced in terms of safeguarding a satisfactory self-picture and of preserving a sense of competence. It is possible to stipulate that high self-esteem is the very basis for asserting persistence, courage, hope, heroism and the will to live, in times of threatening challenges and devastating calamities.

Those amongst the professional groups who experience a lower level of stress tend to enjoy more job satisfaction, which paves the way for self-actualisation and boosts their level of self-esteem. Both doctors and insurance agents have a lot of autonomy in their work, because they are motivated by the tangible, direct results of their efforts. In a way, work commitment is a source of positive energy to keep these professionals going. In fact, the findings in the police surveys show a correlation between job satisfaction and work productivity. The professionals may rely on their effective coping to expand and strengthen their capacity to meet work challenges.

Social Support and Coping

As much as professionals are ready to cope using their best personal resources, to what extent should organisations stretch the work capacity of their employees without burning them out? Comparing the psychological stress model to the engineering stress model, Smith (1987) considers stress as an external force acting on a resisting object. Wheaton (1996) emphasises the consideration of the stressor and the resistance posed by coping, as separate issues in order to study whether they are optimally health-protective or if they carry the greatest health risk. How one responds to stress is dependent on one's perception of how much supportiveness is available in the environment (Chan, 1977). In what form can social support be provided? Cobb (1976) conceptualizes social support as "information belonging to one or more of the following three classes:

(1) information leading the subject to *believe* that he is cared for and loved;
(2) information leading the subject to *believe* that he is esteemed and valued; and

(3) information leading the subject to *believe* that he belongs to a network of communication and mutual obligation."

Observations of how the police force and insurance companies organise social support based on Cobb's concept provide concrete evidence of the buffering effect of such support on professional stress levels. Both professional organisations demonstrate how the support network should be structured to build bonding and how it should be maintained and improved through communication.

Stress Anticipation and Personal Empowerment

Prevention is better than cure: this is the belief held by the police officers and insurance agents. Both professional groups are expected to be mentally and emotionally strong—prepared to handle aggressive and unfriendly people, as well as demanding situations. The pre-employment assessment of police officers is particularly stringent to ensure a proper match of the individual's personality to the job. In the insurance industry, potential agents are always cautioned about the public hostility they may face when they join the industry. Such practices ensure the fit of the individual to the environment and enhance his or her sense of belonging. Having anticipated possible adversities in their work, they are protected from being easily disillusioned. This protection is also a form of predictive control and risk reduction.

To prepare their employees to take up the challenges at work, both the police force and the insurance industry show their commitment to staff development by investing in staff training. The police force emphasises anger management and leadership training in police work. Likewise, training in time management, self-motivation and interpersonal skills is considered to be essential to the work of insurance agents. Opportunities for personal growth and professional development cultivate a sense of self-worth and esteem in the employees. Their enhanced skill levels also help them to reinterpret work problems in such a way that they can achieve positive results.

Organisational Change through Reviews

Solidarity in a network is built on the availability of communication channels and the frequency of interpersonal contact. Stress audits are conducted regularly by the police force to match performance reviews with policy making. Bi-annual reviews are conducted with the employees to evaluate their morale, interpersonal relationships, fitness, safety practices and ability to cope with stress. The data is shared with the commanders to enable them to address specific issues of concern to their own work units. More importantly, policies are regularly fine-tuned to meet new organisational requirements and emerging employee needs. The insurance agencies conduct dialogues with their employees through bulletins and monthly newsletters in which they share news of the movements of staff members and their families. Furthermore, useful tips to motivate employees to reach work targets are provided to stimulate morale. Such channels keep reassuring the employees that the organisation values them; it is moving with them, rather than being way above them.

Network Building and Corrective Measures

The employees may face hostility and frustration in the outside world, but warmth can be felt within the organisation. In fact, insurance agents regard their companies as surrogate families. They feel that they can relax and relieve their stress in the office: they can easily talk things out or over with their colleagues, who show compassion and care. Their readiness to draw mutual emotional support relates well to Pierce's (1996) idea that those who firmly believe others will be supportive "create supportive relationships in new social settings, thereby further confirming their expectation that others are likely to be supportive." Lakey and Dickinson (1994) also propose that "an important linkage between perceived social support and the objective supportiveness of the environment derives from the tendency for those high in perceived support to be more effective at developing and maintaining supportive relationships, on the one hand, and to interpret ambiguous actions and statements as supportive in nature, on the other." This is true in the police force, which has a welfare officer in charge of organising regular recreational activities for team building and the relief of tension.

Besides taking preventive measures and providing social support to help their employees to manage stress, corrective resources are well in place in both groups to support those in distress. Counselling that is aimed at distressed police officers is well established in the police force. It is offered by professional counsellors and para-counsellors, who are the peers of those in need and who are especially likely to empathise with their distress. Feedback channels that aim at positive and negative reinforcement are well established in insurance companies. The insurance agents feel that they can turn to their managers for guidance and count on their commitment to solving a problem together.

Conclusion

The presence of profound ties to concrete others implies the existence of a network of pleasant primary relations, which is a potential reservoir of social resources from which the individual can seek help or support in times of crisis (Chan, 1977). The mere knowledge of the existence of these resources affects individuals' perception of the stressfulness of threats and their own capacity to cope. In a sense, social resources are protective of the individual and render him or her immune to environmental onslaughts. Ideally, organisations should bear the burden of cultivating an environment in which their employees can relate to each other with empathy, emotional warmth, consideration and spontaneity, thus maximising the degree of fit between the person and the organisation. The work environment should also be obliged to provide services and devices to alleviate human discomfort.

Society is often viewed as making stressful demands on the individual, imposing constraints on the ways in which he or she might deal with such demands. At the same time, society is often used by the individuals and groups to prevent and manage stress. Society is thus both disabling and enabling.

The degree of fit between the person and the environment determines whether the relationship between them is stress-inducing or stress-reducing. The success of one's coping responses is a function of the interaction between personal attributes and situational variables. How individual workers evaluate their stress levels and develop their coping strategies depends on how high their self-esteem is and how enabling their organisations are.

With performance pressure as the most severe stressor faced by our professional groups, the doctors and insurance agents, compared to other groups, tend to enjoy considerable psychological well-being. They also enjoy high job satisfaction as their work allows them autonomy; seeing the direct outcome of their efforts also boosts their self-esteem. Although lawyers may not enjoy as much autonomy, their social status gives them considerable self-esteem, which in turn leads to job satisfaction. Satisfaction and pleasure certainly act as a buffer against stress. In contrast, engineers, nurses and teachers all suffer from a lack of work autonomy. The compounded effect of time pressure, interpersonal conflict and work-family interface apparently takes a heavy toll on them.

The sense of helplessness can certainly be alleviated by organisational efforts to provide social support. The police force and insurance companies are exemplary in maximising the degree of fit between the individual and the environment. Their support comes in the following forms:

- creating awareness of potential work stress, and of skills training to enable individuals to reappraise stressful situations and handle them constructively
- providing review procedures and channels to promote personal change
- building networks to foster in-group cohesiveness, and
- counselling

The professional world must not overlook the protective and developmental effects of a good person-environment fit. Organisations should institute and review procedures, measures and policies to enhance the self-actualisation of their employees, which in turn will contribute to the growth of the organisation.

As the chapters of this book highlight, the major work stressors that are faced by the professionals have less to do with the nature of their work per se than with their interactions with the work environment, which never ceases to impose expectations and demands. This sort of work environment gives the individual ample reason to grumble: performance pressure, the perpetual lack of time to do things according to his or her wish, interpersonal conflict in the workplace, value conflict between self and organisation, inability to control one's work schedule and pace, and lack of work autonomy as a result of bureaucratic constraints. All of these make it difficult

for the individual worker to meet the dual demands of work and family, thus leaving the individual stressed, frustrated, tired and alienated.

Such feelings of personal discontent and alienation are classically associated with blue-collar work but are also, ironically, what our professionals, sometimes called "knowledge workers", have vainly hoped to escape from. Lack of work autonomy and frustration with bureaucracy continue to haunt the manual worker and the professional alike. Apparently, while contending with a large bureaucratic machinery that understands only profit, market, control and standardisation, the professional and the blue-collar worker are facing the same fate. Only a few lucky ones—for example, the physicians in private practice and the insurance agents aspiring for self-employment of some form—have somehow managed to carve out a destiny of their own through self-employment and entrepreneurship, which offer opportunities for self-determination. Both professional groups have realised the importance of personal and work control—and their lack of—in coping with stress.

When a professional who is working within an organisation is making an effort to cope with work stress, the suffering should not be a concern to the individual only. Rather, it should also be a concern to the organisation, for at least two reasons. First, as we have attempted to show earlier, stress is a function of the degree of fit between the person and the environment: the larger the disjuncture or lack of fit between the personal and the social, the more stress the individual will experience. Second, whether the individual manages to cope with stress satisfactorily depends very much on the extent to which the individual is socially embedded in the work environment. The more the worker is able to draw on the environment for resources and assistance, or what we now call social support, the more effectively he or she can cope with stress. Seen in either way, the 'social' matters a great deal to the 'personal' in the sense that the nature of the individual's interaction with his or her environment determines the amount of life stress to be experienced in the first place, as well as the probability of the life stress being satisfactorily coped with in the second place.

Such lines of thought underpin a serious sociology of work, and of stress, coping and adaptation. Social structure disables because it imposes difficult demands on the individual, and such constraints cannot be easily wished away. Society and organisation are thus a

major source of personal discontent and suffering. However, humans also remake society and the organisation to their advantage, or rather they insert culture between themselves and the environment to maximise the person-environment fit and to minimise its misfit, often with considerable satisfactory results. In that sense, the person is not at the total mercy of the environment—such dialectic of control and adaptation lies at the very core of the sociology of coping. Understood in this way, work stress and coping should not be a mere personal responsibility; it should also be an organisational and societal responsibility because the social-collectivity is *both* the cause *and* the solution as far as human suffering is concerned. Sociologists have always said that society, or organisation, matters, for better or for worse. The police force and the life insurance industry have apparently taken such important sociological lessons to heart—and the results are rather impressive.

The sociological imagination (Mills, 1959) has long enabled us to grasp the intricate and complex linkage between public issues and personal troubles. This imagination awakens sufferers, often suddenly, to the realisation that their pains have deep social causes in moments that are potentially emancipatory. They realise they can stop, perhaps for the first time in their lives, blaming themselves. However, until we cure ourselves of this ideology of blaming the victim (Ryan, 1976), stress will continue to be perceived as a personal rather than organisational or societal problem, while politicians, governments and the health professionals, including doctors, counsellors, and psychiatrists, feel more convenient and expedient about fixing individuals than about fixing organisations and society. Unpacking and deconstructing the ideology of blaming the individual lie at the very core of the sociological mode of thinking—and, for that matter, public and organisational policy. Until this sociological lesson is learned and put to practice, work stress and distress will continue to exact their human and societal costs, which we now know are rather high.

CHAPTER TWO

ENGINEERS IN A NEWLY INDUSTRIALISING ECONOMY

HING AI-YUN

As advanced capitalist economies race to harness the power of the microprocessor chip to run their services and industries, there are those who believe we may be at the threshold of a new kind of society. We argue here that these utopian predictions only serve to deflect investigations into whether capitalism can be transcended in a technologically advanced society.

Those accounts that take into consideration changes in existing class structures would go so far only as to postulate the possible emergence of new dominant classes, labelled 'the knowledge class' (Gouldner, 1979) or the 'professional, scientific and technical groups' (Touraine, 1974). This, accords with the position of neo-classical economists, that advances in education and technology underpin much of the growth of industrial nations. (Schultz, 1970) At the individual level, especially in the newly industrialising economies (NIEs), education has been much touted as the route leading to self-improvement and social advancement. The ideology linking education with power has been amply sustained by mainstream thinking within the sociology of professions (Dingwall & Lewis, 1983).

In so far as mental labour does become more central to the production process, it is not surprising that those, who live by it, gain in social power. Having possession of cultural capital may at times wield significant influence over the production process, but mental workers by no means control it. The means of mental production—laboratories, universities, TV stations—are rarely owned by their workers. As observed by historian of technology D. Noble, 'Technology is a social process. And like any human enterprise, it does not simply proceed automatically, but rather contains a subjective element which drives it, and assumes its particular form by the most powerful and forceful people in society (1979, p. xxii).

Since the production and use of knowledge and information take place within the framework of corporate capitalism. While

knowledge and information play significantly more central roles in high-tech societies, they are still subject to processes of commodification, exchange, profitability and control by capital. They do not constitute causal agents in their own right. In particular, professional knowledge and other forms of new technologies should be seen as resources for an alternative strategy for restructuring capital to regain profit margins and the competitive edge.

When faced with declining opportunities for setting themselves up and surviving as independent operators, American engineers had ingenuously promulgated Taylorism to help reconstitute their autonomy after being shoveled increasingly into the ranks of large-scale corporations (Meiksins, 1984). Today, engineers in newly industrialising economies like Singapore are facing a similar process of proletarianism as these countries shift swiftly into a more advanced stage of capitalism under the tutelage of foreign multinationals and large state-owned corporations. What are some of the conditions prevailing in the NIEs that contribute to the erosion of the position of 'knowledge workers' such as engineers? How do such professionals react to these changes, and what subjective work experience do they hold in common based on their shared location within the class structure?

This study will look specifically at the work and life of a specific class of 'knowledge workers'—engineers—in the context of the Singapore economy. The study will show that educated and skilled groups labouring in high-tech environments do not necessarily enjoy harmonious social relations and satisfaction of their psychological needs. Instead, for a substantial proportion of engineers, the workplace represents a major source of stress. Part of the reason lies in the fact that the existing class configuration, rather than technology per se, greatly determines the nature of social experience. We argue that the imperatives of capital accumulation—profit maximisation and cut-throat competition—remain the chief determinants of work experience and organisational structures.

Up until now, excluding a few notable exceptions (Derber, Schwartz & Magmass, 1990; Zussman, 1984), studies of work problems relating to engineers and other professionals (often alluded to as 'work stress'), have been dominated by concerns at the level of the work organization (Cooper & Payne, 1989). This study, however, will situate workplace experience within the wider context of political and economic developments. Empirical data for this study is derived from

two sources. First, in-depth interviews were conducted with 30 electrical and electronic engineers during the second half of 1989 based on a non-random purposive sample. These engineers were chosen to sample a wide range of jobs, organisational positions and company financial strength in order to illustrate that variegated structural demands do exert a strong influence in shaping the lives of working people. Included in this sample were 10 entrepreneurs and 20 employees involved in R & D work, process engineering, production work and quality assurance. Second, a questionnaire on work stress was sent to the top 20 electronic multinationals and the Engineering Faculty of a tertiary institution in Singapore.

The first section of this chapter will feature some aspects of the globalisation of Singapore's economy and its abiding impact on the work experience of engineers. In the second section, we point out the emerging conditions which have tended to erode the class position of professionals like engineers. In this discussion, the ambivalent position of engineers in the class structure will also be considered. Wherever possible, corresponding subjective experience, especially with regard to work stress, will be featured to link up with the structural constraints of the job situation. Data for the subjective aspect are culled from responses to the multiple-choice questionnaire in the survey on work stress. The relevant responses to stressor items are in Table 1.

Socio-economic Structure and Work Experience

Economic growth has brought no letup in work tensions, since three basic features of production-organisation continue to define patterns of work and life. We believe that these basic dimensions—a high degree of integration into the international capitalist system, dependent wage work and hierarchical authority structures at the enterprise level—are responsible for establishing the configuration of work demands at the enterprise level.

Globalisation

The trend of globalising production (United Nations Centre on Transnational Corporations, 1988), set off by falling profits in advanced industrialised countries beginning at the end of the 1960s, provided

Table 1: Work Stressors and Levels of Perceived Stress (Percentage)

Stressor	Moderate/ Extreme	Stressor	Moderate/ Extreme
Work overload	71.6	Jealousy/competition among colleagues	30.7
Time pressures & deadlines	78.4	Relationship problem with colleagues	38.5
Fear of making mistakes	54.2	Working against professional ethics	35.5
Working outside competence	33.9	Red tape	51.6
Lack of support from superiors	35.4	Administrative paperwork/ unnecessary work	53.7
Unfair assessment from superiors	40.7	Not making full use of skills	40.0
Discrimination & favouritism	41.7	Not participating in decision making	38.2
Promotion prospects bleak	52.1	No authority to carry out duties	47.9
Underpaid	47.3	Inadequate time for self development	41.5
Job insecurity	29.0	Life too centered on work	44.6
High turnover of staff	28.8	Work demands spill into personal/home life	43.7
Insufficient resources	46.8	Advancing career at expense of personal life	38.1
Incompetent colleagues	37.9		
Uncooperative colleagues	53.7		

the initial impetus for industrialising the Asian NIEs. But in the case of Singapore, multinationals have come to dominate economic activities to an extent found unparalleled in the other Asian NIEs.

In 1985, 70.3% of manufacturing output came from large foreign-owned companies (Department of Statistics, 1985). Eighty-nine percent of the US$1 billion in direct investment came from abroad in 1989. A high level of forced savings, low lending rate, tax abatements, a liberal foreign-skilled-labour policy and other subsidies for capital investment all assist in guaranteeing superior corporate returns while labour activities and wages remain centrally regulated. US Department of Commerce figures revealed that American multinationals in Singapore enjoyed a 40.5% return on their manufacturing investments (*Straits Times*, 16 April 1990, p. 40). This made Singapore the world's most profitable location for manufacturing in 1988. With these brief comments describing the internationalisation of the Singapore

economy, we will next link this particular characteristic with the work experience of the engineers studied.

The volatility of the semiconductor industry, which formed the backbone of Singapore's drive towards industrialisation, has caused great concern among engineers especially over the question of job security and pay cuts. Twenty-nine percent confessed to feeling extreme to moderate levels of stress over the question of job security. (See Table 1 for responses to job stress items.) Since the electronics sector employed 34% of the manufacturing workforce and accounted for 42% of Singapore's manufacturing output, its unpredictability was potentially destabilising.

The rapid pace of obsolescence in the industry has forced companies to drive their engineers hard to come up with new products. In the words of one engineer working in a Japanese company (a PCB manufacturer), 'the Singapore plant faced a slump in business in the mid-1980s but overcame this by developing a new product. . . . We formed a special development team calling on all the resources we have and started day-and-night work to develop the new product.'

In a fast-changing and intensely competitive environment, only a few companies, by virtue of their size and brainpower, are equipped to take the lead in commercialising new superconductor technology. Chances appear increasingly dim for local engineers to establish their own companies. Without high-powered support and backing in financing and marketing there is negligible chance or even hope that new start-ups can sustain themselves over the first two years of operation. Newly formed local companies have complained of market monopolisation by multinationals. Some confirmation of this came from the National Automation Survey 1989/90 (Singapore Industrial Automation Association), which showed that in 1988, 72% of the automation equipment market was held by 18% of the firms. All the entrepreneurs interviewed admitted they had financial backing from friends and relatives. Those who were more successful also had marketing support from these sources. Generally, the ravages of competition in the production sector led firms to shift their investment into the financial sector. With the introduction of computerised trading, the financial markets now operate like casinos plagued by price volatility and possibilities for huge speculative profits. Engineers who find their career advancement proceeding at too slow a pace have entered this sector, a picture paralleled by a similar drift of engineers to Japan's financial markets. In the main, civil engineers whose

job opportunities have drastically declined as Singapore nears the last phases of infrastructural construction are more inclined to shift into these relatively more lucrative sectors. From 1988 to 1989, bonuses paid out by merchant banks and stock brokers in Singapore were raised from 4 1/2 months to 5–9 months. In contrast, the computer industry, hurt by sagging sales, was either eliminating jobs or putting a hold on pay increments. The movement of engineers to the financial market has reflected the general tendency for capital to embrace ever-new areas of investment, simultaneously devaluing labour in old industries while creating demands for new skills in emerging industrial sectors.

Wage Work, Hierarchy and Lack of Participation in Organisations

When survival can only be ensured if one is plugged into the capitalist production circuit, people have to sell their labour power because it becomes increasingly difficult to gain access to the means of production. For the engineering sector in particular, escalating costs of new technology drastically reduce chances for self-employment. Another reason constraining the emergence of a powerful class of engineers is the serious and systematic manner in which the actively intervening state of Singapore sets about producing a generous supply of engineers apart from the implementation of a liberal policy encouraging the immigration of skilled professionals. At the time of our study, about 20% of each cohort of Singapore school leavers took up engineering and technology courses at degree and diploma levels, compared to 7% in Japan.

The presence of MNCs and a deliberate policy of full employment have indeed provided a wide range of working experience and exposure to Singaporean engineers. At the time of our study, top management positions in MNCs were hogged by fairly youngish occupants in their forties. There was therefore little chance for middle management engineers to advance up the corporate hierarchy. At the same time, middle management jobs require long hours of work and slow pay rise. Under such auspicious conditions, one would expect a heightened level of entrepreneurial development amongst engineers with MNC experience. Lack of capital (hence inability to purchase sophisticated equipment to produce higher value-added

products and to attract the most talented labour) and market access are the two major disincentives cited for holding engineers back.

So, even though knowledge has enhanced the power of professionals, this happened especially during the early days of capitalist development. Now, the proportion of the population that can succeed in retaining an independent means of living can only contract—more dramatically so, given the presence of imported large corporations and the rapidly increasing deployment of more technologically sophisticated production systems. It is a moot point whether these residual islands of petty bourgeois (Wright, 1978) can continue to exist indefinitely. For the majority of engineers, enduring the life of a dependent wage earner in a multinational firm may be the only practical recourse left.

Admittedly, engineers have the technological skills and thus the ability to leave a concern if jobs prove to be unsatisfactory. However, as there are too few top-level jobs available, mobility is limited to those with a high level of skills. Those who have become habituated to their workplace after a few years confessed that uprooting themselves would in the future become increasingly difficult. Those with dependents can never be sure whether benefits will offset the risks of a job change. The next job may not be that secure. While mobility is circumscribed by economic downturn, in a tight labour market, employer connivance in maintaining a 'black-list' of engineers who job hop serves to dampen the price of engineering skills. For all these reasons, even if engineers do not like their work situation, they hesitate to vote with their feet. So in the most fundamental way, engineers can be said to share the same destiny as less-educated wage workers, dependent on their employers for jobs and livelihood.

Problems like overwork, job insecurity and constant anxiety regarding career prospects and promotion may sound a familiar ring, but they are not supposed to be part of the work experience of 'knowledge workers'. They have little to do with futuristic visions of a technologically advanced society. Indeed, such apprehensions in effect reflect the subordinate status of wage workers. Ironically, as capitalist economies develop, chances are that people will have to work under someone with the power to fire, demote or promote them in the work situation. Despite being labelled as 'knowledge workers', engineers do not represent a dominant class (Touraine, 1974, p. 51). They may earn a higher average income when compared to the less-educated

working class (Saw, 1984, p. 56), but they share the frustrations and loss of control commonly experienced by other dependent wage workers.

In most respects, the higher position of engineers entails heavier responsibilities. Long years of professional socialisation make engineers feel 'irresponsible' when they job hop. In this sense, engineers are worse off than their subordinates who have no qualms about leaving. Consequently also, 'constant fear of making mistakes that might lead to negative consequences' has emerged as a cause of extreme to moderate stress for 54% of the engineers surveyed. Such anxieties are further aggravated in an environment undergoing rapid technological advancement.

It should be noted at this point that work overload and deadlines constituted major stressors threatening the largest proportions of engineers surveyed. These two dimensions of worklife were responsible for moderate to extreme levels of stress for 72% and 78% respectively of the study population. Asserted one engineer, 'I have just worked a 30–0–hour stretch. . . . There are too many things to be done at the same time. The boss is putting on pressure to meet deadlines, knowing well it cannot be done.' Another said, 'I feel very uneasy and lethargic. I can say I'm tired of doing the same routine job.' In actual fact, working life is characterised by:

> Meeting after meeting, no time to talk. Bogged down with administrative work. . . . don't develop you technically . . . pay-wise not satisfactory too.

Reviewing her career, one engineer observed that unrealistic deadlines, demands from customers and an autocratic boss had often led to thoughts of quitting, 'Forget it, I don't want to stand all these, just get out.' 'It happens everywhere', retorted another. Stressful work-life has become acceptable as the norm of industrial society, even for this elite group.

As a result of work pressure, engineers therefore fail to develop other dimensions of their personality. Forty-four percent said that work demands spilling into their personal/home lives were causing them to experience moderate to extreme levels of stress. That life was too centred on work also represented a source of moderate to extreme stress for 45% of the engineers studied.

Some other consequences also follow because engineers too are dependent wage workers. While those in creative work contribute a

Table 2: Demographic Features of Respondents*
(Percentage)

Sex	
Male	90.1
Female	9.9
Ethnic Background	
Chinese	96.0
Malay	1.5
Indian	1.0
Others	1.5
Marital Status	
Single	56.4
Married	42.1
Divorced	1.5
Highest Education Attained	
Diploma or equivalent	30.7
Degree	59.4
Higher degree	9.9
Field of Engineering	
Electrical/electronic	52.6
Mechanical	36.5
Civil	0.5
Chemical	5.7
Industrial & system	3.1
Physics	0.5
Production & industrial	1.0
Years of Working Experience	
Two years and less	24.1
3–3–5 years	34.5
6–6–9 years	26.6
10 years and above	14.8
Gross Monthly Income ($US)	
$1,053 and below	20.4
$1,054–$1,579	54.6
$1,580–$2,105	16.8
$2,106 and above	8.2

* *N = 250*

manifold jump to company revenue, they themselves only receive a pittance. The engineers' higher level of training and hence greater productivity, make them even more suitable as targets for appropriation. One engineer was paid US$2,810 for a piece of work which raked in US$2.8 million for his boss. About forty-seven percent of the engineers questioned professed that being underpaid has caused them moderate to extreme stress.

All engineers questioned in production work wanted to quit. They all expressed a longing to get into R & D and, if possible, to devote themselves to more innovative and creative design work rather than having to deal with people. One engineer said:

> The manufacturing process is quite standard. New techniques come only in terms of new machines, instruments, etc. . . . different from design work [R & D] where innovation is important. . . . Process work involves making requests to other people and having to say 'please' to so many people all the time. We are not directly involved in the production but we must get people to do the work.

These engineers do not want their work life to consist primarily of wheedling things out of others. They prefer to leave talking politics and public relations types of work to politicians while they themselves concentrate only on working with material things. Unfortunately, for engineers, work in capitalist society cannot be divorced from considerations of power and politics.

Related to this issue is the painfully slow pace of promotion. Fifty-two percent of those surveyed said bleak career prospects had caused them to suffer from extreme to moderate levels of stress. Capital owners would tend to fight demands for raising wages, wherever the source.

Just as employers try to cut costs by guarding against unwarranted recruitment of additional manpower and incremental wage raises and promotions, the pressure is also on to stint on training programs despite the acquisition of new technological systems. Some employers even openly admit they prefer to take in technical people based on renewable contracts. This means they can dispense with training older engineers by employing younger graduates who not only cost less but are more familiar with newer technology systems. To induce older engineers to leave and at the same time avoid having to pay them retrenchment benefits, companies commonly shelve them. As a result, we see the unusual complaint by 14% of the engineers stud-

ied that they experience moderate to extreme levels of stress as a consequence of having little or no work.

Engineers' dependent status makes it difficult for them to confront the problem of their subordination by fighting back and focusing on their bosses. Irked by the slowness of promotion, some have responded by turning against their colleagues. Fearful that colleagues may invade their turf, engineers become uncooperative or secretive towards workmates. Specifically, tension between colleagues arising out of jealousy/competition, uncooperative behaviour and relationship problems accounted for moderate to extreme levels of stress for 31%, 54% and 39%, respectively, of the engineers surveyed. While some engineers responded to their subordination in an individualistic manner by job-hopping, others sought a collective solution. This measure is open particularly to middle managers who only hold high-sounding job titles and not much else. According to one unionist:

> Vast technological advances made in recent years have led to the elimination of manual tasks and we are experiencing an increasing specialisation of the workforce. . . . Professionals including fresh graduates like engineers, production supervisors, accountants and even lawyers . . . are no different from the majority of the workers who are isolated from the decision making process of the companies. . . . The information they receive is restricted . . . and they are no longer able to exert a direct influence on their working environment.

The National Trade Union Congress (NTUC) has from time to time received requests from supervisory staff and junior executives to form unions. The Assistant Secretary General pointed out that some of these had complained that they were given management titles in name only, so as to disqualify them from joining unions. Said one engineer working in a manufacturing firm: 'I have to stay until 10 pm at least three days each week and there is no one for me to complain to. And I don't get compensated. If I am represented by a union at least there is somewhere I can channel my grievances.' After all, schedules and deadlines are decided upon by bosses/supervisors, a reminder to engineers that 'knowledge workers' also have bosses above them. All engineers in the survey are working under at least one immediate boss. Now and again, this reality hits hard at engineers who perceive themselves as the elite of a technologically advanced society.

There are, however, objective conditions inducing engineers to identify with their bosses. As part of the new middle class that does

not own the means of production, some engineers help perform the function of capital-control and surveillance (Carchedi, 1977). Forty-four percent of the engineers studied have subordinates working under them. Since engineers are also involved in the supervisory function, their working life in reality constantly pits them against the wiles of the working class.

Moreover, engineers experience more autonomy, being less tied to their workbench. Their sense of superiority (relative to the workers) also stems from the higher remuneration they receive. Eighty percent of the engineers surveyed earn between US$1,124 to US$4,494 per month, much higher than ordinary workers.

Engineers also have a little more of an extensive relationship with bosses, who are more inclined to trust them because of their professional socialisation. This serves to encourage engineers' hopes of joining the employer class some day. Examples abound of the engineer's career path heading straight towards senior management. Indeed, a small number of engineers interviewed have even set their sights a little higher—to establish their own company if ever the opportunity comes their way. In fact, the current state policy of assisting small and medium-size industries has fired such entrepreneurial aspirations, notwithstanding the fact that state automation subsidies discriminate against start-ups with smaller capital (for instance, by subsidising interest for CNC machines and not for the cheaper conventional machines more likely to be used by new start-ups).

The irrationality of office politics has even led engineers to wonder if they should take over from their bosses. When asked what caused the most stress in work life, about 15% of them pointed to incompetent bosses and bad management. 68% of the engineers questioned scorned the idea of meritocracy, agreeing that who gets to be boss depends very much on luck!

Despite aspirations for bourgeois status, the engineer's position within large corporations is likely to slip in the future. For one, the underlying trend of bureaucratisation continues to chip at the authority and power of middle managers, turning them into administrators of impersonal rules rather than decision makers. Those surveyed reflect very much the feeling of being left out of the decision making process. Thirty-eight percent asserted that this was causing them moderate to extreme levels of stress. The managerial status is also deceptive. Forty-eight percent complained that lack of authority to carry out their jobs gave them moderate to extreme stress. Ignored

by decision makers, those alienated spoke scathingly of not receiving due recognition and appreciation. One result is declining commitment with length of service. Consequently, companies are denied the full benefits of their skills and talents. On their part, engineers feel regret. Forty percent confirmed that not maximising the full potential of their skills actually causes them to suffer moderate to extreme levels of stress.

Strictures on communication and information flow imposed by the hierarchical management structure, when combined with the extreme division of labour so characteristic of large modern organisations, will hurt companies by increasing paper work and red tape while at the same time raising endless problems for coordination. At the shop floor, red tape slows down the acquisition of necessary equipment, holds up deployment of personnel and adds to unnecessary shuffling of papers—a serious irritant to many engineers. Apart from sapping the company's global competitiveness, problems of coordination and bureaucratic hassles tend to raise the level of stress. To 54% of engineers, administrative and other unnecessary work had brought moderate to extreme levels of stress. Fifty-two percent blamed red tape for their suffering similar levels of work stress. Finally, having to share a limited pool of resources had created moderate to extreme levels of stress for 47% of engineers questioned.

Conclusion

This study of the work experience of a specific class of 'knowledge workers' discloses that far from enjoying 'time-value thinking in which life-time fulfillment will assume major importance' (Economic Planning Agency, 1983, p. 50), engineers on the contrary are quite overwhelmed by 'materialistic value thinking'. The 'softening of the economy' (Nagatomi, 1983) reflecting a shift from goods production to information production has nothing whatever to do with declining 'materialism' or life-time self-fulfilment and everything to do with profit maximisation.

Up until now, the skilled end of the workforce had tended to enjoy a relatively superior mode of living relative to the mass of uneducated and unskilled workers. But with rising levels of education, and greater concentration of capital combined with the accelerating pace of technological change, the competitive edge gained

by the skilled appears to be in danger of being eroded. Engineers now work together in droves under rather homogeneous conditions. Large-scale penetration of office technology, coupled with continuous capital restructuring, has tended to flatten organisations vertically while expanding them laterally, leading to shortened career paths. Engineering skills grow obsolete within an increasingly short time-frame as companies and even nations combine to win battles in the ever competitive international market.

Though engineers are petty bourgeois with reference to the level of consumption/distribution, they are proletarian with reference to the relations of production (Carchedi, 1975, p. 52). They therefore aspire to one day occupy a top management position or to own their own company so that they can exercise overall control over the entire production process. But, as each avenue for upward mobility becomes closed to them, the educated elites' experience of work stress and alienation increases equally. Currently, however, if professionals rebel they do so not as proletarians but against being treated as proletarians (Gorz, 1976, p. 169). Caught between two classes, professionals face the dilemma of not being able to practise their profession in a political vacuum.

CHAPTER THREE

WORK STRESS AND PSYCHOLOGICAL WELL-BEING AMONG NURSES

Boey Kam-weng, Chan Kwok-bun, Ko Yiu-chung,
Goh Lee-gan and Lim Geok-choo

In the last two decades, there has been a tremendous surge of academic and lay interest in the topic of work stress in different professions. Evidently, most professional occupations are susceptible to stress but the nursing profession seems to be particularly vulnerable. The psychologically demanding nature of the job carried out by nurses has been extensively documented (e.g., Gray-Toft & Anderson, 1981; Morris, 1995; Numerof & Abrams, 1984). Within the nursing profession, different stressors are identified (e.g., Farrington, 1995; Hingley & Cooper, 1987). Inadequate staffing, work overload, dealing with difficult patients, interpersonal conflicts, awareness of tremendous responsibility for patients, and other organisational constraints inherent in the hospital system are work stressors frequently encountered by nurses. These work stressors are believed to affect the mental health status of the nurses, leading to high levels of anxiety and depression. Regrettably, very few studies have been conducted in Asian countries to investigate the stressful events experienced by nurses in the course of their work. Based on a large survey completed in 1992, on work stress and coping among six different professional groups in Singapore, this chapter provides empirical data on nurses. There is also an attempt to examine the extent to which work stress is related to the psychological well-being of the nurses.

Method

Subjects

This study focused on nurses working in public hospitals, since they make up the bulk of the nursing population in Singapore. We were granted permission to conduct the survey in three main public hospitals in Singapore. A preliminary analysis showed that the nurses in these

Table 1: Distribution of Nurses in Various Hospital Departments

Department	Frequency	Percentage
Medical	216	21.09
Surgical	221	21.58
Paediatrics	105	10.25
Operation Theatre	121	11.82
Accident & Emergency	69	6.74
Intensive Care Unit	68	6.64
Multidisciplinary	204	19.92
(Data missing)	20	1.95

three hospitals were distributed unevenly in various departments. This made it difficult to sample the nurses based on the relative size of their departments. So it was decided to invite all the 1,335 nurses working in these hospitals to participate on an anonymous and voluntary basis.

A total of 1,043 nurses participated, showing a high response rate of 77%. This sample consisted of 371 assistant nurses (36.2%), 532 staff nurses (52%) and 121 nursing officers (11.8%). Data on 19 nurses was missing. The distribution of these nurses in various departments of the hospitals is shown in Table 1.

The age distribution of the nurses showed that slightly more than half (56.9%) of our sample were below 34 years old. The majority (68.7%) were below the age of 40, indicating that most nurses were in their young adulthood. The mean age of the nurses was 33.8, with an SD of 9.2. The average length of service was 15.8 years (SD = 13.2). A great majority (about 94%) of these nurses were females.

Measures

Nursing Stress Inventory (NSI)

Most of the items in the NSI were compiled through an extensive review of the literature on stress in nursing. Fifteen nurses checked and confirmed the relevance of these items in the local setting through in-depth interviews. Additional stressors identified in these in-depth interviews were included in the inventory. The final version of the NSI consisted of 78 items, each of which described a stressful event

or situation which nurses may encounter. Subjects were asked to indicate whether or not they had encountered the events in the course of their work in the past six months; if so, they were to rate the stress level of the events on a five-point scale (0 = not a source of stress; 1 = slight stress; 2 = moderate stress; 3 = considerable stress; 4 = extreme stress).

In addition to the NSI, subjects were asked to rate the overall work stress they had experienced in the job situation over the past six months. A five-point scale (0 = no stress, 4 = extreme stress) was used for this single-item measure of work stress. The nurses were asked to estimate the percentage of total stress in their lives that had resulted from their job.

12-Item General Health Questionnaire (GHQ-12)

This questionnaire was originally developed to detect minor psychiatric disorders among respondents in community settings (Goldberg, 1972). Its validity in discriminating between 'cases' and 'normals' was demonstrated in an epidemiological study conducted in Singapore (Ngui & Yuan, 1989). In the present study, an abbreviated version of the questionnaire, the GHQ-12, was adopted to provide a general measure of psychological well-being. This abbreviated version consisted of only 12 items, each of which described a condition or an aspect of mental health status (e.g., 'lost sleep over worry', 'thinking of self as worthless'). Subjects were asked to indicate whether they had experienced the condition more or less than usual over the past one month. A lower score indicated better psychological well-being. The reliability of the GHQ-12 was examined in this study and was found to be very satisfactory (Cronbach alpha = 0.81). Based on the results of a principal component analysis, two separate scores of the GHQ-12 were derived:

(a) sense of inadequacy (e.g., 'losing confidence'; 'could not overcome difficulties') and
(b) anxiety and depression (e.g., 'felt constantly under strain'; 'feeling unhappy and depressed'). The reliabilities of these two scores were satisfactory (Cronbach alpha = 0.77 and 0.82 respectively).

The above two measures (NSI and GHQ-12) were included in a questionnaire which also contained items on socio-demographic characteristics and personality measures.

Procedure

The questionnaires were distributed to the nurses through their matrons, or principal nursing officers. Participation was voluntary and anonymous. The nurses were requested to complete the questionnaire within 10 days and to drop it in a box located at their respective ward counters. Four days after the deadline was given, a reminder was sent to them by their matrons. The 1,043 returned survey questionnaires constituted a high response rate of 77%.

Results

The 78 items of the NSI were grouped into eight categories of work stress according to their content areas. These eight categories (with examples) are listed below:

(1) Work overload: Having too much work to do; time pressure and having to meet deadlines; fluctuations in workload.
(2) Incompetence in work: Fear of making mistakes; not feeling adequately trained; not knowing what ought to be told about a patients' conditions.
(3) Poor job and working conditions: Lack of promotion prospects; poor physical working conditions; underpaid.
(4) Difficult working relationships: Lack of support from superiors; relationship problems with colleagues; jealousy/competition among colleagues.
(5) Role conflict and ambiguity: Dealing with conflicting demands; nursing and administrative role conflict; other co-workers unclear about my job.
(6) Organisational constraints: Lack of participation in planning; work delayed by unnecessary red tape; difficult to bring about change in staff/organisation.
(7) Demands in caring for patients: Dealing with demanding patients; difficulty in distancing emotionally from patients; death of patient.
(8) Family demands: Career at the expense of family; taking problems home; absence from work to cope with domestic problems.

The internal consistency (Cronbach alpha) and average stress level of the items included in each of the above eight categories are shown in Table 2. The Cronbach alpha ranged from 0.88 to 0.92, indi-

Table 2: Internal Consistency and Average Level of the 8 Categories of Work Stress

	Cronbach Alpha	Stress Level
Work overload	0.91	2.20
Incompetence in work	0.91	1.83
Poor job & working conditions	0.92	1.83
Difficult working relationships	0.92	1.80
Role conflict & ambiguity	0.89	1.71
Organizational constraints	0.88	1.69
Demands in caring for patients	0.90	1.55
Family demands	0.90	1.54

cating that our measures on the eight content areas of stress were highly reliable.

The presentation of the stress categories in Table 2, is arranged in the order of their average stress levels. As can be seen, work overload was most stressful among the eight areas of work stress. Stressors other than work overload, e.g., incompetence in work, poor working conditions and difficult working relationships, were moderately stressful. Dealing with demands in caring for patients was rated as slightly to moderately stressful. Its stress level was lower than that arising from role conflict and organisational constraints. Unexpectedly, nurses who experienced conflicts between family and job demands, perceived such conflicts as least stressful of all.

In terms of the overall level of work stress, the rating seemed to be quite evenly distributed (Table 3). About one-third of the nurses reported no or mild work stress, another 35.4% considered the work stress as moderate and 32.4% rated the level of work stress as considerable or extreme. Similarly, the rating of work stress as a percentage of total life stress was also evenly distributed. One third of the nurses rated 0%–30%, 40%–60%, and 70%–100% each as the percentage of their total life stress derived from work.

Table 4 presents the distribution of self-reported overall stress levels by different biographical subgroups. Though the data showed that females reported higher levels of work stress than their male counterparts, the difference was not statistically significant. Age was an important factor affecting perceived work stress. Nurses aged 24 or below perceived significantly higher levels of stress than the other age groups except those aged 30–34 ($F = 2.78$, $DF = 4/836$,

Table 3: Self-Reported Overall Level of Work Stress

Level of Stress	Frequency	Percentage
Not at all	21	2.0
Mild	315	30.2
Moderate	369	35.4
Considerable	237	22.7
Extreme	101	9.7
Total	1,043	100.0

p <0.026). No significant differences were found among the other age groups.

Analysis of variance also revealed that nurses who had more than 10 years of working experience reported significantly less stress than the two less experienced groups (F = 4.85, DF = 2/890, p <0.01). Multiple comparisons showed that the difference between the latter two groups was not statistically significant.

Table 4: Self-Reported Overall Stress Level of Biographical Subgroups*

	No Stress	Mild	Moderate	Considerable	Extreme	Mean
Sex						
Male	3.6	30.4	33.9	28.6	3.6	1.98
Female	1.9	30.2	35.5	22.4	10.1	2.06
Age						
Below 25	1.9	20.0	36.8	29.7	11.6	2.29
25–29	3.6	27.8	37.9	21.9	8.9	2.04
30–34	0.7	34.0	37.9	21.1	12.9	2.11
35–39	2.0	35.6	31.3	15.8	10.9	1.98
Above 39	2.2	33.8	35.6	21.9	7.1	1.98
Years of Working						
Below 5	2.8	19.6	39.2	26.6	11.9	2.25
5–10	2.0	26.4	34.8	25.9	10.9	2.17
Above 10	1.6	34.2	35.1	20.9	8.2	2.00
Nurse Grade						
Assistant Nurse	3.3	24.3	40.0	20.7	11.7	2.13
Sr. Assistant Nurse	10.5	57.9	26.3	5.3	0.0	1.26
Staff Nurse	1.3	32.2	31.6	24.6	10.3	2.10
Nursing Officer	0.0	30.4	39.3	26.8	3.6	2.03

* Total N = 1,043

Table 5: Relationship between Work Stress and Psychological Well-being[a]

Stress Category	Sense of Inadequacy	Anxiety & Depression	t-value
Work overload	0.24	0.37	5.29**
Incompetence in work	0.29	0.32	1.20
Poor job & working conditions	0.21	0.37	2.45*
Difficult working relationships	0.34	0.38	1.65
Role conflict & ambiguity	0.30	0.34	1.59
Organizational constraints	0.31	0.35	1.61
Demands in caring for patients	0.25	0.28	1.20
Family demands	0.34	0.42	3.32**
Overall stress level	0.33	0.44	4.46**

[a] all *rs* significant at $p < 0.05$ or less
* $p < 0.05$, ** $p < 0.01$

Table 4 also shows clearly that the stress level of the senior assistant nurses was the lowest among the different grades of nursing ($F = 4.71$, $DF = 3/883$, $p < 0.003$). Multiple comparisons indicated that the differences in stress levels as reported by assistant nurses, staff nurses and nursing officers were negligible.

Results of the correlational analysis (see Table 5) revealed that the various stress categories were significantly related to the two indicators of psychological well-being. Apparently, work stress exerted a stronger impact on the nurses' emotional stability than on their sense of adequacy. Among the eight areas of stress, demands of caring for patients seemed to have the least effect on nurses' psychological well-being. On the other hand, although meeting family demands was rated as least stressful, it was most significantly related to anxiety and depression ($r = 0.42$, $p < 0.001$) and to sense of inadequacy ($r = 0.34$, $p < 0.01$).

Discussion and Conclusion

Consistent with findings reported in the West (e.g., Gray-Toft & Anderson, 1981; Hingley & Cooper, 1987), work overload was found to be the most stressful event encountered by the nurses. Apparently, the stress of work overload in the hospital settings was often a direct result of staff shortages. Multiple demands imposed by the medical and administrative staff may also have added to the stress of work

overload. It may be pointed out that the content of work overload as measured in the present study consisted of both quantitative pressures (e.g., too much administrative work) and qualitative demands (e.g., fluctuation in workload). These two aspects were shown to be associated with a number of physiological and psychological complaints (Cooper, 1982; Hingley & Cooper, 1987).

Understandably, the dual lines of authority which were associated with work overload may also produce another source of work stress: role conflict and ambiguity. According to role theory, when the behaviour expected of an individual is inconsistent, he or she may become dissatisfied and perform less effectively if the stress remains unresolved (Kahn & Rosenthal, 1964). This may partly account for the fact that work overload was cited as the most frequent cause of work stress among the nursing staff.

Results of the study suggested that meeting family demands was most detrimental to nurses' emotional stability and sense of adequacy. Relevant to this finding, it may be recalled that a great majority (94%) of our subjects were females. In Singapore, women are still the primary persons to attend to household and children's needs. This is the case in spite of their increasing contributions to the family's income and an increasingly egalitarian marital relationship. Women's tendency to attach much significance to their marriage and home-related activities may make them susceptible to guilt and distress if they perceive that work commitments are preventing them from meeting family demands (Duxbury & Higgins, 1991). In such situations, it is understandable that stress associated with meeting family demands would affect negatively a person's psychological well-being.

Although the present findings provide evidence for a negative relationship between work stress and psychological well-being, other factors need to be considered. For example, the data of the present study also indicate that nurses who were older (aged above 24) and had more than 10 years of working experience or were at the senior assistant grade reported lower levels of work stress. It is likely that the impact of work stress would be weaker for these nurses. Furthermore, work stress in nursing may be moderated by a person's social and personal resources. Relevant studies have reported that social support serves to buffer the negative effects of work stress (Constable & Russell, 1986; Cottington & House, 1987).

Studies on locus of control have indicated that the internals are

more able than the externals to maintain their sense of well-being in stressful situations (Elliot, Trief & Stein, 1986; Matheny & Cupp, 1983; McFarlane, Norman, Streiner & Roy, 1983). On the other hand, subjects who exhibit a Type A behavioural pattern (characterised by high levels of competitiveness, time urgency and hostility) have been found to show greater reactivity to environmental stress (Contrada & Krantz, 1988; Craver, Diamond & Humphries, 1985). Therefore, if these relevant factors were taken into account, the relationship between work stress and psychological well-being would be more clearly established. As reported elsewhere (Boey, 1991), analyses have confirmed that the negative relationship between perceived work stress and psychological well-being remains essentially unchanged when the effects of social support, locus of control and Type A behavioural pattern are statistically controlled. The independent main effect of work stress on psychological well-being has therefore been substantiated.

The findings of the present study also indicate a consistent tendency for the various categories of work stress to be more strongly associated with anxiety and depression than with a sense of inadequacy. These findings suggest that work stress may have a greater effect on the affective than the cognitive component of stress reactions. In other words, nurses can be emotionally upset in stressful situations, but without their sense of adequacy being seriously affected. Admittedly, the design of this study was correlational in nature and would not enable us to draw any firm conclusion on the causal relationship between work stress and psychological well-being. One might consider that nurses who were more anxious and depressed tended to perceive a higher level of work stress. One might venture that those in the nursing profession were in the first place mentally unhealthy and therefore experienced greater work stress. However, we find such an argument hard to accept, particularly in light of the finding that nursing tends to attract individuals who are emotionally stable (Parkes, 1980). That work stress in nursing had an adverse effect on the psychological well-being of the nurses is certainly corroborated.

The hospital authority needs to recognise that nursing stress is, to a large extent, a reflection of the impact of the hospital system, its administrators, and the nature of tasks on the nursing staff. In order to maintain and enhance the psychological well-being of nurses, apart from a stable and balanced distribution of workload, stress associated

with poor working conditions, organisation constraints and interpersonal conflicts needs to be seriously looked into. Perhaps most importantly, superiors of the nursing units should be more understanding and willing to provide emotional support to their nursing staff who are under pressure to meet family demands. Unless the various work stressors are recognised and properly dealt with, it may lead to poor morale and uncooperative behaviour. If left unattended, the end results could turn the hospital into a dysfunctional system.

CHAPTER FOUR

STRESS COPING STRATEGIES AND PSYCHOLOGICAL WELL-BEING AMONG NURSES

Boey Kam-weng, Chan Kwok-bun and Ko Yiu-chung

Work stress associated with the demanding job carried out by nurses has been extensively documented (Carson, Leary, DeVilliers, Fagin & Radmall, 1995; Gray-Toft & Anderson, 1980; Tsai, 1993). However, not many studies have examined the coping strategies adopted by nurses to deal with their work stress. This is rather unfortunate, as some studies have suggested that coping strategies may be more important to psychological well-being than stress per se (Coyne, Aldwin & Lazarus, 1981; Lazarus, 1981).

In examining the effects of coping strategies, many researchers (e.g., Billings & Moos, 1981; Carver, Scheier & Weintraub, 1989; Lazarus & Folkman, 1984) have constructed their own assessment tools. The 'Ways of Coping' checklist developed by Lazarus & Folkman (1984) is one of the most popular instruments for assessing coping strategies. It has been used for the study of various populations such as community samples (Aldwin & Revenson, 1987), patients with diverse medical conditions (Bombardier, D'Amico & Jordan, 1990; Crumlish, 1994) and caregivers of spouses with dementia or brain injury (Chwalisz, 1996; Hooker, Frazier & Monahan, 1994). It has also been adopted to study the coping strategies of different occupational groups, e.g., managers (McDonald & Korabik, 1991), police officers (Evans, Coman, Stanley & Burrows, 1993), criminal justice staff personnel (Wright, 1990), combat veterans (Fairbank, Hansen & Fitterling, 1991) and nurses (Nakano, 1991). Based on data from different samples and factor analyses, various subscales for this instrument have been proposed. Typically, a distinction is made between problem-focused coping strategies, aimed at problem-solving, and emotion-focused coping strategies which involve managing emotional distress.

Though the strategies for coping with nursing stress have not been studied extensively, the existing literature does reveal a general trend

of coping which can be viewed in terms of the problem-focused and emotion-focused copings. In a study of nursing executives, Scalzi (1988) found that the most frequently adopted strategies were spending time on non-work-related interests, using personal support networks, broadening the scope of professional concerns and identifying problem-solving resources. Based on a sample of head nurses, Frisch, Dembeck and Shannon (1991) observed that more than 85% of the sample used such strategies as analysing the problem to understand it better, making and following a plan of action and doubling efforts to make things work. Very few (less than 15%) used more passive strategies such as seeing the situation as the result of fate, acting as if nothing had happened, refusing to believe the problem situations or avoiding being with people. This pattern suggested that these nurses tended to adopt problem-focused coping more often than emotion-focused coping to deal with their work stress.

Studies relating coping strategies to physical and psychological well-being have indicated that problem-focused coping decreased emotional distress, whereas emotion-focused coping increased it (Mitchell, Cronkite & Moss, 1983). Nakano (1991) also reported that problem-focused coping buffered the adverse effects of stressful events, and emotion-focused coping tended to enhance them. However, the relationship between coping strategies and adaptational outcomes may not always be as straightforward as it appeared in these studies. In another study (Aldwin and Revenson, 1987), only two of four emotion-focused copings (escapism and self-blame) were found to be related to emotional distress. In the same study, only one of three problem-focused copings (instrumental action) functioned to buffer the negative impact of stressful events, whereas another (negotiation) exacerbated the emotional distress. These findings revealed some limitations of the simple distinction between problem-focused and emotion-focused copings in predicting adaptational outcomes.

Other researchers (e.g., Moos & Billings, 1982; Pearlin & Schooler, 1978) who have linked coping strategies and adaptation outcomes have distinguished between approach and avoidance copings. Approach coping includes behavioural efforts to deal with the challenge of stressful situations and cognitive attempts to manage one's appraisal of the threat. In contrast, avoidance coping relies mainly on denial or avoidance of the problem situations. It has been consistently demonstrated that approach coping (e.g., problem-solving action, log-

ical analysis, information seeking) is positively related to well-being. In contrast, avoidance coping (e.g., denial or suppression of feelings) is associated with maladjustment to life stress (Ebata & Moos, 1991, 1994; Simoni & Patersen, 1997; Srivastava, 1991). Based on these findings, it is not unreasonable to expect that nurses who engage more often in approach coping are more likely to show positive adaptational outcomes. They should enjoy better mental health status and greater job satisfaction. On the other hand, nurses who adopt avoidance coping are more likely to experience negative adaptational outcomes. They may also have more mental health problems and may find their jobs less satisfying. To examine this expectation empirically, nurses from three public hospitals participated in a large-scale survey. The survey study also looked into the role of coping strategies in the relationship between stress and the well-being of the nurses.

Method

Subjects

This study focused on nurses working in public hospitals, since they made up the bulk of the nurse population in Singapore. Permission was granted to conduct our study in three main public hospitals in Singapore. A preliminary analysis showed that the nurses in the three hospitals were unevenly distributed in various departments. This made it difficult to sample the nurses based on the relative size of their departments. It was then decided that all the 1,335 nurses working in these hospitals should be invited to participate on an anonymous and voluntary basis. A total of 1,043 nurses participated, giving a high response rate of 77%. The sample included 371 assistant nurses (36.2%), 532 staff nurses (52.0%) and 121 nursing officers (11.8%). Data on the nursing grade of 19 nurses were missing.

The age distribution of the nurses showed that slightly more than half (56.9%) of the sample were below 34 years old. The majority (68.7%) were below the age of 40, indicating that most nurses were in their young adulthood. The mean age of the nurses was 33.8 years, with a SD of 9.2 years. The average length of service was 15.8 years (SD = 13.2 years). A great majority of these nurses were females (about 94%), while only 6% were males.

Measures

Coping Strategy Scale (CSS)

The CSS was constructed with reference to the 'Ways of Coping' checklist developed by Lazarus and Folkman (1984). Relevant items from the checklist were borrowed or carefully rephrased so that they were generally applicable to the nursing profession as well as to five other professional groups included in a larger comparative study. In-depth interviews with 13 nurses were also conducted to confirm the relevance of the coping strategies in the local setting. The final version of the CSS consisted of 35 items, each of which described a coping method for dealing with work stress. Subjects were asked to indicate on a five-point Likert scale how frequently they used each method to deal with their problems at work (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = all the time). Based on the results of principal component analysis, the coping strategies were grouped into five categories: Problem Orientation, Ability Enhancement, Change of Perspective, Positive Emotion-Focused Coping and Negative Emotion-Focused Coping.

General Health Questionnaire 12-Item Version (GHQ-12)

This questionnaire was originally developed to detect minor psychiatric disorders among respondents in a community setting (Goldberg, 1972). Its validity in discriminating between cases and normals was demonstrated in an epidemiological study conducted in Singapore (Ngui & Yuan, 1989). In the present study, an abbreviated version of the questionnaire, the GHQ-12, was adopted to provide a general measure of mental health status. Each item of the GHQ-12 described a condition related to mental health (e.g., losing sleep over worry, thinking of self as worthless). Subjects were asked to indicate whether they had experienced the condition more or less than usual over the past one month. A higher score indicated poorer mental health status. The reliability of the GHQ-12 was examined in this study and was found to be very satisfactory (Cronbach alpha = 0.81).

Job Satisfaction Scale (JSS)

The JSS was adapted from a scale developed by Hingley and Cooper (1987) in their study of stress and nurse managers. It consisted of six items in which subjects were asked to indicate how they felt about their job on a four-point scale. Two of the items were designed to gather information on whether they frequently thought of finding another job either within or outside their present profession. The reliability of the JSS in terms of internal consistency was found to be satisfactory (Cronbach alpha = 0.75).

In addition to the above three scales, subjects were asked to rate the level of stress they experienced in their job situation over the past six months on a five-point scale (ranging from 0 = no stress to 4 = extreme stress). This single-item measure of stress and the above three scales were included in a questionnaire which also contained items on socio-demographic characteristics, personality measures and short attitudinal scales for other research purposes.

Procedure

The questionnaires were distributed to the nurses through their principal nursing officers, the matrons. The nurses were requested to fill in the questionnaire within ten days and to drop the completed questionnaire in a box located at their respective ward counter. A reminder was sent to them by their matrons four days after the given deadline. A total of 1,043 survey questionnaires were returned, which constituted a high response rate of 77%. These favourable responses owed much to the cooperation of the matrons, who took the initiative to monitor the returns.

Results

An analysis was performed to ascertain how often nurses used each of the 35 coping items listed in the CSS. Results of the analysis are presented in Table 1, in which only the ten most frequent and ten least frequent coping items are shown. It may be noted that the percentage of nurses who chose the 'sometimes' response is not listed in the table. The coping items are presented in the order of mean scale value (0 = never, 4 = all the time).

Table 1: Most and Least Frequently Reported Items on the Coping Strategies Scale (Percentage)

	Often/All The Time	Rarely/Never	Mean Scale Value
10 Most Frequently Reported Items			
Examine myself	52.2	4.8	2.91
Scrutinize problem	69.0	4.0	2.85
Accept situation	63.4	5.4	2.76
Manage time properly	65.9	4.1	2.76
Adjust work volume	64.5	7.6	2.72
Look on the bright side	56.9	7.4	2.63
Listen to music	56.1	11.1	2.62
Pray	56.6	18.6	2.61
Find out person involved	56.0	8.9	2.59
Work harder	49.2	9.8	2.47
10 Least Frequently Reported Items			
Get mad at people	2.7	38.9	1.59
Sleep and eat more	9.9	63.9	1.15
Put off attending problem	2.6	65.0	1.13
Bring problem up to union	8.8	54.2	1.12
Blame others	2.2	70.3	1.06
Take medical leave	1.8	85.2	.49
Take prescribed medicine	2.2	88.7	.35
Seek professional help	.9	95.4	.22
Have an alcoholic drink	.5	96.5	.12
Smoke	1.4	97.0	.09

The two coping items most frequently adopted by the nurses were 'examine oneself to prevent problems from happening again' and 'scrutinize problem and solve it in the best way'. Direct action of proper time-management, workload adjustment and working harder were also among the top ten coping items. The emotion-focused coping items most commonly employed by nurses were listening to music and praying. At least 56% of the nurses reported that they often or all the time engaged in these two activities in dealing with work stress. Cognitive copings such as accepting the situation and looking on the bright side of the event were also among the top ten coping items used by the nurses.

At the bottom of the ranking, we can see that more than 90% of the nurses had never resorted to drinking or smoking as ways of coping. It can also be seen that very rarely did nurses take prescribed drugs or herbal medicine or take medical leave to alleviate

stress at work. Seeking professional or psychological help was also very uncommon.

Categories of Coping Strategy

To examine if the 35 coping items could be grouped into a smaller number of categories, principal component analysis with varimax rotation was performed. Ten coping factors were extracted. The percentage of variance accounted for by each of these ten factors as well as items of the factors (with factor loading > or = .40) are shown in Appendix 1. The Cronbach alpha coefficients of the un-weighted scale score of the ten factors ranged from 0.33 to 0.75. Only five factors were found to have a Cronbach alpha coefficient of at least 0.60. These five factors were retained for further statistical analysis. Brief descriptions of these five categories are presented below. It may be noted that both Factor 8 (Suppression of Feelings) and Factor 4 (Blaming Others) in Appendix 1 represent an attempt to resolve emotional reactions in a negative manner. Hence they were grouped as the fifth category of coping strategy named Negative Emotion-Focused Coping:

1. Problem Orientation: This strategy involves scrutinizing the problem and examining oneself so that the problem can be solved or prevented from happening again in the future. Other associated methods include exhausting possible avenues to problem-solving, working harder to deal with the problem and adjusting the workload to a manageable volume.
2. Change of Perspective: This is a cognitive coping strategy of looking at the positive aspect of events. It involves accepting what cannot be changed and looking for other alternatives, thereby enabling the nurses to have a more fulfilling life.
3. Ability Enhancement: This is an active problem-focused coping strategy for self-improvement. Problems are tackled through self-improvement, e.g., attending courses, reading and learning proper time management. Physical strength is also pursued through exercise and sports. It appears that this self-enhancement strategy includes both 'mind' and 'body' components.
4. Positive Emotion-Focused Coping: This coping strategy aims at resolving tension through listening to music, physical exercises,

Table 2: Reliabilities and Mean Scale Values of Coping Categories

	Chronbach Alpha	Mean Scale Value
Problem Orientation	.75	2.66
Change of Perspective	.70	2.59
Ability Enhancement	.64	2.51
Positive Emotion-Focused	.60	2.13
Negative Emotion-Focused	.60	1.63

joking, going for holidays or taking a short break from work. This strategy is considered a positive way of coping with emotional reactions to work stress.

5. Negative Emotion-Focused Coping: This category is formed by combining Factor 8 (Suppression of Feelings) and Factor 4 (Blaming Others). Emotional distress resulting from work situations is dealt with by keeping feelings to oneself or swallowing the negative emotions. Putting off problem-solving and getting mad at others are also included in this category of coping.

Reliability and mean scale values of the above five categories of coping strategy are shown in Table 2. The Cronbach alpha coefficients of these categories of coping strategy (ranging from 0.60 to 0.75) are considered marginally acceptable or satisfactory. In terms of the mean scale values, Problem Orientation was the most popular coping strategy among the nurses, whereas Negative Emotion-Focused Coping was the least common strategy.

Inter-correlation of Coping Strategies

The five categories of coping strategy were found to be relatively independent, particularly the relationships between Negative Emotion-Focused Coping and other coping strategies. Not unexpectedly, Positive Emotion-Focused Coping, which may be considered an approach coping, had a stronger relationship with the various problem-focused strategies than with Negative Emotion-Focused Coping (see Table 3).

Table 3: Inter-correlation of Coping Strategies

	Ability Enhancement	Change Perspective	Positive Emotion-Focused	Negative Emotion-Focused
Problem Orientation	.37***	.32***	.17***	.08**
Ability Enhancement		.33***	.37***	–.04
Change of Perspective			.30***	.04
Positive Emotion-Focused				.09**

** p < .01, *** p < .001

Table 4: Mean Scale Scores of Coping Strategies between Male and Female Nurses

	Male (N = 64)	Female (N = 980)	F-value
Problem Orientation	2.42	2.42	.00
Change of Perspective	2.87	2.57	11.22***
Ability Enhancement	2.61	2.30	14.44***
Positive Emotion-Focused	2.07	1.92	3.19+
Negative Emotion-Focused	1.57	1.45	2.84+

+ p < .01, *** p < .001

Socio-Demographic Characteristics and Coping Strategies

Previous analysis (Boey, 1992) indicated a significant relationship between socio-demographic characteristics and work stress experienced by nurses. Therefore, in examining the relationship between socio-demographic characteristics and coping strategy, we performed analysis of covariance in which the effect of level of work stress was statistically controlled. Results of the analysis showed that male nurses had a significantly greater tendency to adopt Ability Enhancement and Change of Perspective than their female counterparts. They were also more likely to use both Positive and Negative Emotion-Focused Copings, but this tendency was only marginally significant (see Table 4).

With regard to the association of grade of nurses and stress coping strategy, the results indicated that nursing officers were most likely to adopt Problem Orientation and Ability Enhancement (see Table 5). On the other hand, staff nurses were found to be most likely to engage in Change of Perspective and Positive Emotion-Focused

Table 5: Mean Scale Scores on Coping Strategies of Nurses[a]

	Assistant (N = 371)	Staff (N = 532)	Officer (N = 121)	F-value[b]
Problem Orientation	2.27	2.48	2.63	26.88***
Change of Perspective	2.48	2.68	2.49	9.70***
Ability Enhancement	2.17	2.38	2.55	14.40***
Positive Emotion-Focused	1.89	1.98	1.85	3.30*
Negative Emotion-Focused	1.56	1.56	1.54	.33

[a] Based on N = 1,024 because of missing data
[b] Based on analysis of covariance in which the effect of work stress was controlled for
* p < .05, *** p < .001

Table 6: Mean Scale of Coping Strategy of Nurses with Different Education Levels[a]

	Secondary (N = 112)	GCE O&A (N = 904)	Diploma/ Degree (N = 121)	F-value[b]
Problem Orientation	2.34	2.43	2.50	2.54+
Change of Perspective	2.55	2.59	2.86	2.33+
Ability Enhancement	2.21	2.33	2.47	3.00*
Positive Emotion-Focused	1.50	1.57	1.61	5.82**
Negative Emotion-Focused	1.78	1.94	2.19	1.60

[a] Based on N = 1,031 because of missing data
[b] Based on analysis of covariance in which the effect of work stress was controlled for
+ p < .10, * p < .05, ** p < .01

Coping. Results of the data analysis also indicated that nurses with higher levels of education were more likely to adopt the coping strategies of Ability Enhancement and Positive Emotion-Focused Coping (see Table 6).

Coping Strategy and Psychological Well-Being

Nurses were divided into two groups according to their frequency score (high vs. low) on coping strategies in order to examine the relationship of coping strategy to psychological well-being. The median of the frequency score was used as the cutoff. These high vs. low scores on the various coping strategies were treated as the indepen-

Table 7: Relationship of Coping Strategy with Job Satisfaction

	High	Low	F-value
Problem Orientation	13.75	13.27	11.77***
Change of Perspective	13.76	13.20	7.75**
Ability Enhancement	13.70	13.33	6.11
Positive Emotion-Focused	13.39	13.64	.09
Negative Emotion-Focused	12.98	14.27	11.03***

** $p < .01$, *** $p < .0001$

dent variables in the analysis of covariance; levels of stress served as the covariate, and two indicators of psychological well-being—mental health status (GHQ-12) and job satisfaction (JSS)—were treated as dependent variables.

Results of the analysis indicated that among the various stress coping strategies, only Negative Emotion-Focused Coping was found to be associated with mental health status ($F = 9.81$, $DF = 1/803$, $p < .01$). This finding showed that nurses who used Negative Emotion-Focused Coping more frequently were poorer in mental health status. The other coping strategies were found to have no significant effects on mental health status. However, the analysis of job satisfaction showed quite a different picture (see Table 7). All coping strategies except for Positive Emotion-Focused Coping were found to be significantly related to job satisfaction. Nurses who had a greater tendency to adopt Problem Orientation, Change of Perspective, or Ability Enhancement were found to have greater job satisfaction. Those who adopted Negative Emotion-Focused Coping were found to be significantly less satisfied with their job.

Mediating Effects of Coping

Level of stress was found to be moderately related to job satisfaction and mental ill-health ($r = -.42$ and .43 respectively). Although no strong relationship was found between most coping strategies and the level of work stress, Problem Orientation and Negative Emotion-Focused Coping were found to be mildly related to stress ($r = .11$ and .25 respectively, $p < .01$). These two coping strategies were also found to be significantly related to job satisfaction ($r = .09$ and $-.25$ respectively, $p < .01$). In order to examine whether or not Problem

Table 8: Relationship between Work Stress and Psychological Well-Being

	Job Satisfaction	Mental Health[a]
	Zero order correlation	
	−.42	.43
Controlled Variable	Partial correlation	
Problem Orientation	−.43	.43
Negative Emotion-Focused	−.39	.40

[a] High score indicates poorer mental health status

Orientation and Negative Emotion-Focused Coping strategy served as mediators of stress and job satisfaction, a second order of partial correlation was performed. The results showed that when the effect of these two categories of strategy had been statistically controlled, the relationship between stress and job satisfaction did not change significantly (see Table 8). This finding suggested that the two coping strategies did not serve as mediator between work stress and job satisfaction. Of the two coping strategies related to stress, only Negative Emotion-Focused Coping was found to be significantly related to mental health status ($r = .25$, $p < .001$). Partial correlation analysis was also performed to examine its mediating effect. Again, the finding failed to confirm any significant mediating effect of Negative Emotion-Focused Coping in the relationship between stress and mental health status.

Moderating Effects of Coping

The role of coping strategies as moderator was also examined by hierarchical multiple regression analysis as recommended by Baron and Kenny (1986). According to the two authors, the presence of a moderating effect would be indicated if the analysis revealed that the interaction between the independent (predictor) and moderator variables was significantly related to the dependent (outcome) variable. In our case, stress and coping strategies were treated as the predictor and moderating variable respectively, whereas job satisfaction (JSS) and mental health status (GHQ-12) were treated as the

Table 9: Hierarchical Regression Analysis of GHQ-12 on Stress and Negative Emotion-Focused Coping

Step	Variable Entered	Beta	T	P
1	Stress	.43	13.98	.001
2	Stress	.39	12.36	.001
	Negative Emotion-Focused	.20	6.33	.001
3	Stress	.11	1.78	n.s.
	Negative Emotion-Focused	.01	.14	n.s.
	Stress x Negative Emotion-Focused	.38	3.11	.002

n.s. = not significant

outcome variables. Hierarchical multiple regression analysis thus performed, revealed that none of the interaction terms (stress x coping) were found to be significant when job satisfaction was treated as the outcome variable. The findings were rather similar when mental health status (GHQ-12) was treated as the outcome variable. The only significant interaction effect was observed when GHQ-12 was regressed on stress and Negative Emotion-Focused Coping (see Table 9).

As can be seen from Table 9, the main effect of stress and Negative Emotion-Focused Coping as revealed in Steps 1 and 2, disappeared in Step 3 when the interaction term (stress x Negative Emotion-Focused Coping) was entered into the equation. Instead, the interaction effect of stress and Negative Emotion-Focused Coping was found to be statistically significant ($t = 3.10$, $p < .01$). Examination of the data indicated that the relationship between stress and mental ill-health was more significant among nurses who adopted Negative Emotion-Focused Coping frequently than among those who rarely resorted to this coping strategy.

Discussion and Conclusion

The content of the most frequently reported coping items suggests that nurses in Singapore tended to adopt an active and direct coping to deal with their work stress. The coping items most frequently adopted by the nurses represented an approach to coping focussed on problem-solving. The use of avoidance coping to deal with emotional reactions was rather infrequent. A large majority of the nurses

would engage in such self-improvement methods as attending seminars or training courses, or reading books to motivate or inspire themselves. Very few would resort to taking medical leave or prescribed medicine. Apparently, the coping methods were more often problem-focused than emotion-focused, which is consistent with previous findings reported in the West (Frisch, Dembeck & Shannon, 1991).

Male nurses tended to engage in Ability Enhancement and Change of Perspective more frequently than their female counterparts. In this regard, one notes that in most societies, males are socialized to be ability-oriented. From very young, they are taught to be capable and to try to be in control of their life situations. Taking on such a role may lead male nurses to engage more in active and approach coping to enhance their ability. Nevertheless, working in the public hospitals where the bureaucratic structures and procedures are relatively fixed, nurses in Singapore encountered structural constraints and had learned to accept the situations as they were. Change of Perspective, a form of gaining secondary control of the situation (Rothbaum, Weisz & Snyder, 1982), helped the male nurses to adapt themselves to the unchangeable realities. Results of the study indicated that subjects who were of higher education and higher nursing grade took the more active approach of Ability Enhancement in order to cope with the demanding job of nursing. Nevertheless, as there were relatively more male nurses with higher education and higher nursing grade, a possible confounding effect needs to be considered. Analysis of covariance based on only female nurses indicated that when work stress was controlled, the association of education and Ability Enhancement was not significant. However, the effects of nursing grade remained statistically significant ($F = 7.53$, $DF = 31752$, $p < .001$) when analysis was performed on female nurses alone. This finding suggested that female nurses who were in a higher position, like male nurses, were more active in their approach and more often engaged in Ability Enhancement to cope with work stress.

According to Lazarus and Folkman (1984), the types of coping strategy adopted by an individual depend on the nature of the situation he or she is facing. These two authors contended that work situations are associated with problem-focused coping, and health situations with emotion-focused coping. The higher frequency of problem-focused methods among the nurses of the present study provides support for this contention. As coping strategies were used mainly to deal with job stress, their more significant relationship with job satisfaction than with mental health status is also understandable.

Although the nature of the situation determines the type of coping strategy adopted, the extent to which it is used may also depend on the characteristics of the individual. This is evident from our findings which indicated that gender, level of education and grade of the nurses were associated with specific types of coping strategies. Such associations remained essentially unchanged even when the level of work stress was statistically controlled. Generally, the extent to which certain types of coping strategy are adopted could be viewed as a result of both situational and personal factors. According to the so-called source-of-variance model for studying the psychology of coping (Lazarus, Averill & Option, 1974), three main sources of variance are involved in the process of coping: situational demands, personality dispositions and their interactions. Viewed from this perspective, coping strategies as measured in the present study may be considered as dispositional variables which were associated with some sociodemographic characteristics of the nurses.

It is noteworthy that almost all (more than 99%) of the nurses in the present study exhibited no disposition to seek professional help in coping with their work stress. As indicated, they preferred various methods of self-improvement to seeking help from others. Such preference was also reported in studies of coping styles among Chinese subjects in Taiwan and Hong Kong (Hwang, 1977; Shek & Cheung, 1990). These two types of coping styles, i.e., self-improvement and help-seeking, can also be characterized as internal coping and external coping respectively (Shek & Tsang, 1993). Internal coping protects the face of the person under stress in at least two ways. First, it keeps the problem situation from being known. Keeping problems private is essential as people tend to equate personal difficulties with personal inadequacies. Second, in case the problem situation is made known to others, the person's face may still be maintained and he or she will be respected for his or her self-reliance in problem resolution. Thus, the coping method most often adopted by nurses in Singapore may be considered not only as self-enhancing but also as face-saving.

Lazarus and Folkman (1984) argued that emotion-focused coping is more likely when the encountered situation is too threatening or cannot be altered. Conversely, problem-focused ways of coping will be used when the situation is perceived as amenable to change. In the present study, although nurses had a greater tendency to adopt problem-focused strategies to cope with their work stress, it cannot be concluded that they perceived their working condition as changeable.

Response to an item of the JSS indicated that about 98% of the nurses believed that their working condition could not be improved. This sense of personal helplessness and powerlessness was shared, though to a lesser extent, by other professionals in Singapore such as teachers, engineers and lawyers (Chan et al., 1992; Chan & Ko, 1991). By working in large-scale bureaucratic settings, these professionals felt increasingly de-professionalized—causing a sense of a lack of personal control over various structural constraints. Nevertheless, the nurses as a group still tended to adopt problem-oriented coping strategies in dealing with stress arising from the very nature of their job. Perhaps they felt that, even though they could not eliminate the work stress, they could at least do something to improve themselves so that they could cope with the work stress more effectively.

It may be noted that the categories of coping strategy as measured in the present study did not function as mediators between the relationship of stress and psychological well-being (mental health status and job satisfaction). Admittedly, the single-item measure of stress may, to a certain extent, impose some limits on the generalizability of our findings. Nevertheless, our findings are consistent with those of Pearlin, Menaghan, Lieberman and Mullan (1981), who also reported no supportive evidence for the contention that coping mediates emotion. Studies based on a clinical sample of psychiatric outpatients (Vitaliano, DeWolfe, Maiuro, Russo & Katon, 1990) and patients with chronic medical conditions (Bombardier, D'Amico & Jordan, 1990) also failed to confirm the mediating effect of coping. With regard to the moderating effect of coping, our data showed that none of the coping strategies served to buffer the deleterious effects of stress on psychological well-being. The only moderating effect was found with Negative Emotion-Focused Coping, which acted to exacerbate emotional distress. In general, the overall findings of our study suggested that coping strategies exert a direct effect on job satisfaction. Their relationship with mental health status was less significant. Therefore, our expectation concerning the effects of approach coping vs. avoidance coping can only be considered partially supported. On reflection, the differential relationships of coping strategies with the two measures of well-being (GHQ-12 and JSS) are understandable, as the present study focused on work stress. We suspect that coping strategies adopted for dealing with emotional disturbance or health conditions (e.g., low back pain, diabetes, etc.) may have a stronger relationship with GHQ-12.

Finally, it should be pointed out that although coping strategies were conceptually and statistically treated as independent variables in the present study, the design of our study was basically correlational. Therefore, statements of cause and effect are at best speculative. In a panel study of coping strategies and psychological symptoms, Aldwin and Revenson (1987) demonstrated a significant influence of mental health status on coping strategies. Perhaps the relationship between coping strategies and psychological well-being may be more appropriately conceptualized as reciprocal or bi-directional in nature.

CHAPTER FIVE

STRESS ON PATROL: STRESS AND COPING AMONG POLICE OFFICERS[1]

George D. Bishop, Eddie M. W. Tong, Diong Siew-maan, Why Yong-peng, Hwee Chong Enkelmann, Majeed Khader, Jansen Ang, Vicky L. M. Tan and David S. Q. Koh

Police work is almost universally acknowledged to be stressful: police officers at various times are required to intervene in situations of conflict, apprehend violent criminals, face hostile members of the public and deal with the inevitable political pressures of public life (Violanti & Paton, 1999). Numerous studies, undertaken to understand police stress, show how officers cope with it. A key goal of these studies is the development of methods for helping officers better deal with the stress of their work. This chapter begins with a brief review of studies of police stress and then describes work on this topic ongoing in Singapore.

An important first question concerns the types of stressors involved. Although operational stressors, and in particular physical dangers, are often highlighted in police work, studies have consistently found that organisational stressors—those related to the context in which officers perform their duties—are the most common and may well have the most deleterious effect (Biggam, Power, MacDonald, Carcary, & Moodie, 1997; Brown, Cooper, & Kirkcaldy, 1996; Evans & Coman, 1992). In particular, problems with manpower shortages, being passed over for promotion, long hours, job overload and changes of supervisor have been found to be among the most common stressors. Also, in a study of Australian police officers, Evans and Coman (1992) found that job-context stressors showed the strongest correlations with measures such as the Work Environment Scale (Moos, 1986) and the State-Trait Anxiety Inventory (Spielberger, Gorsuch,

[1] This research was funded by Grant No. R-107-000-007-012, from the National University of Singapore with supplementary funds from the Singapore Ministry of Home Affairs, Singapore Police Force.

Lushene, & Vagg, 1983), suggesting that these stressors may be the major source of stress for those officers. Other studies have linked the various stressors of police work to psychological distress, depression, alcoholism, burnout, cardiac disorders and suicide as well as family and marital problems (Alexander, 1999; Biggam et al., 1997; Kop, Euwema, & Schaufeli, 1999; Loo, 1999; Territo & Vetter, 1981; Violanti, 1992).

In light of these adverse effects of stress, several studies have focused on the ways in which officers cope with the stress of their jobs and the factors that may buffer the effects of that stress. Research on coping has identified a variety of coping strategies including actively engaging the problem, planning, withdrawal, seeking solace through religion, seeking help from friends or simply denying that the problem exists. Folkman and Lazarus (1980) classify these various strategies as either problem-focused or emotion-focused. Problem-focused strategies aim at actively dealing with the problem whereas emotion-focused coping is directed at dealing with the emotional distress that is evoked by the problem. As would be expected, police officers show a range of coping strategies and effectiveness, with some officers coping much better than others. On the whole, the evidence suggests that problem-focused coping is the most effective in reducing distress, whereas emotion-focused coping tends to be associated with higher levels of distress (Hart, Wearing, & Headey, 1995; Patterson, 1999). These studies have suggested a variety of approaches to helping officers deal with stress, including cognitive-behavioural stress management (Sarason, Johnson, Berberich, & Siegel, 1979), anger management training (Abernethy, 1995) and Critical Incident Stress Debriefing (Mitchell, 1999).

The research cited above provides valuable insights into police stress and its treatment but has been conducted almost exclusively in North America, Europe and Australia. To date, only a handful of studies have been done on this topic outside of these regions and thus little is known about police stress in Asian countries and Singapore in particular. This is an important lacuna as social conditions and crime rates vary radically between countries (cf. Barber, 2000; Komiya, 1999) and thus operational stressors can be expected to vary substantially. In addition, differences between countries in cultural values and work organisations (cf. Hofstede, 1980) can significantly affect organisational stressors faced by officers.

The research described here is an attempt to bridge this gap by investigating stressors experienced by police officers in Singapore, the ways in which they cope with these stressors and the relationship of this stress and coping to health and well-being. The general framework adopted was Lazarus's transactional model of stress (Lazarus, 1993; Lazarus & Folkman, 1984), which conceptualises stress as a process focusing specifically on how people appraise situations and cope with them. Therefore, we included measures of personality variables, stressful experiences, coping, social support, and health outcomes in an attempt to examine the dynamic interplay of these variables.

One specific emphasis was on the role of anger and hostility in the stress process. Police officers are often required to deal with difficult situations involving potentially high levels of frustration as well as interpersonal conflict. Such stressors can easily generate feelings of anxiety and arouse feelings of anger and hostility in officers. However, as law enforcers and public servants, the public expression of anger or hostility is considered inappropriate; these strong requirements for self-control, in turn, can impose additional stress on officers (Abernethy, 1995). Studies of anger and hostility among police officers have found that psychological distress is higher, and job effectiveness lower, for officers experiencing high levels of anger (Mearns & Mauch, 1998; Novaco, 1977). Further, hostility and life stress are associated with increased cardiovascular risk among officers (Ely & Mostardi, 1986), findings that are in line with the growing body of research indicating the negative health effects of anger and hostility (Miller, Smith, Turner, Guijarro, & Hallet, 1996).

This research was conducted in two phases. Phase I, which is the focus of this chapter, used interviews and written questionnaires to examine the types of stressful events experienced by the officers, their ways of coping with stress, and their general well-being. As such, it provides a general overview of stress among Singapore patrol officers. In addition, the data from this phase were used to construct an overall model of the stress process among the officers. Phase II was concerned with the role of stress and hostility in cardiovascular responses and is discussed elsewhere (Why et al., 2003; Enkelmann et al., 2005).

Table 1: Demographics for Phase I Sample

Number of Officers Studied	253
Age Range (Years)	19–51
Average Age (Years)	27.4
Race (%)	
Chinese	33.2
Malay	33.2
Indian	33.6
Marital Status (%)	
Single	38.3
Married	61.3
Religion (%)	
Buddhist/Taoist	22.2
Hindu	13.8
Muslim	42.7
Christian	8.7
No Religion/Free Thinker	7.1
Smoking (%)	
Yes	37.2
No	62.5
Exercise Regularly? (%)	
Yes	64.8 (avg. 2 times per week)
No	34.4

Note: Percentages may not add to 100% due to missing responses

Methods

Participants

A total of 253 male police patrol officers from various Divisional Headquarters and Neighbourhood Police Centres in Singapore participated in the study. The original plan was to obtain a random sample of patrol officers stratified by race. However, due to logistical considerations, this proved impractical; the sample is best considered to be a convenience sample, although every attempt was made to make it as representative as possible of patrol officers in

Singapore. An approximately equal number of Chinese, Malay and Indian officers were interviewed in order to have an adequate representation of Singapore's three major racial groups. The demographics for the sample are shown in Table 1.

Materials and Procedures

Data was collected through a series of questionnaires in addition to two interview protocols. The questionnaires were selected to cover a variety of different personalities, stress, coping and health variables that might be relevant in understanding the stress experience among police officers. Included among the questionnaires were:

- the NEO PI-R personality inventory (Costa & McCrae, 1992a)
- the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1988)
- the Cook and Medley (1954) Hostility Scale
- the Singapore Police Force Life Events Scale (Khader, 1995)
- the Hassles Scale (DeLongis, Coyne, Dakof, Folkman, & Lazarus, 1982)
- the short form of the Social Support Questionnaire (Sarason, Levine, Basham, & Sarason, 1983; SSQ; Sarason et al., 1983)
- the COPE scale (Carver, Scheier, & Weintraub, 1989) and
- the General Health Questionnaire-28 (GHQ; Goldberg & Williams, 1988).

In addition, officers were interviewed using the Structured Interview for Type A (SI; Rosenman, 1978), which was scored using the Interpersonal Hostility Assessment Technique (IHAT; Haney et al., 1996), and a short interview on stressors the officers experience and how they cope with them. These instruments were selected based on their good psychometric properties as demonstrated in previous studies. Overall, the psychometric qualities of these instruments were verified in our data in the form of generally high reliabilities in the current sample.

While the questionnaires were distributed in small groups, participants were interviewed individually. Data collection was done at either the Police Academy of the Singapore Police Force (SPF) or at the officers' place of work. As a token of appreciation, each participant was given a gift worth about S$6 (US$3.70).

Results

Stressors Experienced by Officers

The Singapore Police Force Life Events Scale (SPFLE) and the Hassles Scale were used to examine stress levels and to identify specifically the kinds of events that officers found stressful.

As noted earlier, previous studies of police stress have shown that it is often the organisational features of police work that are the most stressful for officers rather than the operational aspects (Brown & Campbell, 1990; Evans et al., 1992). To see whether this was true in our sample we examined responses to the Singapore Police Force Life Events Scale (Khader, 1995). This scale, based on the Sewell Critical Life Events Scale (Sewell, 1983), consists of 48 events related to police work in Singapore. Some of the events that police officers might experience at work include getting poor cooperation from an accused person, dealing with a physically violent or abusive suspect, manpower shortages, being subject to disciplinary action and having to deal with unjustified complaints against oneself. Respondents in this research were asked to indicate which events had happened to them in the last six months and, for each event experienced, to rate the severity of the event on a seven-point scale from 1 (not at all severe) to 7 (very severe). Average severity levels were computed based only on those officers who reported experiencing the event in the last six months.

Table 2 lists the top ten SPFLE events by rated severity as well as frequency of experience. It is interesting to note that of the ten events listed as most severe in their impact, only two fall into the category of operational stressors whereas the other eight are organisational in nature. The item with the highest severity, although it was uncommon, was participating in corruption, with a rating of 5.50 on the seven-point scale. Next were items concerned with press criticism, internal investigation, receiving an unsatisfactory personnel rating and the unjustified release of an offender. The only two operational items that made it into the top ten stressors, by severity, were being involved in a shooting incident and witnessing the violent death of a fellow officer. Again, these were uncommon events.

Table 2: Singapore Police Force Life Events Listed by Severity and Percentage of Officers Affected

Singapore Police Life Events (SPFLE)	Average Rated Severity	No. of Officers Reporting the Event in Last 6 Months	% of Sample
By Severity			
Participating in an act of police corruption	5.50	3	1.2
Facing unreasonable press criticism for your actions	5.18	12	4.7
Internal investigation against you	5.08	25	9.9
Receiving an unsatisfactory SCR[a] rating	4.94	19	7.5
Release of an offender by the court you feel is unjustified	4.93	16	6.3
Being involved in a shooting incident or personally hazardous situation	4.93	16	6.3
Witnessing violent death of police officer	4.86	8	3.2
Facing manpower shortage in your unit/place/department	4.71	189	74.7
Being served a disciplinary charge against you	4.69	14	5.5
Being in charge of a case where there is short time for court hearing	4.63	9	3.6
By Percentage of Officers Affected			
Facing manpower shortage in your unit/place/department	4.71	189	74.7
Being called back to division for operations over and above your normal working hours	4.10	176	69.6
Physical arrest of a suspect who was violent and abusive	3.84	138	54.5
Getting poor co-operation from an accused person	3.70	120	47.4
Feeling you are a victim of unfair management practise	4.47	113	44.7
Not being promoted when you feel is due	4.29	97	38.3

Table 2 (*cont.*)

Singapore Police Life Events (SPFLE)	Average Rated Severity	No. of Officers Reporting the Event in Last 6 Months	% of Sample
Being affected by a pay revision	3.72	97	38.3
Having to deal with unfair complaints against you	4.29	77	30.4
Having frequent disagreements or arguments with your supervisor	3.25	76	30.0
Having to inform next-of-kin about death of family member	3.57	69	27.3

Note: a SCR = Supervisor's Confidential Report

A similar pattern is found for the most frequent stressors. In the bottom part of Table 2 it will be noted that seven out of the ten most frequent work stressors listed are organisational in nature. The most frequently reported stressor was the perception of manpower shortages, followed by being called back for operations after duty hours. Other frequent organisational stressors were the perception of being a victim of unfair management, not being promoted and concerns about pay revision. The only operational stressors that made the top ten were the arrest of a violent and abusive suspect, getting poor co-operation from an accused and having to inform next of kin about a family member's death. It is reassuring to note that the more common stressors are generally only of moderate severity, with scores just above the mean of the scale. Although issues like perceived manpower shortages and being called back for operations after duty hours may be frequent, they are not severe but only moderate stressors.

Thus, in line with previous studies, it appears that most of the stressors that were rated high in severity and claimed by substantial numbers of police officers as stressful were those that concern the organisation and its operation. These stressors may involve perceptions, such as perceptions of unfairness or of manpower shortages, or may involve objective situations such as being called back after hours. Operational stressors although they can be severe, are less frequently endorsed.

Work is not the only source of stress, of course, and we were also concerned with the kinds of stressors that officers experience that are not directly related to their job. These sources of stress were assessed with the Hassles Scale (DeLongis et al., 1982), which contains a list of daily events (e.g., having too many things to do, not getting enough rest, social obligations, concerns about family members) that may be slightly to seriously irritating. Previous research has found that frequent encounters with such daily unpleasant events are associated with reduced psychological well-being as well as higher levels of physical symptoms and disease (Bolger, DeLongis, Kessler, & Schilling, 1989; DeLongis et al., 1982). Officers were asked to mark the events which had occurred in the last month and to rate their severity. For purposes of easy comparability, severity scores on this scale are reported using the same seven-point scale used with the SPFLE.

Table 3 shows the ten Hassles items rated as most severe as well as the ten most frequently experienced. Problems with divorce or separation ranked highest in severity, though reported by only a few officers. Next were concerns about too many meetings, pollution, traffic and crime. The most frequently endorsed item rated most severe was concern over the health of a family member. Mostly, the most severe hassles tended to be rated as less severe than the items on the SPFLE. Of the ten hassles rated most severe only one—problems with separation and divorce—was rated within the severity range of the top ten SPFLE items whereas the other nine Hassles were rated as lower in severity than the tenth most severe SPFLE item.

From the Hassles listing, by frequency, mundane occurrences as misplacing or losing things, not getting enough sleep, money concerns and social obligations, most frequently affected officers. Of course, such stressors are not necessarily independent of one's job. For example, the fact that just over half of the officers reported concerns about not getting enough sleep, may well be related to being called back for operations after finishing their usual shift. However, these hassles point to additional sources of stress beyond work.

Table 3: Hassles Listed by Severity and Percentage of Officers Affected

Hassles	Average Rated Severity	No. of Officers Reporting the Event in Last 6 Months	% of Sample
By Severity			
Problems with divorce or separation	5.33	9	3.6
Too many meetings	4.45	20	7.9
Pollution	4.16	38	15.0
Traffic	3.93	41	16.2
Crime	3.91	65	25.7
Not enough money for transportation	3.81	16	6.3
Health of a family member	3.76	126	49.8
Concerns about meeting high standards	3.76	63	24.9
Financial dealings with friends or acquaintances	3.75	24	9.5
Nightmares	3.75	12	4.7
By Percentage of Officers Affected			
Misplacing or losing things	2.73	130	51.4
Not getting enough sleep	3.15	127	50.2
Health of family member	3.76	126	49.8
Concerns about money for emergency	3.58	108	42.7
Social obligations	2.71	107	42.3
Too many responsibilities	3.34	105	41.5
People giving you a hard time	2.89	100	39.5
Trouble making decisions	3.08	95	37.5
Not enough time to do the things you need to do	2.68	91	36.0
Concerns about weight	2.64	86	34.0

Note: a SCR = Supervisor's Confidential Report

Relationship of Stress to Well-Being

Of course, the real concern with stress is the effect it has on officers' well-being. Given that police work is considered to be stressful (Brown et al., 1990) and the well-established relationship between stress and

ill health (cf. Cooper, 1996), we expected that there would be a strong relationship between the officers' perceived stress in their life and their well-being. Table 4 shows the correlations between these two stress measures and the measures of both physical and psychological health. The number of upper respiratory tract infections (URTIs) the officer had had in the previous week as well as the previous six months and the number of days of sick leave that the person had taken in the past six months due to URTIs measured physical health. The GHQ (Goldberg et al., 1988) measured psychological health. Due to significant positive skewing of the original distributions, all scores were transformed using $\log_{10}$. As can be seen in Table 4 the SPFLE and the Hassles scale showed very similar relationships with both physical and psychological health measures. Both stress measures significantly correlated with number of URTIs in the past six months and number of sick days taken for URTIs. Both measures also significantly correlated with measures of anxiety, somatisation and depression on the GHQ as well as total GHQ scores. The only GHQ scale that did not show significant correlations with the two stress measures is the one measuring social dysfunction, which had near zero correlations with both stress measures.

This similarity in results between the SPFLE and the Hassles scale is not surprising since the two scales correlated significantly in this sample, $r\ (240) = 0.53$, $p < .001$. Interestingly, the Hassles scale correlated more strongly with the health measures than did the SPFLE. Whereas the correlations for the SPFLE ranged from .13 to .25, those for the Hassles scale ranged from .14 to .49, and for every health measure, its correlation with the Hassles scale was numerically larger than its correlation with the SPFLE. This is despite the fact that the SPFLE items were generally rated as individually more severe. Our findings here are in line with those of previous studies, which have suggested that the type of mundane but frequent events tapped by the Hassles scale are more deleterious to one's health than are the less frequent but generally more serious events tapped by life events scales such as the SPFLE (DeLongis et al., 1982; DeLongis, Folkman, & Lazarus, 1988).

It is also of interest to note the strong correlations between measures of psychological and physical health. As can be seen in the bottom section of Table 4, the GHQ scales measuring anxiety and somatisation, as well as the total GHQ scores, showed significant correlations with the number of URTIs experienced by the officers

Table 4: Correlations among Stress, Psychological and Physical Health

A) Stress with Psychological and Physical Health

	Anxiety and Insomnia	Somatization	Social Dysfunction	Severe Depression	Total GHQ	URTI (within past week)	URTI (within 6 months)[b]	Sick Days (within 6 months)[c]
SPFLE	.22***	.25***	.03	.19**	.25***	.09	.19**	.13*
Hassles	.37***	.49***	.05	.33***	.44***	.07	.19**	.14*

B) Physical Health with Psychological Health

	Anxiety and Insomnia	Somatization	Social Dysfunction	Severe Depression	Total GHQ
URTI within the past week	.39***	.21***	.04	−.06	−.28***
URTIs in the past 6 months	.34***	.28***	.09	.10	.30***
Number of days of sick leave taken in the past 6 months on account of URTIs	.32***	.29***	.10	.26***	.325***

Note: *** $p < .001$, ** $p < .01$, * $p < .05$.
URTI = Upper respiratory tract infection

as well as the number of days of sick leave taken for URTIs. Depression correlated with the number of days of sick leave but not the number of URTIs. As was the case with the correlations with stress measures, the GHQ scale measuring social dysfunction did not correlate with the physical health measures.

Coping and Well-Being

Relationships between measures of stress and well-being really provide only a superficial view of the stress process. As in other settings, stressors are inevitable in police work and, although the relationships described above indicate that these stressors play an important role in officers' well-being, an equally important question is how officers cope with these stressors. This question was addressed through the use of the COPE scale, which assesses the use of 13 different strategies for coping (Carver et al., 1989), generally divided into problem-focused and emotion-focused strategies. The strategies assessed include:

- active coping
- planning
- suppression of competing activities
- restraint coping (i.e., holding off doing something until the right time)
- seeking social support for instrumental reasons
- seeking social support for emotional reasons
- positive reinterpretation
- acceptance
- turning to religion
- focus on and venting of emotions
- denial
- behavioural disengagement and
- mental disengagement.

Previous research has indicated that police officers cope in a variety of different ways and has raised questions about the extent to which officers utilise effective coping strategies (cf. Alexander & Walker, 1994; Wearing & Hart, 1996). With this in mind, we first examined the coping strategies generally used by our sample and then looked at the relationship of these strategies to measures of

Table 5: Means, Standard Deviations for COPE Scales

	Mean	SD
Positive Reinterpretation and Growth	11.97	2.38
Planning	11.44	2.72
Acceptance	11.35	2.48
Seeking Social Support for Instrumental Reasons	11.34	2.93
Active Coping	10.61	2.43
Suppression of Competing Activities	10.01	2.30
Turning to Religion	9.84	4.91
Restraint Coping	9.64	2.24
Seeking Social Support for Emotional Reasons	9.48	3.18
Mental Disengagement	7.28	2.79
Focusing On and Venting of Emotion	7.18	2.92
Behavioural Disengagement	5.33	3.05
Denial	5.13	2.98

Source: Bishop et al., (2001)

well-being. Means from the COPE subscales, ordered from most- to least-used strategies, are shown in Table 5.

As can be seen in this table, the strategies with the highest scores are generally those involving problem-focused coping. The highest scores were obtained for positive reinterpretation and growth followed by planning, acceptance, seeking social support for instrumental reasons and active coping. All of these can be considered to be generally positive coping strategies in which the person deals directly with the problem. The only exception to this is the strategy of acceptance, which can be considered a positive emotion-focused strategy. By contrast, the four strategies that were the least endorsed were those that reflect different ways of avoiding the problem: mental and behavioural disengagement, venting emotion and denial. Thus, overall, it would appear that, at least by their own report, the officers in our sample tended to use the more positive forms of coping.

Since there was clearly variation between officers in the types of coping strategies utilized, we also examined individual differences in the use of coping strategies and their relationship to personality. To obtain a more parsimonious taxonomy of coping styles we subjected the 13 coping strategies assessed by COPE to principal components analysis with varimax rotation (Bishop et al., 2001). This analysis suggested that the thirteen strategies could be summarised into three major ways in which the officers cope with stress: Problem Solving

(which includes active coping, suppression of competing activities, planning, restraint coping and instrumental social support), Avoidance (behavioural disengagement, mental disengagement, denial) and Reappraisal (emotional social support, turning to religion, positive reinterpretation, acceptance). These factors were then related to personality as measured by the five domains of the NEO PI-R (Costa & McCrae, 1992b; Costa et al., 1992a) using canonical correlation analysis. This analysis indicated that the use of Problem Solving was associated with high scores on Conscientiousness, whereas Avoidance was related to low scores on Conscientiousness and high scores on Neuroticism. Reappraisal, however, was associated with high scores on Extroversion, Agreeableness and Openness. Thus, it appears that officers with more positive personality traits, such as high levels of conscientiousness, extroversion, agreeableness and openness, are likely to adopt positive reappraisal and coping strategies of problem solving that are more effective. Officers high on neuroticism and low on conscientiousness tend toward the less effective strategies involving avoidance.

Use of different coping strategies was also related to psychological but not physical well-being. In particular, officers who tended to cope through avoidance were more likely to show symptoms of psychological maladjustment, whereas those coping through reappraisal showed less maladjustment. Avoidance coping was positively correlated with three of the four GHQ scales: Anxiety and Insomnia, $r(243) = 0.27$, Severe Depression, $r(243) = 0.32$, and Somatisation, $r(243) = 0.34$, all $ps < .001$, as well as with overall GHQ score, $r(243) = 0.35$, $p < .001$. Thus, officers who tended to use avoidance in dealing with stressors were more prone to nervousness and sleeping difficulties, more likely to suffer from depression and more likely to somatise their concerns. By contrast, negative correlations were obtained between reappraisal coping and the GHQ scales measuring somatisation, $r(243) = -.15$, $p < .05$, depression, $r(243) = -.13$, $p < .05$, and social dysfunction, $r(243) = -.24$, $p < .001$, as well as the overall GHQ score, $r(243) = -.24$, $p < .001$. None of the correlations between measures of coping and physical health achieved statistical significance and all were close to zero.

Overall, it appears that actively coping with problems or dealing with one's thoughts and feelings through reappraisal can be instrumental in minimising the negative psychological impact of stressors. Officers who coped by actively approaching the problems in productive

ways and/or reinterpreting problems positively suffered less psychological maladjustment and appeared to deal better with feelings of anger. By contrast, avoidance of problems was associated with poorer psychological adjustment as indicated by scores on anxiety and somatisation.

Social Support and Well-Being

In addition to using internal coping resources, one can also turn to other people for help. As noted above, numerous studies of social support have demonstrated positive relationships between the various aspects of social support and a person's psychological and physical well-being (cf. Bishop, 1994; Cohen & Wills, 1985). Also, social support has been shown to be an important factor in helping police officers deal with the stress of their jobs (Alexander et al., 1994; Kirkcaldy & Furnham, 1995). In this study we measured social support using the short form of the Social Support Questionnaire (Sarason et al., 1983), which assesses the number of individuals a person can call on in time of need (Perceived Number of Social Supports: SSN) and the person's satisfaction with their social support (Satisfaction with Social Support: SSS). These two dimensions of social support can be considered to be relatively independent, although they were positively correlated in our sample, $r(243) = .18$, $p = .006$.

As expected, several relationships were found between both SSS and SSN and aspects of psychological health as assessed by the GHQ. With respect to the number of social supports, SSN was negatively related to Social Dysfunction, $r(243) = -.13$, $p < .05$, and to overall GHQ scores, $r(243) = -.15$, $p < .05$. However, SSN was unrelated to the other three GHQ subscales. Turning to Satisfaction with Support, we found that SSS was negatively associated with the GHQ scales of Anxiety and Insomnia, where $r(243) = -.13$, Somatisation, $r(243) = -.26$, Social Dysfunction, $r(243) = -.23$, and Severe Depression, $r(243) = -.25$ (all $ps < .05$); as well as with the total GHQ score, $r(243) = -.28$, $p < .001$. This indicated that those officers who were more satisfied with their social support tend to show less psychological distress. As was the case with coping, correlations between the social support and physical health measures were numerically small and statistically non-significant. Thus, overall these results indicate that both the number of supports and the person's satisfaction

Table 6: Regression Analyses Four SSQ Dimensions onto Five NEO Domains

	SSS		SSN		SSN-fm		SSN-o	
Predictors	β	t	β	t	β	t	β	t
Agreeableness	.05	.77	.13	1.95	.15	2.15*	.04	.53
Conscientiousness	.09	1.11	−.15	−1.84	.19	2.27*	−.35	−4.33***
Extroversion	.08	.90	.20	2.27*	.07	.76	.19	2.17*
Neuroticism	−.02	−1.12	−.02	−.19	.01	.15	−.04	−.43
Openness	−.01	−.17	.13	1.81	−.02	−.25	.19	2.67**

All tests are two tailed, with * $p < .05$, ** $p < .01$, *** $p < .05$.
Source: Tong et al., (2004)

with them are associated with better psychological health, although the relationships are relatively modest. It is also interesting to note that satisfaction with support appears to have a stronger relationship to psychological well-being than the sheer available number of supports. This is in line with the results of other studies that suggest that the most important aspect of social support is not the number of people whom one can call on but the extent to which the functions of social support are being fulfilled (Bishop, 1994).

In addition to its relationship with health measures, we were also interested to see how social support related to personality. It is clear that social support varies substantially between individuals, and we wanted to see which aspects of personality were most closely associated with the person's social support network as well as his or her satisfaction with support. This question was examined through multiple regression analyses using social support measures as the criteria and the domains of the NEO PI-R as predictors (Tong et al., 2001). For these analyses we further divided SSN into support coming from family members and that coming from outside the family. This was to see if these two different types of support might differ as to their relationship to personality. As can be seen in Table 6, the different aspects of social support showed quite different relationships with the various NEO domains.

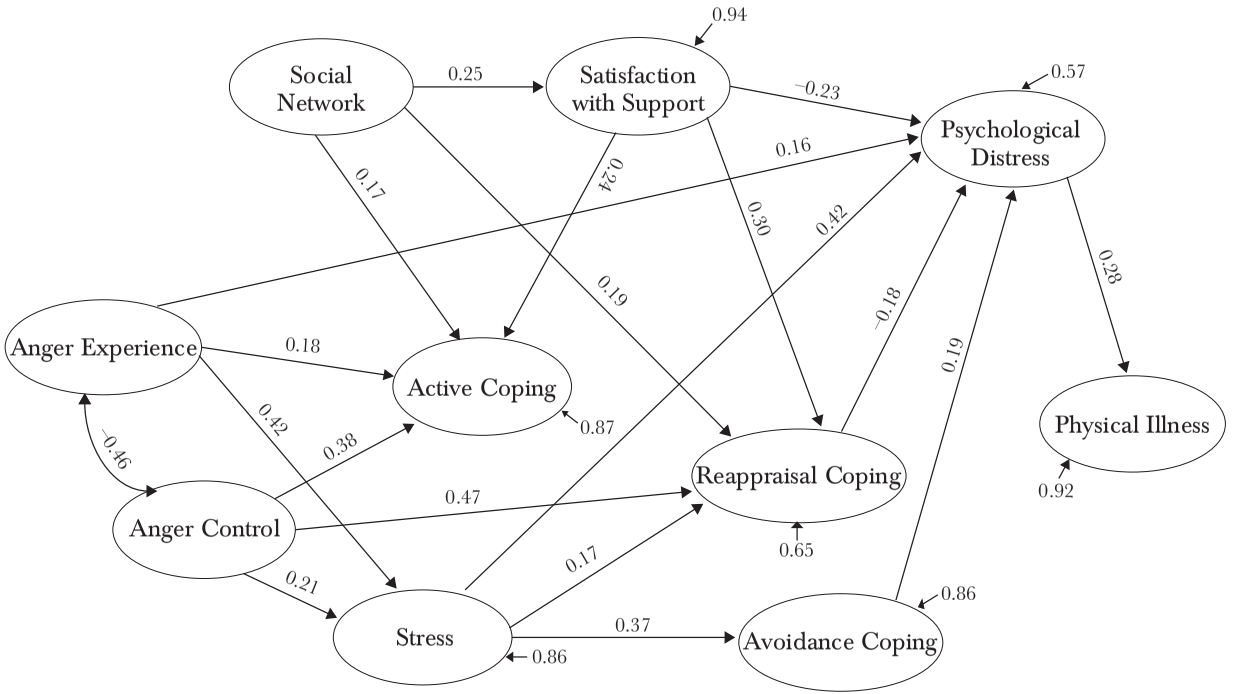
Although the overall regression equation was statistically significant for support satisfaction, none of the individual regression coefficients achieved statistical significance, suggesting that none of the domains stand out as a predictor of officers' satisfaction with their support.

By contrast, four of the NEO domains showed significant relationships with the number of supports from different sources. Extroversion related positively to the overall number of supports, whereas Agreeableness and Conscientiousness related significantly and positively to the number of social supports from family members. Extroversion and Openness related significantly and positively to the number of supports from non-family members but Conscientiousness rated strongly and negatively with these supports. This suggests that, on the one hand, the total number of supports an officer reports is a function of how outgoing he is. On the other hand, how much he feels he can rely on family members is related to how agreeable and conscientious he is. The extent of support outside the family is associated with being outgoing and open to new ideas and experience but is a negative function of being conscientious. Perhaps this latter finding reflects the importance placed on family ties in a collectivistic society such as Singapore, with conscientious and filial sons being more likely to seek their support within the family.

Modelling the Stress Process

Thus far we have considered the pair-wise relationships between stress, coping, social support and psychological and physical well-being. However, as noted earlier, our goal in this study was to examine the overall stress process. Thus, the next step in our analysis was to examine how these different variables work together in a dynamic system. This was accomplished through the use of structural equation modelling (SEM; Joreskog & Sorbom, 1993) to examine the simultaneous relationships among anger/hostility, stress, coping, social support and physical and mental well-being (Diong et al., 2005). Figure 1 shows the relationships among these variables. The ovals in this model represent the latent variables derived from the various measurements made in this study. Details can be found in (Diong et al., 2005); in brief, Anger Experience is derived from the Trait Anger and Anger Out scales of the STAXI whereas Anger Control represents the STAXI scale of the same name. Stress is a composite variable based on the SPFLE and Hassles, while Perceived Social Network and Satisfaction with Support come from the SSQ and the three coping variables represent factors derived from the COPE as described earlier. Finally, Psychological Distress is a composite of the

Figure 1: Structural Equation Model of the Relationships between Anger, Stress, Social Support, Coping, Psychological, and Physical Health



Notes: All path estimates are completely standardized and significant at $p < .05$. Path estimates in parentheses appear to be the result of suppressor variable relationships.
Numbers with arrows pointing to latent variables are disturbances.
Source: Diong et al. (2005).

different scales of the GHQ, and Physical Illness is based on number of UTRIs experienced six months before and six months after the interview as well as the number of days taken as sick leave.

Overall, this model indicates that anger, stress and social support are related to health both directly and indirectly through their relationships with the different types of coping. Further, the two dimensions of anger relate to health quite differently. Whereas higher levels of Anger Experience are associated with higher levels of stress and psychological distress, higher levels of Anger Control are associated with larger support networks and greater use of both active and reappraisal coping strategies. Although Anger Experience was positively related to Perceived Social Network and Anger Control to Stress, these relationships show signs of being the result of suppressor variable relationships and are thus not interpreted substantively.

Turning to Stress, we find that it has a negative relationship to Perceived Social Support Network and positive relationships with Psychological Distress and Avoidance Coping. Although there is a positive path from Stress to Reappraisal Coping, this appears to be another suppressor variable relationship. Next, Reappraisal Coping has a negative relationship to Psychological Distress whereas Avoidance Coping shows a positive relationship. It is interesting to note that Active Coping is not significantly related to either psychological or physical health measures. One possible reason for this may be that Active Coping is concerned with dealing with the objective aspects of the situation at hand whereas both Reappraisal and Avoidance Coping are concerned with the person's emotional response to the situation, which is more closely related to Psychological Distress. Finally, Physical Illness is related to the various components of the stress process only through Psychological Distress. Although this may be a function of the specific measures involved, it may also point to the importance of psychological distress as a mediator between stress and illness.

Discussion

There is certainly no doubt that police work can be a stressful occupation. However, the stress often does not come from the expected sources and officers appear to cope with it quite well. Also, even though stress, both on and off the job, can have negative effects on

an officer's health and well-being, these effects are not inevitable and can be buffered by both internal and external resources. Specifically, internal resources, in the form of coping strategies, and external resources, in the form of social support, play key roles in keeping the effects of stress under control. Also high levels of dispositional anger appear to increase vulnerability to stress and its effects whereas good control of anger may reduce vulnerability.

As noted earlier, it is common to think of police work in terms of its operational characteristics and their attendant dangers. Certainly dealing with criminals who may be armed and violent is inherently dangerous and can be a source of stress. Such aspects capture one's imagination and are the frequent fare of television shows and movies. However, this and previous studies have consistently found that it is the more mundane organisational aspects of police work that are the most stressful and which may have the most negative effects on officers' well-being (Biggam, Power, & MacDonald, 1997; Brown et al., 1996; Evans et al., 1992). In this study, as has been the case in previous studies with other police departments, the key job stressors appeared to be such things as perception of manpower shortages, being called back for operations after duty hours, internal investigations and facing unreasonable criticism. These kinds of events can happen on a frequent basis and although they may not be very severe as individual events, their effects can accumulate, leading to a constant friction that wears one down over time.

Dealing with such stressors requires a combination of approaches. On the one hand, stress management programmes can be made available to officers to increase their internal resources for coping with these stressors. From our data, it is clear that how officers cope with stress makes a significant difference in the impact of stress on health. Stress management programmes that encourage officers to deal directly with problems when there is something concrete that can be done about the situation, or that promote thinking about the situation in a more positive light when nothing can be done to change it, can be a significant benefit for officers. As noted earlier, a variety of stress management programmes have been developed for helping officers cope including cognitive-behavioural programmes (Sarason et al., 1979), Critical Incident Stress Debriefing (Mitchell, 1999), and anger management training (Abernethy, 1995). The latter would seem to be particularly important in light of the results from our SEM model showing the direct and indirect relationships

of various aspects of anger to psychological and physical well-being. In addition to these programmes, specifically developed for police officers it may also be useful to adapt programmes originally developed for a general population such as the LifeSkills programme developed by Williams and Williams (1997).

In addition to helping officers deal with the inevitable stressors of their jobs and life in general, it is also important to consider their concerns carefully and make organisational changes to deal with the objective circumstances of police officers' work (cf. Hurrell, 1995). Although it may not be possible to address every concern raised, there may well be adjustments in organisational procedures, staffing or the way work is organised that can help to reduce the negative aspects of the objective features of an officer's job.

The problem of stress should be addressed at both the individual and organisational levels. The data in this study indicate that the key stressors tend to be organisational in nature, which argues for organisational-level approaches to stress reduction. At the same time, the study also provides strong evidence that how individual officers cope is a key aspect of the stress process; this suggests the importance of stress management interventions to help them cope with the stressors that are inevitable in organisational settings.

Beyond these practical aspects of police stress and its management, the results of this research also point to important aspects of the stress process. First, underneath the overall picture of stress, coping and their relationship to well-being, lie a number of important individual differences. While we can describe how police officers are affected and generally deal with the stress of their work, it is important to acknowledge that there is a great deal of individual variation. Largely, officers with more positive personality profiles that emphasise extroversion, agreeableness, conscientiousness and openness as well as the effective control of anger report having better social support and also appear to cope better with difficult situations. Those high in neuroticism or with higher levels of anger experience fare more poorly. In helping officers cope better it would appear to be useful to identify officers with high levels of neuroticism and anger experience for specific assistance in developing more effective coping and social support. This could be in the form of interventions designed specifically for such individuals, such as anger management for those with high levels of anger. Or individuals identified as being at high risk due to their neuroticism or high anger levels might be

specifically targeted to received more general stress management interventions. Either way, the results reported here suggest that helping such officers develop more effective coping and social support can have positive effects on both mental and physical health.

Second, it is also interesting to note the similarity between our results and those obtained in previous research. As noted earlier, virtually all of the research on police stress to date has been done in North America, Europe or Australia with very little work done in Asia. To the best of our knowledge, this is one of the few studies of this type done on an Asian police department. Hence, a key question concerns the extent to which the results may be similar or different from those obtained before. Overall, the results appear to be more similar than different. Although there may be variation in the specific stressors identified by the officers, the relationship of these stressors to mental and physical health (as well as the interrelationships of the variables obtained using SEM) were very similar to those obtained in previous research in societies very different from Singapore (Bishop et al., 2005; Diong et al., 2004). Although these results certainly do not prove the universality of these findings with respect to the stress process, they offer no indication that the processes involved differ significantly between societies. Future research should certainly continue to probe potential cultural differences, investigating such aspects as the relationship of stress processes to dimensions of culture such as individualism/collectivism, power distance, uncertainty avoidance and masculinity/femininity (Hofstede, 1980; Smith & Bond, 1993; Triandis, 1994). However, the current results suggest that, as important as these cultural dimensions may be, they essentially produce variations on a basic underlying theme.

CHAPTER SIX

ORGANISATIONAL HEALTH IN THE POLICE: A 3-R APPROACH

Majeed Khader, Jansen Ang, Koh Chee-wee, Diong Siew-maan, Michelle Koh, Poh Li-li and Clare Tan

Bishop et al., in the previous chapter, discuss the sources and organisational implications of stress in policing. The chapter underscores the importance of an effective organisational response to stress. Yet, the development of any organisational support system has resource implications. For example, setting up a counselling unit involves the payment of wages and overhead costs and a re-channelling of organisational resources from other projects towards the project in concern. Caring has cost implications. Thus, when discussing organisational support interventions, it is important to have a conceptual framework. Such a framework allows police managers to consider all cost-benefit issues and the impact of each and every support programme, and thus may help in the optimisation of resources. The '3-R' approach of Organisational Health Management is Singapore Police Force's (SPF) response to the need for a conceptual support framework. These three 'Rs' are 'Risk Reduction', 'Re-interpretative Response' and 'Restoration to Normalcy (as illustrated in Table 1).

The '3-R' approach has been structured along the lines of the three-pronged prevention framework: that is, 'Primary', 'Secondary' and 'Tertiary' prevention (see Quick, Murphy & Hurrel, 1992; Quick, Nelson & Hurrell, 1997). 'Primary Prevention' (Risk Reduction) aims to address organisational risk factors and enhance the health of the work environment and the individual through preventive programmes (e.g., organisational development or job redesign). 'Secondary Prevention' (Re-interpretative Response) aims to influence the way in which the individual and the organisation reinterprets the inevitable work demands (e.g., relaxation training). Finally, 'Tertiary Prevention' (Restoration to Normalcy) intends to aid those in distress and focuses on returning them to normalcy (e.g., counselling).

While it might intuitively appear that primary prevention should

always be the preferred strategy (since it could be argued that amelioration of risk reduces the necessity for secondary and tertiary prevention), in a non-utopian world this may be difficult (Quick, Murphy & Hurrell, 1992). First, even a seemingly positive change resulting from a primary prevention effort (e.g., the introduction of a new employee induction programme) requires re-adjustment of current work practices, which can be stressful (e.g., production of training material, organising the training). Also, despite primary prevention efforts, employees may nonetheless exhibit their own idiosyncratic symptoms of distress, thus underscoring the importance of secondary prevention. Tertiary prevention is needed for individuals for whom unanticipated crises occur, which is understandable. Yet, tertiary prevention must always be the last resort, since there has never been any 'disease epidemic in human history which has been stopped through treatment' (Quick, Murphy, Hurrell & Orman, 1992, p. 11).

It must be qualified in this chapter that the three-pronged prevention framework is not without contention, as it had its beginnings in the public health arena and was not originally developed for the phenomenon of stress. The boundaries are also not mutually exclusive, as they may overlap in practice. However, for purposes of discussion, this chapter uses the three-pronged framework as a useful broad conceptual frame upon which to discuss organisational health in the SPF.

Table 1 illustrates broadly the organisational health framework currently used by the SPF.

Primary Prevention Strategies (Risk Reduction)

In studies of police stress across the globe, organisational sources of work stress appear to be similar. This is an area which has received a lot of attention from several researchers (see Brown & Campbell, 1994; Reese & Scrivner, 1994; Reese & Solomon, 1996). These studies cite factors such as 'difficulty of adjusting to shift work', 'inconsistent discipline' and 'perceived lack of career development opportunities'. Similar findings have been seen in the United States (Flin & Tomz, 1996), the United Kingdom (Ang, 2001; Brown & Campbell, 1994) and Singapore (Bishop et al, 2000). In response to these findings, several organisational interventions in the form of primary prevention risk reduction measures have been introduced in the SPF. These are discussed in the ensuing paragraphs.

Table 1: The '3-R' Organisational Health Framework in the SPF

Prevention Strategies	*Aim and focus*	*Systemic Structures in SPF*
Primary Prevention (Risk Reduction)	Focus on risk reduction with the view to prevent distress Aims to reduce the risk factor or change the nature of the stresses	• Person-To-Organisation Fit Through Pre-Employment Selection • Person-To-Job Fit Through Placement And Career Streaming • Organisational Stress Audits • Workplace Health Programmes → Noise Reduction Programme → Car Safety Programmes → Financial Management Programmes → Pre-Retirement Programmes → Work-Life Effectiveness Programmes
Secondary Prevention (Re-interpretative Response)	Focus on reinterpretation and effective response to work demands Aims to alter the ways in which individuals interpret and respond to stress	• Training of Supervisors on Counselling • Stress Management Training • Psychological Preparation of Officers
Tertiary Prevention (Restoration to Normalcy)	Focus on treatment to respond to officers' needs with the view to assist in recovery Aims to heal those who have been distressed or traumatised at work	• Counselling • Peer Counselling • Critical Incident Stress Management • Welfare and Recreation Programmes

Adapted from Quick et al. (1992b), Figure 1, p. 20.

Pre-Employment Personnel Assessment

A common risk-reduction strategy employed by many police organisations to reduce 'person-to-organisation' misfit is pre-employment assessment. This practice reduces the likelihood that an organisation employs an individual who may encounter adjustment problems later on in his career. One rationale for pre-employment psychological assessment of police officers is a legal one given the issue of public safety (Waddington, 1999). Moreover, from the fiscal angle, the cost of recruiting and training each officer has been estimated to be about US$15,000 (Super, 1996). Thus, from the organisation's perspective, pre-employment screening translates to time and money saved since the number of candidates who may be terminated in the future due to poor person-to-organisation fit would be reduced. The Police Psychological Unit (PPU) commenced pre-employment evaluation of senior and junior officer applicants in 1994 and 1996 respectively. Some validation studies have supported the idea that having the right person enter the organisation is important. Khader (1999), for example, found that police trainees in Singapore who used more problem-focused coping as opposed to a passive coping style were perceived to have performed better at the training school. Tan (1997) validated a battery used for 115 local senior officer applicants with performance ratings and discovered that personality predicted on-the-job performance moderately well, and that certain personalities did better than others. Bishop et al. (2001) found that among police officers in Singapore, some personalities dealt better with stress than others. Pre-employment assessment therefore helps prevent future distress through helping to select candidates who have a better fit with the organisation.

Enhancing Person-to-Job Fit, Placement and Career Streaming

The SPF has also been using psychological assessments to enhance 'person-to-job' fit and make 'placement' decisions. The task is to make the most effective matching of persons and positions. But this also involves screening out those with potential problems in a specific job. The PPU undertakes screening of officers posted to the special tactics and rescue unit, VIP protection unit and police crisis nego-

tiation unit, as well as officers deployed on peacekeeping missions. Typically, psychological data on intellectual functioning, personality, stress-coping measures and personal history are analysed and evaluated together with peer and supervisory appraisals to arrive at a comprehensive assessment of officers before they are selected for specialised vocations.

Also, to enhance person-to-job fit and job satisfaction levels, the SPF Manpower Department recently embarked on a programme to design multiple career track streams and an open posting system so that officers may choose to opt into specific career vocations that best match their interest and abilities. For example, officers could opt for vocational specialisation in investigation, command, intelligence or marine policing. Officers who are interested in specific career streams must be able to demonstrate that they possess the relevant competencies required for the specific post before being accepted into the stream of their choice. Placing the right officer in the right place may raise the officer's sense of self-efficacy, reduce adjustment distress and, from the organisational perspective, optimise talent.

Organisational Stress Audits

A unit's operating climate and culture are also important aspects of an organisation's health (Rosen, 1986). An 'organisation stress-diagnostic' tool employed regularly by the SPF is the 'Organisational Health Survey' (OHS), which has been used on three occasions since 1997 in the SPF. The OHS is an anonymously completed census of all officers conducted bi-annually and functions as an 'organisational health barometer'. The last administration of the OHS in 2001 involved more than 20 different police departments and about 9,000 police-officer and civilian respondents. The OHS, a 100-item questionnaire, has been largely premised upon developments in Organisational Health Psychology (Adkins, 1999) and covers five main domains perceived to affect organisational health in the SPF. These are 'Operational Health' (whose sub-dimensions included morale, ethics, confidence in the leadership of commanding officers and confidence in operations), 'Social Health' (satisfaction with peers and satisfaction with supervisors), 'Environmental Health' (safety at work and environmental issues), 'Physical Health' (fitness and health) and finally

'Psychological Health' (psychological well-being and stress-coping issues). These domains were derived 'bottom-up' as a result of a year-long study of the issues affecting organisational health in the SPF.

How are the OHS data used? The OHS brings to the surface systems-level issues and provides data for policy-making. For example, changes were made on career development and performance appraisal after feedback was obtained from the 1998–1999 data, which suggested a need for an improvement in these areas. At the unit level, feedback is provided to police commanders on 18 main areas affecting their unit (e.g., Communication, Leadership, Ethics, Operational Efficiency). The PPU works closely with ground units to diagnose the main issues affecting the unit and helps to track the changes they make within their units. With the last OHS, 24 police units and departments received unit-specific OHS results.

In a preliminary study to assess the validity of the OHS, an 'average' OHS index for each police land division was computed and compared with an independent 'index of operational indicators' for the same division. The latter index comprised crime clearance rates, investigation paper clearance rates and performance in operational competitions. Comparisons were made for seven police land divisions (each division has about 400 officers). Results showed a closely matched relationship between these measures for the divisions. That is, police divisions which were ranked first, second, third and fourth on the 'OHS average' were also in the same ranks for the 'composite index of operational indicators'. Although the nature of the sample does not lend itself to the use of inferential statistical analyses, it may reasonably be hypothesised that employees with high morale (higher OHS average) are likely to be more productive (higher index score for operational indicators) than those with lower reported morale (lower OHS scores). This in turn boosts morale further, thus creating a reinforcing virtuous cycle (Wright & Cropanzano, 1997).

In a related study, another attempt was made to examine the relationship of the OHS to subjective psychological outcomes. About 400 officers participated in this study, in which the OHS was administered to a police division along with the General Health Questionnaire (GHQ) (Goldberg & Williams, 1988). This was undertaken to examine whether organisational practices were related to reported individual general health outcomes as measured by the GHQ, such as minor psychiatric morbidity (MPM). Results revealed that items

related to supervision and working relationships were associated with MPM. Officers who reported poor supervision and poor working relationships reported indications of minor psychiatric morbidity. For example, those who felt that their workgroup was 'not well managed' also felt 'pain in the head', felt they 'could not cope' and felt 'more run down'. Taken together, these suggest that organisational and managerial practices do affect mental health outcomes of officers. Interestingly, similar results were also found with a UK-based police sample. For example, Koh (2000) showed that psychological distress was strongly related to organisational stress. The use of Organisational Stress Audit tools in the SPF therefore helps prevent distress by helping the organisation and leaders to focus on aspects of the work or environment, that impacts on the unit's overall wellness.

Workplace Health Programmes

Occupational hazards affect job productivity, dissatisfaction and turnover, resulting, in high organisational costs (Koh & Lee, 1998). Also, perceived management commitment to promoting safe job behaviours has been demonstrated to be an important factor for employees (Zohar, 1980). Taking these into consideration, several workplace health programmes have been introduced since 2000 in an effort to enhance workplace health. The Police Welfare Division has spearheaded many of the efforts discussed here.

The first programme addressed the issue of noise-induced deafness caused by constant exposure to loud-impact noise in police settings. A Hearing Conservation Programme was set up to evaluate and study noise levels at police work sites. Comparisons of noise at these sites were made with the permissible noise level of 85dBA (decibels) for an eight-hour day. The related study identified several priority areas for attention. These included officers working in the shooting range, police band members and officers stationed at vehicular checkpoints and having to deal with heavy vehicular traffic. Recommendations included administrative and environmental considerations such as use of hearing protectors, relocating staff away from the source of noise, noise containment, acoustic treatment and environmental re-design. The programme also emphasised the importance of education, training and use of warning signs.

Repetitive strain injuries (RSI) such as backaches, carpal tunnel

syndrome and migraines are fast becoming a concern, as employees are increasingly sedentary and working longer hours. For the SPF, a work station could mean being at the office, a workshop, an operations room, a patrol car or even a patrol ship. The Ergonomics Programme initiated to address the RSI issue and involved the measurement and assessment of six types of stations to find out if officers were indeed at risk. A survey of 1,000 officers was conducted to ascertain which of the six groups were most susceptible to RSI, how severe the rates were and what steps were required to deal with the issue. Detailed findings of the study were not available at the time of writing this chapter. However, preliminary findings have resulted in several systems-wide recommendations that included training, environmental intervention and organisational policies aimed at reducing the risk and prevalence of RSIs.

A Car Safety Programme was also formed to look into the training of drivers and to identify car-safety issues. Several measures were recommended; these included education at driving school, conducting safe driving talks and providing corrective training.

Another focus of the workplace health programme was the effect of work stress on family life. To address this, the SPF has attempted to make it easier for the officers to pursue their family and social life by adopting family-oriented measures. In general, issues such as shift work, flexible-time, leave policies, day care, overtime and dual career issues are relevant to people's psychological and social health (Lobel, 1991). Several programmes addressing work-life effectiveness issues have been introduced. These have included Financial Management Workshops, in which experts from leading banks conduct workshops to raise the staff's awareness on financial planning and management. Pre-Retirement workshops have also been organised for officers to prepare them psychologically and financially for retirement. Family and Marital Enrichment workshops have also been conducted for police staff and their spouses to help enhance the quality of their family life.

Secondary Prevention Strategies (Re-interpretive Response)

The preceding section discussed in detail the measures in place to reduce risk. However, despite all genuine organisational efforts to

reduce such risks on the individual, some individuals may nonetheless develop signs of distress (Quick, Murphy, Hurrell & Orman, 1992). This is because the stress experience is determined largely by how one *perceives and interprets* an identified threat, regardless of how real the threat may actually be (Lazarus, 1976). Because stress depends upon the eye of the beholder, secondary prevention measures which focus on how the individual re-interprets threat, play an important role.

The SPF uses two main strategies to help officers reinterpret their stressors so that they may respond effectively and remain resilient. The first is through skills-based training; especially 'well-being training' on issues such as stress management or anger management. The focus of such training is not just on awareness building (which may be more of a primary prevention strategy) but on skills enhancement. For example, officers who attend stress management training courses learn about cognitive re-framing, relaxation, time management and using social support to buffer stress. The second strategy is through educating supervisors so that they may operate as 'resilience enhancing agents'. Trained supervisors can play an important role within the organisation as mentors and role models, and thus help re-frame negative experiences their subordinates may encounter. For example, the young rookie who experiences a hostile person may be encouraged to think of that episode as a learning lesson which could prepare him for bigger challenges in life and work. Supervisors are also in an ideal position to build effective and supportive work teams. They can also assist by recognising early warning signs and intervening early through counselling or simply lending an ear.

Training of Supervisors on Counselling

As Bishop et al. argued in the previous chapter, social support has been shown to be an important factor in helping police officers deal with stress (Alexander et al., 1994; Kirkcaldy & Furnham, 1995). Social support constitutes an important secondary intervention (Quick, 1999). Realising this, the PPU has developed programmes to equip supervisors on counselling and on detection of distress. These programmes are premised on the notion that supervisors may be a natural support stratum within police units.

There are two kinds of courses whereby counselling is taught by

the PPU to police supervisors. In the first, officers who are advancing to a supervisory position undergo a four-hour awareness module on counselling as part of their promotion course. Annually, about 400 supervisors undergo this course. The focus is on awareness and detection of early warning distress signals. The second, a more intensive programme, is a four-day workshop for uniformed officers who volunteer as peer counsellors. This course, being more skills-based, encompasses a six-stage problem-solving model and focuses on micro-counselling skills such as active listening, paraphrasing, reflection of feelings and summarising. Such courses train supervisors to be sensitive to the problems of their subordinates and thus go a long way towards alleviating psychological distress. More details are discussed in the next section on peer counsellors.

Stress Management Training

Stress is characteristic of modern living. However, police work has been noted to be *very* stressful: officers are required to respond to situations of conflict and crisis, apprehend violent criminals, face hostile members of the public and deal with the pressures of public life (Violanti & Paton, 1999). The content of stress management courses in the SPF includes the nature of stress in policing and tips on coping. These courses have been given to all junior officer trainees since 1994 and to senior officer trainees since 1995. They were designed with the aim of raising awareness of stress in policing and teaching stress management techniques such as relaxation and deep breathing. Recently, the PPU has designed an interactive CD-ROM Stress Management Package which trainees undergo before their graduation from the Training Command. The Unit has received positive feedback on the usefulness of these interactive CD-ROMs, which are particularly appealing to younger police officers. Another four-day skills-based stress management workshop is conducted on a yearly basis to train police officers on more specific stress management skills such as personal feedback, biofeedback, relaxation exercises and cognitive re-framing. Within the last five years, other variants of the core stress management courses have been developed for specialised groups such as traffic police officers, radio operators and officers sent on overseas peacekeeping missions.

Psychological Preparation of Officers

Prolonged operations during major festivals such as Christmas, New Year's Eve or political polling day typically involve long and tiring hours of work for police officers. Those on duty need to be especially vigilant for trouble so that they may react quickly. Such operations also mean that officers do not get to spend the day with their loved ones celebrating the occasion. The PPU works with commanders and supervisors on how they might prepare their officers mentally for such operations. Suggestions include strategies for making effective pre-operations briefings; morale measurement, monitoring and management; and what to do in case of psychological casualties (e.g., officers traumatised during duty). Anecdotal feedback from front-line commanders indicates that this Psychological Preparation Package has been positively received, even though this subject requires future systematic validation and research.

Tertiary Prevention Strategies (Restoration to Normalcy)

There is a need for a final tier of prevention which encompasses arrangements designed to support and treat officers who may be faced with emotional or psychological problems. Quick, Murphy and Hurrell (1992) argued that early stages of psychological distress might turn into full-blown crises for specific individuals or groups. This is to be expected, as unanticipated crises do occur, and there may also be instances where individual vulnerabilities may be exploited by difficult life situations (death of a loved one, for example). Thus, there is a need for treatment-based programmes such as counselling or critical-incident stress management. The aim of these programmes is to restore officers to their normal functioning both at work and in their lives.

Counselling

Since 1994, PPU psychologists have offered counselling to all police and civilian officers in the SPF. Counselling referrals to the PPU are either supervisor-mandated or self-initiated. Strict confidentiality is ensued on both types of referral. The mandatory referrals are usually for problems of a higher severity. This counselling service is

offered to 8,000 full-time officers and 3,000 conscripted officers. Yearly, about 55 to 60 new counselling referrals are made, with the majority being mandatory referrals (this excludes cases taken on by peer counsellors). More than half of the cases seen are for interpersonal and relationship-related problems. In some instances, the PPU has worked with external counselling agencies, especially where the nature of the problems requires specialised expert knowledge, such as marital counselling or the treatment of post-traumatic stress disorder.

Peer Counselling

Realising that satisfaction with social support appears to have a stronger relationship to psychological well-being than does the number of supports (as Bishop et al. have pointed out the preceding chapter), the PPU initiated a peer counselling programme. Apart from the counselling services offered by the PPU, all staff have the option of seeing their own unit peer counsellor. Peer or 'para' counsellors are volunteers who sign up on a two-year term to be trained in counselling skills so that they may serve as peer counsellors to their fellow officers in their respective units. All 'para-counsellors' attend a four-day workshop which focuses on skills development, especially micro-counselling skills. In an evaluation study conducted a year after the programme began, 203 officers who had been trained found the course adequate (61%). Nearly two-thirds (65%) had counselled at least one officer in his or her own unit, over the previous six months, and 20% had counselled at least five officers in that period. Nearly three-fourths (71%) of the para-counsellors indicated that they found helping other officers fulfilling (Tan, 1999). The para-counsellors serve both a secondary and tertiary prevention role. By being part of the natural social support system within their units, they play a resilience-enhancing role, but by undertaking counselling they also play a tertiary 'treatment' role. To date, active para-counsellors number 200. They operate within various police units such as the traffic police, police coast guard, special tactics group and community policing units such as neighbourhood police centres. Active and dedicated peer counsellors are nominated by the PPU for further training in specialised subjects (such as the psychological aspects of disaster and suicide prevention).

Critical Incident Stress Management

A 'critical incident' is 'any event which has a stressful impact sufficient to overwhelm the usual coping skills of either an individual or a group (Mitchell & Everly, 1997). Critical incidents (CIs) commonly encountered by law enforcement officers world-wide include involvement in shootings, involvement in traffic accidents, taking a life in the line of duty, duty-related violent injury, responding to a call involving the death of a child and handling multiple murder investigations (Sewell, 1993). The PPU provides support services for officers involved in traumatic events as part of its Critical Incident Stress Management (CISM) programme (see Mitchell & Everly, 1998). Police Commanders have been very appreciative of the role of CISM in restoring their unit morale.

Welfare and Recreation Programmes

There are many welfare and recreation programmes available to SPF officers and this chapter may not be the place to list all of them. In general, welfare facilities include the rental of cars, vans for family activities and the rental of chalets and rooms both in Singapore and in the neighbouring countries. The current focus of the Welfare Department is on work-life effectiveness and family-related programmes as Family Day, cash gifts for a new child in the family and other year-end family benefits. Many welfare programmes have high usage rates and are very popular with officers. Each police division has a unit welfare officer (UWO) whose task is to work with the Welfare Department in disseminating messages related to new welfare initiatives and implement programmes that enhance unit welfare. In addition, the welfare division also administers bereavement grants to help officers cope with the loss of their kin. Essentially, the purpose of these welfare programmes is to support staff and help them recuperate as they manage the various forms of stressors in their work and family lives.

Discussion

It is clear from the discussion in this chapter that a strong organisational health support structure exists in the SPF to support the emotional,

psychological and social needs of its officers. Many of the main issues highlighted by Bishop et al. in the previous chapter have been or are currently being addressed. As a way forward, we must ask about the important learning points that may be gleaned from this experience of building such systems.

The first is to ask if these initiatives add any value to the lives of SPF officers, especially in terms of enhancing organisational health. The OHS data seem to indicate a strong 'yes'. The recent OHS 2001–2002 report, for example, has indicated that the SPF has made many positive changes in many areas over the last five years. For example, compared to the previous year's survey results, officers were more satisfied with 17 out of the 18 major areas covered by the OHS (OHS Survey Results Communication Booklet, 2002). This is especially true in the areas of career development, identification with the police service, rewards and recognition, leadership and work environment and safety (Police Psychological Unit, 2002a, 2002b). It appears that things are moving in a direction that officers are generally happy with. This suggests that organisational diagnostic interventions (such as the OHS), along with primary prevention measures which highlight potential problems and reduce risk before these become problems, are important prevention efforts worth investing in. Prevention, and especially primary prevention, may be far better than cure even though there is a place for the latter. Primary prevention is proactive risk management.

The second issue concerns the '3-R' model. The '3-R' approach of 'Risk Reduction—Re-interpretative Response—Restoration to Normalcy' within the SPF appears to work well. One possible reason for this success is that the approach is premised upon an established framework of primary, secondary and tertiary prevention, and therefore has a tested theoretical basis. Another possibility for its acceptance could be that the range of employees' concerns may be too diverse to be addressed comprehensively by just one single intervention. A multilevel-multifaceted approach may be more effective given its wider coverage. Merely focusing on a single intervention (e.g., a stress audit) or restoration (e.g., counselling) may be missing the forest for the trees. This is because organisational problems run the gamut from a personal crisis to bad managerial practices. Therefore, treatment-based programmes per se, may not suffice unless supplemented with preventive strategies. For example, since counselling skills are being taught at the Police Academy to supervisors, counselling

programmes are now more effective. Stress management lectures are also more effective since the OHS started to identify organisational practices that caused stress.

The third point to make is about organisational feedback. The SPF has begun to realise that organisational health prevention programmes are effective when an organisation learns from its mistakes. A culture of learning is vital for resilience. A child who first starts to walk and stumbles must learn gradually and perhaps implicitly about how not to fall. Similarly, an organisation must learn from its mistakes through developing mechanisms for sharing and feedback so that it does not repeat the same mistakes. This learning, which may be either tacit or explicit, develops organisational fortitude. For instance, if it is detected through counselling that a growing number of officers are distressed because of poor financial planning skills, then this feedback must be 'looped' into the system. An organisation that receives such feedback would then consider, among other things, whether a series of financial planning workshops is required. The SPF has already established some structures for learning from mistakes through 'after-action reviews', dialogues, shared bulletins online and simply having the unwavering mental attitude that feedback is important for organisational learning.

The final point reiterates the point made by Bishop et al. in the earlier chapter. This chapter reports one of the first accounts of a police organisational health framework in an Asian police department. Although a number of studies have reported organisational health programmes in North America and Europe, very little evidence has been available on Asian police organisations. The discussion of this chapter corroborates an important finding of studies in non-Asian contexts: that a strong organisational response to stress is needed to support police officers.

CHAPTER SEVEN

STRESS AND COPING OF TEACHERS: A QUANTITATIVE AND QUALITATIVE ANALYSIS

Ko Yiu-chung, Chan Kwok-bun and Gina Lai

Studies of work stress generally treat sources of stress and means of coping as two important but separate aspects of the stress process. How these two aspects of the stress process are connected can raise theoretical questions. In the literature on work stress, the common approach is to treat sources of stress as independent variables, and methods of coping as dependent variables, thus treating sources of stress and ways of coping as two separate entities. Any connection between them, therefore, can only be established by the use of co-variation and correlation (Ragin, 1994).

We argue that sources of stress and coping actions are far from being two separate entities. They are actually different phases of an ongoing complex act involved in human adaptation. Guided by such a theoretical understanding, this essay considers sources of stress and coping as part of the same ongoing adaptive process during which a person deals with a specific situation that affects the completion or consummation of a course of action. A situation is interpreted and appraised before it is regarded as a source of stress (Chan, 1977; Lazarus & Folkman, 1984). Once a situation is interpreted and recognized as a source of stress, the responses that follow are called coping. Coping, however, is not to be viewed as mere responses to a stimulus, as stipulated by the stimulus–response framework. Instead, coping is conceived as an integral part of a process in which the human organism adapts to his or her living environment. In this process, as in the interpretation and appraisal of the sources of stress, self or reflexive behaviour is involved. Coping functions to overtly express or demonstrate that a person is under stress as well as to respond to the stressful situation the human organism has experienced.

This chapter attempts to demonstrate the fruitfulness of this conception of sources of stress and coping in studying work stress. In particular, we want to show how sources of stress and coping can

be related as phases of a process through the theory of an act developed by the pragmatist philosophers Dewey (1896) and Mead (1938, pp. 3–25). We believe that when these two components of the stress experience are examined together, their characteristics can be better understood.

This chapter follows the common research strategy in the study of work stress, namely, to focus on a specific occupation in order to bring out the bearing of job characteristics and work organization on the stress process (Cooper & Marshall, 1980). We attempt to identify and discuss the sources of stress and the coping actions found in one occupational group, namely, teachers. The aim is to get at the general condition that underlies both their sources of stress and their ways of coping, in order to understand the nature of teachers' work within a broader conception of human adaptation and human action.

Our data collection and analysis used both quantitative and qualitative research strategies. Quantitative research allowed us to find out the frequencies and varieties of sources of stress and ways of coping. Qualitative research enabled us to develop an intimate familiarity with the subjects' perspectives and to collect rich and dense data to facilitate better understanding of the ways in which different aspects of their work came to be interwoven and related (Becker, 1996; Lofland, 1971).

Major Problems of Teachers' Work

Since this study is about teachers' work stress, it is important to review studies that discuss the major problems they encounter in their work. In the sociology of work, teaching is viewed as a service occupation. According to Becker, 'the service occupations are, in general, distinguished by the fact that the worker in them comes into more or less direct and personal contact with the ultimate consumer of the product' (1963, p. 82). Studying the workers in a number of service occupations, Becker found that the perennial problems in the service occupations are likely to be 'a function of their relationship to the clients or customers' (1970, p. 137). Thus, emphasizing the teacher–pupil relationship will provide a pathway to understanding the potential sources of problems in teachers' work.

Becker's research on teachers' work in the public school in Chicago

led him to identify several main types of problems which may interrupt the teachers' work: the problem in teaching itself, the problem of discipline and the problem of principals, parents and colleagues who ignore teachers' authority. The problem in teaching itself has to do with success in bringing about an observable change in the pupils' skills and knowledge which the teacher can attribute to his or her own efforts. This includes getting the pupils interested in attending school and working hard. Teaching itself often leads to resistance from the pupils, intelligent or not so intelligent. Thus, sociologists tend to see teaching according to a conflict model (Geer, 1968, pp. 561–562; Waller, 1932, p. 197). Geer, for example, argued that resistance to teaching occurs not only among incapable learners, but also 'among pupils who are able and anxious; it occurs when teachers teach well' (1968, p. 561). The discipline problem is ever-present in the teacher's work, as the very nature of the job involves attempting to mould the pupil by introducing him or her to new ideas—thus the expected pupil's resistance and the teacher's attempts to discipline, and so the cycle continues.

The work of teachers takes place in schools as an institution, which, from the sociological point of view, is basically 'a set of shared understandings specifying the amount and kind of control each kind of person involved in the institution is to have over others: who is allowed to do what, and who may give orders to whom' (Becker, 1970, p. 151). This authority is subject to stresses when people who work around teachers, such as principals, colleagues and parents, ignore them.

The discussion that follows is based on the results of an empirical study of teachers' stress and coping in Singapore. The study consisted of two phases. Phase 1 was a qualitative study using the in-depth interview method based on an open-ended interview guide. Twenty respondents, referred to us through our former students and colleagues, were interviewed. Each interview lasted about two hours. The aim was to understand the ways teachers defined their work situation, by developing an intimate familiarity with their perspectives (Chan & Ko, 1991). Phase 2 was a survey using a self-administered, structured questionnaire constructed on the basis of a literature review and the findings of our qualitative research. The objective of the survey was to generate quantitative data on work situations experienced by teachers and their ways of coping.

The Survey

In the survey, 900 questionnaires were administered to secondary and junior college teachers who came to attend courses at the Institute of Education in 1990. The teachers who attended the courses came from a variety of schools and had different social backgrounds. The respondents were asked to return the completed questionnaires anonymously by mail. A total of 316 questionnaires were received, yielding a response rate of 35%. The socio-demographic profile of the sample is presented in Table 1. A majority of the respondents were women (72%), between 30 and 44 years of age (59%) and married (61%). The profile also shows a wide variation in teaching experience and position in school. Overall, the sample presented characteristics similar to those of the larger teaching population.

In the survey, respondents were presented a list of 49 work-related situations; for each situation, they were asked to indicate whether or not they had experienced it and, if so, the level of stress it had produced. The compilation of these 49 situations was based on an extensive review of the literature on stress in teaching. The relevance of these items in the local setting was checked and confirmed by in-depth interviews. For the 49 items, respondents were to indicate the extent to which they would appraise these work aspects as stressful by marking out their answers on a 5-point scale: (0) not a source of stress, (1) slight stress, (2) moderate stress, (3) considerable stress, (4) extreme stress.

The Coping Strategy Scale (CSS) and the available social support measured their coping with stress. The CSS followed the framework of coping strategies used by Lazarus and Folkman (1984) and was subsequently revised based on information obtained from prior in-depth interviews. The resultant scale consisted of 35 items, each describing a coping action for dealing with work stress. A 5-point scale measured the frequency of the coping strategy which is used to deal with problems arising at work: (0) never, (1) rarely, (2) sometimes, (3) often and (4) all the time. The measure of social support consisted of two questions. The first was presented in a table format, listing ten mutually exclusive categories of persons identified as potential sources of social support, and a corresponding column for respondents to write down the number of persons in each category. The second question prompted the respondents to indicate, in order of priority, three persons to whom they would most likely turn for support.

Table 1: Socio-Demographic Characteristics of the Study Sample of 316 Teachers

Socio-Demographic Characteristics	*Percent*
Gender (N = 312)	
Men	28.5
Women	71.5
Age (N = 305)	
Under 30 years	22.6
30 to 44 years	59.4
45 years and over	18.0
Marital Status (N = 315)	
Married	61.3
Single	37.8
Other	0.9
Teaching Experience (N = 312)	
0 to 4 years	20.5
5 to 10 years	33.3
Over 10 years	46.2
Working Experience (N = 312)	
0 to 4 years	17.9
5 to 10 years	25.0
Over 10 years	57.1
Position in School (N = 312)	
Teacher	41.7
Senior subject teacher	25.0
Senior assistant	25.3
Vice-principal/principal	8.0

Sources of Stress in Teaching

Out of the 49 types of events that we asked the teachers to rate as a possible source of stress, 35 items obtained an average score of 1, that is, 'slight stress' and above (Table 2). From these 35 items, the most stressful events reported by our teachers consisted mainly of events they had encountered in their routine work life: deadlines; work overload; lack of time for marking; too many meetings; too much coordination work; work demands interfering with family and personal life; and having to deal with misbehaving or poorly motivated students.

Table 2: Mean Stress Level* of Work-Related Events/Situations

Rank	Work-Related Events/Situation**	Mean
1	Time pressures and deadlines to meet	2.45
2	Having too much work to do	2.36
3	Too much admin work/meetings/coordinating work	2.30
4	Having to produce good results	2.19
5	No time for marking	2.18
6	Work demands affect my home/personal life	1.92
7	My life is too centred on my work	1.88
8	Dealing with misbehaving or poorly motivated students	1.87
9	Fear of making mistakes	1.77
10	Having to do unnecessary task or project	1.72
11	Decisions made about me without involving me	1.69
12	Having uncooperative colleagues/subordinates	1.64
13	Too much work on extra curriculum activities (ECA)	1.63
14	Time spent in school too long	1.63
15	Inadequate time for professional and self development	1.62
16	Coping with rapid changes in school	1.60
17	Having to work hard to achieve self expectations	1.56
18	Unclear job expectations	1.56
19	Trying to uphold values and standards	1.52
20	Working with incompetent colleagues/subordinates	1.35
21	Society does not think highly of my profession	1.34
22	My work involves too much thinking and this creates mental strains	1.32
23	Having to do work outside of my competence	1.32
24	Work delayed by unnecessary red tape	1.27
25	Advancing a career at the expense of home/personal life	1.26

26	Discrimination and favoritism	1.24
27	Unfair assessment from superiors	1.22
28	Having to take course to upgrade myself	1.19
29	Lack of support from superiors	1.17
30	Lack of consensus on minimum standards	1.17
31	Insufficient resources and equipment to get my work done	1.09
32	Relationship problems with colleagues/subordinates	1.06
33	My beliefs contradict those of my superiors	1.06
34	Feeling of being underpaid	1.06
35	Lack of authority to carry out my duties	1.06

* The stress level was measured by a 5-point scale: Did not experience or Not a source of stress = 0, slight stress = 1, moderate stress = 2, considerable stress = 3, extreme stress = 4.
** The items with less than the mean of 1 are not listed here.

Table 3: Sources of Teachers' Stress: A Factor Analysis

*Factors and Items**	*Factor Loadings*	*Variance Explained*
Factor 1 Work Overload		12.8%
Having too much to do	.75	
Time pressures and deadlines to meet	.71	
No time for marking	.66	
Too much work on ECA	.65	
Too much administrative work/meetings/coordinating work	.61	
Time spent in school too long	.58	
Factor 2 Difficult Job Responsibility and Self Expectations		11.8%
Having to work hard to achieve self expectations	.68	
Having to produce good results	.63	
Trying to uphold values and standards	.60	
Coping with rapid changes in school	.59	
Fear of making mistakes	.57	
My work involves too much thinking	.55	
Having to upgrade myself	.54	
Unclear job expectations	.48	
Dealing with misbehaving or poorly motivated students	.47	
Factor 3 Conflicting or Insufficient Support from Superiors		11.2%
Unfair assessment from superiors	.84	
Lack of support from superiors	.82	
Discrimination and favoritism	.82	

My beliefs contradict those of my superiors	.81	
No authority to carry out my job duties	.42	
Factor 4 Unnecessary Tasks and Red Tape		8.6%
Having to do work outside my competence	.75	
Having to do an unnecessary task	.70	
Decisions made about me without involving me	.52	
Work delayed by unnecessary red tape	.48	
Lack of consensus on minimum standard	.45	
Factor 5 Insufficient Support from Colleagues		8.4%
Working with uncooperative colleagues/subordinates	.85	
Working with incompetent colleagues/subordinates	.83	
Relationship problems with colleagues/subordinates	.68	
Insufficient resources and equipments to get work done	.38	
Factor 6 Work Interfering with Family and Personal Life		8.2%
Advancing a career at the expense of home/personal life	.76	
Work demands affect my home/personal life	.67	
My life is too centred on work	.66	
Inadequate time for professional/self development	.49	
Factor 7 Low Evaluation of Teachers from Society		7.1%
Feeling of being underpaid	.71	
Society does not think highly of my profession	.62	

* Not experiencing the event/situation was coded as '0'.

Table 4: Mean Frequencies of Stress Factors

Factor on Sources of Stress		*Mean Frequency*
Factor 1	Work overload	2.09
Factor 6	Work interfering with personal and family life	1.67
Factor 2	Difficult job responsibility and self-expectations	1.62
Factor 4	Unnecessary tasks and red tape	1.43
Factor 5	Insufficient support from colleagues	1.29
Factor 7	Low evaluation of teachers from society	1.20
Factor 3	Conflicting or insufficient support from superior	1.15

To examine if the 35 items under the sources of stress can be grouped into a smaller number of categories, a principal component analysis with varimax rotation was performed. Seven factors were extracted. The total variance explained by these seven factors is 68.1% (Table 3). Based on the items generated under each factor, the seven categories of sources of stress were labeled and their mean levels of stress were calculated (see Table 4).

Results in Table 4 show that teachers considered work overload as the most commonly experienced source of stress. The mean level of stress based on the six items included in Factor 1 was 2.09, suggesting moderate stress level. This finding corresponded to the general impression obtained in the in-depth interviews, during which teachers consistently indicated that their work included a lot of extra duties. These ranged from typing examination papers to collecting school fees, providing pastoral care, filling evaluation forms, writing recommendation letters, organizing the sports day, supervising extracurricular activities (ECA) and so on—in addition to the normal duties of preparing lessons, teaching and marking papers. They complained that all their efforts led only to exhaustion, not satisfaction, as there seemed no end to their work.

In terms of frequency, Factor 6 was the second most common source of stress, after work overload. This factor comprised sources of stress arising from lack of time for self-enhancement, family life and development of a good teaching programme. Teachers felt their life was so centred on work that they did not have time for their family or for self-improvement. In the in-depth interviews, the interviewees attributed all this to heavy workload and plenty of unnecessary duties. One interviewee mentioned, 'I had too many administrative duties, meetings and workshops, so much so that I had no time to

develop good teaching programmes for the students'. This feeling implied that teachers held some basic values. When the demands of work interfered with the pursuit of these values, the condition was perceived as a source of stress.

The next common source of stress (Factor 2) was unfulfilled job responsibility and self-expectations. Again, teachers seemed to hold some basic values about their work. These consisted of producing good results in students and motivating them to learn and do good work. Teachers who were interviewed agreed unanimously that their greatest satisfaction came from seeing students grow up and mature. It was a challenge to inspire change in students who had little or no interest in learning. Resistance from students appeared most commonly in the lower-social-class neighbourhood schools. In elite schools, the main pressure came from the need to maintain good 'A' and 'O' level results.

Thus, teachers had tended to develop a sense of responsibility and self-expectation as they internalized the basic objective of education. When the basic values of their work were not met or were threatened, they would experience pressure. This experience involved an evaluation of self. As expressed by some teachers in the interviews, they did not think they were good teachers. This analysis of our data seemed to support the view that the threatening of a person's basic values is a common source of stress—as Lazarus and his associates have pointed out over several decades of their research (Lazarus, 1968; Lazarus & Folkman, 1984).

Factors 4 and 5 were the next most common sources of stress. They seemed to point to situations that hinder the efficiency of their work. Factor 4 comprises unnecessary tasks, lack of consensus on minimum standards and red tape that strips teachers of already limited work resources. Factor 5 refers to situations of having to work with uncooperative or incompetent colleagues. This source of stress was found to be increasing in Singapore as teachers were given duties not only in the classroom but also in administrative work. As the size of schools increased, positions such as department head and subject coordinator were needed to coordinate programmes and syllabi (Lim, 1989). This created work for the teachers and became a source of stress when colleagues were uncooperative or incompetent.

The last two major sources of stress were Factors 7 and 3. Factor 7 referred to the low social status bestowed on the teaching profession by society. This factor indicated that teachers do not feel that their

work is highly evaluated despite the importance of education in the society. The low status bestowed on teachers also determines the authority given to the teachers to carry out their duties—a major problem facing teachers' work, as mentioned earlier. This relationship between authority and work as a source of stress became more explicit in Factor 3, which refers to the insufficient or lack of support from the superiors. An interesting item included in this factor was 'no authority to carry out my job duties', reiterating the importance of authority to one's work. However, we wish to go a bit further. From the interview data, the teachers who had experienced cases of unfair assessment or treatment from their superiors appeared to be emotionally upset when they recounted the event. Most of them said they usually experienced depression or anger when they encountered such incidents. Some of them mentioned that the incidents involved an assault on the self. It was this assault that led to the intense emotion. Thus, it was apparent that teachers did not merely react to the incidents alone. For the incidents to be defined as stressful, they always involved an appraisal of the situation often including the self—as Scheff (1997) has articulated in his study of shame as a master emotion.

After reviewing these seven factors, one may strive to make sense of what constitutes the condition of teacher's stress by relating it to a common definition of stress we obtained from some of the respondents in the in-depth interviews. As one interviewee put it, 'Work stress for teachers is both physical and psychological exhaustion. It arises when you put in a great effort and yet you are not happy with what you do'. We may identify three general elements in the sources of teachers' stress. The first has to do with the belief that some basic values intrinsic in the work had been threatened or blocked. Examples of such values are work efficiency, producing good results in students and motivating them to learn and do good work. The second element has to do with appraisal of the problem and situation. Teachers may attribute the problem to the education system (heavy workload, unnecessary tasks, uncooperative colleagues) or to the self (unfulfilled self-expectations, unfair assessment from superiors, low status bestowed on the teaching profession by society). Finally, as the third element, teachers felt that work had become merely a chore. Not only was there no feeling of work satisfaction, but work had become a hindrance to family life and self-development. In such

circumstances, teachers felt that they were prevented from doing other things that they value in life.

We may provide some theoretical interpretation of such a view of stress experience by relating it to the general process of an act proposed by the pragmatist philosophers and social scientists. Following interpretations of an act by Dewey (1896) and Mead (1938, pp. 3–25), one can argue that the completion or consummation of an act is what is ultimately of value for a living human organism, since people, like other living organisms, depend on the surrounding world for sustenance and they obtain some necessities of life through behaviour (Swanson, 1989, p. 6). Thus pragmatist philosophers argued that an act is the basic unit of analysis for the study of human life, and social value, emotion and motivation are said to arise in the completion of an act.

From the pragmatist standpoint, an act is an ongoing process. It usually involves self-appraisal, that is, the individual engages in reflexive behaviour based on evaluations of responses of others. As Swanson (1989) put it, the consummation or completion of behaviour as a self can be conceptualized 'as self-realization or fulfillment, both involving . . . freedom from inner needs and from environmental pressures that reflexive action can provide: a freedom that consists not in quiescence but in untroubled action as a self' (p. 12).

The above perspective's particular relevance to our study of teachers' stress lies in the idea of 'satisfaction as a self' which, to Swanson (1989), refers to:

> the individual's judging that his action was sufficient and credible. That always involves his judging that he has met social standards of what is wise or necessary and thereby affirmed himself as a self. Whatever the success or failure of his action in other respects, and whether or not all things are sufficiently resolved, he feels he has done enough and is free to go on to other things. He has not overdone or done things only half-way. He has not shown himself a fool: weak, unstable, inept, and so on. He has shown mastery, competence, a sense of proportion. (p. 17)

In a sense, our teachers' most commonly mentioned sources of stress represented the exact opposite to the feeling of being satisfied as a self—as shown in the negative assessments from their superiors and society at large. One may argue that experiences such as work overload and heavy responsibility lead only to *exhaustion* without

consummation. Conflicts between work and other aspects of life only indicate that one has not done well or enough in work. As a consequence, one gets the feeling of 'being "lived" by a task, however important that task may be and however successful one is at performing it. It is one's not being able to choose' (Swanson, 1989, p. 22). We believe it is this general condition that gives rise to the teachers' stress experience.

Coping Actions

If teachers' stress arises largely as a result of the lack of consummation of an 'act', coping then is an attempt to regain consummation. Coping actions are conceived as part of the process in which the human organism adapts to his or her living environment, and not as mere responses to some stimuli. In this adaptive process, self or reflexive behavior is involved. Coping when unsuccessful may lead to further coping or additional stress. Coping behaviours thus are related to the sources of stress in a complicated way.

Our survey data showed that teachers used a wide variety of behaviours in coping. The five most frequently used coping behaviours were as follows: 'scrutinize the problem and attempt to solve it in the best way', 'examine myself after the fact to prevent the problem from happening again', 'accept the situation and learn to live with it', 'look on the bright side of things and convince myself that it could have been worse' and 'work harder than usual at dealing with the problem'. On the other hand, the five least frequently used coping behaviours were: 'use drug/herbal medicine', 'take medical leave to alleviate my stress at work', 'seek professional or psychological help', 'have an alcoholic drink' and 'smoke'.

Again, to classify the 35 items of coping, we subjected them to a principal component analysis. Varimax rotation yielded 12 factors which accounted for 63% of the total variance. Table 5 presents the factors and items with factor loadings, and Table 6 presents the mean values measuring the frequency of each of these factors, used by teachers. The discussion below will focus on analysing the relatively more frequently expressed coping behaviours.

As shown in these tables, one of the most common attempts to deal with stressful situations by teachers seemed to be to direct attention to the problematic situation itself: scrutinizing the problem, and examining self and conditions that might give rise to the problem.

Table 5: Ways of Coping: A Factor Analysis

Factors and Items*	Factor Loadings	Variance Explained
Factor 1 Attempting to Deal with the Problematic Situation		7.0%
Scrutinize the problem and attempt to solve it	.82	
Work harder than usual at dealing with the problem	.73	
Examine myself after the fact	.62	
Factor 2 Changing Perspective		6.1%
Accept the situation and learn to live with it	.73	
Look on the bright side of things and convince myself that it could have been worse	.65	
Look for more important things in life than work	.63	
Factor 3 Relaxation		6.0%
Listen to music	.73	
Exercise and/or play sports	.63	
Laugh and joke to release tension.	.55	
Go for a holiday or take a short break before work	.43	
Factor 4 Suppression of Feelings		5.8%
Keep my feelings to myself	.85	
Swallow my anger and suppress my emotions	.82	
Exhaust all possible avenues before approaching others	.39	

Table 5 (*cont.*)

Factors and Items*	Factor Loadings	Variance Explained
Factor 5 Seeking Advice and Support from Others		5.4%
Seek advice/direction from others	.84	
Seek emotional support from others	.76	
Factor 6 Setting Limits of Work		5.2%
Set aside evenings and weekends for my family/friends	.74	
Do not let work affect my family and/or social life	.73	
Manage my time properly	.41	
Adjust my volume of work to suit my ability	.41	
Factor 7 Retreat		5.1%
Put off attending to the problem.	.76	
Sleep and/or eat more than usual	.56	
Thought of leaving the job	.51	
Factor 8 Seeking Medical Help and Somatic Relief		5.0%
Use prescribed drug/herbal medicine	.75	
Take medical leave	.56	
Cry to let my feelings out	.38	
Factor 9 Drinking and Smoking		4.7%
Have an alcoholic drink	.77	
Smoke	.72	

Table 5 (*cont.*)

Factors and Items*	Factor Loadings	Variance Explained
Factor 10 Blaming Others		4.6%
Get mad at people	.78	
Blame others for the problem	.71	
Factor 11 Seeking Professional Help		4.5%
Bring the problem to a professional association or union	.73	
Seek professional or psychological help	.48	
Attend courses to learn new skills or knowledge	.39	
Factor 12 Seeking Information and Deity Support		3.6%
Read books to motivate or inspire myself	.53	
Find out more from the persons involved about the problem	.48	
Pray	.47	

Table 6: Mean Frequencies of Coping Factors

Coping Factor		Mean Frequency*
Factor 1	Attempting to deal with the problematic situation	2.79
Factor 2	Changing perspective	2.69
Factor 6	Setting limits of work	2.50
Factor 12	Seeking information and deity support	2.35
Factor 5	Seeking advice and support from others	2.26
Factor 3	Relaxation	2.11
Factor 4	Suppression of feelings	2.09
Factor 10	Blaming others	1.33
Factor 7	Retreat	1.32
Factor 11	Seeking professional help	1.04
Factor 8	Seeking medical help and somatic relief	0.62
Factor 9	Drinking and smoking	0.14

* The frequency was measured by a 5-point scale: never = 0, rarely = 1, sometimes = 2, often = 3, all the time = 4

This focus of attention might help provide directions for specific actions that could be taken to eliminate or modify the conditions so that specific tasks could be completed. Lazarus (1966) referred to actions developed from focusing on the problem as the direct-action technique of coping, which was explained by our respondents in the in-depth interviews as follows:

> Our work needs to get done whether we find it stressful or not. In spite of the immediate deadlines, I still get my work done, and done in time. There is no choice. I just do it in stride. I become very alert and try to discipline myself. I skip lunch and try to work very fast. I try to understand what the situation requires and try to meet the requirements.

But even without a clear understanding of the problem, the common reactions to situations that interrupt an organized sequence of behaviour would be the reactions of persistence and increased vigor, as pointed out by our respondents and also by Mandler (1967):

> One well-organized sequence most of us have available is that of putting a key in a lock and opening a door. If it does not work the first time, we try again. Persistence frequently will complete the sequence and therefore undo the interruption. If it does not, we might try a little harder and increased vigour also may short-circuit the effects of interruption. Or we might break the key, in which case the effects of interruption would be more intense and prolonged (p. 308).

Thus Factor 1, which consisted of three items ('scrutinize the problem', 'work harder than usual' and 'examine myself'), summarizes the initial and common ways of coping reported by our teachers.

Very often, direct-action techniques of coping are not effective. As documented in Pearlin and Schooler's (1978) research, 'individuals' coping interventions are most effective when dealing with problems within the close interpersonal roles, and least effective when dealing with the more impersonal problems found in occupations' (p. 2). Kyriacou (1981) added that 'coping with stress at work is least effective because many aspects of the work situation which give rise to stress are manifestly outside the individual's control and hence are not amenable to direct-action techniques' (p. 56). As a respondent in the in-depth interview revealed, 'It is difficult, if not impossible, to change the mind of our principal because she is your superior. Even if she understands your plight, she still has to follow instructions from the Ministry of Education'.

When the direct-action techniques of coping cannot be applied or are not effective, continual interruption of the organized sequence of action is likely to occur. Interruption, according to psychologists, 'produces emotional arousal' which 'will, under certain circumstances, produce anxiety or distress. A subjective state of distress will be the emotion of choice if no successful alternative sequence is available, if the organism is helpless' (Mandler, 1967, p. 308). In this situation, emotional arousal leads to yet more tasks of coping. A person under stress has to adjust not only to the original source of stress, but also to his or her own somatic state. Thus, analytically, we may distinguish two types of coping: the problem-focused and the emotion-focused (Lazarus & Folkman, 1984). While direct-action techniques are used in problem-focused coping as discussed above, palliative techniques are used in emotion-focused coping. As elaborated by Kyriacou (1981), palliative techniques

> may be 'psychic' (aimed at the cognitive aspects of stress, for example, refusing to admit to oneself any experience of stress, or trying to maintain an emotional detachment from the situation), or 'somatic' (aimed at the bodily aspects of stress, for example, drinking alcohol, smoking cigarettes, or playing squash). (p. 55)

Teachers in our sample used both psychic and somatic palliative techniques in coping with work stress when the direct-action techniques were not practical. Various types of somatic palliative techniques

were used by our teachers. The most frequently used were found in Factor 3 (Relaxation): 'laugh and joke to release tension', 'listen to music', 'go for a holiday or take a short break from work' and 'exercise and/or play sports'. Somewhat less frequently used were those found in Factor 4 (suppression of feelings), Factor 10 (blaming others) and Factor 7 (retreat). It is interesting to note that our teachers seldom reported that they resorted to somatic palliative methods involving drugs (Factor 8) or alcohol and smoking (Factor 9), possibly partly due to social undesirability.

Teachers were also likely to cope by 'changing perspective' (Factor 2), which included such coping actions as 'I accept the situation and learn to live with it', 'I look on the bright side of things and convince myself that it could have been worse' and 'I look for more important things in life than work'. They are the psychic or cognitive palliative techniques of coping. When teachers could not use direct actions to change the stressful situation, they would cope by changing the perspective from which to reinterpret or reconstruct their work conditions.

The psychic and somatic palliative techniques of coping are analytically distinct as required by the principal component analysis. In reality, they need to be integrated to achieve the relief of stress. As Swanson (1989) explained:

> What seems critical in cathartic expression [the somatic palliative techniques] is one's finding that life goes on and is gratifying despite some loss, some failure, some dereliction: one's efficacy and acceptability as a self remain or are restored. [It] requires . . . an experience not merely of being distressed but of having a perspective from which to view one's condition. (p. 18)

For example, to be 'on holiday' is not just to seek relaxation but also to acquire a sense of one's freedom of action.

If having a perspective is necessary to regain control of one's life, a question arises as to where the perspective comes from. Our data showed that it came from other people (Factor 5) or from readings and relations with a deity (Factor 12). Interestingly, teachers seldom sought professional help (Factor 11), such as help from professional associations and unions. These findings point to our next concern: the sources of social support available to teachers. We wanted to find out who were the persons teachers would most likely seek social support from. We asked the teachers to identify persons whom they felt they would count on for support or help whenever they had a work-related problem. We also asked them to list, in order of priority,

three persons in whom they would most likely choose to confide about their work-related problems. The results are shown in Tables 7 and 8.

Table 7: Persons Teachers Can Count on for Support about Work-Related Problems

Categories	*Percent*
From Family	
Spouse	96.4
Parent(s)	61.9
Sibling(s)	62.5
Other relatives	40.1
From Work	
Superiors	63.6
Colleagues	92.0
Outside Work	
Friends, with same religion	67.4
Friends, with different or no religion	65.9
Helping professionals (e.g., pastor)	14.0

Table 8: Persons Whom Teachers Would Most Likely Choose to Confide In about Work-Related Problems

Categories	*First Priority* %	*Second Priority* %	*Third Priority* %
From Family			
Spouse	40.5	5.8	8.6
Parents	3.7	10.6	7.8
Siblings	5.6	9.6	13.1
Other relatives	0.3	1.4	2.2
From Work			
Superiors	3.3	5.1	7.8
Colleagues	22.6	34.1	25.0
Outside Work			
Friends	17.3	29.7	33.2
Others	6.6	3.8	2.2
Total	100.0 (N = 301)	100.0 (N = 293)	100.0 (N = 268)

For married teachers, the spouse was the person teachers most preferred to turn to for social support. For married or not married teachers, colleagues and friends were important sources of support. In contrast, superiors from work were seldom sought for support. This may reflect the social distance that usually exists between superiors and subordinates in work organizations. In short, our findings suggest that intimate and personalized social relations are the most common source of strength for a distressed person (Scheff, 1979; Swanson, 1989).

Discussion and Conclusion

Since Hans Selye's classic *The Stress of Life* (1956), many conceptions of stress and coping have been proposed. Several specialist handbooks or anthologies have summarized the different ways these two concepts can be defined (Cooper, 1996; Goldberger & Breznitz, 1993; Monat & Lazarus, 1977). Despite the variations, researchers in the area all agree that stress and coping are basically adaptive processes, which are the essential characteristics of all living creatures. The basic tool of adaptation for human beings is behaviour. Based upon this notion of adaptation, Dewey (1896) and Mead (1938) suggested that an act should be the basic unit of analysis for the study of human life.

Following the lead of the pragmatist philosophers, this chapter links the sources of stress and ways of coping in terms of the process of an act. Generalizing from the variety of sources of stress experienced by teachers, we found the general condition of stress in threats to what is ultimately valuable to a person as a self in that it affects the consummation or completion of behaviours. Using quantitative and qualitative data obtained from a survey and in-depth interviews, this study discovered that our teachers see threats to fulfilling their basic responsibilities and self-expectations as one of the most common sources of stress. Such threats came mostly from work overload, insufficient support from superiors and colleagues and having to perform unnecessary tasks. These threats may further interfere with their family life and their wish for self-development, thus constituting another source of stress. Since this last condition is usually an outcome of the earlier conditions, and since family life and self-development are common values, we may conceive it as a gen-

eral indicator of conditions of stress common to workers in other occupations.

Coping behaviours function both to be expressive or demonstrative of stress and to respond to the problematic situation in an attempt to eliminate interruptions or to reaffirm self and actions as sufficient and credible. When the completion of an act is threatened or blocked, emotion is likely to occur. Thus, several stress researchers have argued that we should think of stress as a subject of emotion (Lazarus, 1993b; Mandler, 1984). Psychologists and physiologists have found that the autonomic nervous system (ANS) is activated when emotional behaviour occurs. Such change leads to some kind of bodily arousal which includes the secretion of adrenaline, constriction of blood vessels, inhibition of stomach contractions and acceleration of heartbeat (Cannon, 1929). Thus, coping requires not only direct actions but also palliative actions because a person under stress has to adjust not only to the original source of stress, but also to his or her bodily arousal. Teachers in our study reported such coping actions as relaxation, seeking somatic relief, blaming others and seeking divine support. It is therefore useful to distinguish problem-focused and emotion-focused as two different modes of coping. Furthermore, palliative actions, whether psychic or somatic, require finding a perspective from which to reaffirm oneself as a person. This perspective usually comes from personalized social relations.

CHAPTER EIGHT

WORK STRESS, WORK SATISFACTION AND COPING AMONG LIFE INSURANCE AGENTS

CHAN KWOK-BUN

The life insurance industry began in England as early as 1756, yet agents as an occupation to sell insurance directly to the public did not appear until 1840, and mostly in the United States (Kessler, 1985, p. 14; Leigh-Bennett, 1936, p. 59). The industry in the United States expanded considerably in the late nineteenth century due to rapid economic growth, urbanisation and popular education; one saw keen competition among companies and agents for the client dollar. Some agents resorted to unfair and sometimes illegal sales tactics that resulted in further public hostility, rejection and distrust of life insurance agents. Such public stigmatisation was recorded in the United States as early as 1870. Zelizer (1983, p. 146) wrote, 'Illegitimate practices were abolished, codes of ethics were published, professional associations organised and agents better trained. Yet the stigma endured.'

Since its spread to Singapore in 1908 (Neo, 1996, p. 37), the life insurance industry has relied on agents to 'negotiate the cultural resistance to discussing the proposition of death and its implications, especially among the Chinese' (Lee, 1994, p. 6; Leong, 1985, p. 178; Neo, 1996, p. 37). Han (1979, p. 44) wrote that 'everyone needs life assurance, but very few people do anything on their own to buy it'. The agent was thus invented to deal with the public's rejection of life insurance as a concept and as a commodity. In doing this work, agents were given a share of the profit: commissions (Chua, 1971, p. 42; Neo, 1996, p. 38). Hundreds of workers were lured into the life insurance industry by the attractive prospect of self-employment and its promise of work autonomy and potentially high monetary rewards—a sort of flight away from the wage-earning class.

To say that the work of a life insurance agent is stressful is perhaps an understatement. The fact was well documented in a 1990 survey of six groups of 2,589 workers in Singapore, life insurance

agents included (see Chapter 10). The survey found two major sources of work stress. One source was performance pressure. The professional workers may have internalised a strong need for job achievement and maintenance of professional standards, which are values often held high by many formal organisations as well as the government. The stress of performance pressure may also be a result of Singapore's economic growth. As Hing (1991, 1992) suggests in Chapter 3, globalisation of the Singapore economy has driven workers to strive for personal and company success—which may bring considerable stress to the workers. Another important source of work stress was work-family conflicts—a finding consistent with those of recent overseas studies (Coverman, 1989; Lai, 1995; Simon, 1992; Thoits, 1986).

This essay attempts to identify and analyse stressors associated with the work of life insurance agents, as well as coping strategies adopted by the life insurance industry in general and the agents in particular. The study on which this essay is based analysed transcripts of in-depth interviews conducted in 1990 with 15 life insurance agents and subsequently in 1998–1999 with 15 agents and informants. Each interview lasted between one and a half and two hours. The respondents ranged from 23 to 42 years in age; 17 men, 13 women. Only five of the 30 respondents were university graduates or diploma holders; the rest were graduates of secondary schools, except for three who had completed '0' or 'A' Level. Slightly more than half (18) were married.

Drafts of this chapter were given to five other life insurance agents (one retired) to read. One agent provided the researchers with extensive written comments; each of the other four was interviewed twice for feedback on the essay's various drafts. This research strategy, though laborious and time-consuming, posed critical and reflective questions that required the analysts to periodically confront their qualitative data in the form of 'reality-testing'—indeed a useful step in an interpretive study like ours. As a methodological device, this triangulation of respondents/informants, researchers and 'critics', when intentionally built into the research process, forces the researcher(s) to be doubly reflective. A step is thus institutionalised that requires the researcher to come to terms with biases or blind spots about which others within the triangle are in a legitimate position to 'complain'.

There are two ways to define stress. One denotes external demands which require the individual to readjust his or her usual behaviour patterns (Holmes and Rahe 1967). In this chapter, these demands

are called 'stressors' or 'stressor factors', and the readjustment is referred to as 'coping'. The other way of conceptualising stress is to view it as a state of physiological or emotional arousal that results from one's appraisal of the relationship between the person and the environment 'as taxing or exceeding his or her resources and endangering his or her well-being' (Chan, 1977; Lazarus & Folkman, 1984, p. 21; Selye, 1974; Thoits, 1995). In this chapter, when the term 'stress' is used, it is meant in the second sense, to be distinguished from the other two terms, 'stressor' and 'coping'.

Work Stressors

The life insurance agents believe that Singapore society in general does not have a favourable image of them. Agents are subjected to such derogatory stereotypes as nagging, dishonest, intent on making money fast, manipulative and unethical—basically, people society would like to reject and to shun. In Singapore, life insurance agents are often seen as among occupants of the lowest stratum in the sales business, possibly below the car salespersons and at best slightly better than a sales clerk in a departmental store. Agents are seen as a category of persons out there selling life insurance policies to 'eat up people's money', sometimes unscrupulously. Victimised by stereotypes, an agent is deprived of an opportunity to defend his or her self as a person—an individual making a living like everybody else:

> As you know, 'life insurance' is not a nice word to utter. We get a lot of rejections, 'brush-offs', and nasty looks by people—all these can cause us to have a very low self-image. . . . When I was very new, and when I was still doing a lot of selling, I got a lot of rejections. You notice that you have reached a dead-end because you have tried so hard to reach your sales target but you simply cannot. (1)[1]

These personal experiences with rejections by clients are frequent enough to have become part and parcel of the job itself; they must be among the more deleterious work stressors for the agents. To some if not all agents, rejections—taking such forms as not listening, not returning telephone calls, failing to keep an appointment or

[1] The number in the bracket identifies the respondents of our study. See Table 1 for their personal characteristics.

Table 1: Personal Characteristics of Respondents (N = 30)

Number	Marital Status (Married = M; Single = S)	Sex (Male = M; Female = F)	Age	Education Secondary School Graduate = S 'A' Level = 'A' '0' = '0' University or Diploma = U or D
1	M	M	28	'A'
2	S	F	28	S
3	M	M	29	S
4	M	M	29	'0'
5	S	M	33	S
6	M	F	35	S
7	S	M	30	S
8	S	F	31	U
9	M	M	33	D
10	S	M	29	S
11	M	M	23	S
12	S	M	32	S
13	M	M	32	S
14	M	M	28	'A'
15	S	F	24	S
16	M	M	25	S
17	M	M	38	S
18	M	M	30	S
19	M	F	27	S
20	S	F	28	S
21	M	F	36	U
22	M	M	35	S
23	S	M	30	S
24	S	M	42	S
25	M	M	27	U
26	M	F	30	D
27	S	F	28	U
28	S	F	31	S
29	M	M	38	S
30	M	M	26	S

simply not giving one, or deciding at the last minute not to purchase a policy—invariably provide an evidential and experiential validation of society's low image as well as disrespect of the occupation of life insurance agents.

Agents reported childhood friends and relatives avoiding and labelling them as 'pests' and 'man-eaters'. Some made specific requests

that no talk about life insurance be allowed in friendly social gatherings lest they risk discontinuation of friendships and relationships. Beginners in life insurance sales typically approach these same people within their own close personal networks to meet their quota in the first one or two years, usually quite successfully. Yet, over-reliance on this personal network quickly exhausts its inherently limited potential. On the dark side, rejections by those who are socio-emotionally close, and are therefore supposedly 'obliged' to help out because of friendship or family and kin membership, are often experienced by the beginning agents as particularly traumatic. Some agents thus feel let down, betrayed and cheated—these feelings sometimes result in agents slowly divorcing themselves from others socially and emotionally close to them, thus breeding personal isolation and alienation.

Parents, relatives and friends are often upset when a young university graduate chooses to be a life insurance agent. Without a basic monthly salary to fall back on, the agents' income comes entirely from sales commissions, which are often seen by parents as unreliable and risky. Parents expect a university degree, itself a considerable achievement in the Singapore society, to lead to a reasonably attractive salary from a stable, secure, respected job. The idea of an agent going for months without pay for not being able to sell a single policy is either foreign or unacceptable to parents of an earlier generation. This effectively makes the agents outsiders to their close personal networks.

The very nature of the life insurance agents' job lies in dealing with people and prospective clients, many of whom they meet for the first time as strangers in probably the most unlikely places and hours (often subjected to the desires and whims of the clients). Much of the stress and strain experienced by the agents thus lies in their transactions and negotiations with strangers—with the unknown, unfamiliar and unpredictable. Yet, the probability is quite high that these same strangers will hold an unfavourable stereotypical image of agents as a category, thus sometimes mistreating and denigrating them. The agents, in their encounters with strangers, have to manage an instant spoiled identity, a stigma, externally and coercively imposed on them by society at large. Agents often start on a wrong foot in the door, so to speak.

Agents do not interact with their clients as equals. The balance of power in agent-client transactions is often tilted in favour of the clients. This status inequality, a source of intense discomfort, anxiety

and sometimes alienation for many agents, is often exploited, if not abused, by the clients. The agents, when asked to recall a specific experience or situation at work when they felt depressed or frustrated, would quite freely describe what constitutes a 'bad' client:

> Some clients are quite unreasonable, and they affect our morale considerably. What is being unreasonable? They try every possible means to reject you. They will tell you they are busy and ask you to come another day, or they will ask you for an appointment but when you show up they will say they are busy and ask you to come on yet another day! (10)

Yet, agents are trained and often reminded by their supervisors and senior colleagues not to try to get back at their clients simply because of their 'bad' or 'unreasonable' conduct. In an important sense, agents are not allowed tension release 'to get even' with the 'other', thus further aggravating the built-in status inequality of the agent-client relations. This inability of agents to express the feelings of frustration, anger and displeasure that are generated by unpleasant encounters with 'bad' clients may prove to be doubly degrading to some agents. It perpetuates the status imbalance and is of considerable psychological costs to the agents.

While much of work stress among a wide range of professional groups is often attributed to sheer work overload, some life insurance agents reported having too much time on their hands at work as a stressor. As one agent put it, 'When I am most free, I am most stressed.' Having plenty of time means one is not being productive—ideally, one should be kept busy. Having little or no work for weeks or even months generates anxiety, for insurance work relies exclusively on commissions from selling policies. Largely unstructured, insurance work gives the agents much personal freedom and autonomy; yet this same job characteristic requires skills to structure and use time to one's advantage. Given the unstructured and undefined nature of an agent's work, difficulties experienced in dealing with either plenty of time or little time were often reported by the agents as stressors.

One important way the agents define stress is in terms of sustained pressure to produce, to meet the yearly quota of sales, which is invariably enacted by their bosses' 'nagging':

> Once in a while, my boss will remind us to pull up our socks. (6)

A 'bad' boss, as seen by the agents, is someone solely interested in pushing for a certain level of sales productivity in a given year, yet not showing enough care and support. It was reported that one insurance company regularly sends 'gentle reminders' to those agents not doing well, thus adding to the pressure. As a way to increase agents' productivity and to sustain a motivational level, the life insurance industry has institutionalised the practice of publishing regular bulletins which, among other things, rank the 'top super achievers' by detailing their total volumes of sales by month and year.

One agent reported that her company sends each agent every month a progress report which is seen by the agents as one form of assessment and feedback from the administration. Every quarter of the year, the unit manager and the agent will meet to review the latter's sales performance. As the agent herself put it, 'Such meetings can make me feel good when sales meet the set quota, or the experience will be quite embarrassing if I don't do well.' It was reported by another agent that the leader of her agency organises the agents into several work groups and gives out awards to the top-achieving group every now and then, especially at the end of the year, to foster 'healthy' inter-group competition and, thus supposedly, sales productivity.

Singapore has experienced in the past twenty years a rapid growth in the insurance industry, as measured both by the actual number of insurance companies and by the number of full-time and part-time life insurance agents. These agents are competing with each other for more or less the same client market, which by and large still views the concept of life insurance with disinterest. The net result of this rapid growth in the industry is increased competitiveness and rivalry between companies. Theoretically, the client market is an open one, often seen by some relatively successful agents as unlimited—'the sky is the limit', so to speak. Yet, in actual day-to-day practice, it was reported by agents that they often ran into direct competition with each other.

Reports were made about unethical practices of agents who resorted to substantially reduced insurance rates to 'undercut' competitors. Yet others, in order to maintain a certain level of yearly sales productivity, were forced to pay out of their own pockets premiums not paid up by their clients, thus sometimes getting themselves into considerable debts. Acute competitiveness and rivalry between agents/colleagues thus possibly engenders a general feeling of distrust, tension and

strain in interpersonal relations among peers. Competition and conflict generate barriers of communication, undermine collegiality and, if left unmanaged, breed individualism and self-isolation. The more successful agents arouse jealousy from others and are thus shunned. The not so successful ones find others critical and condescending, and would thus choose not to confide in them.

The competitiveness of the client market demands considerable work commitment, effort and mental concentration of the life insurance agents which, in reality, may or may not translate themselves into actual sales, especially for the beginners just initiated into the industry. Agents complained about having to work long, irregular hours, sometimes late in the evenings or over weekends, prospecting strangers or going for appointments with clients:

> If a client calls you at night and insists on seeing you, you have little option but to go. You may not be that free since many people own chunks of your time. You are beholden to many people, all your clients, real or imagined, unlike in a regular job where you have relatively predictable hours, and usually one person (your boss) can demand of your time. As an agent, your time is not yours, but your clients', everybody's. (20)

Many perhaps choose to be a life insurance agent thinking the job approximates self-employment and thus offers the capacity to control one's use of time to serve one's interest. Yet, paradoxically, having escaped the tyranny of control by a boss who has legitimate rights to his time, the agent soon realises he has lost his control of time to many other bosses: all his clients, real and prospective. If professional autonomy is partially measured by one's control over time, an agent may soon be in a shock of his life. A worker who cannot claim ownership of time is a stressed agent.

Much of an agent's work is done outside his or her own office, travelling on the road between appointments, in client's offices or any other place clients deem appropriate or convenient to themselves. This seemingly perpetual mobility of the 'on-the-road agent-traveller', in a substantial way, makes the work of a life insurance agent an essentially lonely one. The agent becomes a lone ranger exploiting the frontier and eking out a daily routine of negotiating with strangers, much of the time facing a social world of unfriendly, if not hostile and aggressive forces. The very nature of an agent's work in terms of long, irregular hours as well as an 'unsocial' work routine necessarily casts him or her out of the mainstream society.

An agent's life is largely out of sync with the normal tempo of his or her family, relatives and friends. This temporal and spatial disparity between the agent and his or her social world has over time become a potent source of strain manifested in various forms of interpersonal conflicts. These tensions in interpersonal relations are particularly taxing among two groups of agents: first, the beginners, who strive to maintain some resemblance of order with their family, their boyfriends or girlfriends; second, married women, who try to juggle their multiple roles of wife, mother and full-time agent.

Women agents are sometimes seen by their male colleagues as perhaps a bit too aggressive, or too driven, working too hard, putting in too many long hours while competing with other male agents in an already tight market. One single woman spoke about how the long, irregular hours she has been keeping for almost two years led to conflicts and fights with her boyfriend and the eventual break-up of a close relationship. Parents worry about their young daughters' safety and well-being; they are concerned that young single women meeting with total strangers for business, in unlikely places at inappropriate hours. Other parents do not like the thought that their daughters are so preoccupied with work that they do not have time to look for or see boyfriends. A married woman, determined to become a unit manager in three years, spoke about the difficulties encountered in effectively discharging her role as a mother to two young children, sometimes feeling remorseful over releasing her work frustrations on them. Another single woman, finding the Singapore market too competitive, resorted to concentrating her efforts in Indonesia; and she spoke about societal pressures on single women in terms of work, career and achievement.

Two agents had become, over the years, increasingly aware that they had been pursuing their work goals almost at the total expense of their family, often to the extent of coming home so tensed up that they were incapable of communicating with their family members. Worried and preoccupied with work, they were increasingly non-communicative and were drifting further and further into a world of their own making. In the course of time, these agents, while self-divorcing and self-isolating from their family, have engineered and completed their own disengagement from their social world, which itself may breed various forms of marital as well as familial conflicts. As a result, work stress and family stress become intertwined, each feeding into the other—up to a point when the agent is at a loss

as to which is the 'cause' and which is the 'effect'. Yet, ironically, the agent continues to believe in the uniqueness of his or her own work problems, so much so that only the worker himself or herself can solve them. Work problems have thus become a personal problem that requires a personal solution—a perception that inevitably leads to the self-isolation of the agent.

One of the possible consequences of this non-communication with and self-enforced isolation from one's social environment, be it one's work colleagues or one's family members and friends, is this tendency, in solitude, to blame oneself, to blame one's personal weaknesses, failings or incompetence for not having been able to secure an appointment, to close a policy or to meet the yearly sales quota. A self-blaming, self-denigrating agent who takes all the blame upon oneself is a stressed agent.

Coping

During our interviews, in describing their ways of coping with work stress, life insurance agents often underlined the importance of three personal qualities: self-reliance, motivation and discipline. A largely unstructured work life demands self-discipline in terms of an ability to effectively manage and use time in a context where there is either plenty of time and little productivity, or little time and a heavy workload. The fact that an agent does not, in a real sense, have a boss during much of the agent's work life often means that one needs to rely on one's own 'internal' resources to motivate and initiate oneself. During their training, agents learn from their trainers' exhortations about the critical significance of cultivating the personal habit of being able to motivate and discipline oneself. One agent, determined to become a manager in the shortest possible time, affixed to the wall of her office facing her desk 'power' messages stressing discipline and self-reliance—messages which served as a daily reminder to her. Her cabinet along another wall was filled with layers of 'inspirational' and 'how-to' books and cassette tapes dealing with such subjects as time management, self-improvement and stress control. She actually reported during an interview that one of those books 'totally' changed her life; she recommended anyone aspiring to become successful in life to read it, many times over. Another young male manager grumbled about his office having only limited space while

almost one entire wall was taken up by shelves filled with motivational and inspirational cassette tapes from America. He remarked that there is a real demand for such materials among the young executive staff in the Singapore business world. Insurance companies routinely mount in-house training workshops or courses offering agents opportunities to 'refresh' their ideas on motivation and self discipline. Trainers or consultants from within the industry, the universities and overseas are also brought in regularly to speak on such subjects at professional meetings and industry conventions or congresses. Occasionally, successful sports coaches or athletes are brought to annual life insurance conventions to share with agents and managers their experiences in motivating and disciplining themselves, thus drawing an analogy between excelling in sports and selling life insurance.

One agency, reputed to be among the top four in the mother company, publishes and distributes a monthly bulletin as well as a regular newsletter. In one of the issues, the agency leader shared in her front page message a book she had recently read: *The Successful System that Never Fails* (1962), by Clement Stone. The same issue carried another article showing a woman agent as a 'goal getter', stating, 'She has a very disciplined system to monitor her daily and weekly activities.' And her advice to the new agents was: 1. KNOW what you want. 2. SET GOALS to achieve it. 3. DO THE BASICS everyday (prospecting, telephone calls, meeting customers, servicing). The article ended with another 'motivational' message: 'Time and tide wait for no man. Plan and do it now.' On the second to last page of the bulletin, among the agenda items for a forthcoming agency meeting, it listed a discussion of a book, *Think and Grow Rich*, by Napoleon Hill (1996).

Agents also share a strong belief in personal control. Personal control is understood here as values, abilities and behaviours to manage and master oneself effectively, including one's time, habits, perceptions, thought processes, feelings and emotions, or, to put it briefly, self-mastery.

> The ability to cope with stress depends a lot on your personality and your own psychological state of mind. Sometimes people amplify the stress situation and make themselves even more stressed. If we are able to control our mind, it's very much better. (12)

> Our problem is our mind. If we ourselves are negative, that is our end. We need to think on the positive. We work to help pick up those who are 'down'. (11)

In another monthly bulletin, an entire poem, 'A Note of Motivation', from a speaker during one of the regular agency meetings, was reprinted. The poem ended with these lines: 'Life battles don't always go to the stronger or faster man, but sooner or later the man who wins is the man WHO THINKS HE CAN!'

Associated with this belief in personal control is the value of hard work, the belief that hard work will bring results, that there is a connection between efforts and results and, most importantly, the ability to 'take hard work', to put up with long, hard, irregular work hours. Two agents actually singled out hard work as an effective strategy to cope with work stress. In this context, work, rather than relaxations or rest, is prescribed as an antidote, a remedy or solution to stress or so-called 'mental and physical afflictions'. Such a work ethic also seems to suggest a certain degree of mental and emotional toughness, an attitude of determination toward work and life, a readiness to 'tough it out'. One agent spoke about the importance of being able 'to pick oneself up, put the broken pieces together and move on with life' as a way to get out of a 'sales slump'. The emphasis is thus on one's resilience and hardiness, or belief in personal control over work as well as one's ability to bounce back and recover quickly from 'the hidden injuries of life':

> After a while, I sit back and evaluate my own performance. I've learned to think this way: 'You are not considered a failure if you can pick yourself up and carry on with what you are doing.' (1)

To the agents, strategies of coping also include a sample of various psychological defence mechanisms; there is evidence from the in-depth interview data that they are quite frequently used. Agents are taught during training to handle rejections by controlling their own mind. They are taught to think aloud to themselves that the clients are not rejecting them, but rather, may well be rejecting themselves and their families and, consequently, leaving their lives unprotected. The objective here is to externalise, not internalise; hence to lay blame on others, not on themselves:

> Before, I took rejections quite personally. I felt that he said 'no' to me because of something in me that he cannot accept. But now, I realise that he said 'no' not to me, but to his family. He is not being responsible to himself and his family. The problem lies in him, not me! I have done my best and I'll keep on trying to convince him. But for cases that give me direct rejection, I'll throw them away because there is no point keeping them on my mind. It'll be very stressful (laugh). (14)

Agents are also trained to accept rejections as a predictable, built-in part of a life insurance agent's work. With experience, most agents would have learned to develop an attitude of acceptance:

> We took a course in psychology. From there we learned how to accept things as they come along. Basically, I'm a happy-go-lucky person. I'll always find a way out for myself. I don't normally reproach myself unnecessarily. (12)

Agents are trained to accept rejections as an inextricable part of their work. In fact, they are literally told that 'they are paid to take rejections', and that 'the more rejections they encounter, the better results will be.' So rejections are good things and agents should indeed be happy about them:

> My boss always tells me that insurance is very difficult work, but it is for the same reason we are paid back such high dividends. If it was any easier, the money would not be that good, so the agent is talked (or, talking himself) into seeing rejections as a good thing. He said, 'If your prospect were to say yes readily, someone else would have sold the policy to him long, long ago?' It is all very logical. (22)

To most agents, coping is meant to refer to accessing and using psychological resources within oneself. These so-called personal or internal resources include self-discipline, mental control, rationalisations and the ability to self-motivate, accept, shift blame away from self to others, work hard, manage time and problem-solve. The emphasis here is on learning through training and experience to acquire the appropriate resources, skills and values so that, once they are internalised, they become part of the person and can be used in day-to-day coping. It is essentially a skill-oriented, person-focussed approach, where the onus is on the person as an active agent 'using the person', using one's self, one's resources and skills. Such a person-focussed, skill-oriented concept of coping is accentuated by a general disinclination on the part of most agents (except a few) to seek and use help, support and care from the family for problem-solving or emotional support:

> It is very difficult to get help from my family. (10)
>
> There is nothing much they can do about it. They won't understand. (5)
>
> My family would not understand my work. So I would not go to them for help or support. (19)
>
> We are told to present a positive and optimistic front to everyone at all times, including our family. (19)

The married male agents were quite specific about keeping work and family life separate, not wanting work problems and frustrations to spill over into the domestic domain, thus not confounding their relationships with their spouse, children and kin members. They said they would strive to 'arrange' their work and familial aspects of their lives such that weekdays and occasional week evenings and Saturdays are for work while Sundays are reserved for the family. Some reported that, in general, they do not bother to communicate with their spouses about problems and frustrations experienced at work; they cite reasons such as 'not wanting to give them headaches', 'spouse not understanding my work problems' or 'no use to talk about problems since they would not be able to solve them for me anyway.' One agent attributed his disinclination to involve his wife in his work problems to 'the Asian nature and culture'. Another agent rationalised to himself that the important thing to do 'to keep the right balance in life' is to maintain 'quality time' with his wife and children.

Two managers described their agencies as warm, cohesive places, almost like a surrogate family, bound by social, economic and emotional ties to problem-solving as well as to provide support for the individual agents. The agency was described as a place where agents are encouraged to return for care and guidance:

> How do you go about making yourself feel better? There are many ways. Over here, our company policy is that when you are feeling low or lost, the best thing to do is to come back to the agency and find a colleague for a chit-chat. Is this method effective? It is nice that peers encourage and support each other. In general, you would want to discuss with the more experienced peers—they will give you a few ideas—point to a 'road for you to walk on', give you a guideline, help you to solve a particular problem, or simply go out with you for a walk to release your pent-up emotions or depressed feelings. That way, you will feel much better. (10)

> When I am stressed or frustrated, I immediately go to other agents (here in the agency). They are always willing to help. Four of them are very close to me. When problems come up, we talk about them among ourselves. While talking, we often come to realise that they are not my problem only—they become more normal, less serious. I always look to my more experienced colleagues—they are more likely and able to help. (15)

To help create and sustain the notion of the agency as a 'large family', agency bulletins regularly print greetings to welcome newcomers as well as birthday messages to agency members. The intent is

to impress upon the agents that they should strive to reach their individual goals by cooperating with, supporting and caring for each other. Nonetheless, though seemingly encouraged and promoted by the management, agents only partially used social support at the agency as a way of coping with stress. Rivalry and competition between agents within the same agency or company would undermine any possible feelings of fellowship among colleagues. While some agents reported actually turning to their managers or supervisors for 'problem-solving' guidance and advice, they also exercised considerable caution in such interaction for fear of unwittingly revealing personal weaknesses, inadequacies and vulnerabilities.

In practice, there are two inter-related parts to the relationship between the agent and his or her agency/company represented by a supervisor-manager: supervision and training. The agent receives supervision of varying degrees from the manager, who negotiates the kind of continuous training required to either maintain the status quo or to improve one's sales volume. This often means customising a training programme to fit the needs of an agent in a particular stage of career development, which invariably change relative to their clients and their needs. As the life insurance industry continues to innovate by creating and introducing new products and new services, the agent finds it obligatory to learn new skills—both in the 'software' (e.g., new ways to motivate self and client) and in the 'hardware' (e.g., legal and administrative aspects of a new product). The agent needs training, and the industry finds ways to encourage and support it. Thus an ethos of continuous upgrading exists. Indeed, it is a norm shared by peers in the industry, part and parcel of a collectivised coping strategy.

All except one or two of the agents seemed quite clear about not seeking social support from their family for their work problems. Most tended to believe that a clear-cut separation between work and family would be an effective way to manage stress at work. Family relations thus become a distraction, a welcome diversion from work, where the worker learns 'to put things aside, to forget work problems, to shut off temporarily'. For at least two agents, the mere knowledge that their spouses will be supportive when their help and care are needed was enough without the agents actually involving them in their work problems. When it comes to using social support of colleagues or supervisors at the workplace, the agents have also learned to be selective and discretionary in deciding who is to

be approached for what problems and towards what ends. The 'culture' of the support system at the workplace is thus accessed and used by the agents with discretion, and in his or her best interests.

The life insurance industry thus provides a rather appropriate context for what we call 'the sociology of coping', which is focused on how groups or communities, not individuals, come to terms with and deal with their stressors. To 'contextualise' the coping of life insurance agents, one is required to understand how, for example, an individual's social embedment in the larger 'system' and 'culture' of the industry would make a difference in one's coping process and strategy. The more socially embedded, the more effective in coping—partly because one is now receiving social support and partly because one has learned 'the tricks of the trade' through one's socialisation 'into' the group or community. The life insurance industry in Singapore is unique in that it puts into practice a certain belief in continuous on-the-job training (or what Singaporeans commonly call 'upgrading'), learning and self-renewal. Indeed, this belief or ideology is operationalised and institutionalised in a well-worked-out system of seminars, workshops, conferences, small-group discussions, feedback sessions, etc. These are founded upon a central premise: an individual agent must be continuously skilled and re-skilled by the system and its knowledge to cope with oneself and a hostile social world—thus the constant reference to the social sciences, particularly psychology and social psychology, for insights, inspiration and intervention. For better or for worse, the life insurance industry in Singapore has become an active user of social science knowledge and the myriad interventions derived from it. The individual very rarely copes alone and is very rarely left alone by the life insurance 'family'. When socially embedded in this 'family', the individual obtains his or her support, expressively (it is nice to know how to deal with one's depression or mood swings) as well as instrumentally (it is useful to know how to handle a hostile client). The 'social fund' is there for one to tap into; when used, this fund produces an 'economic fund' for the system and the individual.

Work Satisfaction

While the life insurance agents no doubt faced a wide range of stressors in their daily work, many of which demanded various modes

of coping and adaptation, they also reported a considerably high level of work satisfaction. Formerly construction engineers, computer programmers, factory supervisors or teachers prior to joining the life insurance business, none of the thirty agents we interviewed reported having feelings of regret over their present work; neither did they anticipate any further job change in the immediate future.

All said the job was right for them, though a few did report that there were indeed lingering thoughts of quitting insurance work during the first two years of initiation. Several agents in fact seemed to have derived so much satisfaction from their work that they reported that their job had long become their hobby; work and hobby were indistinguishable and had in fact become one. Several agents took pains in our interviews to emphasise that everything they did in their hobbies and in life was somewhat related to their work, and vice versa.

On the basis of the interview data, one would attribute the agents' high level of work satisfaction to a combination of factors. One important factor has to do with agents' perceived sense of control over their work as a result of the freedom, autonomy and independence an agent's work provides. In a significant way, an agent is essentially his or her own boss, answerable and accountable mainly to oneself (thus largely dependent on one's own personal resources such as initiative, self-discipline, self-reliance and motivation). An agent is self-employed, and his or her work has the potential of developing into an entrepreneur's business where, at least in one's mind, the results are a direct function of effort and hard work. Moreover, one derives much satisfaction from being able to generate profit for oneself, rather than for a company as is the case for salaried employees. Indeed, several agents reported that they had quit their former job and joined the life insurance business precisely because it offers the potential attraction of self-employment and entrepreneurship:

> I had this wish to do my own work and be my own boss. It just happened that insurance offered me the opportunity to realise my wish. So, naturally, I became an agent. (10)

Another factor associated with agents' work satisfaction is their relatively high income in view of the fact that many entered the profession with educational qualifications no higher than '0' Levels, with one year of training and having passed a certifying examination considered by many as easy. The agents we interviewed made an average of three to four thousand Singapore dollars per month, while

several agent-managers with about ten years of experience in the business reported an average annual income of S$240,000. One agency supervisor, herself making S$70,000 per year after seven years, reported that her 42-year-old manager was getting an annual income of S$800,000 or, as she emphasised, admiringly, 'close to a million'.

With money comes fame. The agency regularly publishes sales figures of top agents, the so-called 'top high achievers' in their company-wide bulletins. In an attempt to raise work morale and motivation, the industry periodically hands out awards and medals during conventions and congresses. One agent considered the wide publicity and recognition a successful agent received as a potent source of work satisfaction. When successful (as indicated by insurance sales figures and the subsequent recognition and appreciation received from colleagues, company and friends), an agent has finally come around: he or she, through personal success, has managed to achieve the kind of social status and respect that society seems so reluctant to give to this profession. In a sense, personality and achievement elicit both material and non-material rewards that are due.

Insurance agents spoke about the gratification they derived from having sold a policy where the financial rewards are tangible and immediate; one can literally calculate the precise amount of commission one makes from having completed a successful transaction. Another agent actually reported that he sometimes felt guilty for having been receiving such a sizeable income for all these years in the insurance business; his friends of the same cohort in the banking sector, better educated and more intensively trained, were making less than he did. In his mind, life insurance sales work, for those who can cope and become successful at it, offers good pay, a clear and well-defined prospect of promotion (from agent through trainer and unit supervisor to, eventually, agent-cum-manager) and a distinct probability of self-employment. For many, the prospect of a quick transition from an agent to an entrepreneur within a span of ten to fifteen years excites and motivates many a high achiever. In the process of plodding through one's career path, the individual gets his or her own rewards in accordance with 'the goals set and effort exerted'. And so it seems.

Conclusion

Singapore society rejects the idea as well as the product of life insurance, which is the 'first movement' of the dialectic of encounters between a life insurance agent and society (Neo, 1996). Society thus rejects the role of being an agent, not necessarily the person in that role, though the person is very likely to internalise the rejections through self-blame and self-criticism. It is thus not so much what is wrong with the product, but what is wrong with me—a process that entails considerable psychological costs to the individual agents. Nevertheless, the life insurance industry employs agents and trains them to diffuse such societal rejections, oftentimes striving to turn such hostility around. As it happens, the agents are assigned a stigma by society, a Goffmanian spoiled identity; agents are keenly aware of the intentional social distance, the chasm, that separates them and society. Agents are to be shunned by all, strangers and close social others. This is the 'second movement' of the Hegelian dialectic. Note that such an analysis posits that societal rejection of life insurance as an idea and the stigma attached to life insurance agents are as much structural givens as they are historical conditions, or what the Durkheimian sociologist calls 'social facts' which the individual agents cannot easily 'wish away'. The 'third movement' begins when the life insurance industry in general, and the agents in particular, attempt to cope with the stigma by developing an institutional culture over time; an ideological complex of values and beliefs—or, 'tricks of the trade', if you like.

The life insurance industry is among the few industries that are fully aware of the structural and historical causes of the myriad 'assaults on the self' that happen during the daily routine of the work life of an agent. Their counter-attack is ongoing training and educational upgrading of the profession, from bottom up. A structural problem requires at the least a collective solution. Through seminars, workshops, conventions and pep-talks, the industry instils in the individual agents a 'bag of tricks'. These include values and beliefs such as hard work, self-efficacy, self-reliance and discipline; work habits (keeping accounts and making regular cold calls); procedures for dealing with prospective clients; and a battery of coping strategies and defence mechanisms such as positive thinking (the cup is half full, not half empty), cognitive alteration or conversion (it is your loss, not mine, for not buying insurance from me), hiding and

compartmentalising (I make sure my family doesn't know anything about my work problems), talking oneself into believing 'doing good for others' (everyone needs an insurance policy; it never rains but pours), accepting the inevitable, and so on. Our analyses have indicated the infiltration of academic psychology into the articulation and justification of such an ideological complex. To illustrate, Seligman's learned optimism concept (1990), Kobasa's idea of psychological hardiness (Kobasa & Pucetti 1983) and many other psychological concepts such as resilience, personal control, competence, self-esteem and pragmatism, have found their ways into the everyday life language of the life insurance agents. It is perhaps a case of applied psychology, of the industry turning to social science for guidance and ideological justification. Of course, never for a moment in the three movements of this dialectic is the individual agent a passive voice. Most significantly, for example, the agent interacts with the industry culture to develop an ideological complex of his own to fend off the 'slings and arrows' of his work life, which some have apparently done more successfully than others, thus enjoying considerable work satisfaction. There are good reasons to believe that the transmission of the institutional culture is often met by resistance on the part of the individual agent, especially when the culture does not allow for tension release on the one hand and demands considerable commodification of emotions on the other hand. Agents are exhorted to do emotion work—to 'never get back at bad clients' and to 'act nice, think positive'.

In a sense, this personal ideology grounded in a larger institutional culture serves three functions. First, in a deep psychological sense, it bestows on the agent a social identity that he uses to cope with the stress of his work life. Second, existentially, it provides the agent with a self-justification of his own existence, partly because it has an altruistic dimension to it: the insurance agent is in the business of 'doing good', in that the family is looked after by an insurance policy should something disastrous happen to the bread-winner. Third, it also gives the agent a bag of tricks, something useful and practical in his daily encounters with society. Our interview data show rather clearly that our agents reported a considerably high level of work satisfaction. They liked their work, had few regrets about their vocational choice and had rarely thought of quitting life insurance work except during their beginning years in the industry. Some even merged their work with their life—work and hobby became one.

One finds at the core of this ideological complex several rather attractive things on offer: handsome monetary rewards; a flight from the tyranny of the working-class condition; and a promise for freedom, occupational autonomy and self-determination in use of time—all of which are embodied in the lure of self-employment and entrepreneurship. To some workers in a credential society, these promises prove irresistible because the fulfilment of the Singaporean dream is the deliverance of one's great expectations. To perhaps many others, these promises are just that: promises. Freedom, free will and self-determination (in use of time according to one's desire) are an illusion. An agent does not effectually own his time, nor does he dispose of it according to his own accord. The chasm between proletariat and bourgeoisie remains real and forever self-expanding. Still others learn that this entrepreneurial dream, even when realised, has its dark side. A self-employed person never for a moment stops 'using his own person', his personality or everything he owns and can rightfully call his—his time, his charm, his tolerance, his love. Having escaped from the tyranny of control by others, he now engages in the ultimate form of exploitation: exploitation of self. The chasm that separates the capitalist from the proletariat is a structural one which is bridgeable by only a few with the right strategic internal and external resources, but which remains a chasm to many. The Singaporean dream is just that—a dream. Many agents will be caught in this black-hole-like chasm, between reality and myth, yet never fail to blame themselves for their personal failures. The moment of the ultimate nightmare will come when the life insurance industry has found ways to make direct sales to the public, e.g., through the Internet, or when the public goes direct to the industry, as in the case of medical, house or automobile insurance (Neo, 1996). The existence of the agent is thus rendered obsolete because it has lost its value.

CHAPTER NINE

INSTITUTIONAL CONTEXT AND STRESS APPRAISAL AMONG LIFE INSURANCE AGENTS

Gina Lai, Chan Kwok-bun and Ko Yiu-chung

Work stress as a social phenomenon and social issue has been of considerable concern to scholars and laypersons alike because of its myriad costs to individual workers affected and to companies that experience low productivity, absenteeism and turnover (Beehr, 1995; Sutherland & Cooper, 1988). For decades, conventional research on work stress has generally perceived individuals as passive actors, making personal adaptations to structural constraints imposed by organisations. Work stress is often seen as a result of an individual's failure in making adjustments to the work environment (e.g., Beehr, 1995; Loscocco & Roschelle, 1991; Lowe & Northcott, 1988; Sutherland & Cooper, 1988). While studies adopting this view usually examine work stress by identifying the unique sources of stress experienced by particular occupational groups, they tend to overlook the relationship between the institutionalised arrangements of a profession and work stress. The regulative and normative systems of an industry and profession may well affect how an individual worker perceives, appraises and responds to work situations—subsequently influencing the level of stress the individual will experience.

The present chapter aims to study how the institutionalised arrangements of the life insurance profession and industry in Singapore relate to the types and extent of work stress experienced by its workers. Insurance agents represent a unique group of workers who are *both* paid employees *and* entrepreneurs. Data from in-depth interviews with 11 agents working for different life insurance companies provided background information on the norms and rules of the industry. Insurance agents' experiences with work stress were analysed using survey data. The information obtained from the interviews, which were conducted prior to the sample survey, enabled our understanding of the industry and guided our questionnaire construction.

Definition of Work Stress

The term 'stress' has been defined in various ways: it has been used to refer to demands that require the individual to re-adjust his or her usual behavioural patterns (Holmes & Rahe, 1967), or to the state of physiological or emotional arousal that results from the perception of demands (Lazarus & Folkman, 1984; Selye, 1974; Thoits, 1995). In this chapter, 'stress' refers to the latter while the former is termed 'stressor'. In the current research literature (Thoits, 1995), this distinction between stress and stressor is espoused. Stressors manifest themselves in episodic events or situations and are classified in the literature into life events, chronic strains and daily hassles (Thoits, 1995).

For an event or situation to be perceived as stressful, two appraisal processes are involved (Lazarus & Folkman, 1984). First, the individual appraises the event or situation as threatening to his or her well-being. Events or situations that individuals find threatening often entail potential danger or alteration to one's personal identity, social relations, routine behavior, and/or normal physical state. Examples include loss of a loved one from whom one derives great personal affirmation and emotional comfort or a serious illness that causes debilitation. Second, the individual feels a need for action. He/she appraises the available resources for requisite action but is uncertain about the sufficiency or effectiveness of resources to successfully carry out the action. When appraising an event or a situation as threatening, the individual, believing that action is needed and feeling that the outcome is uncertain, would experience an emotional reaction called stress (Locke & Taylor, 1990).

Based on this conceptualisation of stress, 'work stress' refers to the emotional response to work-related events and situations. Researchers have suggested that stress may be manifested psychologically and physically, as well as behaviorally, and that such manifestations may vary across social groups defined by, for example, gender and social class (Pearlin, 1999). The present chapter focuses on the psychological aspect of work stress, an emphasis particularly relevant to the study of work stress among insurance agents. Insurance work is indeed emotional work. Selling insurance often assaults one's self due to stigmatisation and rejection by society; agents whether individually or collectively are constantly forced to make psychological adjustments to and/or manipulations of their hostile work environment. Thus, it

would be meaningful to investigate how job incumbents in the insurance industry appraise various aspects of their work and evaluate the impacts of such appraisal on their psychological well-being.

Adopting a sociological perspective, the present chapter emphasises the social-structural organisation of the industry and its link to individuals' experience (Aneshensel, 1992; Pearlin, 1989, 1999; Thoits, 1995). The appraisal of and response to work-related events and situations are thus argued to be related to the meaning attached to work, which is influenced by the regulative and normative systems of a profession and industry.

The Political Economy of the Life Insurance Industry

The most important attractions offered by insurance work are its promises of autonomy, potentially high monetary rewards and the prospect of self-employment. Insurance agents are usually given a certain sales target to meet within a period of time if they intend to stay in the company. However, they themselves have to decide on their sales target, set their own work tempo and get their work done wherever and whenever deemed appropriate and effective. To further solicit workers' compliance with industry goals, agents are given a share of the industry's profit—commissions (Chua, 1971; Neo, 1996). Work is remunerated on the basis of sales; and commissions increase as one progresses along a clear and well-defined career path. The pace of advancement along the career path is self-determined: the individual decides how fast he or she wants to move along the career ladder. Individual job performance, in terms of sales volume and ability to keep policies 'alive', is a requisite for career advancement. Insurance agents thus take on a dual identity. On the one hand, they are employees who follow directives set by the company and work toward organisational goals. On the other hand, they are entrepreneurs who can determine their own career goals—which more often than not coincide with organisational interests—as well as experiment freely with various modes to achieve these goals.

There is, however, a down side to the agents' work. While the agents enjoy work autonomy and flexibility, they also experience sustained pressure to produce (Chan & Ko, 1991). Further, life insurance has been and still is a taboo subject for many Singaporeans (Chan & Ko, 1991), partly due to the stigma attached to death and

disabilities. Moreover, life insurance is generally perceived as a high-risk investment because of the need for considerable long-term financial commitment to an unforeseeable future. Coupled with negative stereotypes of insurance work, agents often face rejections by strangers as well as family members and close friends, subsequently breeding personal isolation and alienation. Even worse, agents do not interact with their clients as equals. The balance of power in agent-client transactions is often tilted in favor of the clients. When faced with 'unreasonable' clients, agents are trained and often reminded by their supervisors not to get even for 'bad' client conduct, thus further perpetuating the status imbalance. Paradoxically, having escaped from the control of a boss who has legitimate rights to one's time and labour, one now finds himself or herself subject to the control of many other bosses: all his real and prospective clients.

Further, the rapid growth in the insurance industry in Singapore has induced acute competitiveness and rivalry between companies as well as among agents, engendering a general feeling of distrust, tension and strain in interpersonal relations among peers. Jealousy from colleagues and interpersonal conflicts further reinforce individualism and self-isolation. Keen competition also makes it necessary for agents to intensify their labour—to self-exploit.

Operating in such a hostile environment, the life insurance industry has to put up moral and social buffers to cushion itself against myriad adverse impacts—thus the emergence of an institutional ethos and culture as defense mechanisms. As a way to increase agents' productivity and to sustain a certain motivational level, the industry periodically gives out awards and medals during conventions and congresses to raise workers' morale and motivation (Chan & Ko, 1991). A culture of internal cohesiveness and mutual support is encouraged within individual life insurance companies as well as the industry as a whole. These values not only help the industry achieve its goal of profit-making, but also facilitate the ability of agents to cope with mental and physical afflictions caused by their work.

Description of the Survey

The analysis was based on three non-random samples, which yielded a total sample of 400 life insurance workers. First, 500 questionnaires were distributed to the agents by the managers of six major

life insurance companies in Singapore. Of these, 212 completed and returned their questionnaires, giving a response rate of 42.4%. Second, with the help of the Secretary of the Singapore Life Underwriters Association, questionnaires were disseminated to 400 agents via managers who attended a series of four talks organised by the Association. This channel saw a return of 137 questionnaires, yielding a response rate of 34.3%. Third, the Secretary distributed 100 questionnaires to insurance managers whom he knew, who in turn handed them out to their own agents. A total of 51 questionnaires were returned this way. The overall response rate for the study was 40%.

The non-random nature of the samples and relatively low response rates inevitably lead to a concern about the representativeness of our selected respondents. The relatively low response rate was probably due to the way we sampled our respondents and distributed questionnaires. We distributed the questionnaires to potential respondents through intermediaries (managers of major life insurance companies and the Secretary of the Singapore Life Underwriters Association). As we did not have direct contact with potential respondents, it was difficult for us to follow up with individuals who did not return the questionnaire. However, the low response rate does not necessarily reduce the representativeness of the sample. Profiles of population attributes provided by the Life Insurance Association of Singapore 1990 (personal communication) indicate that our sample was generally representative of the population proper in terms of gender, ethnicity, marital status and industry experience. Compared to the population, our sample respondents tended to be younger and less educated, but the differences were slight. These would be taken into consideration whilst interpreting the results.

Table 1 presents the demographic characteristics of the respondents. The gender ratio (men to women) of the sample was about 2:1. An overwhelming majority of the respondents were Chinese (95%). Slightly more than half of the respondents were married and more than one-third had attained an education at the tertiary level (diploma or above). The average age of the sample was about 31. The respondents were relatively new to their organisation and job position. The median years of working in the organisation and at the position were 2.5 and 2, respectively. In sum, our insurance agents were a group of relatively well-educated and young workers, many of whom were at the initial stage of their careers in the life insurance industry.

Table 1: Demographic Characteristics of the Study Sample of 400 Life Insurance Agents

Demographic Characteristics	
Gender (N = 399)*	
Men	66.00%
Women	34.00%
Ethnicity (N = 396)	
Chinese	95.00%
Marital Status (N = 315)	
Married	53.25%
Single	44.00%
Other	2.75%
Education (N = 397)	
Secondary 4 or below	11.60%
GCE '0' level	34.30%
GCE 'A' level	19.40%
Diploma or equivalent	21.20%
Degree or equivalent	12.10%
Higher degree level	1.50%
Age (mean year) (N = 395)	31.35
Years of working in the organization (median) (N = 399)	2.50
Years of working at current position (median) (N = 312)	2.00

* The valid sample size for the respective variable is in parentheses.

In the survey, a list of 51 work-related situations was presented and respondents were asked to indicate whether or not they had experienced those situations and, if so, the level of stress they experienced. The compilation of these 51 situations was based on results from 11 in-depth interviews, in which respondents identified and commented on events and situations they encountered at work. A wide range of situations was identified: interpersonal relations, job pressures, organisational constraints and interface with other aspects of life. The level of stress was measured by a five-point scale: (0) not a source of stress, (1) slight stress, (2) moderate stress, (3) considerable stress and (4) extreme stress. This five-point scale was also applied to a summary stress measure, which was designed to gauge the overall level of work stress in the six months prior to the survey.

Psychological consequences were operationalised in terms of job satisfaction and mental health. For job satisfaction, respondents were asked to indicate the level of agreement to six statements which expressed a positive evaluation of one's job as well as intention to remain in the job. A composite score was constructed to reflect the extent of satisfaction with one's job, with possible values ranging from 6 (lowest satisfaction level) to 42 (highest satisfaction level). Mental health refers to a state of psychological well-being, which was measured one month prior to the survey, by a count of 12 psychological conditions experienced as worse as or much worse than usual. The 12 psychological conditions deal with symptoms related to anxiety and depression, such as restless sleep, depressed mood and sense of worthlessness. Reliability tests showed reasonable alpha values for the above two scales (0.60 for job satisfaction and 0.89 for mental health).

The analysis of work stress and its psychological consequences among life insurance agents was performed in two steps. First, the extent of work stress among insurance agents was examined. Second, the relationships between work stress and the two psychological consequences were investigated. As the data came from a non-random sample, statistical findings were primarily suggestive; caution should be exercised before generalizing the results to the larger population of insurance agents.

The Experience of Work Stress

To understand the experience of work stress among life insurance agents, the ratings of the overall work stress level and of stress associated with the 51 work-related situations were examined. A work situation is stressful if the respondent has experienced it and perceives it to be stressful. A situation is not stressful for the respondent if he or she has not experienced it or does not perceive the experience to be stressful.

Table 2: Mean Stress Level of Work-Related Events/Situations*—Results Based on 400 Life Insurance Agents

Rank	Work-Related Events/Situations	Mean
1	Time pressures and deadlines to meet	1.90
2	Having to work continually to achieve self-set target	1.71
3	Dealing with demanding or difficult clients/prospects	1.43
4	My work is mentally straining	1.36
5	Having to make cold calls	1.35
6	Not having been able to manage time well	1.35
7	Fear of making mistakes that can lead to serious consequences	1.33
8	Being rejected by clients/prospects	1.30
9	Work overload	1.26
10	Unethical practices of some insurance agents	1.25
11	My boss pressures me to meet my quota	1.17
12	Effort and time do not always pay off	1.14
13	Work delayed by unnecessary red tape	1.13
14	Having to work hard to maintain good PR with clients	1.12
15	Advancing a career at the expense of home/personal life	1.09
16	Society does not think highly of my profession	1.08
17	Work demands affect my home/personal life	1.08
18	Feeling let down by friends not buying policy from me	1.05
19	My job requires considerable independence & self-discipline	1.03
20	Lack of promotion prospects	1.02
21	My life is too centered on my work	0.99
22	Feeling insecure in this job	0.98
23	Too much administrative work or paperwork	0.97
24	Under pressure to do things against my professional ethics	0.96
25	Insufficient resources & facilities to get work done	0.92
26	Work underload	0.91
27	Working with uncooperative colleagues	0.89
28	Unable to make full use of my skills and ability	0.88
29	Trained to be nice to clients, even the difficult ones	0.88
30	Inadequate time for professional and self development	0.87
31	People avoid me and do not know how to deal with me	0.86
32	Feeling of self-isolation and loneliness	0.85
33	Working with incompetent colleagues	0.83
34	Cannot participate in decision-making	0.81
35	Feeling not sure whether this job is right for me	0.79
36	Feeling of being underpaid	0.78
37	Lack of authority to carry out my job duties	0.76
38	Having to do work outside of my competence	0.74
39	Having to do unnecessary task or project	0.73
40	Absence of emotional support from family	0.72
41	Lack of support from superior	0.71
42	High staff turnover	0.71

Table 2 (*cont.*)

Rank	Work-Related Events/Situations	Mean
43	My beliefs contradict with those of my superior	0.70
44	Unfair assessment from superior	0.70
45	Discrimination and favouritism	0.70
46	Relationship problems with colleagues/subordinates	0.69
47	Cannot share problems with colleagues—will reveal weakness	0.66
48	Jealousy and competition among colleagues	0.65
49	Difficult to distance myself from my clients	0.62
50	Difficulty in maintaining relationship with superior	0.58
51	Family objects to my working as an insurance agent	0.53
Overall work stress		1.81

* Not experiencing the event/situation was coded as "0."

Results of our analysis showed that our respondents scored an average of 1.81 for overall stress, suggesting a slight to moderate stress level. Among the 51 work-related situations on the checklist, about four-fifths of them (39) had been experienced by at least 70% of the respondents. Thus, the list provides a valid indication of our insurance agents' experiences with work stress. Of the 51 situations, the most common was 'dealing with demanding or difficult clients/prospects' (96.3% of the respondents) whereas the least common was 'family objects to my working as an insurance agent' (55%). While a majority of the respondents had experienced the listed situations, the stress levels associated with them were generally perceived to be less than moderate, which was consistent with the finding on overall work stress (Table 2). These results can perhaps be explained in two ways. First, the insurance agents in our sample may possess considerable personality resistance resources such as self-esteem and psychological hardiness that allow them to withstand hardships arising from the job. Psychological hardiness as a personality construct taps three personality characteristics: commitment (to work/profession), the tendency to appraise demands as challenging rather than threatening, and having a sense of control over one's fate (Kobasa, 1979). Second, the instrumental and emotional help provided by the formal and informal support networks within the company may help the agents better handle difficult situations related to the job, thus reducing the level of work stress (Chan, 1997; Chan & Ko, 1991).

An examination of the stress ratings for individual work-related situations revealed four notable findings. First, the most stressful situations (the top ten) were primarily related to one's survival in the business and achievement of career goals. For example, five out of the top ten stressors directly concerned themselves with work demands, which included 'time pressures and deadlines to meet,' 'having to work continually to achieve self-set target,' 'my work is mentally straining,' 'not having been able to manage time well,' and 'work-overload'. 'Dealing with demanding or difficult clients/prospects' and 'being rejected by clients/prospects' were perceived as stressful because they not only threatened one's self-esteem, but also implied difficulty in achieving sales goals. 'Having to make cold calls' represented one's self-initiated effort to increase the sales volume. 'Fear of making mistakes that can lead to serious consequences' and 'unethical practices of some insurance agents' were related to the maintenance of the professional image of insurance agents in society, which would presumably contribute to the success of their business.

Second, relations with superiors and colleagues constituted sources of least stress to the insurance agents. Among the ten situations rated as least stressful, six of them entailed conflicts with superiors and colleagues, particularly those related to work performance and rewards. These situations included 'my beliefs contradict those of my superiors,' 'unfair assessment from superiors,' 'discrimination and favouritism,' 'relationship problems with colleagues/subordinates,' 'cannot share problems with colleagues,' 'jealousy and competition among colleagues' and 'difficulty in maintaining relationships with superiors'. The low level of stress associated with interpersonal relationships might probably be due to the emphasis of the industry on building social cohesion among the insurance personnel. In addition, the assessment criteria of work performance are relatively objective and clear in the life insurance industry, leading to few disputes with superiors and among colleagues.

Third, although insurance agents were working within a larger organisation setting, they did not perceive the bureaucracy as a source of great stress. Our respondents reported slight stress in their encounters with bureaucracy, such as red tape, paperwork or lack of job authority and resources to get the work done. This finding suggested that while insurance agents, as company employees, were working under certain organisational constraints, the relative autonomy and

flexibility they enjoyed seemed to outweigh the constraints. This may be due to the unique work arrangements and ethos of the life insurance industry.

Fourth, our survey data provided some support for the observation that the interface between work and family has been found to be a source of stress among workers (Bromet, Dew & Parkinson, 1990; Greenhaus & Beutell, 1985). Two items related to work-family interface: 'advancing a career at the expense of home/personal life' and 'work demands affect my home/personal life'. These were ranked among the 20 most stressful situations. The vigorous pursuit of career goals among insurance agents might require them to work long hours, thus reducing the time available for the family. However, the stress level was perceived to be relatively low. Our respondents might either have already obtained understanding and support from their family, which would minimise the impact of work-family conflicts, or they were so focused on their career that they managed to 'immunise' themselves from family interference. In any case, 'Family objects to my working as an insurance agent' was the least stressful work-related situation.

In sum, our insurance agents were under the most stress with situations that threatened their chances of survival and career advancement. Interpersonal workplace relations and bureaucratic practices constituted two sources of least stress for them. The overall stress level reported was low (slight to moderate), suggesting that the respondents may have acquired considerable psychological hardiness that enables them to withstand hardships of the job; that the insurance industry has provided effective buffers that safeguard its members from the immediate impact of negative work experiences; and that the insurance agents collectively have developed and adopted strategies that enable them to effectively cope with negative work situations.

To further understand how work-related situations contributed to work stress among our insurance agents, the 51 work-related situations were factor-analysed to construct broader meaningful categories. Nine factors were thus obtained. The total amount of variance explained by these nine factors was 63%. The three items that had the highest loadings on the respective factor (except the last factor, which had only two items), which presumably best represented the factor, were summed to form subscales of work stress (Table 3).

Table 3: Factor Loadings of 51 Work-related Events/Situations*—Results Based on 400 Life Insurance Agents

Factors and Items	Factor Loadings	Variance Explained
Factor 1 Difficulty with Clients		34.8%
Feeling let down by friends not buying policy from me	**0.82**	
People avoid me and do not know how to deal with me	**0.78**	
Being rejected by clients/prospects	**0.71**	
Trained to be nice to clients, even the difficult ones	0.63	
Having to make cold calls	0.62	
Effort and time do not always pay off	0.59	
Society does not think highly of my profession	0.57	
Dealing with demanding or difficult clients/prospects	0.55	
Unethical practices of some insurance agents	0.54	
Not having been able to manage time well	0.51	
Having to work hard to maintain good PR with clients	0.50	
My boss pressures me to meet my quota	0.36	
Factor 2 Poor Working Relationships with Colleagues		7.1%
Working with uncooperative colleagues	**0.82**	
Working with incompetent colleagues	**0.75**	
Relationship problems with colleagues/subordinates	**0.75**	
Lack of authority to carry out my job duties	0.66	
Work delayed by unnecessary red tape	0.61	
Cannot participate in decision-making	0.59	
High staff turnover	0.55	
Too much administrative work or paperwork	0.52	
Jealousy and competition among colleagues	0.49	
Unable to make full use of my skills and ability	0.48	

Having to do unnecessary task or project	0.49	
Having to do work outside of my competence	0.44	
Factor 3 Conflicts with Superior		4.4%
Difficulty in maintaining relationship with superior	**0.79**	
Lack of support from superior	**0.78**	
My beliefs contradict with those of my superior	**0.75**	
Unfair assessment from superior	0.71	
Discrimination and favoritism	0.65	
Factor 4 Work Pressures		3.8%
Time pressures and deadlines to meet	**0.77**	
Work overload	**0.75**	
Having to work continually to achieve self-set target	**0.44**	
Factor 5 Uncertain Job Prospect		3.0%
Feeling insecure in this job	**0.71**	
Feeling of being underpaid	**0.70**	
Insufficient resources and facilities to get work done	**0.57**	
Lack of promotion prospects	0.55	
Factor 6 Lack of Family Support		2.7%
Absence of emotional support from family	**0.61**	
Family objects to my working as an insurance agent	**0.58**	
Under pressure to do things against my professional ethics	**0.56**	
Advancing a career at the expense of home/personal life	0.52	
Feeling not sure whether this job is right for me	0.51	

Table 3 (*cont.*)

Factors and Items	Factor Loadings	Variance Explained
Factor 7 Conflicts with Other Life Aspects		2.6%
My life is too centered on my work	**0.72**	
Work demands affect my home/personal life	**0.67**	
My work is mentally straining	**0.49**	
Inadequate time for professional and self development	0.44	
Factor 8 Professionalism		2.4%
Feeling of self-isolation and loneliness	**0.63**	
Cannot share problems with colleagues—will reveal weakness	**0.60**	
My job requires considerable independence and self-discipline	**0.43**	
Difficult to distance myself from my clients	0.38	
Factor 9 Work Underload		2.2%
Work underload	**0.75**	
Fear of making mistakes that can lead to serious consequences	**0.42**	
Total amount of variance explained		63.0%

* Not experiencing the event/situation was coded as '0'.
Note: Items in bold face were summed to form subscales for the respective factors.

Based on the three representative items, the nine categories of work-related situations were labelled as follows:

(1) difficulty with clients
(2) poor working relationships with colleagues
(3) conflicts with superiors
(4) work pressures
(5) uncertain job prospects
(6) lack of family support
(7) conflicts with other life aspects
(8) professionalism and
(9) work under-load.

The stepwise regression technique was used to examine the contribution of the various types of work situations to the overall work stress experienced by the insurance agents. Demographic variables were included in the equation to serve as controls. Results (Table 4) showed that after controlling for gender, education, age and work experience in the organisation and the position, only three factors contributed significantly to the overall work stress among insurance agents. These three were work pressures, uncertain job prospects and professionalism, with work demands standing out as the most important source

Table 4: Significant Predictors[1] of Overall Work Stress Level among 400 Life Insurance Agents—Results from Stepwise Regression[2]

Significant Predictors	Unstandardized Regression Coefficient	Standardized Coefficient Regression
Work overload	0.14	0.48
Uncertain job prospect	0.04	0.14
Professionalism	0.07	0.21
R-squared		0.44
Adjusted R-squared		0.44
Valid sample size		326

[1] Predictors were statistically significant at $p < .05$.
[2] Variables entered in the regression equation included (1) age, (2) education, (3) gender (men = 1, women = 0), (4) working experience in current position, (5) working experience in organization, (6) difficulty with clients, (7) poor working relationships with colleagues, (8) conflicts with superior, (9) work pressures, (10) uncertain job prospect, (11) lack of family support, (12) conflicts with other life aspects, (13) professionalism and (14) work under-load.

of work stress (standardised regression coefficient = 0.48). The three stressors together accounted for about 44% of the variance in overall work stress (R-squared = 0.44). Statistical significance was not found for relationship-based stressors and demographic variables.

These findings were consistent with the previous rankings of stressors and lent further support to the argument that much of insurance agents' work stress arises from the very practices of the insurance industry itself. The reward system in the life insurance industry requires its agents to work long hours and make extra efforts to increase sales if they intend to survive and get ahead in their career. The commission-based remuneration system may engender in them a sense of job insecurity. The fact that the industry requires its workers to work independently and be self-disciplined may generate emotional strains among insurance agents—often manifested in feelings of loneliness and self-isolation—as they try to maintain their professional image.

The results also reflected the entrepreneurial nature of the insurance profession. As entrepreneurs, the agents set their own goals in the business. To maximise profits, they often have to work in a self-exploitative mode as rewards are directly linked to efforts. Self-exploitation has thus over time become an essential coping strategy. Much of the stress that insurance agents experience may in fact be self-imposed.

Psychological Consequences of Work Stress

The psychological consequences of work stress were examined in terms of job satisfaction and mental health. The two psychological outcomes were regressed on nine types of work stress and several demographic variables. Stepwise regression was used to tease out the significant predictors. Results (Table 5) revealed that only two types of work stress were significantly related to job satisfaction: uncertain job prospects and professionalism. Low levels of job security and having to meet professional expectations in terms of independence and self-discipline reduced the level of job satisfaction among the respondents. As direct monetary returns to efforts and a clear career path are the major attractions of the insurance profession, it is not surprising to find that the respondents reported dissatisfaction with their job when they could not get the returns they

Table 5: Significant Predictors[1] of Job Satisfaction among 400 Life Insurance Agents—Results from Stepwise Regression[2]

Significant Predictors	Unstandardized Regression Coefficient	Standardized Coefficient Regression
Work experience in organization	0.16	0.14
Uncertain job prospect	−0.32	−0.17
Professionalism	−0.55	−0.26
R-squared		0.17
Adjusted R-squared		0.16
Valid sample size		347

[1] Predictors are statistically significant at $p < .05$.
[2] Variables entered in the regression equation include (1) age, (2) education, (3) gender (men = 1, women = 0), (4) working experience in current position, (5) working experience in organization, (6) difficulty with clients, (7) poor working relationships with colleagues, (8) conflicts with superior, (9) work pressures, (10) uncertain job prospect, (11) lack of family support, (12) conflicts with other life aspects, (13) professionalism and (14) work under-load.

had expected. The negative relationship between professionalism-related stress and job satisfaction suggested that economic gains are not the only needs of insurance agents. As social beings, they also have intrinsic needs for social companionship. The industry encourages mutual help, but to be considered professional the insurance agent is expected to work independently, e.g., being able to handle difficult situations on his or her own. In the process of developing a professional image, the insurance agent may keep problems to himself or herself—resulting in self-isolation and loneliness.

Work experience in the organisation tends to enhance job satisfaction. This is probably a result of self-selection. Those agents who were not satisfied might have already left the company or even the profession. While work demands induce the most stress in insurance agents, they do not significantly reduce job satisfaction. This gives further support to the argument that stress arising from work demands is likely to be self-induced, and that insurance agents may consider it a price worth paying for future career success.

With regard to mental health, stress arising from lack of family support and professionalism tended to increase the number of psychological symptoms (Table 6). In other words, the greater the stress one experienced because of a lack of family support and isolation,

Table 6: Significant Predictors[1] of Mental Health Symptoms among 400 Life Insurance Agents—Results from Stepwise Regression[2]

Significant Predictors	Unstandardized Regression Coefficient	Standardized Coefficient Regression
Gender (men = 1, women = 0)	−0.99	−0.16
Lack of family support	0.17	0.15
Professionalism	0.39	0.36
R-squared		0.24
Adjusted R-squared		0.24
Valid sample size		343

[1] Predictors were statistically significant at $p < .05$.
[2] Variables entered in the regression equation included (1) age, (2) education, (3) gender (men = 1, women = 0), (4) working experience in current position, (5) working experience in organization, (6) difficulty with clients, (7) poor working relationships with colleagues, (8) conflicts with superior, (9) work pressures, (10) uncertain job prospect, (11) lack of family support, (12) conflicts with other life aspects, (13) professionalism and (14) work underload.

the worse one's mental health. As pointed out by Lin (1986:28), 'Mental health represents the psychological and emotional status of a person, and its promotion and maintenance requires expressive action.' Expressive action refers to actions that have indistinguishable means and goals, such as sharing emotional problems and exchanging life experiences. These actions are best undertaken by using intimate social and family ties. Thus, when the insurance agent is not able to air problems and frustrations with intimate others, his or her psychological well-being is jeopardised.

Work demands and other work-related stressors were not related to the health outcome after controlling for demographic variables. This finding suggested that while the respondents may have experienced stress arising from work pressures, interpersonal conflicts and business relationships with clients, these stressors did not influence their psychological state. The respondents may have developed effective coping strategies that buffered the detrimental impacts of these stressors. They may also have learned about the job duties as well as the amount of time and energy required before joining the profession. As a result, they were less affected by the stress that arose. Interpersonal conflicts at the workplace were not related to mental health, probably due to the relative insignificance of interpersonal relationships at work in advancing the agent's career.

Male agents tended to report fewer symptoms than their female counterparts, suggesting that the former had better mental health. This finding is consistent with previous studies which indicate that men fare better in terms of psychological well-being, which has been attributed to different roles men and women play in society and to gender differences in the expression of distress (e.g., Gove & Tudor, 1973; Newman, 1984).

In summary, the findings on the psychological consequences of work stress showed that while respondents tended to report the most stress with work demands, work demands did not influence job satisfaction or mental health. The two psychological outcomes, however, were found to be related to stress arising from professionalism. Individuals who experienced stress arising from social isolation due to the need to establish a professional image were less likely to be satisfied with their work than those who did not have as strong a need. These results suggested that besides hard work, the insurance profession requires its members to have certain personality traits in order to survive and succeed in the career. One such trait is psychological hardiness.

Conclusion

This chapter has examined the experience of work stress and its psychological consequences among life insurance agents in the context of the institutional arrangements of the industry. Results showed that our sample of insurance agents generally experienced a low level of work stress, which was probably due to the supportive work environment in the industry. The most stress was found to be derived from work demands and the least stress from interpersonal relationships at the workplace. Even the stress arising from work overload and pressures did not deter them from having a satisfactory work life, nor did it result in mental ill-health.

Despite the well-documented evidence on the spillover effects of work stress (e.g., Greenhaus & Beutell, 1985), the psychological effect of work-family interference was found to be minimal among insurance agents. This may be due to the 'natural selection process' of the occupation and the psychological preparation that agents had made before entering the industry. In an unstable profession with relatively low status and great job pressure, our respondents may represent a group of 'survivors' in the profession. Knowing the intensity of job

demands, insurance agents may have already obtained understanding and support from their family before taking on the job. This would minimise the impact of work-family conflicts.

The examination of work stress in relation to the institutional contexts of the profession has highlighted the importance of social contexts in influencing the experience of stress, an observation borne out by previous studies on the meaning of stressors (Pearlin, 1989; Thoits, 1995). Our results suggest that the perception of work stress among insurance agents is largely shaped by the meaning they attribute to the nature of their work, which in turn is conditioned by the institutional practices of the industry. While individual subjectivity is not precluded, the appraisal of situations is largely amenable to social construction.

CHAPTER TEN

WORK STRESS AMONG SIX PROFESSIONAL GROUPS: A COMPARISON

Chan Kwok-bun, Gina Lai and Ko Yiu-chung

Professionals are generally perceived as a distinguished class of workers who serve public needs, enjoy considerable prestige and job autonomy and are thus shielded from stressful work situations that are common to non-professional workers, such as excessive job pressure, task monotony and lack of job control. These perceptions are typical for 'well-established' professions like physicians and lawyers. According to Friedson (1994, p. 10), a profession is 'an occupation that controls its own work, organized by a special set of institutions sustained in part by a particular ideology of expertise and service'. Auster (1996) further delineated the essential characteristics of a profession, including the following:

- the presence of a systematic body of theory informing the skills required for practice
- the sanction of the community in the form of formal credentialing and licensing
- recognition by the general public of professional authority over the knowledge and skills in the field
- a regulative code of ethics and
- a professional culture with a language, symbols and norms of its own.

Despite enjoying the status and relatively high job prestige, professionals report experiencing various kinds of stress related to their work and workplace, which sometimes lead to job dissatisfaction, burnout and turnover. Five major sources of work stress among professionals are identified as nature of the job, interpersonal relations at the workplace, the work organisation, work-family conflicts and the profession itself. Examples of stressful job characteristics are work overload and job pressure (for nurses, teachers and physicians), unpleasant nature of tasks and conflicts between emotional involvement and

detachment (for nurses), lack of control over work (for teachers), threat of malpractice litigation (for physicians) and report writing problems (for engineers) (Keenan & Newton, 1987; Kyriacou, 1980; Marshall, 1980; Halpin, Harris & Halpin, 1985; Richardson & Burke, 1991). Interpersonal tension and lack of social support at the workplace were found to induce stress among nurses (Decker, 1985), engineers (Keenan & Newton, 1987) and teachers (Friesen & Sarros, 1989). The work organisation itself, expressed as bureaucracy, excessive paperwork, push towards organisational goals and circumscribing organisational culture, was reported to be a source of stress among nurses (Marshall, 1980) and teachers (Friedman, 1991). Conflicts between professional and familial roles were found to induce stress among physicians (Izraeli, 1988), lawyers (Spencer & Podmore, 1984), engineers (Bacharach et al., 1991), nurses (Marshall, 1980) and teachers (Greenglass, Pantony & Burke, 1988). Spencer and Podmore (1984) suggested that the structure of a profession and cultural values regarding sex roles make women in male-dominated professions particularly susceptible to work-family conflicts. Diminishing or low professional status was related to stress among physicians (Flaherty & Richman, 1986), engineers (Keenan, 1980), teachers (Friesen & Sarros, 1989) and nurses (Marshall, 1980).

Among the various professions, physicians were found to experience less work stress—related to under-utilisation of one's abilities, low job complexity, role conflict and role ambiguity—than others, including scientists, university professors and engineers (Caplan et al., 1980) and to enjoy better health (Theorell et al., 1990). The favourable position of physicians was attributed to good person–environment fit and high decision latitude. Reviewing studies on dentists, nurses, teachers, police officers and social workers, Cooper and Marshall (1980) observed similarity among professional groups.

The above findings suggest that there are differences as well as similarities in the experience of work stress among professional workers. These differences and similarities may be due to the structure of a profession on the one hand and the larger social trends of professionalisation and de-professionalisation on the other. As a result of industrialisation and modernisation, some occupations are increasingly 'professionalised' through formalising the knowledge system and its transmission and establishing exclusive membership and institutional authority. Examples of 'new', emerging professions are engineers, nurses, teachers and life insurance agents (Auster, 1996; Chan

et al., 1992). The 'old' and the 'new' professions differ in professionalism in terms of the extent of institutionalisation of the knowledge system and the practice of the profession (Friedson, 1994). The 'old' professions tend to have a relatively monopolistic control over their knowledge and expertise while the skills of the 'new' ones are, by comparison, more easily accessible by the public. As a result, the former are alleged to possess greater professional authority than the latter. In addition, group solidarity and sanctioning power in the community are generally greater among the 'old' professions than the emerging ones. Further, the 'old' professions tend to receive greater social recognition from society than the other professions (Auster, 1996; Chiew, Ko & Quah, 1991).

While the varying degrees of professionalisation among occupations may subject workers to different work conditions and environments, which subsequently influence their quality of work life, there is evidence suggesting a convergence of experiences among workers in different professions. Studies in the US show that due to competition from other professions and the de-monopolising trend of expert knowledge, the professional status of certain well-established professions (e.g., physicians and lawyers) is declining over time (Auster, 1996). Further, the increasing trend of employment of professionals by formal organisations may 'de-professionalise' some occupations by imposing bureaucratic constraints on how and when the occupants do their work. These bureaucratic constraints may also influence the ability of professionals to exercise their authority and to cope with work-related problems.

To examine the influence of professionalisation and bureaucratisation on the quality of work life, this chapter will compare the experience of work stress, work satisfaction and mental health among workers in six types of professions in Singapore: physicians, lawyers, engineers, life insurance agents, nurses and teachers. The chapter consists of three sections. In the first section, the work conditions of the professionals will be discussed in the Singapore context. The data and methods for analysis used will also be described. The subsequent two sections present and discuss the results.

Professionals in Singapore

The six professions chosen for our study—physicians, lawyers, engineers, life insurance agents, nurses and teachers—vary in the extent of professionalisation, forms of employment and socio-demographic composition, and we expected these differences to generate differences in work-related experiences. Physicians and lawyers are commonly known to be the oldest and most 'well-established' professions in many societies. They tend to receive greater social recognition (prestige) from society than other professions (Chiew et al., 1991).

Engineers, nurses, teachers and life insurance agents are emerging professions in modern, industrialised societies (Auster, 1996; Chan et al., 1992). These occupational groups, in the process of striving to be professionalised, formalise the required knowledge and expertise, emphasise formal training and licensing, establish exclusive membership and try to gain public recognition for professional status. In many societies, engineers, nurses and teachers are required by the state to obtain formal credentials and a license. As a result, specialised training programs are set up—for example, schools of engineering and nursing in universities. In addition, knowledge and skills are becoming more formalised and abstract. Developmental psychology and philosophy of education are often taught during teachers' training. Nursing students have to take courses in biology and physiology. Professional organisations are also set up as sanctioning communities, regulating the behaviour of their respective members.

Related to professionalisation, the six professional groups also have different forms of employment, which may lead to differential control over work and command of resources. Engineers, nurses and teachers are largely employed in formal organisations as salaried workers—such as in engineering firms, hospitals and schools—where hierarchical relations and bureaucratic constraints are acute. Life insurance agents are also mostly employed in formal organisations; however, because of the particular institutional arrangements of the industry, their employing organisations tend to be supportive rather than constraining (Chan & Ko, 1991; Chapters 8 and 9, this volume). Unlike other professional groups, life insurance agents work as part organisational men and part entrepreneurs. That is, although they are employed by formal organisations, they feel they are more able to control their work pace. Moreover, their income and promotion are dependent upon their work performance, which is mea-

sured by sheer sales volume. As for physicians and lawyers, traditionally, they worked independently of formal organisations and owed their loyalties to their professions. However, there is an increasing trend of organisational employment among these traditional professions (Auster, 1996; Friedson, 1994). Employment in large organisations might thus place increasing limits on their work autonomy. For example, the work autonomy of lawyers is often constrained by external bureaucracies, such as the court, police and institutional clients, which together place incompatible demands on lawyers (Lim, 1993).

Besides differences in professionalisation and employment pattern, the six professional groups also differ in their socio-demographic profiles, particularly in the sex ratio. National data on the socio-demographic compositions of the six professional groups show that there are more men than women among physicians, lawyers, engineers and life insurance agents, but more women than men among nurses and teachers (Department of Statistics, Government of Singapore, 1990; Law Society of Singapore, 1991; Life Insurance Association of Singapore, 1990; Ministry of Education, Government of Singapore, 1990, personal communication; Singapore Medical Council, 1989; Singapore Nursing Board, 1993). As suggested by the existing literature that women tend to experience greater stress arising from the interface of work and family roles than men (Coverman, 1989; Thoits, 1986), the gender composition may hence have implications for the psychological well-being of the professionals on the aggregate level.

The above differences in professionalisation, forms of employment and demographic composition among the six professional groups are expected to influence the experience of work stress. However, little systematic research has been done in Singapore on workers' psychological response to work and conditions in the workplace. How the different professions fare in psychological terms, vis-à-vis one another, remains unclear. Nevertheless, limited evidence may provide some clues to this issue.

Previous studies on work stress in Singapore seem to point to a common source of work stress among workers in general and professionals in specific: work overload or performance pressure. While it is commonly known that professionals tend to be achievement-oriented (Chan et al., 1992), the socioeconomic structure of Singapore society may also play a part in generating such stress. Hing (Chapter 2 in this volume) observed that the Singapore economy has experienced surging growth and a high degree of integration into

the international capitalist system. In the course of industrialisation and globalisation, society places great value on competition and performance at both organisational and individual levels. As a result, Singaporean workers are driven hard to strive for excellence and success. This drive for quality performance on the part of the employing organisation or the workers themselves may induce great stress among workers. In fact, the Singapore government endorses stress in work life so as to elevate the level of competitiveness among its people in the global economy. Performance pressure is thus hypothesised in our study to be an important source of work stress among Singaporean professionals. However, workers in more professionalised occupations, such as physicians and lawyers, would have greater work autonomy and control than those in less professionalised ones, and thus might perceive a lower level of stress associated with work pressure.

Singaporean professionals also feel vulnerable to stress arising from the interface of work and family. As a strategy to minimise its burden of family welfare, the Singapore government fervently promotes family values. Singapore men and women are asked to work hard on the one hand and on the other, expected to take care of their family. As a result, the commitment of time and energy to work required by the professional institutions might generate conflicts with family demands on the Singaporean professionals. Work-family conflicts have been found to affect work satisfaction and psychological well-being (Greenhaus & Beutell, 1985; Loscocco & Roschelle, 1991; Phelan et al., 1991). The magnitude of impact, however, is expected to be greater among female-dominated professions as women still tend to be the dominant caregivers in the family.

Interpersonal problems at the workplace may also constitute a significant source of work stress among Singaporean professionals. Although Singapore is a multi-ethnic society, the population is predominantly ethnic Chinese, and Chinese social values have been vigorously promoted by the government. The emphasis on the cultural value of interpersonal harmony is partly related to psychological relationship problems among Chinese workers in China (Lai, 1995; Lin & Lai, 1995). Intent on avoiding open conflicts, workers tolerate unfair treatment and unpleasant work conditions and sometimes take their frustrations out on their own family members. The emphasis on Chinese social values may have implications for Singaporean professionals' work experiences. This is particularly so among professions

which require intensive interpersonal interactions at work, such as engineers, nurses and lawyers.

Moreover, the increasing trend of employment by organisations implies the potential influence of bureaucracy on professionals' work experiences. However, highly professionalised occupations and those that require minimal interaction with the bureaucracy would have relatively more work autonomy and might thus be subject to a lower level of stress associated with such organisational constraints as cumbersome red tape. Such occupational groups would include physicians who are general practitioners and would also include life insurance agents. In contrast, engineers and nurses may experience greater stress of this sort than other professional groups as they tend to be employed in large bureaucracies. While teachers and lawyers also work in or with bureaucracies, their job nature (for the former) and professional status (for the latter), allow them to exercise some control over their work.

The professional status might also influence the experience of stress related to social and economic returns from work. As shown in the above, traditional professions are usually rewarded with higher income and social prestige than the newly emerging ones. As a result, physicians and lawyers are expected to report lower levels of stress in this respect than other professional groups. Life insurance agents, in particular, would be most vulnerable to this source of work stress because of their low professional status and unstable income.

The above discussion can be summarised in the following hypotheses.

1. Performance pressures would be an important source of stress for all six groups of professionals, but the level of stress experienced would be lower among physicians and lawyers than other professionals.
2. Work-family conflicts would exert the greatest impact on nurses and teachers.
3. The impact of interpersonal tension would be strongest among engineers, nurses and lawyers.
4. Engineers and nurses would experience the highest level of stress associated with bureaucratic constraints; physicians and life insurance agents, the lowest.
5. Occupants of newly emerging professions, such as life insurance agents, would be more vulnerable to stress associated with economic and social rewards than those in traditional professions, such as physicians and lawyers.

The Method

The Samples

The present analysis was based on 2,589 workers from six professional groups: medical doctors, engineers, life insurance agents, lawyers, nurses and teachers. Using self-administered questionnaires, data was collected during 1989–1990. In order to increase the response rate, different sampling strategies were employed for each professional group. The sample of medical doctors was drawn from a population of general practitioners who had completed their medical training in 1960–1986 and whose names were listed in the Government Gazette of 1988. Self-administered questionnaires were sent to 450 randomly chosen doctors, out of which 146 returned the questionnaire, yielding a total response rate of 32%. Data for engineers were collected from five organisations, four of which were among the top twenty electronic multinational companies whereas the remaining one comprised the Engineering Faculty in a local tertiary institution. All engineers in the participating organisations were given a self-administered questionnaire. The response rates in the five organisations ranged between 10% and 50%. A total of 234 questionnaires were returned.

Data for life insurance agents came from three non-random samples. First, six major life insurance companies in Singapore were selected. With the help of the managers, 500 questionnaires were randomly distributed to the workers. Of these, 212 completed and returned their questionnaires, giving a response rate of 42.4%. Second, questionnaires were disseminated to 400 agents via the managers who attended a series of four talks organised by the Singapore Life Underwriters Association. This channel saw a return of 137 questionnaires, yielding a response rate of 34.3%. Third, the Secretary of the Singapore Life Underwriters Association informally distributed 100 questionnaires to insurance managers whom he knew on a personal basis, who in turn handed the questionnaires out to their agents. A total of 51 questionnaires were returned. The three samples yielded a total of 400 life insurance agents. The overall response rate for the study was 40%.

The sample of lawyers was obtained from the 1,656 registered lawyers who worked in the private sector in 1989. From the 826 selected lawyers, 450 completed questionnaires were received. The total response rate was 54.5%. Nurses working in public hospitals,

Table 1: Comparison of Socio-Demographic Characteristics—Doctors, Engineers, Insurance Agents, Lawyers, Nurses and Teachers

Socio-Demographic Characteristics (N)	All (2589)	Doctors (146)	Engineers (234)	Agents (400)	Lawyers (450)	Nurses (1043)	Teachers (316)
Gender (% men)	38.60	71.80	91.00	66.40	58.20	6.00	28.60
Race (% Chinese)	77.10	94.50	93.50	94.70	76.40	63.80	79.40
Age (mean)	36.60	41.06	30.53	31.35	34.87	33.85	36.22
Marital status (% married)	58.10	90.40	48.50	53.30	61.30	55.60	61.30
Education (%)							
Secondary 4 or below	6.20	0.00	0.00	11.60	0.00	10.90	0.30
GCE '0' level	37.10	0.00	0.00	34.30	0.20	78.10	3.80
GCE 'A' level	8.50	0.00	0.00	19.40	0.00	9.60	13.70
Degree or equivalent	35.90	88.40	51.93	12.10	89.80	0.30	69.20
Higher degree level	5.50	11.60	21.46	1.50	10.00	0.00	7.30
Income (%)							
$800 or below	1.8	0.00	0.00	6.5	0.00	–	0.3
$801–$1000	1.80	0.00	0.00	1.00	0.00	5.30	0.70
$1001–$2000	20.50	2.80	18.10	30.70	16.20	–	23.20
$2001–$3000	25.90	2.10	53.50	20.20	17.50	–	35.60
$3001–$4000	14.70	4.90	18.10	10.80	10.50	–	27.30
$4001–$6000	13.50	28.70	7.50	10.60	15.00	–	12.40
$6001–$8000	5.50	18.20	2.20	4.00	8.20	–	0.30
$8001–$10,000	5.10	13.30	0.00	3.80	10.00	–	0.00
$10,001–$15,000	4.80	16.80	0.40	2.30	8.90	–	0.00
$15,001 or above	6.50	13.30	0.00	5.80	13.00	–	0.00
Years of working experience (mean)	12.50	15.68	6.30	10.61	10.45	14.65	13.88
Years of working in present company (mean)	5.77	10.47	4.29	4.05	5.70	–	6.98
Years of working in present position (mean)	7.40	–	2.72	2.65	5.34	9.68	12.38

who made up the bulk of the nursing population in Singapore, formed the population of the survey. Three government hospitals were selected and self-administered questionnaires were given to all the 1,335 nurses working in these hospitals. With the cooperation of the matrons, a total of 1,024 completed questionnaires were returned, yielding a response rate of 76.6%. The teacher sample consisted of secondary and junior college teachers. About 900 questionnaires were administered to the target teachers who attended courses in the Institute of Education in March 1990. A total of 316 questionnaires were returned through the mail.

The socioeconomic profile of the six groups of professional workers is presented in Table 1. About 40% of the entire sample were men. A majority of the respondents were Chinese (77.1%) and married (58.1%). The average age of the professional workers was 36.6 years. The respondents were generally well-educated. About 50% of the respondents had obtained tertiary education. The income level of the respondents was also high. More than 50% of the respondents received a monthly income of S$3,000 or higher. In addition, the sample was a group of experienced workers. The average number of years of work experience was 12.5 years. They had also worked in the present company and in the present position for an average of five years and seven years, respectively.

Comparing across the six professional groups, men were overwhelmingly represented in the professions of medicine (71.8%), engineering (91.0%), life insurance (66.4%) and law (58.2%). Women, on the other hand, dominated the nursing (94.0%) and teaching (71.4%) professions. The Chinese constituted the majority group in all the six professional groups (ranging from 63.8% to 94.7%). Engineers were the youngest (30.5 years), and medical doctors the oldest (41.1 years) in the sample. Except for medical doctors, about 50% to 60% of the professional workers were married. In the case of medical doctors, more than 90% of the respondents were married.

Due to the required educational qualifications, medical doctors and lawyers belonged to the well-educated groups. Almost all of them had acquired a first degree at least. Nurses, however, were the least-educated. About 80% of the nurses had received only GCE '0' level education. The income distributions for the six groups show that medical doctors earned the most income and life insurance agents earned the least. More than 60% of medical doctors reported a monthly income above S$6,000, whereas more than 40% of life insurance agents received a monthly income of S$2,000 or less.

Income data for nurses were not available. While the income gap is largely due to the differential rewards conferred by society to these professions, the low income level of life insurance agents may also be due to their relatively short working life as an agent (an average of 4.05 years in the company and 2.65 years in the position). As a life insurance agent's income is purely calculated on a commission basis, an inexperienced or new agent may have a small sales volume, yielding low income.

The non-random nature of the samples and relatively low response rates inevitably lead to concern about the representativeness of our selected respondents. To investigate this issue, population attributes for each profession were obtained from the annual reports of relevant government offices (for engineers and teachers) and professional organisations (for doctors, lawyers, nurses and insurance agents) (Singapore Medical Council, 1989; Department of Statistics, Government of Singapore, 1990; Ministry of Education, Government of Singapore, 1990; Law Society of Singapore, 1991; Singapore Nursing Board, 1993; Life Insurance Association, 1990, personal communication). These reports were taken from or around the year when the sampling was done so as to make the population figures as comparable as possible. Comparison results indicate that, in general, our samples approximate the populations closely in terms of age and sex. The differences in median age range from two (insurance agents) to five years (nurses) with the samples being younger than the populations (except doctors). Except for teachers and lawyers who were slightly dominated by women, the sex distributions for doctors, nurses and insurance agents tended to be representative. Greater discrepancies were observed between populations and samples in other socioeconomic aspects. Our samples consisted of more married and Chinese doctors, engineers with lower income, lawyers with shorter years in practice, more non-married and non-Chinese nurses, better-educated teachers and less-educated insurance agents. These population-sample differences were taken into consideration when interpreting the results.

Measurement

To examine the quality of work life among professional workers in the areas of work stress and associated psychological consequences, the study focused on six types of variables: level of stress, work stressors, psychological consequences, personality traits, family support and

socio-demographic characteristics, with the latter three serving as controls. Work stress was operationalised as the extent of stress perceived in work-related events and situations. 'Stress' has been used in the literature to denote demands which require the individual to readjust his/her usual behavioural patterns (Holmes & Rahe, 1967) or the state of physiological or emotional arousal that results from the perception of demands (Selye, 1974; Lazarus & Folkman, 1984; Thoits, 1995). In this chapter, demands are referred to as 'stressors' and response to demands as 'stress'. A list of work-related events and situations was presented to the respondents, who indicated whether or not they had experienced the situation and if so, the level of stress they experienced, on an eight-point scale ranging from (0) not a source of stress to (7) extreme stress. To take into account work stressors that pertained only to a particular profession, the contents of the list were slightly different for each group of respondents. However, 34 of the situations were common to all six groups of workers and served as the basis for group comparisons in the present analysis. These 34 situations represented a wide range of work situations that not only have been documented in previous research as having significant psychological impact on workers but also were identified as relevant concerns by respondents in pre-survey in-depth interviews. Examples were interpersonal relations, performance pressure, organisational constraints and work-family conflicts. While the items were not adapted from an established scale, they achieved high reliability on one scale (alpha = 0.96). A summary measure of work stress was included to tap the overall level of work stress in the six months prior to the survey. A five-point scale was applied to the measure, ranging from (0) no stress to (4) extreme stress.

Psychological consequences were operationalised in terms of work satisfaction and mental health. For work satisfaction, respondents were instructed to indicate the level of agreement with six items, which tap one's positive evaluation of his/her job and his/her intention to remain in the job. The scale ranged from (1) strongly disagree to (7) strongly agree. A composite score was constructed to reflect the extent of satisfaction with one's job, with possible values ranging from 6 (lowest satisfaction level) to 42 (highest satisfaction level). Mental health refers to a state of psychological well-being, which was measured by a count of 12 psychological conditions experienced one month prior to the survey as worse or much worse than usual. The 12 psychological conditions, adapted from Goldberg's

General Health Questionnaire (1972), deal with symptoms related to anxiety and depression, such as restless sleep, depressed mood and sense of worthlessness. Reliability tests showed reasonable alpha values for the above two scales (0.79 for job satisfaction and 0.88 for mental health).

Personality traits refer to an individual's psychological dispositions, including self-esteem, locus of control and Type A behaviour. Previous studies (e.g., Sutherland & Cooper, 1988) have documented that these traits may influence the experience of stress and its associated consequences. Self-esteem is positive evaluation of self and was measured by a ten-item scale adapted from Rosenberg (1965). Respondents were asked to indicate the level of agreement to the statements on a seven-point scale, ranging from (1) strongly disagree to (5) strongly agree. Data from our sample showed that the scale had good reliability (alpha = 0.77). The scores for the ten items were summed to form an index of self-esteem—a higher score indicates greater self-esteem. Locus of control denotes perceived control over an event. It was assessed by a modified version of Rotter's Locus of Control scale (1966). Using the same computation method as for the self-esteem scale, a five-point scale was employed to measure the level of agreement with the 10 items in the scale. The scores were summed to form a composite index. A higher score indicated internal control. The scale achieved reasonable reliability in our sample (alpha = 0.64).

Type A behaviour refers to a pattern of thought and action characterised by 'a chronic sense of time urgency, excessive competitive drive, and hostility' (Brown, 1986, p. 663). The scale, adapted from Bortner and Rosenman (1967), consisted of 13 items. The level of agreement with each of the 13 items was indicated on a five-point scale. The scores were totalled in such a way that a higher score represented stronger tendency of Type A behaviour. Reasonable reliability of the scale was observed in our sample (alpha = 0.50). Family support was operationalised in terms of the extent of satisfaction with communication and intimacy with family members. It was measured by four items on a five-point scale, ranging from (0) never to (4) all the time. The four items showed high internal consistency (alpha = 0.89) and were added to form a summated score. A higher score indicated greater satisfaction and, hence, more family support. Several socio-demographic variables served as controls in the analysis. Gender was indicated by a dummy variable (1 = men, 0 = women). Age was self-reported number of years of age. Ethnicity was operationalised

in terms of (1) Chinese and (0) non-Chinese. The latter category included Malay, Indian and other ethnic groups. Marital status was classified into (1) married and (0) others, which referred to single, cohabiting, separated/ divorced and widowed people. Education was measured by six levels: (1) secondary 4 or below, (2) GCE '0' level, (3) GCE 'A' level, (4) diploma or equivalent, (5) degree or equivalent and (6) higher degree level. Income was excluded from the analysis because data was not available for nurses. The total number of years of work experience was used to indicate seniority.

The following section presents analyses of differential experience in work stress among the six professional groups and subsequent consequences. Group differences in the experience of work stress were examined by using analysis of variance. Regression technique was employed to assess the effects of work stress on the two psychological outcomes.

Results of Study

The Experience of Work Stress

To understand the experience of work stress among the six groups of professional workers, we needed to examine the ratings of the overall work stress levels and stress associated with the 34 work-related situations. The average work stress level was reported to be 2.04 out of the highest value of 5.00, which indicated moderate stress (Table 2). Teachers reported the most stress, followed by lawyers, nurses, engineers, insurance agents and medical doctors. Medical doctors in our sample are general practitioners and thus, like insurance agents, have greater work autonomy. This might explain why physician stress was lower than that of engineers, lawyers and teachers, a result different from other published studies. Our finding thus suggests that the experience of work stress may be related to work autonomy associated with the profession. This speculation needs to be verified with information about the specific sources of work stress for each professional group. Moreover, insurance agents were found to have the highest locus of control and medical doctors reported a high level of family support. Positive personality traits and social support may reduce the experience of stress among insurance agents and doctors. Further analyses below will clarify this issue.

Table 2: Mean Comparisons of Work-Related Stress, Psychological Consequences, Personality Traits, and Family Support among Doctors, Engineers, Insurance Agents, Lawyers, Nurses and Teachers

Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
*Work-Related Stress**							
Poor relations with superior	4.74	1.78	5.42	2.86	3.37	6.29	4.86
Bureaucratic constraints	4.91	2.13	5.92	3.48	3.35	6.24	5.11
Work-family conflicts	5.78	4.99	6.32	4.73	4.92	5.85	8.05
Poor relations with colleagues	6.16	3.29	5.93	3.46	4.77	8.26	6.17
Performance pressure	9.78	6.61	9.71	6.89	10.73	10.72	10.51
Poor job prospect	6.03	2.15	5.91	4.39	2.76	8.99	4.88
Overall work stress	2.04	1.50	2.05	1.81	2.12	2.08	2.29
Consequences							
Work satisfaction	27.29	30.70	27.67	29.50	29.63	24.76	27.36
Mental health	1.72	0.53	1.35	1.74	1.21	1.87	2.75
Personality Traits							
Locus of control	31.67	31.49	30.85	35.45	31.83	30.10	32.45
Self-esteem	38.82	39.43	39.78	38.59	40.51	37.41	40.31
Type A behavior	42.33	40.83	43.50	42.27	42.62	42.39	41.62
Family support	12.91	14.25	12.15	11.50	12.82	13.23	13.75

All mean comparisons were statistically significant at $p < .001$.
* "Not experiencing the situation" was coded as 0.

Table 3: Factor Loadings of Work-Related Events or Situations* on Corresponding Factors—Doctors, Engineers, Insurance Agents, Lawyers, Nurses and Teachers

Stressors		Factor Loadings
	Factor 1 Poor Relations with Superior	
6	**Lack of support from superior**	**0.76**
5	**Difficulty in maintaining relationship with superior**	**0.76**
7	**My beliefs contradict with those of my superior**	**0.74**
8	Unfair assessment from superior	0.67
9	Discrimination and favoritism	0.80
	Percent of variance explained = 42.50	
	Factor 2 Bureaucratic Constraints	
24	**Lack of authority to carry out my job duties**	**0.67**
25	**Unable to make full use of my skills and ability**	**0.66**
26	**Having to do work outside of my competence**	**0.64**
23	Cannot participate in decision-making	0.61
27	Having to do unnecessary task or project	0.60
36	Under pressure to do things against my professional ethics	0.54
	Percent of variance explained = 6.80	

	Factor 3 Work-Family Conflicts	
33	**Work demands affect my home/personal life**	**0.72**
37	**Advancing a career at the expense of home/personal life**	**0.67**
32	**My life is too centered on my work**	**0.65**
34	Absence of emotional support from family	0.64
35	Difficult to distance myself from my clients	0.64
31	Inadequate time for professional and self development	0.46
	Percent of variance explained = 4.40	
	Factor 4 Poor Relations with Colleagues	
17	**Working with uncooperative colleagues**	**0.78**
16	**Working with incompetent colleagues**	**0.76**
18	**Relationship problems with colleagues/subordinates**	**0.69**
19	Jealousy and competition among colleagues	0.56
20	Work delayed by unnecessary red tape	0.51
22	High staff turnover	0.41
	Percent of variance explained = 4.10	
	Factor 5 Performance Pressure	
2	**Time pressures and deadlines to meet**	**0.80**
1	**Work overload**	**0.80**
4	**Fear of making mistakes that can lead to serious consequences**	**0.53**
29	My work is mentally straining	0.52
28	Having to work continually to achieve self-set target	0.47
21	Too much administrative work or paperwork	0.45
	Percent of variance explained = 3.40	

Table 3 (*cont.*)

	Stressors	Factor Loadings
	Factor 6 Poor Job Prospect	
32	**Feeling of being underpaid**	**0.76**
12	**Lack of promotion prospects**	**0.69**
30	**Society does not think highly of my profession**	**0.61**
14	Feeling insecure in this job	0.50
15	Insufficient resources & facilities to get work done	0.48
	Percent of variance explained = 3.00	

* "Not experiencing the situation" was coded as 0.

Notes:

1. Only those events shared by the five groups were included.
2. Items in bold face were summed to be subscales of work stress.

Sources of work stress for each individual group were investigated by analysing responses to the inventory of work stressors. A work situation is considered stressful if the respondent has experienced it and perceived it to be stressful. A situation is not stressful for the respondent if he/she has not experienced it. While the presence of a negative situation (as phrased in the survey) may not constitute stress, its absence would mean that the situation is not a source of stress for the individual. To detect the underlying structure of work stress, the 34 work-related events and situations were factor-analysed. Six factors were generated, accounting for a total of 64.2% of variance (Table 3). The three items that had the highest loadings on the respective factors were summed to form subscales of work stress. Based on the three representative items, the six factors were labelled 'poor relations with superiors', 'bureaucratic constraints', 'work-family conflicts', 'poor relations with colleagues', 'performance pressure' and 'poor job prospects'. The reliability measures for these six subscales ranged from 0.78 to 0.88, suggesting reasonable reliability.

In general, the professional workers in our sample reported the highest level of stress related to performance pressure (mean = 9.78) (Table 2). This pattern was consistent across all six professional groups. Poor relations with superiors constituted the least stress (mean = 4.74). This pattern was found in four of the six groups: doctors, engineers, insurance agents and teachers. Another notable finding was that while the extent of stress associated with work-family conflicts was ranked fourth for the entire sample, it was the second most stressful work-related situation for most of the groups, except nurses. The discrepancy in the ranking between the full sample and separate groups was likely to be the result of a statistical artifact. In general, these findings suggest that professional workers in Singapore tended to perceive performance pressure and conflicts of work with family life as the most stressful aspects of their work.

Among the six professional groups, nurses scored the highest on stress related to poor social relations at the workplace (with superiors and colleagues), bureaucratic constraints and poor job prospects. Compared to other professional groups in the sample, the nursing profession is most bound by organisation: nurses work in public hospitals, which are subject to the strictest hierarchical and legal control. Nurses usually have to work within a complicated network of hierarchical actors in the organisation, such as doctors, chief nurse,

fellow nurses, patients and hospital administrators. The nursing profession also receives low occupational prestige with its low income level. This may account for the extent of stress experienced by nurses. While insurance agents also receive low occupational prestige, they tend to have more control over their income, as how much they earn is determined by the amount of sales acquired. As a result, insurance agents hold their job prospects in their own hands and are less likely to develop a sense of stress. Two other professional groups also reported high stress related to social relations and bureaucratic constraints: engineers and teachers. They occupied the second and third rankings on the three relevant stressors (poor relations with superiors, bureaucratic constraints and poor relations with colleagues). Like nurses, engineers and teachers tend to work in large formal organisations, and are thus more prone to these stressors than other professional groups.

Regarding work-family conflicts and performance pressure, teachers received the highest mean score for the two subscales. Among the six groups, teachers had such a heavy workload that they often had to work after school hours. The extra-curricular activities after school also interfered with teachers' personal and home life. Our sample of teachers consisted mainly of women. Since women are usually caregivers in the family, they may be relatively sensitive to stress arising from the interference of work with family life. The nursing sample also consisted of a majority of women. But their work cannot be brought home and must be done during the work shift. So the interruption of their family life by work is not so obviously felt as in the case of teachers.

Doctors who worked as general practitioners reported the lowest level of stress for all six work stress subscales, except work-family conflicts, on which they ranked fourth among all professional groups. About 80% of the doctors in our sample did not have a superior. These doctors might run their own clinics. The levels of stress related to conflicts with superiors and colleagues were thus relatively low, compared to other professional workers who tend to work within an organisational framework. As they are likely to be their own boss, doctors are better able to control the amount of workload, thus reducing the stress associated with performance pressure. The high economic rewards and occupational prestige attached to the medical profession may also account for the relatively low level of stress arising from poor job prospects.

The above findings raise a question as to whether or not group differences in overall work stress were due to differences in the level of specific work stress, personality traits, family support and socio-demographic composition of the group. Moreover, the relative contributions of the different types of work stress to the overall experience of work stress need to be assessed. To accomplish these goals, the overall level of work stress was regressed on work stress subscales, personality traits, family support, professional groups and socio-demographic controls. Age was excluded from the analysis because of its high correlation with work experience. Results for the full sample (Table 4) showed that, after controlling for relevant variables, performance pressure, work-family conflicts and poor job prospects significantly predicted the overall level of work stress for our sample of professional workers. Judged by the standardised regression coefficients, performance pressure was the most important source of stress, followed by work-family conflicts and poor job prospects.

After controlling for the types of work stress, professional group membership remained a significant predictor of overall work stress. Compared to engineers, lawyers and teachers reported significantly higher levels of work stress while doctors indicated a lower level. The list of 34 work-related stressors might not have captured the full range of stress experienced by workers in different professions. The effect of professional group membership may thus reflect the impacts of these 'other' stressors. Type A behaviour tended to increase work stress while work experience had a negative relationship with the dependent variable. The regression model accounted for 43% of variance in overall work stress.

Subgroup analyses indicate that the independent variables explained 37 to 49% of variance in work stress for the six professional groups. Group similarities and differences were observed in the contribution of the six specified types of work stress to overall stress level. Performance pressure consistently contributed to workers' stress in each of the professional groups. Except for doctors, performance pressure was also the most important source of stress. Work-family conflicts were associated with overall work stress for all workers, except insurance agents. Poor job prospects, however, achieved statistical significance among insurance agents and nurses only. This may be due to the unstable income structure among agents and relatively low pay among nurses. The experience of work stress level among nurses was also associated with poor relations with superiors and bureaucratic constraints.

Table 4: Regression of Overall Work Stress on Types of Work-Related Stress, Personality Traits, Family Support, Professional Group Membership and Socio-demographic Characteristics

Independent Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Work-Related Stress[1]							
Poor relations with superior	0.01 (0.03)	0.001 (0.01)	−0.003 (−0.02)	−0.02 (−0.09)	0.01 (0.06)	0.02 (0.11)**	−0.00 (−0.01)
Bureaucratic constraints	0.005 (0.03)	−0.02 (−0.08)	0.01 (0.05)	0.01 (0.07)	−0.005 (−0.02)	0.01 (0.08)*	−0.004 (−0.03)
Work-family conflicts	0.04 (0.23)***	0.08 (0.51)***	0.02 (0.16)*	0.02 (0.11)	0.04 (0.24)***	0.03 (0.20)***	0.04 (0.26)***
Poor relations with colleagues	0.002 (0.01)	0.01 (0.05)	0.01 (0.03)	−0.01 (−0.05)	0.003 (0.02)	0.01 (0.04)	0.01 (0.04)
Performance pressure	0.06 (0.37)***	0.04 (0.25)**	0.08 (0.46)***	0.07 (0.41)***	0.08 (0.49)***	0.04 (0.27)***	0.06 (0.36)***
Poor job prospect	0.01 (0.10)***	0.02 (0.10)	0.02 (0.09)	0.03 (0.18)**	−0.02 (−0.12)	0.02 (0.13)**	0.02 (0.11)
Personality Traits							
Locus of control	−0.001 (−0.003)	0.01 (0.09)	0.02 (0.10)	0.01 (0.06)	−0.01 (−0.04)	−0.004 (−0.02)	−0.01 (−0.08)
Self-esteem	−0.004 (−0.02)	0.03 (0.14)	−0.01 (−0.04)	−0.02 (−0.10)	−0.01 (−0.05)	0.001 (0.01)	−0.01 (−0.06)
Type A behavior	0.01 (0.06)***	0.01 (0.05)	0.01 (0.05)	0.01 (0.07)	0.02 (0.11)**	0.0003 (0.001)	0.02 (0.12)**
Family support	−0.01 (−0.03)	−0.03 (−0.12)	−0.02 (−0.06)	−0.03 (−0.10)*	0.01 (0.03)	−0.004 (−0.02)	−0.01 (−0.04)
Professional Groups							
Doctors	−0.18 (−0.05)*	–	–	–	–	–	–
Agents	0.02 (0.01)	–	–	–	–	–	–
Lawyers	0.16 (0.07)*	–	–	–	–	–	–
Nurses	−0.13 (−0.06)	–	–	–	–	–	–
Teachers	0.17 (0.06)*		–	–	–	–	–
(Reference group: Engineers)							

Socio-demographic Characteristics							
Gender (men = 1)	−0.07 (−0.03)	−0.08 (−0.04)	−0.26 (−0.09)	0.05 (0.02)	0.02 (0.01)	0.02 (0.01)	−0.30 (−0.15)**
Ethnicity (Chinese = 1)	0.01 (0.01)	0.75 (0.18)*	0.14 (0.04)	−0.08 (−0.02)	−0.03 (−0.02)	−0.003 (−0.002)	0.16 (0.07)
Education	−0.02 (−0.03)	0.20 (0.08)	0.07 (0.06)	−0.01 (−0.01)	−0.10 (−0.04)	−0.06 (−0.03)	0.07 (0.07)
Marital status (married = 1)	0.001 (−0.001)	0.11 (0.04)	−0.09 (−0.05)	−0.01 (−0.003)	−0.01 (−0.01)	0.05 (0.02)	−0.06 (−0.03)
Working experience	−0.01 (−0.05)**	−0.003 (−0.03)	0.02 (0.10)	−0.0003 (−0.003)	−0.01 (−0.11)*	−0.01 (−0.07)	0.005 (0.05)
Constant	1.03***	−2.33*	0.25	1.23*	1.44*	1.34***	0.92
R Square	0.44	0.53	0.41	0.41	0.50	0.43	0.52
Adjusted R Square	0.43	0.47	0.37	0.38	0.47	0.41	0.49
Valid sample size	1916	126	205	308	350	670	257

[1] "Not experiencing the situation" was coded as 0.
*** $p < 0.001$
** $p < 0.01$
* $p < 0.05$
– Variable not included in the equation.

Compared with other groups of workers, nurses' performance may be most constrained by the formal organisation. Nurses are usually ranked low within the professional hierarchy of a hospital. They have to follow instructions from the head nurse, doctors, other health care professionals and administrators. As a result, relations with superiors and bureaucratic procedures may induce greater stress among nurses than among other professional groups. Type A behaviour influenced work stress level for lawyers and teachers only. The effect of work experience was statistically significant among lawyers, but not other groups. Family support, gender and ethnicity were significant predictors for insurance agents, teachers and doctors, respectively. Chinese doctors reported greater work stress than their non-Chinese counterparts did. Male teachers and insurance agents with a high level of family support tended to experience lower levels of stress than their counterparts.

In sum, performance pressure and work-family conflicts were perceived to be the most stressful aspects of work by our respondents. These two stressors also significantly contributed to the experience of overall work stress. Group variations were observed in that workers in professions with greater work autonomy, such as doctors and insurance agents, tended to report lower levels of work stress. Compared to other professional groups, nurses, teachers and engineers tended to work within formal and rigid organisational frameworks and thus experienced greater stress related to social relations at the workplace and bureaucratic constraints. Workers in 'mature' professions are less likely to experience stress arising from job prospects than new professions (e.g., nurses and teachers), as the former generally receive better social recognition and economic rewards.

Psychological Impacts of Work Stress

Two psychological consequences of work stress were examined: work satisfaction and mental health. The data in Table 2 shows an average score of 27.29 on the work satisfaction scale for our entire sample of professional workers, suggesting that our workers were rather satisfied with their work. Doctors reported the highest level of work satisfaction, followed by lawyers, insurance agents, engineers, teachers and nurses. Of the 12 mental health symptoms, the respondents as a whole had experienced an average of 1.72 symptoms, implying

that our sample of professionals was a rather healthy one. Again, doctors reported the lowest number of symptoms, followed by lawyers, engineers, insurance agents, nurses and teachers. Doctors tended to be the least distressed group while teachers and nurses were the most distressed ones.

Regression technique was employed to evaluate the impacts of various types of work stress on the two psychological outcomes. Both work satisfaction and mental health were regressed on the six types of work stress, personality traits, family support and socio-demographic characteristics. Five dummy variables, which indicated professional group membership, were included in the analysis for the full sample. Regression results for work satisfaction and mental health are presented in Tables 5 and 6 respectively.

Work Stress and Work Satisfaction

Table 5 shows that the regression model for the combined sample explained 35% of variance in work satisfaction. Among the six types of work stress, work-family conflicts, poor relations with colleagues, performance pressure, and poor job prospects significantly predicted work satisfaction in the combined sample, with poor job prospects being the most significant factor. Except for poor relations with colleagues, the relationships of the other three types of work stress with work satisfaction were in the expected direction. That is, greater levels of stress arising from work-family conflicts, performance pressure, and poor job prospects were related to lower level of work satisfaction. The unexpected positive association between poor relations with colleagues and work satisfaction was found among nurses only. One possibility may be due to multi co-linearity where poor relations with colleagues correlate more with other stressors than with work satisfaction. After controlling for work stress and other relevant variables, nurses and teachers were found to be less satisfied with their work than engineers. However, no significant difference was observed among engineers, doctors, insurance agents and lawyers. The relatively low level of work satisfaction among nurses and teachers may be due to stressors not captured in the analysis.

The three measures of personality contributed significantly to work satisfaction. Higher locus of control and self-esteem and Type A behaviour tended to increase work satisfaction. Family support and

Table 5: Regression of Work Satisfaction on Types of Work-Related Stress, Personality Traits, Family Support, Professional Group Membership and Socio-demographic Characteristics

Independent Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Work-Related Stress[1]							
Poor relations with superior	−0.05 (−0.03)	0.12 (0.08)	0.13 (0.10)	−0.14 (−0.10)	−0.12 (−0.09)	−0.03 (−0.02)	−0.10 (−0.07)
Bureaucratic constraints	−0.05 (−0.03)	0.17 (0.11)	−0.51 (−0.37)***	−0.01 (−0.004)	0.10 (0.07)	−0.01 (−0.01)	−0.12 (−0.09)
Work-family conflicts	−0.20 (−0.16)***	−0.30 (−0.27)**	−0.02 (−0.02)	−0.19 (−0.18)**	−0.29 (−0.25)***	−0.22 (−0.16)***	−0.17 (−0.15)*
Poor relations with colleagues	0.07 (0.06)*	−0.13 (−0.10)	0.08 (0.06)	0.12 (0.09)	0.06 (0.05)	0.11 (0.09)*	0.04 (0.03)
Performance pressure	−0.10 (−0.08)***	−0.09 (−0.08)	0.01 (0.01)	0.03 (0.03)	−0.17 (−0.14)*	−0.13 (−0.11)**	−0.21 (−0.15)*
Poor job prospect	−0.23 (−0.19)***	−0.48 (−0.28)*	−0.05 (−0.03)	−0.06 (−0.05)	−0.33 (−0.20)**	−0.28 (−0.25)***	−0.18 (−0.14)
Personality Traits							
Locus of control	0.16 (0.13)***	0.07 (0.08)	0.37 (0.27)***	0.21 (0.20)***	0.07 (0.06)	0.18 (0.12)***	0.04 (0.03)
Self-esteem	0.23 (0.17)***	0.26 (0.21)*	0.07 (0.05)	0.29 (0.28)***	0.20 (0.16)**	0.26 (0.18)***	0.17 (0.13) *
Type A behavior	0.06 (0.04)*	0.11 (0.10)	0.10 (0.08)	0.05 (0.05)	0.07 (0.06)	0.06 (0.04)	−0.06 (−0.05)
Family support	0.13 (0.07)***	0.15 (0.08)	0.13 (0.06)	0.12 (0.08)	0.15 (0.08)	0.10 (0.05)	0.31 (0.14)
Professional Groups							
Doctors	−0.12 (−0.004)	–	–	–	–	–	–
Agents	0.06 (0.003)	–	–	–	–	–	–
Lawyers	0.06 (0.003)	–	–	–	–	–	–
Nurses	−1.99 (−0.13)*	–	–	–	–	–	–
Teachers	−1.35 (−0.06)*	–	–	–	–	–	–
Reference group: Engineers)							

Sociodemographic Characteristic							
Gender (men = 1)	0.59 (0.04)	1.17 (0.09)	2.38 (0.10)	−0.62 (−0.05)	0.08 (0.01)	1.53 (0.05)	1.85 (0.12)
Ethnicity (Chinese = 1)	0.57 (0.03)	−0.27 (−0.01)	−2.54 (−0.09)	0.73 (0.03)	0.02 (0.002)	0.54 (0.03)	−0.81 (−0.05)
Education	0.13 (0.03)	−1.65 (−0.09)	1.52 (0.15)*	0.05 (0.01)	0.11 (0.005)	−0.11 (−0.01)	−0.55 (−0.07)
Marital status (married = 1)	−0.55 (−0.04)	−0.13 (−0.01)	0.65 (0.05)	0.09 (0.01)	−0.17 (−0.01)	−1.10 (−0.07)	−0.33 (−0.02)
Working experience	0.15 (0.18)***	−0.10 (−0.13)	0.07 (0.05)	0.06 (0.08)	0.09 (0.13)**	0.23 (0.25)**	0.04 (0.05)
Constant	11.26***	21.19*	2.17	7.28*	17.24**	7.68*	26.21***
R Square	0.36	0.36	0.32	0.32	0.34	0.35	0.35
Adjusted R Square	0.35	0.27	0.26	0.28	0.31	0.34	0.31
Valid sample size	2016	130	210	328	369	727	252

[1] "Not experiencing the situation" was coded as 0.
*** $p < 0.001$
** $p < 0.01$
* $p < 0.05$
– Variable not included in the equation.

work experience also boosted satisfaction with work. Subgroup comparisons showed that work-family conflicts lowered work satisfaction for all workers except engineers. This may be due to the fact that an overwhelming majority of engineers in the sample were men, who are generally not as vulnerable to the impact of interference of family with work as women (Aneshensel, Frerichs & Clark, 1981; Thoits, 1986). Although gender was controlled for in the analysis, there were too few cases of women for them to serve as a meaningful comparison category. Thus the gender effect still remained in the engineers group.

Performance pressure influenced the level of work satisfaction for lawyers, nurses and teachers. Doctors, engineers and insurance agents seemed to be protected from the negative impact of the stressor. The pressure experienced by the latter group of professionals might be self-imposed while that of the former might come from the organisation. Self-imposition of pressure may be an indication of professional commitment. In such cases, stress related to self-imposed performance pressure may not reduce the level of work satisfaction. The negative effect of stress arising from poor job prospects on work satisfaction was replicated among doctors, lawyers, nurses and teachers. The absence of a significant effect of poor job prospects among engineers and insurance agents may be due to two factors. First, engineers and insurance agents may derive work satisfaction from sources other than economic rewards and social recognition. For example, insurance agents think they are providing an important service to the community: they see themselves as altruistic, protecting the individual and the family. Second, they may also have accepted and internalised the facts of unstable income and low job status before they joined the profession. In that case, stress related to job rewards would not have any significant impact on work satisfaction.

Only bureaucratic constraints affected engineers' level of work satisfaction. This was a rather surprising finding because bureaucratic constraints were expected to influence workers in professions having little autonomy and control and confined by a formal organisational framework—such as nurses and teachers. Although nurses and teachers reported a relatively high level of stress arising from bureaucratic constraints, this kind of stress did not influence their work satisfaction. Personality dispositions were shown to have varying impacts on work satisfaction among the six professional groups. Locus of control increased work satisfaction for engineers, insurance agents and

nurses. The positive effect of self-esteem applied to all workers, except engineers. Work experience tended to be positively related to work satisfaction among lawyers and nurses. Better-educated engineers reported a higher level of work satisfaction than their less well-educated counterparts. The model explained 26% to 34% of variance in work satisfaction among the six professional groups.

In sum, work-family conflicts continued to have a rather consistent effect on work satisfaction, as reported by our sample of professional workers. Greater stress arising from work-family conflicts was associated with lower level of work satisfaction: showing a possible spillover between family and work (Bromet, Dew & Parkinson, 1990; Wheaton, 1990).

Work Stress and Mental Health

When mental health was input as the outcome variable, poor relations with superiors, work-family conflicts and performance pressure were the three significant sources of work stress that affected the mental health of respondents in the combined sample, with work-family conflicts being the most important source of stress (Table 6). The effect of poor relations with superiors may be a result of the organisational culture and the larger culture of Singapore. It is generally perceived in Singapore that the boss (in both private and public sectors) has considerable power over his/her subordinates in areas of promotion and salary raise. Moreover, complaints and appeals are not a norm among Singaporeans. Therefore, once conflicts arise between worker and the boss, it would be rather distressing to the former. Another explanation may be that due to the Chinese emphasis on interpersonal harmony, stress arising from social relations at the workplace has been found to be detrimental to one's psychological well-being (Lai, 1995; Lin & Lai, 1995). Although the effect of ethnicity was controlled for in our analysis, the fact that Confucian values are promoted in Singaporean society may reinforce the value of interpersonal harmony among all Singaporeans, regardless of ethnicity. As a result, Singaporean workers are vulnerable to the effect of interpersonal conflicts with superiors. However, conflicts with colleagues did not have a significant effect on workers' mental health. As the boss usually controls most of the resources at work, relationship problems with colleagues would involve fewer conflicts of interests, thus being less threatening to one's well-being.

Table 6: Regression of Mental Health on Types of Work-Related Stress, Personality Traits, Family Support, Professional Group Membership and Socio-demographic Characteristics

Independent Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Work-Related Stress[1]							
Poor relations with superior	0.04 (0.09)***	0.02 (0.07)	−0.01 (−0.02)	0.02 (0.04)	−0.01 (−0.03)	0.07 (0.15)***	0.08 (0.13)*
Bureaucratic constraints	0.01 (0.03)	0.03 (0.08)	0.04 (0.10)	0.06 (0.10)	−0.01 (−0.02)	0.01 (0.03)	−0.02 (−0.03)
Work-family conflicts	0.08 (0.17)***	0.01 (0.05)	0.06 (0.17)	0.07 (0.13)	0.07 (0.17)**	0.10 (0.22)***	0.05 (0.10)
Poor relations with colleagues	0.001 (0.002)	−0.03 (−0.10)	0.02 (0.05)	−0.003 (−0.01)	0.02 (0.06)	0.01 (0.02)	−0.05 (−0.08)
Performance pressure	0.05 (0.10)***	0.02 (0.10)	0.03 (0.07)	0.02 (0.03)	0.04 (0.10)	0.0 (0.08)	0.18 (0.28)***
Poor job prospect	0.02 (0.04)	0.01 (0.02)	0.004 (0.01)	0.04 (0.07)	0.07 (0.13)	−0.01 (−0.02)	0.07 (0.11)
Personality Traits							
Locus of control	−0.03 (−0.06)**	−0.05 (−0.24)*	−0.03 (−0.06)	0.003 (0.01)	−0.02 (−0.05)	−0.04 (−0.08)*	−0.05 (−0.09)
Self-esteem	−0.09 (−0.17)***	0.01 (0.04)	−0.09 (−0.18)*	−0.06 (−0.13)*	−0.04 (−0.10)	−0.10 (−0.18)***	−0.16 (−0.27)***
Type A behavior	0.002 (0.004)	−0.01 (−0.06)	0.03 (0.07)	−0.02 (−0.04)	0.02 (0.05)	−0.03 (−0.05)	0.04 (0.07)
Family support	−0.06 (−0.08)***	−0.04 (−0.10)	−0.08 (−0.12)	−0.11 (−0.14)*	−0.03 (−0.04)	−0.06 (−0.08)*	0.01 (0.01)
Professional Groups							
Doctors	−0.16 (−0.01)	–	–	–	–	–	–
Agents	0.62 (0.08)*	–	–	–	–	–	–
Lawyers	0.02 (0.002)	–	–	–	–	–	–
Nurses	−0.36 (−0.06)	–	–	–	–	–	–
Teachers	1.23 (0.15)***	–	–	–	–	–	–
(Reference group: Engineers)							

Socio-demographic Characteristics							
Gender (men = 1)	−0.50 (−0.09)***	0.22 (0.08)	−0.47 (−0.06)	−0.90 (−0.15)**	−0.20 (−0.04)	−0.58 (−0.05)	−0.59 (−0.08)
Ethnicity (Chinese = 1)	−0.45 (−0.07)**	0.08 (0.02)	0.04 (0.004)	0.10 (0.01)	−0.55 (−0.11)*	−0.51 (−0.09)*	0.01 (0.001)
Education	−0.07 (−0.04)	0.08 (0.02)	0.24 (0.07)	−0.11 (−0.05)	−0.36 (−0.05)	−0.06 (−0.01)	−0.01 (−0.003)
Marital status (married = 1)	0.09 (0.02)	−0.07 (−0.02)	−0.07 (−0.02)	0.22 (0.04)	−0.10 (−0.02)	0.16 (0.03)	0.14 (0.02)
Working experience	−0.02 (−0.06)*	−0.01 (−0.09)	−0.04 (−0.08)	−0.02 (−0.05)	−0.02 (−0.09)	−0.02 (−0.07)	−0.004 (−0.01)
Constant	6.12***	2.03	3.54	5.99***	4.62*	7.82***	6.75**
R Square	0.26	0.17	0.20	0.18	0.19	0.27	0.42
Adjusted R Square	0.25	0.06	0.13	0.14	0.16	0.25	0.38
Valid sample size	2025	132	210	326	371	733	253

[1] "Not experiencing the situation" was coded as 0.

*** $p < 0.001$

** $p < 0.01$

* $p < 0.05$

– Variable not included in the equation.

Previous studies have shown that strains from combining work and family roles tend to increase psychiatric symptoms (Coverman 1989; Simon 1992). Work-family conflicts may reduce communication with family members, which in turn would induce further stress, subsequently contributing to psychological ill-health. The finding of our study on the detrimental effects of performance pressure was consistent with previous studies (Lowe & Northcott, 1988). Positive personality traits, in terms of locus of control and self-esteem, improved mental health for our sample of workers; this was also consistent with the existing literature (Phelan et al., 1991; Spitze, 1988; Vanfossen, 1981). Male professionals showed greater psychological distress than their female counterparts. Chinese tended to report a lower level of mental ill-health than non-Chinese. Work experience was likely to improve workers' mental well-being. After relevant variables were controlled, insurance agents and teachers remained more distressed than engineers whereas no significant difference was observed between the other three professional groups and engineers. The independent variables in the regression equation explained 25% of variance in the outcome variable.

Subgroup analyses among the professional groups showed notable differences in the effects of work stress and other variables on mental health. None of the work stress subscales had a significant relationship with mental health among doctors, engineers and insurance agents. In other words, after controlling for personality traits, family support and socio-demographic variables, the psychological well-being of these three professional groups was not influenced by work stress. The detrimental impacts of work stress may have been buffered by personal and social resources in the forms of positive personality traits and/or strong family support. Poor relations with superiors tended to worsen the mental health of nurses and teachers. As nurses and teachers tended to have more intense interaction than other professional workers with superiors in their day-to-day work, the quality of this relationship may have had a greater impact on their health. Lawyers and nurses who experienced work-family conflicts tended to report more mental health symptoms than those who did not. Performance pressure affected teachers' psychological well-being.

In general, no consistent pattern was found in the relationship between work stress and psychological well-being. The impacts of work stress on mental health among the workers were rather sporadic. The professional workers in our sample may have adopted

coping strategies that effectively minimised the detrimental effects of work stress. While locus of control and self-esteem helped improve mental health for the combined sample, they did not significantly affect lawyers' report of distress symptoms. Further, locus of control and self-esteem showed differential impacts for the professional groups. The former had an effect only among doctors and nurses, while the latter affected the well-being of engineers, insurance agents, nurses and teachers.

Family support was likely to decrease the number of health symptoms among insurance agents and nurses but showed no significant relationship with the health outcome for the other groups. Family support was particularly important for insurance agents because they often faced rejections from prospects and stereotypes from society. The gender effect was only shown among insurance agents. That is, female insurance agents tended to report more psychiatric symptoms than their male counterparts. The negative relationship between being Chinese and mental health symptoms was observed among lawyers and nurses. When individual groups were considered, the health effect of working experience became insignificant, suggesting that the finding in the full sample was probably a result of the combined effect from all groups. The regression model accounted for a range of 6% to 38% of variance in the health outcome for the six professional groups.

Conclusion

The present study found two major sources of work stress among professional workers in Singapore. One was performance pressure perceived by our sample of professional workers to be the most stressful aspect of work. It was highly related to the work organisations of the professionals. Thus, teachers experienced work demands from their schools, nurses from their hospitals, and engineers from their firms. Lawyers faced pressure not only from their own law firms, but also from external agencies, such as the courts (Lim, 1993).

Moreover, performance pressure had the strongest relationship with job satisfaction and mental health among professions fully embedded in the bureaucratic systems. Teachers and nurses are examples. The picture thus portrayed seems to contrast with the traditional view that professionals have control over their own work (Friedson,

1994). This contrast may be the result of the increasing trend of employment of professionals in formal organisations, leading to de-professionalisation of the occupations. Further research on work stress among professional workers should examine how bureaucracy influences the well-being of professionals by comparing the work experiences of the same professional group in different work settings.

The predominance of performance pressure among Singaporean professionals also supports our argument that performance pressure may be a result of economic growth. The trends of globalisation and bureaucratisation in the Singapore economy have driven workers hard to remain competitive, which may bring stress. As many other countries in East and Southeast Asia are undergoing similar economic transformations, future studies may examine whether this trend of globalising production will generate a similar work experience in societies which are at a similar developmental stage.

Another important source of work stress for our sample of professionals was work-family conflicts. This finding is found in previous studies (Thoits, 1986; Coverman, 1989; Simon, 1992; Lai, 1995). Controlling for demographic characteristics, including gender and marital status, work-family conflicts related significantly to overall work stress and work satisfaction. This pattern was found in almost all professional groups. The pervasive influence of work-family conflicts suggests that Singaporean professionals are juggling their work with family responsibilities. Because of the societal emphasis on family values, Singaporeans have been educated and encouraged to develop commitment to both work and family. Once internalised, the sense of commitment to both social roles may generate a psychological dilemma when the overall demands are multiple and incompatible.

The concept of stress which has been used to guide biological and social science research since World War II conveys the notion of 'excessive demands made on men and animals, demands that produce disturbances of physiological, social, and psychological system' (Lazarus, 1968, p. 338). Performance pressure poses this kind of excessive demands as perceived by Singaporean professionals. Our study, however, shows that work overload as a source of stress does not stand alone. Only when combined with some kind of conflict or interruption do work demands become unbearable. In the Singapore data, the interruption or the conflict had to do with the relation between work and family, and such interruption compounded work pressure. Thus our findings are consistent with the view of stress that

'focuses on *interruption* and subsumes the idea of overload' (Burke, 1996, p. 146; Mandler, 1984). As Burke summarises it, 'Interruption is the 'discomfirmation' of an expectancy or the non-completion of some initiated action. The autonomic activity instigated by interruption (stress) serves as a signalling system that demands attention. This can result in the adaptive response of increasing attention to crucial events or, in more extreme situations, of drawing attention away from other needed areas' (1996, p. 146). It is in this context that work overload becomes 'excessive' and people begin to be sensitised to it as a source of stress.

No consistent pattern was observed regarding interpersonal stress. Relations with colleagues were rated as the third most stressful work condition for most respondents, except insurance agents. However, their psychological impacts were minimal, except among nurses. Relationship problems with superiors, while rated not as stressful as those with colleagues, were significantly related to mental health among nurses and teachers. These findings suggest that although poor relations with colleagues are considered stressful, they did not constitute a threat to one's psychological well-being. Due to the nature of professional work, professionals might derive work satisfaction and happiness from achieving their career goals and fulfilling personal aspirations in the profession. Nevertheless, since nurses and teachers tend to be deeply embedded in the hierarchical structure, they may be more closely 'watched' by their superiors. The latter also have the authority to influence the former's salary raise and promotion. As a result, nurses and teachers are more psychologically vulnerable to the impacts of this problem than other professional groups. To conclude, our sample of Singaporean professionals has shown more similarities than differences in their work experience. The similarities suggest the dominance of the larger socio-cultural and economic contexts in the organisation of work life. The present study also attests to the importance of contextualising stress, as suggested by Pearlin (1989) and Thoits (1995).

CHAPTER ELEVEN

COPING RESOURCES, COPING STRATEGIES AND WORK STRESS AMONG SIX PROFESSIONAL GROUPS: A COMPARATIVE ANALYSIS

Gina Lai, Chan Kwok-bun and Ko Yiu-chung

Work problems have been found to be a common source of stress for many employed persons. While individual actions have shown to be effective in alleviating the negative aspects of social stress in general, they tend to be limited in controlling stressful work situations and their psychological impacts (Pearlin & Schooler, 1978). Previous studies suggest that the controllability of work conditions and the efficacy of individual efforts in coping with work stress depend on a number of factors, including the institutional arrangements of work, the workplace and the availability of resources that enable effective coping (Thoits, 1995).

Professionals are generally perceived to be a special class of workers who are well-educated, possess specialised knowledge and enjoy considerable social status and job autonomy (Auster, 1996; Friedson, 1994). They are also distinguished from non-professional workers by their exceptional personal qualities, including a strong commitment to serving public needs, self-motivation, and self-discipline. Although professionals have also been found to be vulnerable to work stress, just as non-professional workers (Chapter 10), relatively little is known about the ways in which they cope with work stress and the effectiveness of their coping strategies. The present chapter thus aims at examining how professional workers cope with work stress in a highly competitive economy—Singapore. Specifically, the chapter will focus on the availability and use of coping among six groups of professional workers, namely medical doctors, lawyers, engineers, lawyers, life insurance agents, nurses and teachers. Coping effectiveness will also be evaluated.

Coping: A Review of Previous Studies

Life stress has been commonly perceived as an experienced incongruence between environmental demands and individual capacities (Lazarus & Folkman, 1984; Menaghan & Merves, 1984; Peter & Siegrist, 1997). Coping represents an individual agency in mastering such discrepancy so as to protect oneself from being psychologically harmed by a problematic social experience (Latack, 1986; Pearlin & Schooler, 1978; Thoits, 1994). Specifically, coping has three major functions with regard to the stress–distress relationship: (1) changing the situation from which a strained experience arises; (2) altering the meaning of or appraisal of the problematic situation; and (3) controlling distressful feelings aroused by the experience (Pearlin and Schooler, 1978).

Coping: Resources and Response

Previous research has identified two conceptual dimensions of coping: resources and response (Thoits, 1995). Coping resources refer to social and personal characteristics upon which people may draw to help them withstand threats posed by their environment (Pearlin & Schooler, 1978). Coping resources define a potential for action and can be further differentiated into psychological and social resources. Psychological resources are traits possessed by an individual, such as mastery and self-esteem (Sutherland & Cooper, 1988; Chan, 1977), whereas social resources are a social 'fund' embedded in one's social networks, an important manifestation of which is social support (Lin & Ensel, 1989). Social support refers to functions performed for the individual by significant others, such as family members, friends and co-workers. Important supportive functions include informational, instrumental and emotional assistance (Thoits, 1995). It is interesting to point out that perceived support has been found to be *more important* than actual support in buffering the negative health impact of stress (Wethington & Kessler, 1986).

Coping response represents the action or activity itself and can be further delineated into coping strategies and coping styles. Coping strategies are behavioural and/or cognitive efforts to manage specific situational demands which are considered taxing or exceeding one's adaptive resources (Folkman & Lazarus, 1980; Lazarus & Folkman,

1984). Coping efforts have been classified in various ways (e.g., Billings & Moos, 1981; Folkman & Lazarus, 1980; Pearlin & Schooler, 1978; Peter & Siegrist, 1997), the most general one being the distinction made by Folkman and Lazarus (1980) between problem-focused strategies and emotion-focused strategies. Coping styles refer to characteristic coping behaviours that individuals employ when facing stressors across a variety of situations.

Previous studies have generally observed that individuals tend to use multiple strategies when coping with life events or ongoing strains (Folkman & Lazarus, 1980; Thoits, 1995). However, the nature of stressful encounters might influence the extent of use of a certain tactic. In a longitudinal study of 100 middle-aged adults, respondents were found to have more often employed problem-focused coping strategies to deal with work stressors whereas emotion-focused coping was associated with health-related stressful events (Folkman & Lazarus, 1980). Billings and Moos (1981) observed the prevalent use of emotion-focused coping in response to child-related problems; and problem-focused coping to illness. In the review by Thoits (1995), problem-focused coping is found more likely to be used when situational demands are appraised as controllable whereas emotion-focused coping is more likely to be used when demands seem uncontrollable. Thus controllability of demands seems to be a determining factor of the use of coping strategies.

Coping behaviours may also be influenced by the extent of coping resources one possesses. Self-esteem and mastery, two major forms of psychological resources, have been found to be positively related to problem-focused coping strategies or active coping styles (Thoits, 1995). However, in a study of 2,299 adults in the Chicago metropolitan area, it was found that mastery increased only problem-focused coping in the impersonal areas of work and finance, but the effect of self-esteem on coping tended to be weak and inconsistent (Fleishman, 1984). Type A personality was found to be correlated with the use of proactive strategies among 109 managers and professionals coping with various work situations, including role ambiguity, role conflict and role overload (Latack, 1986). Some psychological dispositions, such as self-denial and nondisclosure, tend to be associated with asocial coping, for example, selective ignoring, resignation and passive acceptance (Fleishman, 1984).

Evidence has been documented for the relationship between social support as coping resources and coping behaviours. In a correlational

study, social support was found to be related to the use of proactive coping (Latack, 1986). A three-wave panel study of 120 spinal cord injured adults revealed that perceived presence of social support at one-month post rehabilitation was related to active coping responses at four-month post rehabilitation. Perceived social support and coping strategies were further shown to be complementary to one another. Emotional support and informational support at Time one tend to decrease emotion-oriented and perception-oriented coping respectively at Time two (McColl, Lei, & Skinner, 1995). However, Frazier, Tix, Klein, and Arikian (2000) argued that when the consistency of social support and coping were taken into account, social support no longer predicted later coping; neither did coping predict later social support.

Coping Effectiveness

Coping effectiveness has been conceptualised in two ways. First, effective coping would reduce felt stress related to life problems (Lin & Ensel, 1989; Menaghan & Merves, 1984; Pearlin & Schooler, 1978; Thoits, 1994). Effectiveness of a certain coping strategy, defined as such, would be assessed by reduced correlation between stressor(s) and psychological distress after controlling for that strategy (e.g., Pearlin & Schooler, 1978). Second, effective coping would resolve problems, shorten the duration of problems, or reduce further problems (Harnish, Aseltine & Gore, 2000; Menaghan & Merves, 1984; Thoits, 1994).

Previous studies have informed us that not all coping efforts are functional or effective in alleviating stress nor efficacious across all situations (Thoits, 1995). Despite the effectiveness of coping efforts in reducing emotional stress arising from marital and parenting problems (Pearlin & Schooler, 1978), coping efforts tend to be futile in the work area, which is often impersonally organised and in which the forces affecting individuals tend to be beyond personal control (Menaghan & Merves, 1984; Pearlin & Schooler, 1978). Coyne and Downey (1991) even contended that across studies, coping more often seems to have damaging rather than beneficial effects on well-being.

When specific types of coping strategies are considered, patterns are still far from conclusive. Problem-focused coping has been found to decrease job-related anxiety, lower the propensity to leave the

work organisation, and promote greater job satisfaction among a group of 109 managers and professionals (Latack, 1986). Problem-focused coping responses were also found to be correlated with fewer depressive symptoms among a sample of 1,656 adults (Hänninen & Aro, 1996). However, some other studies reported no or exacerbating effects on psychological symptoms (Thoits, 1995). Further, some emotion-focused coping efforts (reward substitution and positive comparison) were shown to be effective in reducing felt stress related to occupational problems (Menaghan & Merves, 1984; Pearlin & Schooler, 1978) but some others (avoidance, social withdrawal and restricted expectations) might increase psychosomatic symptoms commonly associated with stress (Hänninen & Aro, 1996; Latack, 1986; Menaghan & Merves, 1984). Some coping strategies (such as denial and alcohol use) have been found to be beneficial in the short run but have detrimental consequences in the long run (Aneshensel & Huba, 1983). Moreover, the effectiveness of coping strategies may vary by social status. Folkman and Lazarus (1988) showed that seeking social support would promote confidence among older individuals but not for younger ones. Positive reappraisal tends to reduce disgusted and angry feelings among young individuals but increases worried and fearful emotions among the old.

Thoits (1995) suggested that the effectiveness of any one coping strategy or style may depend on two major factors: the properties of a stressor (e.g., chronic vs. acute, controllable vs. uncontrollable) and specific subtypes of stressors (e.g., illness, interpersonal problem). Moreover, some problems may not be successfully solved despite coping attempts. Thoits's panel study of 532 adults (1994) documented that unsuccessfully solved work and love problems, rather than successfully solved ones, would affect emotional distress and substance use.

In contrast to coping efforts, coping resources have been consistently documented to buffer the negative health effects of stress (Thoits, 1995). While coping strategies have no effect on sustaining people facing work strain, psychological resources (absence of self-denigration, mastery and self-esteem) tend to be helpful in reducing distressful feelings arising from work situations (Pearlin & Schooler, 1978). Data from 1,523 managers and professionals showed that sense of mastery was significantly related to lower levels of psychiatric symptoms (Phelan, Schwartz, Bromet, Dew, Parkison, Schulberg, Dunn, Blane & Curtis, 1991). Perceived social support, as social

resources, buffers the damaging mental and physical health impacts of major life events and chronic strains (Thoits, 1995). Particularly, having a confidante would significantly reduce the effects of stress experiences on physical and psychological outcomes (Cohen & Wills, 1985). Despite the consensus on the emotional benefits of psychological and social resources, the underlying mechanism that produces those benefits is yet to be uncovered (Thoits, 1995).

The Social Contexts of Coping

The possession of coping resources and use of coping strategies are as much social and cultural phenomena as they are individual ones (Palinkas, 1992). The individual's structural position would determine the amount of resources possessed and opportunities accessed, which, in turn, would influence the choices he or she has when dealing with life problems (Pearlin, 1989). Thoits (1995) pointed out that psychological resources tended to be inversely distributed by social status. Women, older persons, minority group members, unmarried persons and individuals of lower education and income showed a lower sense of mastery or internal locus of control. However, social status differences in self-esteem were less apparent. The distribution of social support generally followed the status pattern for mastery, except that women either reported more perceived support than men or that men and women did not differ in these resources (Turner & Marino, 1994).

Compared to their less educated and less affluent counterparts, better educated and more affluent individuals tend to adopt active behavioural coping, such as positive comparison, advice-seeking and direct action (Fleishman, 1984; Menaghan & Merves, 1984; Pearlin & Schooler, 1978). Younger individuals were found to more often employ active coping strategies whereas older individuals tended to resort to passive coping (Fleishman, 1984; Menaghan & Merves, 1984). However, Folkman and Lazarus (1980) observed no relationship between age and coping.

Men, in general, more often adopt an inexpressive, stoic style of coping, whereas women, an emotional, expressive style. Specifically, women are more likely than men to seek social support, distract themselves, let out their feelings and turn to prayer when coping with stressors (Thoits, 1995). However, gender differences in the use

of emotion-focused coping disappear after controlling for specific life episodes (Folkman & Lazarus, 1980). Men tend to use more problem-focused strategies when coping with work and financial problems (Folkman & Lazarus, 1980) whereas women use advice-seeking to cope with marital and parental problems (Fleishman, 1984). Yet, men more often than women possess psychological resources or employ responses that inhibit stressful outcomes of life problems. The strategies adopted by women, in contrast, would result in more stress. The findings were attributed to the cultural factors and socialisation process that encourage men and women to use different coping responses (Hänninen & Aro, 1996; Pearlin & Schooler, 1978).

On the macro level, each society tends to develop its own unique system of beliefs, institutions and sanctions to enable individuals to cope with external stressors (Lin, 1985; Wu & Tseng, 1985). Take the Chinese society as an example. The Chinese culture emphasises self-control of emotions (Wu & Tseng, 1985). Children are socialised to suppress their emotions for the maintenance of interpersonal harmony (Lin, Kleinman & Lin, 1981). In addition, the categorisation of people encountered into a dichotomy of 'own people' and 'outsiders' (Hsu, 1985) encourages the Chinese to keep feelings to themselves or within a close-knit circle of family and friends (Cheung, 1985). In a rapidly developing Chinese society—Hong Kong—fatalism is frequently used by individuals to cope with frustration arising from unfulfilled or blocked aspirations (Lee, 1995).

Professionals in Singapore

The present chapter examines coping resources and responses among professional workers in Singapore. Specifically, it focuses on the institutional arrangements of six chosen professions and their effects on the use and efficacy of coping resources and strategies. Consideration will be given to individual structural position and the larger sociocultural and economic contexts.

The six professions chosen for our study were physicians, lawyers, engineers, life insurance agents, nurses and teachers in Singapore. Singapore has been characterised as an achievement-oriented society. Hing (Chapter 2, 1992) observed that in the last two decades, the Singapore economy has been experiencing surging growth and a high degree of integration into the international capitalist system.

In the course of industrialisation and globalisation, society places great value on competition and quality performance at both organisational and individual levels. The Singapore government even endorses stress in work life so as to elevate the level of competitiveness among its people in the global economy. Further, as a strategy to minimise its burden of providing for family welfare, the Singapore government fervently promotes family values. Singapore men and women have been asked to work hard on the one hand and, on the other, they are educated and encouraged to develop commitment to their family.

As reported in Chapter 10, the drive for quality performance on the part of the employing organisation or the workers themselves as well as the state emphasis on family values have been argued to induce stress among six groups of professional workers, particularly stress related to performance pressure and work-family conflicts. However, workers in professions with greater work autonomy, such as doctors and insurance agents, tended to report lower levels of overall work stress. Further, after controlling for personal and social resources (mastery, self-esteem, Type A personality, and family support), performance pressure did not exert any negative impact on these professional workers' psychological well-being (job satisfaction and mental health). On the contrary, workers who tended to work within formal and rigid organisational frameworks, such as nurses and teachers, experienced greater stress related to social relations at the workplace and bureaucratic constraints, which in turn increased their psychiatric symptoms. These variations in work-related experiences were attributed to the different extents of professionalisation, forms of employment and the socio-demographic compositions of the professions (Chapter 10).

Individuals are conscious, active agents in their own lives (Thoits, 1994). They would take actions to manoeuvre around life obstacles and cope with demands imposed by the environment (Folkman & Lazarus, 1980; Pearlin & Schooler, 1978). Thus the different degrees of stressful work experiences among professional workers may also be due to the different strategies used to cope with work problems and/or differential effectiveness of those strategies. The choice or ability to take a certain action and the effectiveness of that action would, however, be influenced by the larger socio-cultural and structural contexts in which the individual is situated (Palinkas, 1992; Pearlin, 1989).

Professional workers in Singapore, while bestowed with relative work autonomy and control by society, are constrained by a number of structural and culture factors in their daily coping with work problems. Some constraints are commonly experienced by all workers, including the state promotion of competitiveness, high aspirations and family values, as well as a culture of self-reliance, self-motivation and self-actualisation expected of all professionals. Some constraints are unique to individual professions, depending on their institutional arrangements. For example, engineers, nurses and teachers are largely employed in formal organisations where hierarchical relations and bureaucracy are acute (Chapter 10). The work autonomy of lawyers is often constrained by external bureaucracies, such as the court, police and institutional clients (Lim, 1993). The life insurance industry is operating in a hostile environment where death and disabilities are still taboo subjects, and Singaporeans generally have negative stereotypes of insurance agents (Chapter 10). Medical doctors in Singapore, in contrast, are more likely to be self-employed and receive high social recognition from society (Chiew, Ko & Quah, 1991). These socio-cultural and structural factors would affect the ways in which workers in different professions cope with problems at the workplace.

Method

The Samples

The present analysis was based on 2,589 workers from six professional groups: medical doctors, engineers, life insurance agents, lawyers, nurses and teachers. Using self-administered questionnaires, data were collected in 1989–1990. In order to maximise the response rate, a different sampling strategy was employed for each professional group. Random sampling method was employed to obtain a total of 146 general practitioners who completed their medical training in 1960–1986 and whose names were listed in the Government Gazette of 1988. The response rate was 32%. Data for 234 engineers was collected from five organisations. The response rates in the five organisations ranged between 10% and 50%. Data for 400 life insurance agents came from three sources, including a random sample of 212 agents from six major life insurance companies in Singapore, 137 attendees in a series of professional talks, and 51 agents through personal referrals. The overall response rate was 40%. The sample of

lawyers was obtained from the 1,656 registered lawyers who worked in the private sector in 1989. From the 826 selected lawyers, 450 completed questionnaires were received, yielding a response rate of 54.5%. A total of 1,335 nurses working in three public hospitals were selected, of whom 1,024 completed and returned questionnaires, yielding a response rate of 76.6%. The teacher sample consisted of 316 secondary and junior college teachers who attended courses in the Institute of Education in March 1990.

The socio-economic profile of the six groups of professional workers is presented in Table 1. About 40% of the entire sample were men. A majority of the respondents were Chinese (77.10%) and married (58.10%). The average age of the professional workers was 36.6 years old. The respondents were generally well educated. About 50% of the respondents had obtained tertiary education. The income level of the respondents was also high. More than 50% of the respondents received a monthly income of S$3,000. In addition, the sample was a group of experienced workers. The average number of years of work experience was 12.50 years. They had also worked in the present company and in the present position for an average of 5 years and 7 years, respectively.

Comparing across the six professional groups, the representation of men was overwhelming in the professions of medicine (71.80%), engineering (91.00%), life insurance (66.40%) and law (58.2%). Women, on the other hand, dominated the nursing (94.00%) and teaching (71.40%) professions. The Chinese constituted the majority group in all six professional groups (ranging from 63.8% to 94.70%). Engineers were the youngest (30.53 years) while medical doctors were the oldest (41.06 years) in the sample. Except for medical doctors, about 50% to 60% of the professional workers were married. In the case of medical doctors, more than 90% of the respondents were married.

Due to the required educational qualifications, medical doctors and lawyers constituted the most well educated groups. Almost all of them had obtained at least a first degree. Nurses, however, were the least educated. About 80% of the nurses had received only an education of GCE '0' level. The income distributions for the six groups showed that medical doctors earned the most income and life insurance agents earned the least. More than 60% of medical doctors reported a monthly income above S$6,000 whereas more than 40% of life insurance agents received a monthly income of S$2,000 or less. Income data for nurses were not available. While

Table 1: Comparison of Socio-demographic Characteristics: Doctors, Engineers, Insurance Agents, Lawyers, Nurses, and Teachers

Socio-demographic Characteristics (N)	All (2589)	Doctors (146)	Engineers (234)	Agents (400)	Lawyers (450)	Nurses (1043)	Teachers (316)
Gender (% men)	38.60	71.80	91.00	66.40	58.20	6.00	28.60
Race (% Chinese)	77.10	94.50	93.50	94.70	76.40	63.80	79.40
Age (mean)	36.60	41.06	30.53	31.35	34.87	33.85	36.22
Marital status (% married)	58.10	90.40	48.50	53.30	61.30	55.60	61.30
Education (%)							
Secondary 4 or below	6.20	0.00	0.00	11.60	0.00	10.90	0.30
GCE O level	37.10	0.00	0.00	34.30	0.20	78.10	3.80
GCE A level	8.50	0.00	0.00	19.40	0.00	9.60	13.70
Diploma or equivalent	6.80	0.00	26.61	21.20	0.00	1.20	5.70
Degree of equivalent	35.90	88.40	51.93	12.10	89.80	0.30	69.20
Higher degree level	5.50	11.60	21.46	1.50	10.00	0.00	7.30
Income (%)							
$800 or below	1.80	0.00	0.00	6.50	0.00	–	0.30
$801–1000	1.80	0.00	0.00	5.30	0.70	–	1.00
$1001–$2000	20.50	2.80	18.10	30.70	16.20	–	23.20
$2001–$3000	25.90	2.10	53.50	20.20	17.50	–	35.60
$3001–$4000	14.70	4.90	18.10	10.80	10.50	–	27.30
$4001–$6000	13.50	28.70	7.50	10.60	15.00	–	12.40
$6001–$8000	5.50	18.20	2.20	4.00	8.20	–	0.30
$8001–$10000	5.10	13.30	0.00	3.80	10.00	–	0.00
$10001–$15000	4.80	16.80	0.40	2.30	8.90	–	0.00
$15001 or above	6.50	13.30	0.00	5.80	13.00	–	0.00
Years of working experience (mean)	12.50	15.68	6.30	10.61	10.45	14.65	13.88
Years of working in present company (mean)	5.77	10.47	4.29	4.05	5.70	–	6.98
Years of working in present position (mean)	7.40	–	2.72	2.65	5.34	9.68	12.38

the income gap is largely due to the differential rewards conferred by society to these professions, the low income level of life insurance agents may also be due to their relatively short working life as an agent (an average of 4.05 years in the company and 2.65 years in the position). As a life insurance agent's income is purely calculated on a commission basis, an inexperienced or new agent might have a small sales volume, yielding lower income.

The non-random nature of the samples and the relatively low response rates inevitably lead to a concern about the representativeness of our selected respondents. To investigate this issue, population attributes for each profession were obtained from the annual reports of relevant government offices (for engineers and teachers) and professional organisations (for doctors, lawyers, nurses and insurance agents) and compared to the sample characteristics (Department of Statistics, 1990; The Law Society of Singapore, 1990/1991; The Life Insurance Association of Singapore, 1990; Ministry of Education, 1990; Singapore Medical Council, 1989; Singapore Nursing Board, 1993). These reports were taken from or around the year when the sampling was done so as to make the population figures as comparable as possible. Comparison results indicate that in general, our samples approximated rather closely the populations in terms of age and sex. The differences in median age ranged from 2 (insurance agents) to 5 years (nurses), with the samples being younger than the populations (except doctors). Except for teachers and lawyers who were slightly dominated by women, the sex distributions for doctors, nurses and insurance agents tended to be representative. Greater discrepancies were observed between populations and samples in other socio-economic aspects. Our samples consisted of more married and Chinese doctors, engineers with lower income, lawyers with shorter years in practice, more non-married and non-Chinese nurses, better-educated teachers and less-educated insurance agents. These population-sample differences will be taken into consideration when interpreting the results.

Measures

To examine the patterns and efficacy of coping among Singaporean professional workers when facing work problems, the present study focused on four types of variables: coping resources, coping strate-

gies, work stressors and psychological outcomes. Coping resources, reflecting a potential for actions, refer to the social and personal characteristics that individuals draw upon to deal with threats posed by events and objects in their environment (Pearlin & Schooler, 1978). Social support has been conceptualised as an important resource embedded in social relations that might buffer the detrimental effects of stressors on one's well-being (Lin & Ensel, 1989). Previous studies have found that perceived support tends to be more effective than actual support in promoting well-being in face of stressors (Wethington & Kessler, 1986). In this study, social support was conceptualised at two levels: global support network and family support. The extent of global support network was indicated by ten possible types of confidantes: spouse, steady boyfriend/girlfriend, parents, siblings, other relatives, superiors at work, colleagues, friends with same religion, friends with different or no religion and helping professionals. A larger number indicates a more extensive support network. To examine the issue whether the mere presence of confidante of any type or the variety of support influences the stress-distress relationship, a dummy variable was also constructed to capture the presence or absence of confidantes. Family support was evaluated by the extent of satisfaction with family relations in terms of communication and intimacy with family members. It was measured by four items on a 5-point scale, ranging from (0) never to (4) all the time. These four items were adapted from the Family Apgar scale (Rosen, Geyman & Layton, 1980) and showed high internal consistency (alpha = 0.89). A summated score was obtained by adding the four items. A higher score shows greater satisfaction and, hence, more family support.

Besides social resources, the effect of psychological resources on well-being was also assessed. The present study focuses on three major types of psychological resources, namely self-esteem, locus of control and Type A personality. Self-esteem is positive evaluation of self and was measured by a 10-item scale adapted from Rosenberg (1965). Respondents were asked to indicate the level of agreement to the statements on a 5-point scale, ranging from (1) strongly disagree to (5) strongly agree. Data from our sample showed that the scale had good reliability (alpha = 0.77). The scores for the 10 items were summed to form an index of self-esteem—a higher score indicates greater self-esteem. Possible values of the scale ranged from 10 to 50. Locus of control denoted perceived control over an event. It

was assessed by a modified version of Rotter's Locus of Control scale (1966). Using the same computation method as for the self-esteem scale, a 5-point scale was employed to measure the level of agreement to the 10 items in the scale. The scores were summed to form a composite index with values ranging from 10 to 50. A higher score indicates internal control. The scale achieved reasonable reliability in our sample (alpha = 0.64). Type A behaviour refers to a pattern of thought and action characterised by 'a chronic sense of time urgency, excessive competitive drive and hostility' (Brown, 1986:663). The scale, adapted from Bortner and Rosenman (1967), consisted of 13 items. The level of agreement to each of the 13 items was indicated on a 5-point scale. The scores were totalled in such a way that a higher score represented stronger tendency of Type A behaviour. Possible values of the scale ranged from 13 to 65. Reasonable reliability of the scale was observed in our sample (alpha = 0.50).

While coping resources represent a potential for actions, coping strategies refer to actions taken to alleviate the stressful impact of problematic experiences (Pearlin & Schooler, 1978; Thoits, 1995). Guided by Lazarus and Folkman's measurement (1984) and pre-survey in-depth interviews, a checklist of 35 ways of coping was designed to capture both problem-focused and emotion-focused coping strategies. Both behavioural and cognitive attempts were included. Respondents were asked to indicate on a 5-point Likert scale how often they had used each method to deal with their problems at work (0 = never, 1 = rarely, 2 = sometimes, 3 = often, 4 = all the time). These 35 items were factor-analysed and 10 factors were obtained, including problem-solving, self-improvement, emotional discharge, drinking and smoking, changing perspectives, seeking social support, medicalisation of problems, suppression of feelings, externalisation of problems and separation of work from family life (Table 2). Ten subscales of coping strategies were then constructed by taking the average score of the three (or two if there were only two items loaded on the factor) items with the highest loadings on their respective factors.

For analytical purposes, the 10 coping subscales were grouped along two dimensions according to the contents of the subscales. The first dimension was problem-focused vs. emotion-focused responses. Problem-focused coping included problem solving, self-improvement, changing perspectives and separation of work from family life. Emotional discharge, drinking and smoking, medicalisation of problems, suppression of feelings and externalisation of problems would

Table 2: Factor Analysis of Ways of Coping

Factors/Items	Factor Loading	Amount of Variance Explained (%)
Factor 1: Problem solving		11.51
1. I scrutinize the problem and solve it in the best way.	.757	
2. I examine myself after the fact.	.701	
3. I work harder than usual at dealing with the problem.	.646	
4. I exhaust all possible avenues before approaching others.	.629	
5. I find out more about the problem.	.529	
6. I adjust my work volume to suit my ability.	.369	
Factor 2: Self improvement and relaxation		8.09
7. I read books to motivate/inspire myself.	.694	
8. I attend seminars/courses to learn new skills/knowledge.	.648	
9. I exercise and/or play sports.	.604	
10. I listen to music.	.562	
11. I go for a holiday.	.446	
12. I laugh and joke to release tension.	.380	
13. I manage my time properly.	.342	
Factor 3: Emotional discharge		6.07
14. I get mad at people.	.615	
15. I thought of leaving the job.	.598	
16. I cry to let my feelings out.	.577	
17. I sleep and/or eat more than usual.	.486	
Factor 4: Drinking and smoking		5.47
18. I have an alcoholic drink.	.762	
19. I smoke.	.726	
Factor 5: Changing perspectives		4.74
20. I look on the bright side of things.	.788	
21. I accept the situation and learn to live with it.	.777	
22. I look for more important things in life than work.	.473	
Factor 6: Seeking social support		4.44
23. I seek advice/direction from others.	.810	
24. I seek emotional support from others.	.707	
25. I bring the problem to a professional body.	.403	
Factor 7: Medicalization of problems		3.64
26. I seek professional help.	.664	
27. I use prescribed drugs/herbal medicine.	.646	
28. I take medical leave to alleviate my stress at work.	.610	
Factor 8: Suppression of feelings		3.33
29. I swallow my anger and suppress my emotions.	.863	
30. I keep my feelings to myself.	.856	
Factor 9: Externalization of problems		3.27
31. I blame others for the problem.	.683	
32. I put off attending to the problem.	.651	
33. I pray.	.422	
Factor 10: Separation of work from family life		3.19
34. I do not let work affect my family/social life.	.755	
35. I set aside evenings/weekends for my family/friend.	.711	

be classified as emotion-focused responses. Seeking social support involved a combination of the two types of strategies (see Table 1 for specific items). The second dimension was individualistic vs. social coping. All subscales, except seeking social support, belonged to individualistic efforts.

Work stressors were measured by the extent of stressfulness in a list of work-related events and situations, which were rated on an 8-point scale, ranging from (0) not a source of stress to (7) extreme stress. To take into account work stressors that pertained only to a particular profession, the contents of the list were slightly different for each group of respondents. However, 34 of the situations were common to all six groups of workers and served as the basis for group comparisons in the present analysis. These 34 situations represented a wide range of work situations that have been documented in previous research to have significant psychological impact on workers and were identified as relevant concerns by respondents in our pre-survey in-depth interviews. Factor analysis of these 34 work-related events and situations generated six factors (see Chapter 10). Based on the three representative items, the six factors were labelled 'poor relations with superiors', 'bureaucratic constraints', 'work-family conflicts', 'poor relations with colleagues', 'performance pressure' and 'poor job prospects'. The reliability measures for these six subscales ranged from 0.78 to 0.88, suggesting reasonable reliability. A summary measure of work stress was included to tap the overall level of work stress in the six months prior to the survey. A 5-point scale was applied to the measure, ranging from (0) no stress to (4) extreme stress.

Psychological consequences were operationalised in terms of work satisfaction and mental health. For work satisfaction, respondents were instructed to indicate the level of agreement to six items, which measured one's positive evaluation of his/her job and his/her intention to remain in the job. The scale ranged from (1) strongly disagree to (7) strongly agree. A composite score was constructed to reflect the extent of satisfaction with one's job, with possible values ranging from 6 (lowest satisfaction level) to 42 (highest satisfaction level). Mental health refers to a state of psychological well-being, which was measured by a count of 12 psychological conditions experienced one month prior to the survey as worse or much worse than usual. The 12 psychological conditions, adapted from Goldberg's

General Health Questionnaire (1972), dealt with symptoms related to anxiety and depression, such as restless sleep, depressed mood and sense of worthlessness. Reliability tests showed reasonable alpha values for the above two scales (0.79 for job satisfaction and 0.88 for mental health).

Six socio-demographic variables served as controls in the analysis. Gender was indicated by a dummy variable (1 = men, 0 = women). Age was self-reported number of years of age. Ethnicity was operationalised as (1) Chinese and (0) non-Chinese. The latter category included Malays, Indians and other ethnic groups. Marital status was classified into (1) married and (0) others, the latter referring to single, cohabiting, separated/ divorced and widowed people. Education was measured by six levels: (1) secondary 4 or below, (2) GCE 'O' level, (3) GCE 'A' level, (4) diploma or equivalent, (5) degree or equivalent and (6) Higher degree level. Income was excluded from the analysis because data were not available for nurses. The total number of years of work experience was used to indicate seniority.

The following section presents analyses of the extent of coping resources and patterns of coping strategies among the six professional groups. Since this study was a cross-sectional design, coping efficacy would be established by comparing two multiple regression models of psychological outcomes on work stressors: a model with and another without coping variables. Coping resources and strategies are considered effective when the sizes of regression coefficients for work stressors were reduced and the amount of explained variance increased after adding the coping variables. The effectiveness of coping resources and various types of strategies is assessed separately.

Patterns of Coping: Resources and Strategies

The extent and patterns of coping resources and coping strategies were assessed and compared across professional groups. Findings (Table 3) showed that our respondents generally possessed a great extent of coping resources: high self-esteem (mean = 38.82), an internal locus of control (mean = 31.67) and a high level of perceived social support, in terms of number of types of confidantes (mean = 3.95), presence of a confidante (93.94% of respondents) and degree of family support (mean = 12.91). Respondents most likely found

Table 3: Mean Comparisons of Work Stressors, Coping Resources, Coping Strategies, and Psychological Well-Being among Six Professional Groups

Coping Resources and Strategies	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Work Stressors							
1. Poor relations with superiors	4.74	1.78	5.42	2.86	3.37	6.29	4.86
2. Bureaucratic constraints	4.91	2.13	5.92	3.48	3.35	6.24	5.11
3. Work-family conflicts	5.78	4.99	6.32	4.73	4.92	5.85	8.05
4. Poor relations with colleagues	6.16	3.29	5.93	3.46	4.77	8.26	6.17
5. Performance pressure	9.78	6.61	9.71	6.89	10.73	10.72	10.51
6. Poor job prospects	6.03	2.15	5.91	4.39	2.76	8.99	4.88
Coping resources							
1. Self-esteem	38.82	39.43	39.78	38.59	40.51	37.41	40.31
2. Locus of control	31.67	31.49	30.85	35.45	31.83	30.10	32.45
3. Type A personality	42.33	40.83	43.50	42.27	42.62	42.39	41.62
4. Number of types of confidantes	3.95	3.82	4.03	3.98	3.72	3.88	4.49
5. Presence of a confidante (%)	93.94	98.63	94.87	92.25	95.56	91.95	97.47
6. Family support	12.91	14.25	12.15	11.50	12.82	13.23	13.75
Coping strategies							
1. Changing perspectives	2.59	2.60	2.49	2.61	2.55	2.59	2.69
2. Problem solving	2.81	2.80	2.87	2.80	2.95	2.74	2.82
3. Self improvement	2.17	2.33	2.14	2.54	1.78	2.18	2.18
4. Separation of work from family life	2.34	2.57	2.62	2.32	2.48	2.17	2.44

5. Emotional discharge	1.34	1.08	1.03	1.05	1.17	1.62	1.40
6. Externalization of problems	1.52	1.53	1.27	1.49	1.50	1.60	1.54
7. Drinking and smoking	.33	.32	.37	.80	.53	.11	.14
8. Medicalization of problems	.30	.36	.18	.40	.17	.35	.26
9. Suppression of feelings	2.04	1.98	2.20	2.18	1.99	2.02	1.91
10. Seeking social support	1.69	1.62	1.57	1.82	1.53	1.75	1.69
Psychological Well-being							
1. Work Satisfaction	27.29	30.70	27.67	29.50	29.63	24.76	27.36
2. Mental Health	1.72	0.53	1.35	1.74	1.21	1.87	2.75

All group differences are statistically significant at $p < .05$.

their confidante among work colleagues (65.8%). About half of the samples considered spouse and parent as their confidante (53.5% and 50.2% respectively).

There were slight group variations. Lawyers and insurance agents scored the highest on self-esteem and locus of control, respectively, whereas nurses obtained the lowest scores on both variables. Engineers were most likely to have a Type A personality and doctors, least likely. Both doctors and teachers tended to report the highest level of perceived social support whereas nurses and insurance agents, the lowest level. As reported in Chapter 9, the relatively low level of social support among insurance agents may be due to the stigma attached to life insurance agents, which has led to rejections by strangers, friends, as well as family members.

Further, professional workers in our sample generally reported greater use of problem-focused coping responses than emotion-focused ones (Table 3). Listed in the order of popularity, frequent problem-focused coping responses included problem-solving, changing perspectives, separation of work from family life and self-improvement. When emotion-focused coping was used, respondents were more likely to suppress their feelings than to release them. The emphasis of self-reliance in various professions might promote a perception of personal difficulties as personal inadequacies. As a result, professional workers would rather keep their feelings to themselves, which is supported by Chinese culture that emphasises self-control of emotions (Wu & Tseng, 1985). Substance use (drinking, smoking, use of drugs/prescribed medicine) was the least common coping response among professionals. The above findings were consistent across the six professional groups.

Medical doctors and life insurance agents showed similar coping responses, in terms of frequent use of methods related to problem-solving: changing perspectives and self-improvement. Workers in these two professions may enjoy greater flexibility and job autonomy, which allow them to take direct actions to cope with work problems. Among all professional groups, nurses were least likely to adopt methods of problem-solving and to separate work from family life. Nurses might have limited job autonomy at the workplace, which constrained the use of direct actions to tackle work problems. Further, 94% of nurses in our sample were women, who were likely to assume major family responsibilities in addition to their paid employment. It would thus

be difficult for nurses to separate work from family life. By contrast, doctors and engineers, probably due to the predominance of males in their professions, were most likely to cope with work problems by separating work from family life. Lawyers were least likely to use self-improvement to resolve work problems. Many of the demands and problems experienced by engineers and lawyers may likely come from organisational clients and thus lie beyond individual control. Enhancement of one's capabilities may not directly help solve work problems of this sort. In fact, three other professional groups (engineers, nurses and teachers), who were likely to be employed in complex organisations and be exposed to stress related to bureaucratic constraints (Chapter 10), also reported relatively low use of self-improvement.

Nurses and teachers were more likely than other professional workers to cope with work problems by adopting active emotion-focused coping responses—emotional discharge, externalisation of problems and seeking social support (except insurance agents). The use of passive emotion-focused coping (drinking and smoking, and suppression of feelings) was, however, less prevalent among these two professions. These results suggested that workers in professions with relatively less job autonomy would be more likely than those in other professions to use emotion-focused coping. This corroborates with Thoits's argument (1995) that emotion-focused coping is associated with situations appraised as uncontrollable (Thoits, 1995).

Social coping (seeking social support) was less frequently used than active individualistic coping (mainly problem-focused coping). This may be related to the professional culture that emphasises self-reliance and self-discipline (Chapter 10) and the state's promotion of competition. However, seeking social support was more often employed than individualistic emotion-focused responses, except for suppression of feelings. Letting feelings out among professionals might be considered a lack of self-control and an exposure of individual weakness. Further, the sample consisted of predominantly Chinese. The Chinese culture generally discourages expression of emotions, particularly in public (Wu & Tseng, 1985). Compared to other professions, seeking social support was prevalent among insurance agents, nurses and teachers, whose professions encourage, endorse or do not sanction social coping. For example, as a way to increase agents' productivity and to sustain a motivational level, the insurance industry seeks to cultivate a culture of internal organisational cohesion and mutual

support within individual life insurance companies as well as the industry as a whole (Chan & Ko, 1991; Chapter 8). In addition, the nursing and teaching professions tend to be female-dominated (Singapore Nursing Board, 1993). Help-seeking behaviours tend to be more likely among women than men (Thoits, 1995), which might make such behaviours culturally acceptable within the profession, even among the males.

Previous studies showed that coping patterns would be affected by the availability of coping resources (Thoits, 1995). To examine the relationship between coping resources and response, correlational analyses were performed with statistical control of demographic variables. Causal relationships, however, could not be assessed due to the cross-sectional nature of the data. Consistent with previous findings (Fleishman, 1984; Latack, 1986; Thoits, 1995), self-esteem, locus of control and social support were positively associated with problem-focused coping but negatively related to emotion-focused coping (Table 4). This suggested that having a high self-esteem and internal locus of control may induce self-confidence in the individual and enable him/her to take direct actions to cope with work problems. As a result, the individual would not have to rely on emotion-focused responses. Availability of social resources tended to encourage the seeking of social support. Having at least one confidante and a high level of perceived family support were related to more frequent seeking of social support to cope with work problems. Respondents with type A personality were more likely to use coping methods related to problem-solving and emotional discharge but were less likely to use methods of changing perspectives and separation of work from family life.

Coping resources serve as a pool of potentials for coping actions (Pearlin & Schooler, 1978). Greater availability of resources would presumably lead to more choices for actions. This argument received support from our data. The number of coping strategies was computed by counting the different types of coping strategies adopted by respondents. Strategies that were rarely used were excluded. Social resources (perceived social support) tended to be associated with a greater number of coping strategies. Among the three measures of social support, number of types of confidantes showed the highest correlation with number of coping strategies ($r = .13$). While coping resources may promote the use of coping responses, it may also be that respondents needed to activate different ties in the course of

Table 4: Partial Correlations between Coping Resources and Coping Strategies, Controlling for Sociodemographic Variables

	Self-esteem	Locus of Control	Type A Personality	Number of Types of Confidantes	Presence of a Confidante	Family Support
1. Changing perspectives	.22***	.04*	−.12***	.08***	.002	.21***
2. Problem solving	.17***	.08***	−.15***	.05*	.08*	.14***
3. Self improvement	.18***	.20***	−.02	.12***	.06*	.13***
4. Separation of work from family life	.15***	.08***	−.09***	.06**	.06**	.21***
5. Emotional discharge	−.20***	.18***	.08***	−.01	−.02	−.09***
6. Externalization of problems	−.09***	−.02	−.002	.11***	.02	.06**
7. Drinking and smoking	.01	.01	−.003	−.01	.01	−.07***
8. Medicalization of problems	−.12***	.001	−.02	.03	−.04	−.05*
9. Suppression of feelings	−.16***	−.12***	−.005	−.08***	−.01	−.16***
10. Seeking social support	.01	.03	.01	.15***	.07**	.15***
Number of coping strategies	−.02	.01	−.04	.13***	.04*	.09***

*** p <. 001
** p <. 01
* p <. 05

using various coping strategies. Unfortunately, the causal relationship between coping resources and responses could not be ascertained with our cross-sectional data. In fact, the effect of coping responses on coping resources is yet to be determined (Thoits, 1995) and awaits further research. Psychological resources, however, did not have any relationship with the number of coping strategies.

Coping Effectiveness

Previous studies have suggested that in situations where demands come from the impersonal environment and are beyond individual control (for example, work-related problems), coping efforts are largely ineffective in reducing the stressful impacts of these demands (Menaghan & Merves, 1984; Pearlin & Schooler, 1978). Instead, personality traits would be more helpful to sustain individuals in such situations (Pearlin & Schooler, 1978). Following this line of reasoning, the relative effect of coping resources may be greater than that of coping actions among professions with lesser degree of autonomy.

Coping effectiveness was assessed in two ways. First, the direct relationships between coping resources and responses, and the two psychological measures, work satisfaction and mental health, were examined. Effective coping would presumably increase work satisfaction but reduce psychiatric symptoms. Second, changes in the distress outcomes of work stressors in the presence of coping were evaluated. Effective coping would weaken the associations of work stressors with both work satisfaction and psychological distress. Multiple regression technique was employed for data analysis. Standardised regression coefficients were shown for comparison purposes.

Direct Effects of Coping

To assess the direct contributions of individual coping resources and strategies to psychological well-being, the two outcome variables (i.e. work satisfaction and mental health) were regressed on coping variables with statistical control for work stressors and socio-demographic characteristics. Standardised regression coefficients of coping variables were presented in Tables 5 and 6.

Results showed that psychological resources were generally more important than social resources in boosting work satisfaction and

Table 5: Regression[a] of Work Satisfaction on Coping Resources and Coping Strategies, Controlling for Work Stressors and Sociodemographic Variables

Coping Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Coping Resources							
Self-esteem	.14***	.20*	.09	.20***	.09	.13***	.10
Locus of control	.12***	.04	.21**	.18***	.04	.12***	.02
Type A behavior	.04*	.10	.04	.002	.05	.04	.03
Number of types of confidantes	.02	−.12	−.002	.01	.05	.06	.01
Presence of a confidante	−.01	.01	−.03	.07	−.06	−.04	.12*
Family support	.05*	.07	.07	.01	.09	.03	.08
Coping Strategies							
Changing perspectives	−.01	−.11	−.11	−.03	−.04	.04	.07
Problem solving	.03	.20*	−.01	.08	.03	.06	−.09
Self-improvement	−.02	.01	.02	.03	.002	−.05	−.04
Separation of work from family life	.01	−.13	−.04	.10	−.03	.03	.002
Emotional discharge	−.30***	−.27**	−.24**	−.32***	−.37***	−.25***	−.32***
Externalization of problems	.04*	−.01	.04	.16**	−.02	−.01	.12
Drinking and smoking	.01	−.06	.01	.02	.07	.02	.02
Medicalization of problems	−.03	.06	−.05	−.07	.04	−.06	.03
Suppression of feelings	−.04*	−.03	−.02	−.07	−.07	−.01	−.04
Seeking social support	.04*	.07	.06	−.003	.04	.01	.03

[a] Standardized regression coefficients are shown.
*** $p < .001$
** $p < .01$
* $p < .05$

Table 6: Regression[a] of Mental Health on Coping Resources and Coping Strategies, Controlling for Work Stressors and Sociodemographic Variables

Coping Variables	All	Doctors	Engineers	Agents	Lawyers	Nurses	Teachers
Coping Resources							
Self-esteem	−.12***	.05	−.08	−.07	−.05	−.12***	−.20**
Locus of control	−.06*	−.26*	−.09	.03	−.05	−.08*	−.08
Type A behavior	−.01	−.05	.04	.02	.04	−.06	.001
Number of types of confidantes	.03	.08	−.09	−.04	.08	.05	.09
Presence of a confidante	−.004	.06	.02	−.07	−.04	.03	−.05
Family support	−.07**	−.14	−.14	−.11	−.07	−.07	.02
Coping Strategies							
Changing perspectives	−.06	.004	.04	−.09	−.06	−.05	−.13*
Problem solving	.01	−.01	−.05	−.15*	.05	.05	.04
Self-improvement	−.05*	−.22*	−.25***	−.04	−.06	−.02	−.01
Separation of work from family life	−.05*	.12	.01	.05	−.04	−.07	−.07
Emotional discharge	.20***	.02	.14	.16*	.19**	.21***	.24***
Externalization of problems	−.01	.03	−.01	−.04	−.01	−.02	.04
Drinking and smoking	−.04*	−.01	−.15*	−.04	−.04	−.03	−.02
Medicalization of problems	.04	.16	.03	−.04	.08	.09*	−.02
Suppression of feelings	.06**	−.05	.08	.14*	−.02	.09*	−.03
Seeking social support	−.002	.13	.19*	−.01	−.004	−.02	.01

[a] Standardized regression coefficients are shown.
*** $p < .001$
** $p < .01$
* $p < .05$

reducing the number of psychiatric symptoms in the presence of work stressors. Individuals with high self-esteem, internal locus of control and Type A personality were likely to also have high levels of work satisfaction. High self-esteem and internal locus of control also improved mental health. Among the three measures of social resources, only family support was significantly associated with work satisfaction and mental health (column 1 of Tables 5 and 6).

When individual groups were examined separately, the direct effects of psychological resources generally remained more important than those of social resources. However, the significant relationships of Type A personality and family support with work satisfaction and mental health disappeared in subgroup analyses. In other words, the significance of the two variables were apparent only at the aggregate level. Further, the positive effects of psychological resources on the two outcome measures remained consistently significant among nurses only. While psychological resources increased work satisfaction among engineers (locus of control) and insurance agents (self-esteem and locus of control), they had no significant effect on the mental health of the two groups. By contrast, psychological resources had no effect on teachers' work satisfaction but helped reduce their symptomatic level (self-esteem). High self-esteem and internal locus of control contributed to doctors' work satisfaction and mental health respectively. Lawyers' psychological well-being seemed to be unaffected by the direct impact of any of the coping resources.

Problem-focused coping strategies generally did not contribute directly to professional workers' work satisfaction, except that problem-solving actions tended to increase doctors' work satisfaction (Table 5). However, problem-focused coping strategies seemed to be instrumental in reducing stress-related psychiatric symptoms among professional workers (Table 8). Self-improvement was significantly related to better mental health among doctors and engineers. Problem-solving responses were associated with fewer symptoms among insurance agents. Changing perspectives contributed to better mental health among teachers. Separation of work from family life was associated with fewer psychiatric symptoms in the combined sample but not in individual groups.

Emotion-focused coping was found to have split effects on psychological well-being. Externalisation of problems and seeking social support were associated with greater work satisfaction whereas substance

use (drinking and smoking) helped reduce psychological distress. However, the positive effect of seeking social support disappeared in subgroup analyses. The beneficial effects of substance use and externalisation of problems remained among engineers and insurance agents respectively. In looking for potential clients, insurance agents have to constantly face negative stereotypes and sometimes, hostility from people around them (Chan & Ko, 1991; Chapter 10; Chapter 8). As unfriendly social responses constituted part of their work, insurance agents had no choice but to accept and justify these experiences. Externalisation of problems seemed to be an effective way to sustain agents' work satisfaction.

Other emotion-focused coping strategies tended to induce detrimental effects on psychological well-being. Both emotional discharge and suppression of feelings were related to low levels of work satisfaction and poor mental health. The direct psychological effect of emotional discharge was generally consistent among all professional groups, except that emotional discharge was not related to the mental health status of doctors and engineers. Emotional discharge was also the most important coping factor affecting work satisfaction in all groups and mental health in insurance agents, lawyers, nurses and teachers. Suppression of feelings was found to have no significant effect on work satisfaction when individual groups were considered but its negative effect on mental health remained significant among insurance agents and nurses. Medicalisation contributed to nurses' psychological distress. In general, emotion-focused coping tended to exacerbate rather than improve psychological well-being. Further, the effects of these dysfunctional coping strategies were most dominant among all coping variables.

Social coping exerted a minimal direct effect on psychological well-being. The positive association between seeking social support and work satisfaction was only found in the combined sample. Seeking social support did not have any significant impact on work satisfaction and mental health among professions that may endorse such a strategy. On the contrary, it tended to induce more psychiatric symptoms among engineers.

Mediating Effects of Coping

The mediating effects of coping were assessed by observing changes in the standardised regression coefficients of work stressors before and after controlling for coping. Tables 7 and 8 display, respectively, the regression results of work satisfaction and mental health on work stressors. The baseline models (no statistical control for coping) for the combined sample indicated that work satisfaction and mental health were negatively related to stress arising from poor job prospects, work-family conflicts, performance pressure and poor relations with superiors. Bureaucratic constraints tended to have no significant psychological effect among professional workers. Unexpectedly, poor relations with colleagues were found to be positively associated with work satisfaction, which may be due to multicollinearity (Chapter 10).

When psychological resources (high self-esteem, internal locus of control and Type A personality) were taken into account (i.e., controlling for psychological resources), the effects of poor relations with superiors, poor relations with colleagues, performance pressure and poor job prospects on work satisfaction were reduced. Psychological resources as a whole were thus likely to alleviate the impact of work-related stress on work satisfaction. Similar effects were found for emotion-focused coping strategies, which also weakened the relationship between work-family conflicts and work satisfaction. However, the above findings showed that many emotion-focused coping strategies were negatively associated with work satisfaction. Therefore, the reduced associations between work stressors and the outcome measure were largely explained away by the significant contribution of emotion-focused coping to dissatisfaction with work. Social resources and problem-focused coping did not induce any notable changes in the effects of work stressors on work satisfaction.

The above results were also observed when mental health was entered in the equation as the outcome variable (Table 8). However, the association between bureaucratic constraints and psychiatric symptoms achieved statistical significance when problem-focused coping was controlled for, implying that problem-focused coping might exacerbate the stressful impacts of bureaucratic constraints. In sum, psychological resources seemed to best help professional workers cope with problems at work and sustain their psychological well-being when facing stress.

Table 7: Regressiona of Work Satisfaction on Work Stressors among Six Professional Groups in Singapore

Work Stressors	Poor relations with superiors	Bureaucratic constraints	Work-family conflicts	Poor relations with colleagues	Performance pressure	Poor job prospects	R2	Adjusted R2
All								
No statistical control for coping	−.06**	−.04	−.17***	.07***	−.10***	−.23***	.31	.30
Controlling for psychological resources	−.04	−.03	−.17***	.05*	−.08***	−.18***	.35	.35
Controlling for social resources	−.06*	−.04	−.16***	.08***	−.10***	−.23***	.32	.32
Controlling for coping resources	−.03	−.04	−.16***	−.06*	−.08***	−.19***	.36	.35
Controlling for problem-focused coping	−.05*	−.05	−.17***	.07**	−.10***	−.23***	.31	.30
Controlling for emotion-focused coping	−.03	−.04	−.14***	.07**	−.06**	−.19***	.38	.37
Controlling for coping strategies	−.03	−.05*	−.14***	.07**	−.06**	−.18***	.38	.37
Controlling for coping resources and strategies	−.01	−.04	−.13***	.05*	−.06*	−.16***	.41	.40
Doctors								
No statistical control for coping	.04	.01	−.27**	−.03	−.07	−.29*	.27	.21
Controlling for psychological resources	.06	.12	−.28**	−.09	−.07	−.28*	.35	.27
Controlling for social resources	.04	−.002	−.25*	−.05	−.07	−.28*	.28	.20
Controlling for coping resources	.06	.11	−.26*	−.11	−.07	−.27*	.36	.26
Controlling for problem-focused coping	.11	−.004	−.30**	−.03	−.07	−.31**	.32	.23
Controlling for emotion-focused coping	.05	−.02	−.25*	.04	−.10	−.26*	.34	.24
Controlling for coping strategies	.09	−.04	.28**	.05	−.11	−.26*	.38	.27
Controlling for coping resources and strategies	.11	.03	−.26*	.01	−.12	−.25*	.45	.30

Engineers								
No statistical control for coping	.002	−.35***	−.03	.08	.06	−.12	.24	.20
Controlling for psychological resources	.11	−.36***	−.01	.05	−.001	−.04	.31	.27
Controlling for social resources	−.004	−.33***	−.04	.09	.06	−.14	.24	.19
Controlling for coping resources	.10	−.37***	−.01	.07	.01	−.05	.32	.26
Controlling for problem-focused coping	.01	−.35***	−.04	.07	.06	−.12	.24	.19
Controlling for emotion-focused coping	.03	−.32***	.002	.07	.06	−.09	.31	.25
Controlling for coping strategies	.05	−.33***	−.01	.06	.06	−.08	.32	.25
Controlling for coping resources and strategies	.12	−.33***	.00	.03	.002	−.02	.38	.28
Insurance agents								
No statistical control for coping	−.11	−.01	−.15*	.13*	−.02	−.19**	.15	.12
Controlling for psychological resources	−.11	−.01	−.19**	.09	.03	−.05	.31	.28
Controlling for social resources	−.10	−.01	−.14*	.13*	−.02	−.18**	.18	.14
Controlling for coping resources	−.10	−.003	−.17**	.09	.02	−.05	.32	.29
Controlling for problem-focused coping	−.12	.002	−.14*	.13*	−.03	−.19**	.22	.19
Controlling for emotion-focused coping	−.11*	−.01	−.11	.13*	−.01	−.12	.32	.28
Controlling for coping strategies	−.11*	−.01	−.10	.13*	−.02	−.12*	.36	.31
Controlling for coping resources and strategies	−.10	.01	−.12*	.09	.01	−.06	.44	.39
Lawyers								
No statistical control for coping	−.14*	.01	−.21***	.06	−.10	−.25***	.30	.25
Controlling for psychological resources	−.09	.08	−.26***	.05	−.13*	−.20**	.33	.30
Controlling for social resources	−.13*	.01	−.19***	.07	−.11*	−.26***	.32	.29
Controlling for coping resources	−.09	.08	−.24***	.05	−.14*	−.21***	.34	.31
Controlling for problem-focused coping	−.13*	.01	−.23***	.07	−.11*	−.27***	.31	.29
Controlling for emotion-focused coping	−.08	.02	−.19***	.03	−.02	−.23***	.42	.40
Controlling for coping strategies	−.08	.03	−.21***	.03	−.02	−.24***	.43	.40
Controlling for coping resources and strategies	−.05	.08	−.21***	.02	−.06	−.22***	.45	.40

Table 7 (*cont.*)

Work Stressors	Poor relations with superiors	Bureaucratic constraints	Work-family conflicts	Poor relations with colleagues	Performance pressure	Poor job prospects	R2	Adjusted R2
Nurses								
No statistical control for coping	−.03	.002	−.19***	.09*	−.14***	−.25***	.30	.29
Controlling for psychological resources	−.03	−.01	−.17***	.08*	−.11**	−.24***	.35	.34
Controlling for social resources	−.02	−.01	.17***	.09*	−.13***	−.27***	.31	.30
Controlling for coping resources	−.03	−.01	−.16***	.08	−.11**	−.25***	.35	.34
Controlling for problem-focused coping	−.01	−.01	−.18***	.08	−.16***	−.25**	.32	.30
Controlling for emotion-focused coping	−.003	−.02	−.14***	.09*	−.10**	−.21***	.36	.34
Controlling for coping strategies	.01	−.03	−.14***	.09*	−.10**	−.21***	.37	.36
Controlling for coping resources and strategies	.01	−.03	−.13**	.08	−.08*	−.22***	.41	.39
Teachers								
No statistical control for coping	−.10	−.06	−.20**	.09	−.19**	−.21**	.31	.28
Controlling for psychological resources	−.07	−.09	−.16*	.03	−.15*	−.15*	.33	.30
Controlling for social resources	−.10	−.05	−.19**	.07	−.19**	−.18**	.33	.30
Controlling for coping resources	−.08	−.08	−.14	.01	−.16*	−.14	.36	.31
Controlling for problem-focused coping	−.11	−.07	−.19*	.05	−.20***	−.17*	.32	.28
Controlling for emotion-focused coping	−.08	.01	−.20**	.10	−.20**	−.15*	.39	.35
Controlling for coping strategies	−.10	−.01	−.17*	.08	−.21**	−.12	.39	.34
Controlling for coping resources and strategies	−.08	.01	−.10	.03	−.22**	−.10	.43	.36

[a] Standardized regression coefficients are shown.
*** $p < .001$
** $p < .01$
* $p < .05$

Table 8: Regression[a] of Mental Health on Work Stressors Among Six Professional Groups in Singapore

Work Stressors	Poor relations with superiors	Bureaucratic constraints	Work-family conflicts	Poor relations with colleagues	Performance pressure	Poor job prospects	R2	Adjusted R2
All								
No statistical control for coping	.13***	.04	.19***	−.003	.11***	.07**	.22	.21
Controlling for psychological resources	.10***	.03	.17***	.002	.10***	.04	.25	.25
Controlling for social resources	.12***	.04	.17***	−.003	.11***	.07**	.23	.23
Controlling for coping resources	.09***	.03	.17***	.001	.10***	.04	.26	.25
Controlling for problem-focused coping	.12***	.06*	.17***	.001	.10***	.07*	.23	.22
Controlling for emotion-focused coping	.09***	.05	.16***	−.001	.08**	.05	.26	.25
Controlling for coping strategies	.08***	.06*	.14***	−.002	.08**	.05	.28	.27
Controlling for coping resources and strategies	.06*	.04	.14***	.01	.08**	.03	.30	.29
Doctors								
No statistical control for coping	.11	.06	.08	−.17	.10	.10	.11	.03
Controlling for psychological resources	.10	.06	.07	−.11	.09	.02	.16	.06
Controlling for social resources	.10	.09	.04	−.15	.10	.07	.13	.03
Controlling for coping resources	.09	.07	.04	−.10	.09	.01	.18	.06
Controlling for problem-focused coping	.03	.07	.10	−.14	.06	.14	.16	.05
Controlling for emotion-focused coping	.10	.04	.08	−.15	.10	.07	.13	.00
Controlling for coping strategies	.01	.02	.09	−.09	.04	.12	.19	.03
Controlling for coping resources and strategies	−.02	.06	.03	−.02	.05	−.01	.26	.07
Engineers								
No statistical control for coping	.02	.11	.15	.07	.05	.04	.13	.09
Controlling for psychological resources	−.03	.09	.15	.07	.09	.02	.19	.13
Controlling for social resources	.01	.10	.20*	.05	.05	.04	.17	.11
Controlling for coping resources	−.03	.10	.17*	.05	.08	.003	.20	.13
Controlling for problem-focused coping	.05	.19*	.16	.03	.01	−.02	.23	.17
Controlling for emotion-focused coping	−.03	.07	.15	.10	.04	.05	.19	.12

Table 8 (*cont.*)

Work Stressors	Poor relations with superiors	Bureaucratic constraints	Work-family conflicts	Poor relations with colleagues	Performance pressure	Poor job prospects	R2	Adjusted R2
Controlling for coping strategies	−.01	.13	.15	.07	.02	−.02	.29	.22
Controlling for coping resources and strategies	−.04	.11	.18*	.06	.05	−.07	.34	.23
Insurance agents								
No statistical control for coping	.05	.10	.15*	−.02	.04	.11	.16	.13
Controlling for psychological resources	.05	.10	.14*	−.01	.03	.07	.17	.13
Controlling for social resources	.04	.10	.13*	−.01	.04	.10	.20	.16
Controlling for coping resources	.04	.10	.13	−.01	.03	.07	.19	.15
Controlling for problem-focused coping	.06	.08	.13*	.00	.06	.12	.20	.17
Controlling for emotion-focused coping	.05	.10	.11	.01	.03	.08	.24	.20
Controlling for coping strategies	.06	.09	.11	.02	.04	.08	.26	.21
Controlling for coping resources and strategies	.03	.09	.09	.01	.03	.08	.27	.20
Lawyers								
No statistical control of coping	.01	.01	.19***	.05	.08	.16*	.19	.17
Controlling for psychological resources	−.03	−.02	.18**	.06	.09	.13	.19	.16
Controlling for social resources	−.01	.02	.18***	.04	.09	.16*	.19	.16
Controlling for coping resources	−.04	−.01	.17**	.06	.09	.13	.19	.16
Controlling for problem-focused coping	.01	.02	.19***	.05	.07	.16*	.19	.16
Controlling for emotion-focused coping	−.02	−.01	.18***	.07	.05	.13*	.21	.18
Controlling for coping strategies	−.02	−.01	.18**	.06	.03	.12	.23	.18
Controlling for coping resources and strategies	−.05	−.03	.16*	.08	.04	.11	.22	.16

Nurses								
No statistical control for coping	.18***	.04	.22***	.03	.08*	−.02	.21	.20
Controlling for psychological resources	.16***	.03	.21***	.02	.07	−.02	.26	.24
Controlling for social resources	.17***	.04	.21***	.03	.08*	−.01	.23	.22
Controlling for coping resources	.15***	.02	.22***	.01	.07	−.02	.27	.26
Controlling for problem-focused coping	.17***	.05	.20***	.03	.08*	−.01	.22	.21
Controlling for emotion-focused coping	.13**	.08	.15***	.03	.05	−.04	.28	.27
Controlling for coping strategies	.12**	.08	.14***	.02	.04	−.04	.31	.29
Controlling for coping resources and strategies	.10**	.05	.16***	.02	.05	−.04	.34	.31
Teachers								
No statistical control for coping	.18**	−.03	.13	−.12*	.33***	.19**	.33	.30
Controlling for psychological resources	.13*	−.02	.11	−.08	.28***	.11	.42	.39
Controlling for social resources	.17**	−.03	.12	−.11	.33***	.18**	.34	.31
Controlling for coping resources	.13*	−.03	.10	−.08	.28***	.12	.42	.38
Controlling for problem-focused coping	.16**	−.01	.07	−.10	.32***	.20**	.36	.33
Controlling for emotion-focused coping	.16**	−.08	.10	−.14*	.33***	.16*	.37	.33
Controlling for coping strategies	.15*	−.06	.03	−.13*	.31***	.19**	.42	.37
Controlling for coping resources and strategies	.13*	−.07	.003	−.09	.29***	.15*	.47	.41

[a] Standardized regression coefficients are shown.
*** $p < .001$
** $p < .01$
* $p < .05$

The mediating effects of psychological resources and emotion-focused coping were generally observed among the six professional groups. However, social resources tended to be more important than psychological resources among some groups. Social resources reduced the relationship between work-family conflicts and work satisfaction to a greater extent than psychological resources did among doctors, insurance agents and lawyers. Social resources also mediated the effect of work-family conflicts on mental health among insurance agents. The findings thus provided some support for the relative importance of coping resources over coping strategies.

Nevertheless coping might sometimes exacerbate the negative impacts of work stressors on psychological well-being. Social resources tended to intensify the relationship between work-family conflicts and mental ill-health among engineers. In other words, more social support would increase the stressful effect of work-family conflicts on engineers' mental health. Problem-focused coping was likely to strengthen the stressful impacts of work-family conflicts and poor job prospects on work satisfaction among medical doctors and the effects of bureaucratic constraints on mental health among engineers.

Discussion and Conclusion

Our study showed that professional workers generally possessed considerable psychological and social resources. They tended to adopt predominantly problem-focused coping and individualistic efforts. Possession of plentiful coping resources was positively related to the number of methods one would use to cope with work problems and the use of problem-focused coping in particular. Further, psychological resources were more instrumental than social resources in directly promoting work satisfaction and mental health and weakening the stressful impacts of work problems. These findings were applicable to all six professional groups.

However, coping efforts were found to have limited and sometimes negative effects on psychological well-being. Problem-focused coping efforts tended to promote mental health but not work satisfaction, except among medical doctors. Further, emotion-focused coping tactics, particularly emotional discharge and suppression of feelings, were significantly associated with lower levels of work satisfaction and more psychiatric symptoms. In other words, the more the indi-

vidual copes with work problems by using emotion-focused efforts, the greater distress he/she would experience. Emotion-focused coping strategies, on the whole, were also found to play a more important role than problem-focused tactics in weakening the effects of work-related stressors on psychological well-being. However, the reduced correlations between work stressors and psychological outcomes after controlling for emotion-focused coping were largely due to the strong negative relationship between coping and psychological well-being.

The above findings suggested that professional workers in Singapore seemed to be caught in a predicament. Due to influences of the professional culture and the state, professional workers tended to take an active, individualistic approach in coping with work problems. However, as professional workers are increasingly enmeshed in bureaucracies and subject to structural constraints, many of their stressful encounters are beyond individual control. As a result, problem-focused coping efforts did not help much in alleviating the stress arising from those situations. Emotion-focused coping strategies generally did not work either. Only certain disengagement methods, for example, externalisation of problems and substance use, showed some positive effects on psychological well-being. Direct control of emotions—suppressing feelings or letting feelings out—significantly reduced work satisfaction and increased psychological distress among workers in almost all professional groups. Even getting help from someone would make one feel distressed engineers, for example, feel distressed because they would reveal their weakness and compromise the norm of self-sufficiency. This is inconsistent with the previous literature. Emotional venting or help-seeking may signify one's weakness, which would further induce frustration with oneself and generate distressed feelings. Unfortunately, nurses and teachers, who were also exposed to the greatest level of work stress frequently adopted emotion-management coping tactics (Chapter 10). Great exposure to work stress coupled with counterproductive coping efforts may explain the relatively high distress levels among these two groups of professional workers.

Nevertheless, 'doing something' might enhance the feeling of control, which, in turn, would sustain one's psychological well-being in the presence of work stress. This argument was partially supported by the positive direct effect of problem-oriented direct actions (i.e., problem-solving and self-improvement) on mental health among doctors, engineers and insurance agents. Teachers, on the other hand,

benefited from efforts related to changing perspectives. However, lawyers and nurses did not enjoy the benefits of these problem-focused coping methods. Compared to workers in other professions, lawyers and nurses tended to be subject to greater bureaucratic control (Chapter 10; Lim, 1993), which may restrict the effectiveness of problem-focused coping efforts.

Overall, the ultimate defense, for all professional workers to withstand work stress and to sustain their psychological well-being when facing work stress, seems to be their own psychological resources. This finding is in line with previous studies (Pearlin & Schooler, 1978). However, this effectiveness of psychological resources may further encourage self-reliance and individualism among professional workers and in professional work.

CONTRIBUTORS

CHAN Kwok-bun, Head and Chair Professor, Department of Sociology; Director, David C. Lam Institute for East-West Studies, Hong Kong Baptist University, Hong Kong.

ANG Jansen, Head Operations and Forensics Psychology Branch, Senior Psychologist, Police Psychological Services Division, Singapore Police Force, Government of Singapore, Singapore.

BISHOP, George David, Professor and Head, Department of Psychology, National University of Singapore, Singapore.

BOEY Kam-weng, Honorary Associate Professor, Department of Social Work and Social Administration, The University of Hong Kong, Hong Kong.

DIONG Siew-maan, Psychologist, Police Psychological Services Division, Singapore Police Force, Government of Singapore, Singapore.

ENKELMAN Hwee-Chong, independent researcher, Germany.

HING Ai-yun, Associate Professor, Department of Sociology, National University of Singapore, Singapore.

GOH Lee-gan, Associate Professor, Department of Community, Occupational and Family Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore.

KHADER Majeed, Assistant Director and Principal Psychologist, Police Psychological Services Division, Singapore Police Force, Government of Singapore, Singapore.

KO Yiu-chung, Professor, College of Asia Pacific Studies, Ritsumeikan Asia Pacific University, Oita, Japan.

KOH Chee-wee, Senior Assistant Director, Personnel Policy Department, Public Service Division, Prime Minister's Office, Government of Singapore, Singapore.

KOH, Soo-quee David, Professor and Head, Department of Community, Occupational and Family Medicine, National University of Singapore, Singapore.

KOH, Michelle, Senior Psychologist, Police Psychological Services Division, Singapore Police Force, Government of Singapore, Singapore.

LAI, Wan-foon Gina, Associate Professor, Department of Sociology, Hong Kong Baptist University, Hong Kong.

LIM Geok-choo, Part-time Lecturer, School of Business, the Singapore Polytechnic, Singapore.

POH Li-li, Head Resilience and Counselling Psychology Branch, Senior Psychologist, Police Psychological Services Division, Singapore Police Force, Government of Singapore, Singapore.

TAN, Leek-moy Vicky, Assistant Professor, Department of Psychology, National University of Singapore, Singapore.

TAN, Clare, Head Staff Well-being, Police Welfare Division, Singapore Police Force, Government of Singapore, Singapore.

TONG, Mun-wai Eddie, Assistant Professor, Department of Psychology, National University of Singapore, Singapore.

WHY Yong-peng, Assistant Professor, Department of Psychology, National University of Singapore, Singapore.

REFERENCES

Abernethy, A. D., (1995) "The development of an anger management training program for law enforcement personnel" In: L. R. Murphy & J. J. Hurrell (Eds.), *Job stress interventions* (pp. 21–30), Washington, DC: American Psychological Association.

Adkins, J. A., (1999) "Promoting organisational health: The evolving practice of occupational health psychology", *Professional Psychology: Research and Practice*, 30(2), 129–137.

Aldwin, C. M., & Revenson, T. A., (1987) "Does coping help? A re-examination of the relation between coping and mental health", *Journal of Personality and Social Psychology*, 59, 1066–1074.

Alexander, C., (1999) "Police psychological burnout and trauma" In: J. M. Violanti & D. Paton (Eds.), *Police trauma: Psychological aftermath of civilian combat*. Springfield, IL: Charles C. Thomas.

Alexander, D. A., & Walker, L. G., (1994) "A study of methods used by Scottish police officers to cope with work-induced stress", *Stress Medicine*, 10, 131–138.

Aneshensel, C. S., (1992) "Social stress: Theory and research", *Annual Review of Sociology*, 18, 15–38.

Aneshensel, C. S., Frerichs, R. R., & Clark, V. A., (1981) "Family roles and sex differences in depression", *Journal of Health and Social Behaviour*, 22, 379–393.

Aneshensel, C. S., & Huba, G. J., (1983) "Depression, alcohol use, and smoking over one year: A four-wave longitudinal causal model", *Journal of Abnormal Psychology*, 92, 134–150.

Ang, J., (2001) "Stress among police officers: The probationer experience". Unpublished Masters Dissertation, University of Surrey.

Auster, C. J., (1996) *The sociology of work: Concepts and cases*. Thousand Oaks, CA: Pine Forge Press.

Averill, J. R., (1973) "Personal control over aversive stimuli and its relationship to stress", *Psychological Bulletin*, 80, 286–303.

Bacharach, S. B., Bamberger, P., & Conley, S., (1991) "Work-home conflict among nurses and engineers: Mediating the impact of role stress on burnout and satisfaction on work", *Journal of Organizational Behaviour*, 12, 39–53.

Barber, N., (2000) "The sex ratio as a predictor of cross-national variation in violent crime" *Cross-Cultural Research: The Journal of Comparative Social Science*, 34, 264–282.

Baron, R. M., & Kenny, D. A., (1986) "The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations", *Journal of Personality and Social Psychology*, 51, 1173–1182.

Becker, H. S., (1963) *Outsiders: Studies in the sociology of deviance*. New York: Free Press.

——, (1970) *Sociological work: Method and substance*. Chicago: Aldine.

——, (1996) "The epistemology of qualitative research" In: R. Jessor, A. Colby & R. A. Shweder (Eds.), *Ethnography and human development* (pp. 53–71), Chicago: University of Chicago Press.

Beehr, T. A., (1995) *Psychological stress in the workplace*. London: Routledge.

Biggam, F. H., Power, K. G., & MacDonald, R. R., (1997) "Coping with the occupational stressors of police work: A study of Scottish officers", *Stress Medicine*, 13, 109–115.

Biggam, F. H., Power, K. G., MacDonald, R. R., Carcary, W. B., & Moodie, E., (1997) "Self-perceived occupational stress and distress in a Scottish police force", *Work and Stress*, 11, 118–133.

Billings, A. G., & Moos, R. H., (1981) "The role of coping responses and social resources in attenuating the stress of life events", *Journal of Behavioural Medicine*, 1, 139–158.

Bishop, G. D., (1994) *Health psychology: Integrating mind and body*. Boston: Allyn & Bacon.

Bishop, G. D., Koh, S. Q. D., Tan, L. M. V., Diong, S. M., Enkelmann, H. C., Tong, M. W. E., Why, Y. P., Khader, M., & Ang, J., (2000) *Stress among SPF patrol officers: A preliminary report*. Police Psychological Unit, Singapore Police Force.

Bishop, G. D., Tong, E. M. W., Diong, S. M., Enkelmann, H. C., Why, Y. P., Khader, M., & Ang, J. C. H., (2001) "The relationship between coping and personality among police officers in Singapore", *Journal of Research in Personality*, 35, 353–374.

Boey, K. W., (1991) "Differential relationships of work stress to mental ill-health and job dissatisfaction among nursing professionals", *Chinese Journal of Psychology*, 33, 77–86.

——, (1992) "Stress and coping among nurses" In: K. B. Chan et al. (Eds.), *Work stress and coping among professionals*. Research report, Department of Sociology, National University of Singapore.

Bolger, N., DeLongis, A., Kessler, R. C., & Schilling, E. A., (1989) "Effects of daily stress on negative mood", *Journal of Personality and Social Psychology*, 57, 808–818.

Bombardier, C. H., D'Amico, C., & Jordan, J. S., (1990) "The relationship of appraisal and coping to chronic illness adjustment", *Behaviour Research and Therapy*, 28, 297–304.

Bortner, R. W., & Rosenman, R. H., (1967) "The measurement of Pattern A behaviour", *Journal of Chronic Disease*, 20, 525–533.

Bromet, E. J., Dew, M. A., & Parkinson, D. K., (1990) "Spillover between work and family: A study of blue-collar working wives" In: J. Eckenrode & S. Gore (Eds.), *Stress between work and family* (pp. 133–152), New York: Plenum Press.

Brown, J., Cooper, C., & Kirkcaldy, B., (1996) "Occupational stress among senior police officers", *British Journal of Psychology*, 87, 31–41.

Brown, J. M., & Campbell, E. A., (1990) "Sources of occupational stress in the police", *Work and Stress*, 4, 305–318.

——, (1994), *Stress and policing: Sources and strategies*. Chichester: Wiley.

Brown, R., (1986) *Social psychology*. New York: Free Press.

Burke, P. J., (1996) "Social identities and psychological stress" In: H. B. Kaplan (Ed.), *Psychological stress: Perspectives on structure, theory, life course, and methods* (pp. 141–174), San Diego: Academic Press.

Cannon, W. B., (1929) *Bodily changes in pain, hunger, fear and rage*. New York: Appleton-Century.

Caplan, R. D., Cobb, S., French, J., Jr., Harrison, R. V., & Pinneau, S. R., Jr., (1980) *Job demands and worker health*. Ann Arbor: University of Michigan Press.

Carchedi, C., & Kegan, P., (1977) *The economic identification of social classes*. London: Routledge.

Carson, J., Leary, J., De Villiers, N., Fagin, L., & Radmall, J., (1995) "Stress in mental health nurses: Comparison of ward and community staff", *British Journal of Nursing*, 4, 579–582.

Carver, C. S., Scheier, M. F., & Weintraub, J. K., (1989) "Assessing coping strategies: A theoretically based approach", *Journal of Personality and Social Psychology*, 56, 267–283.

Chan, K. B., (1977) "Individual differences in reactions to stress and their personality and situational determinants: Some implications for community mental health", *Social Science & Medicine*, 11, 89–103.

Chan, K. B., & Ko, Y. C., (1991) "Coping with work stress: A comparison of teachers and life insurance agents", *Chinese Journal of Mental Health*, 5(1), 49–62.

Chan, K. B., Ko, Y. C., Hing, A. Y., Kok, L. P., Boey, K. W., & Lim, G. C., (1992) "Work stress and coping among professionals". Unpublished, Department of Sociology, National University of Singapore, Singapore.

Cheung, F. M., (1985) "An overview of psychopathology in Hong Kong with special reference to somatic presentation" In: W. S. Tseng & D. Y. H. Wu (Eds.), *Chinese culture and mental health* (pp. 287–304), Orlando: Academic Press, Inc.

Chiew, S. K., Ko, Y. C., & Quah, S. R., (1991) "Occupational prestige and occupational structure" In: S. R. Quah, S. K. Chiew, Y. C. Ko & S. M. Lee (Eds.), *Social class in Singapore* (pp. 74–115), Singapore: Times Academic Press.

Chua P. C., (1971) "The insurance industry in Singapore". Unpublished academic exercise, Department of Business Administration, University of Singapore.

Chwalisz, K., (1996) "The perceived stress model of caregiver burden: Evidence from spouses of persons with brain injuries", *Rehabilitation Psychology*, 41, 91–114.

Cobb, S., (1976) "Social support as a moderator of life stress", *Psychosomatic Medicine*, 38, 300–14.

Cohen, S., & Wills, T. A., (1985) "Stress, social support, and the buffering hypothesis", *Psychological Bulletin*, 98, 310–357.

Constable, J. F., & Russell, D. W., (1986) "The effect of social support and work environment upon burnout among nurses", *Journal of Human Stress*, 12, 20–26.

Contrada, R. J., & Krantz, S. S., (1988) "Stress, reactivity, and Type A behaviour: Current status and future direction", *Annals of Behavioural Medicine*, 10, 64–70.

Cook, W. W., & Medley, D. M., (1954) "Proposed hostility and pharisaic virtue scales for the MMPI", *Journal of Applied Psychology*, 38, 414–418.

Cooper, C. L., (1982) *Stress research*. Chichester: Wiley.

——, (1996) *Handbook of stress, medicine, and health*. Boca Raton, FL: CRC Press.

Cooper, C. L., & Marshall, J., (Eds.) (1980) *White collar and professional stress*. Chichester: Wiley.

Cooper, C. L., & Payne, R., (1989) *Causes, coping and consequences of stress at work* New York: Wiley.

Costa, P. T., & McCrae, R. R., (1992a) "The Five-Factor Model of personality and its relevance to personality disorders", *Journal of Personality Disorders*, 6, 343–359.

——, (1992b) *NEO PI-R: Professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.

Cottington, E. M., & House, J. S., (1987) "Occupational stress and health: A multivariate relationship" In: A. Baum & J. E. Singer (Eds.), *Handbook of psychology and health* (Vol. 5), Hillsdale, NJ: Erlbaum.

Coverman, S., (1989) "Role overload, role conflict, and stress: Addressing consequences of multiple role demands", *Social Forces*, 67, 965–982.

Coyne, J. C., Aldwin, C., & Lazarus, R. S., (1981) "Depression and coping in stressful episodes", *Journal of Abnormal Psychology*, 90, 439–447.

Coyne, J. C. & Downey, G., (1991) "Social factors and psychopathology: Stress, social support, and coping processes", *Annual Review of Psychology*, 42, 401–425.

Craver, C. S., Diamond, E. L., & Humphries, C., (1985) "Coronary-prone behaviour" In: N. Schneiderman & J. T. Tapp (Eds.), *Behavioural medicine: The biopsychological approach*. Hillsdale, NJ: Erlbaum.

Crumlish, C. M., (1994) "Coping and emotional response in cardiac surgery patients", *Western Journal of Nursing Research*, 16, 57–68.

Decker, F. H., (1985) "Socialization and interpersonal environment in nurses' affective reaction to work", *Social Science & Medicine*, 20, 499–509.

DeLongis, A., Coyne, J. C., Dakof, G., Folkman, S., & Lazarus, R. S., (1982) "Relationships of daily hassles, uplifts and major life events to health status", *Health Psychology*, 1, 119–136.

DeLongis, A., Folkman, S., & Lazarus, R. S., (1988) "The impact of daily stress on health and mood: Psychological and social resources as mediators", *Journal of Personality and Social Psychology*, 54, 486–495.

Department of Statistics, Government of Singapore (various years) *Report on the Census of Industrial Production*, Singapore.

Department of Statistics, Government of Singapore (1990) *Singapore Census of Population 1990*. Singapore National Printers.

Derber, C., Schwartz, W., & Magrass, Y., (1990) *Power in the highest degree*. New York: Oxford University Press.

Dewey, J., (1896) "The Reflex Arc Concept in Psychology", *Psychological Review*, 3, 357–370.

Dingwall, R., & Lewis, P., (Eds.) (1983) *The sociology of the professions*. London: Macmillan.

Diong, S.-M., Bishop, G. D., Enkelmann, H. C., Tong, E. M. W., Why, Y. P., Ang, J. C. H., & Khader, M., (2005) "Anger, stress, coping, social support and health: Modelling the relationships", *Psychology and Health*, 20, 467–495.

Duxbury, L. E., & Higgins, C. A., (1991) "Gender differences in work-family conflict", *Journal of Applied Psychology*, 76, 60–74.

Ebata, A. T., & Moos, R. H., (1991) "Coping and adjustment in distressed and healthy adolescents", *Journal of Applied Developmental Psychology*, 12, 33–54.

——, (1994) "Personal, situational, and contextual correlates of coping in adolescence", *Journal of Research on Adolescence*, 4, 99–125.

Economic Planning Agency, Social Policy Bureau., (1983) *The information society and human life*. Tokyo.

Elliot, D. J., Trief, P. M., & Stein, N., (1986) "Mastery, stress, and coping in marriage among chronic pain patients", *Journal of Behavioural Medicine*, 9, 549–558.

Ely, D. L., & Mostardi, R. A., (1986) "The effect of recent life events stress, life assets, and temperament pattern on cardiovascular risk factors for Akron city police officers", *Journal of Human Stress*, 12, 77–91.

Enkelmann, H. C., Bishop, G. D., Tong, E. M. W., Diong, S. M., Why, Y. P., Khader, M., & Ang, J., (2005) "The roles of hostility, affect and ethnicity in cardiovascular responses: An ambulatory study in Singapore", *International Journal of Psychophysiology*, *56*, 185–197.

Evans, B. J., & Coman, G. J., (1992) "General versus specific measures of occupational stress: An Australian police survey", *Stress Medicine*, 9, 11–20.

Evans, B. J., Coman, G. J., Stanley, R. O., & Burrows, G. D., (1993) "Police officers' coping strategies: An Australian police survey", *Stress Medicine*, 9, 237–246.

Fairbank, J. A., Hansen, D. J., & Fitterling, J. M., (1991) "Patterns of appraisal and coping across different stressor conditions among former prisoners of war with and without post-traumatic stress disorder", *Journal of Consulting and Clinical Psychology*, 59, 274–281.

Farrington, A., (1995) "Stress and nursing", *British Journal of Nursing* 1995, 4, 574–578.

Flaherty, J. A., & Richman, J., (1986) "Physician malaise: The discovery and social etiology of psychiatric impairment among doctors", *International Journal of Social Psychiatry*, 32, 31–37.

Fleishman, J. A., (1984) "Personality characteristics and coping patterns", *Journal of Health and Social Behaviour*, 25, 229–244.

Flin, P., & Tomz, J. E., (1996) *Developing a law enforcement stress program for officers and their families*. National Institute of Justice, Office of Justice Programs, US Department of Justice.

Folkman, S., & Lazarus, R. S., (1980) "An analysis of coping in a middle-aged community sample", *Journal of Health and Social Behaviour*, 21, 219–239.

Frazier, P. A., Tix, A. P., Klein, C. D., and Arikian, N. J., (2000) "Testing theoretical models of the relations between social support, coping, and adjustment to stressful life events", *Journal of Social and Clinical Psychology*, 19, 314–335.

Friedman, I. A., (1991) "High- and low-burnout schools: School culture aspects of teacher burnout", *Journal of Educational Research*, 84, 325–333.

Friedson, E., (1994) *Professionalism reborn: Theory, prophecy, and policy*. Oxford: Polity Press.
Friesen, D., & Sarros, J. C., (1989) "Sources of burnout among educators", *Journal of Organizational Behaviour*, 10, 179–188.
Frisch, S. R., Dembeck, P., & Shannon, V., (1991) "The head nurse: Perceptions of stress and ways of coping", *Canadian Journal of Nursing Administration*, 21, 6–13.
Geer, B., (1968) "Teaching", *International Encyclopedia of the Social Sciences*, 15, 560–565.
Gianakos, I., (2000) "Gender roles and coping with work stress", *Sex Roles*, 42, 1059–1079.
Goldberg, D., (1972) *The detection of psychiatric illness by questionnaire*. London: Oxford University Press.
Goldberg, D. P., & Williams, P., (1988) *A user's guide to the General Health Questionnaire*. Windsor: Nfer-Nelson.
Goldberger, L., & Breznitz, S., (1993) *Handbook of stress: Theoretical and clinical aspects*. New York: Free Press.
Gorz, A., (1976) *The division of labour*. Brighton: Harvester.
Gouldner, A., (1979) *The rise of the intellectuals and the future of the new class*. London: Macmillan.
Gove, W. R., & Tudor, J., (1973) "Adult sex roles and mental illness", *American Journal of Sociology*, 78, 812–835.
Gray-Toft, P., & Anderson, J. G., (1980) "Stress among hospital nursing staff: Its causes and effects", *Social Science & Medicine*, 15, 639–647.
Greenglass, E. R., Pantony, K. L., & Burke, R. J., (1988) "A gender-role perspective on role conflict, work stress and social support", *Journal of Social Behaviour and Personality*, 3, 317–328.
Greenhaus, J. H., & Beutell, N. J., (1985) "Sources of conflict between work and family roles", *Academy of Management Review*, 10, 76–88.
Halaby, C. N., & Weakliem, D. L., (1989) "Worker control and attachment to the firm", *American Journal of Sociology*, 95, 549–591.
Halpin, G., Harris, K., & Halpin, G., (1985) "Teacher stress as related to locus of control, sex, and age", *Journal of Experimental Education*, 53, 136–140.
Han Y. G., (1979) "Life assurance in Singapore". Unpublished academic exercise, Department of Business Administration, University of Singapore.
Haney, T. L., Maynard, K. E., Houseworth, S. J., Scherwitz, L. W., Williams, R. B., & Barefoot, J. C., (1996) "Interpersonal hostility assessment technique: Description and validation against the criterion of coronary artery disease", *Journal of Personality Assessment*, 66(2), 386–401.
Hänninen, V. & Aro, H., (1996) "Sex differences in coping and depression among young adults", *Social Science & Medicine*, 43, 1453–1460.
Harnish, J. D., Aseltine, R. H. Jr., & Gore, S., (2000) "Resolution of stressful experiences as an indicator of coping effectiveness in young adults: An event history analysis", *Journal of Health and Social Behaviour*, 41, 121–136.
Hart, P. M., Wearing, A. J., & Headey, B., (1995) "Police stress and well-being: Integrating personality, coping and daily work experiences", *Journal of Occupational & Organizational Psychology*, 68, 133–156.
Hill, N., (1996) *Think and grow rich*. New York: Hawthorn Books.
Hing, A. Y., (1992) "The work experience of engineers in Singapore", *Economic and Industrial Democracy*, 13, 401–415.
Hingley, P., & Cooper, C. L., (1987) *Stress and the nurse manager*. Chichester: Wiley.
Hofstede, G., (1980) *Culture's consequences: International differences in work-related values*. Beverly Hills: Sage.
Holmes, T. H., & Rahe, R. H., (1967) "The Social Readjustment Rating Scale", *Journal of Psychosomatic Research*, 11, 213–218.
Hooker, K., Frazier, L. D., & Monahan, D. J., (1994) "Personality and coping among caregivers of spouse with dementia", *Gerontologist*, 34, 386–392.

Hsu, J., (1985) "The Chinese family: Relations, problems, and therapy" In: W. S. Tseng & D. Y. H. Wu (Eds.), *Chinese Culture and Mental Health* (pp. 95–112), Orlando: Academic Press, Inc.

Hurrell, J. A., (1995) "Police work, occupational stress and individual coping", *Journal of Organizational Behaviour*, 16, 27–28.

Hwang, K. K., (1977) "The patterns of coping strategies in a Chinese society", *Acta Psychologica Taiwanica*, 19, 61–73.

Information Division, Ministry of Communication and Information, 1989. Government of Singapore.

Izraeli, D. N., (1988) "Burning out in medicine: A comparison of husbands and wives in dual-career couples", *Journal of Social Behaviour and Personality*, 3, 329–346.

Joreskog, K., & Sorbom, D., (1993) *LISREL8: Structural equation modeling with the SIMPLIS command language*. Hillsdale, NJ: Erlbaum.

Kahn, R. L., & Rosenthal, R. A., (1964) *Organizational stress: Studies in role conflict and ambiguity*. New York: Wiley.

Karasek, R., & Theorell, T., (1990) *Healthy work: Stress, productivity, and the reconstruction of working life*. New York: Basic Books.

Keenan, A., & Newton, T. J., (1987) "Work difficulties and stress in young professional engineers", *Journal of Occupational Psychology*, 60, 133–145.

Keenan, T., (1980) "Stress and the professional engineer" In: C. L. Cooper & J. Marshall (Eds.), *White collar and professional stress* (pp. 189–210), Chichester: Wiley.

Kessler, R., (1985) *The life insurance game*. New York: Holt, Rinehart and Winston.

——, (1995) "Stress and stress management programs in the Singapore Police". Unpublished manuscript, Police Psychological Unit, Singapore Police Force.

Khader, M., (1999) "Police personality revisited using the Big 5 Model". Unpublished masters dissertation, University of Leicester.

Kirkcaldy, B. D., & Furnham, A. F., (1995) "Coping, seeking social support and stress among German police officers", *European Review of Applied Psychology/Revue Europeenne de Psychologie Appliquee*, 45, 121–126.

Kobasa, S. C., (1979) "Stressful life events, personality, and health: An inquiry into hardiness", *Journal of Personality and Social Psychology*, 37, 1–11.

Kobasa, S. C., & Pucetti, M. C., (1983) "Personality and social resources in stress resistance", *Journal of Personality and Social Psychology*, 45, 839–850.

Koh, C. W., (2000) "Occupational stress and psychological adjustment in GMP constables". Unpublished masters dissertation, Institute of Science and Technology, University of Manchester.

Koh, D., & Lee, S. M., (Eds.) (1998) *The health of your business: A management guide to employee health*. Singapore: Society of Occupational Medicine.

Kohn, M. L., & Schooler, C., (1982) "Job conditions and personality: A longitudinal assessment of their reciprocal effects", *American Journal of Sociology*, 87, 1257–1286.

Kohn, M. L., & Schooler, C., (Eds.) (1983) *Work and personality: An inquiry into the impact of social stratification*. Norwood, NJ: Ablex.

Komiya, N., (1999) "A cultural study of the low crime rate in Japan", *British Journal of Criminology*, 39, 369–390.

Kop, N., Euwema, M., & Schaufeli, W., (1999) "Burnout, job stress and violent behaviour among Dutch police", *Work and Stress*, 13, 326–340.

Kyriacou, C., (1980) "Sources of stress among British teachers: The contribution of job and personality factors" In: C. L. Cooper & J. Marshall (Eds.), *White collar and professional stress* (pp. 113–128), Chichester: Wiley.

——, (1981) "Social support and occupational stress among school teachers", Educational Studies, 7, 55–60.

Lai, G., (1995) "Work and family roles and psychological well-being in urban China", *Journal of Health and Social Behaviour*, 36, 11–37.

Lakey, B. & Dickinson, L. G., (1994) "Antecedents of perceived support: Is perceived family environment generalized to new social relationships?", *Cognitive Therapy & Research*, 18, 39–53.
Latack, J. C., (1986) "Coping with job stress: Measures and future directions for scale development", *Journal of Applied Psychology*, 71, 377–385.
The Law Society of Singapore, (1990/1991) *Annual report 1990/1991*. Singapore: Acme Printers.
Lazarus, R. S., (1966) *Psychological stress and the coping process*. New York: McGraw-Hill.
——, (1968) "Stress" In: D. L. Sills (Ed.), *International encyclopedia of the social sciences* (pp. 337–348), New York: Macmillan and Free Press.
——, (1976) *Patterns of adjustment*, New York: McGraw-Hill.
——, (1981) "The stress and coping paradigm" In: C. Eisdorfer, D. Cohen, A. Kleinman & P. Maxim (Eds.), *Models for clinical psychopathology* (pp. 177–214) New York: Spectrum.
——, (1993a) "From psychological stress to the emotions: A history of changing outlooks", *Annual Review of Psychology*, 44, 1–21.
——, (1993b) "Why we should think of stress as a subject of emotion" In: L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 21–39), New York: Free Press.
——, Averill, J. R., & Option, E. M., Jr., (1974) "The psychology of coping: Issues of research and assessment" In: G. V. Coelho, D. A. Hamburg & J. E. Adams (Eds.), *Coping and adaptation* (pp. 249–339), New York: Basic Books.
Lazarus, R. S., & Folkman, S., (1984) *Stress, appraisal and coping*. New York: Springer.
Lee, D., (1994) "The Singapore life insurance industry". Unpublished master's thesis, School of Postgraduate Management Studies, National University of Singapore.
Lee, R. P. L., (1995) "Cultural tradition and stress management in modern society: Learning from the Hong Kong experience" In: T. Y. Lin, W. S. Tseng, and E. K. Yeh (Eds.), *Chinese Societies and Mental Health* (pp. 40–52), Hong Kong: Oxford University Press.
Leigh-Bennett, E. P., (1936) *On this evidence: A study in 1936 of the Legal and General Assurance Society since its formation in 1836*. London: The Baynard Press.
Lennon, M. C., (1999) "Work and unemployment as stressors" In: A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health* (pp. 284–294), Cambridge: Cambridge University Press.
Leong, T. K., (1985) "The growth and development" In: *The Singapore insurance industry: Historical perspective, growth, and future outlook*. Singapore: Singapore Insurance Training Center.
The Life Insurance Association, (1990) Personal communication with staff in the association.
Lim, G. C., (1993) "Work stress and coping among lawyers in Singapore". Unpublished masters' thesis, Department of Sociology, National University of Singapore.
Lim, H. T. A., (1989) "Career development in the teaching profession". Unpublished academic exercise, Department of Sociology, National University of Singapore.
Lin, K. M., Kleinman, A., & Lin, T. Y., (1981) "Overview of mental disorders in Chinese cultures: Review of epidemiological and clinical studies" In: A. Kleinman, & T. Y. Lin (Eds.), *Normal and Abnormal Behaviour in Chinese Culture* (pp. 237–272), Holland: D. Reidel Publishing Company.
Lin, N., (1986) "Conceptualizing social support" In: N. Lin, A. Dean & W. Ensel (Eds.), *Social support, life events, and depression* (pp. 17–30), Orlando: Academic Press.
Lin, N., & Lai, G., (1995) "Urban stress in China", *Social Science & Medicine*, 4, 1131–1146.
Lin, N., & Ensel, W. M., (1989) "Life stress and health: Stressors and resources" *American Sociological Review*, 54, 382–399.

Lin, T. Y., (1985) "Mental disorders and psychiatry in Chinese culture: Characteristic features and major issues" In: W. S. Tseng & D. Y. H. Wu (Eds.), *Chinese Culture and Mental Health* (pp. 369–393), Orlando: Academic Press, Inc.

Lobel, S. A., (1991) "Allocation of investment in work and family roles: Alternative theories and implications for research", *Academy of Management Review*, 16, 507–521.

Locke, E. A., & Taylor, M. S., (1990) "Stress, coping, and the meaning of work" In: A. Brief & W. R. Nord (Eds.), *Meanings of occupational work* (pp. 135–170), Lexington, MA: Lexington Books.

Lofland, J., (1971) *Analyzing social settings: A guide to qualitative observation and analysis*. Belmont: Wadsworth.

Loo, R., (1999) "Police suicide: The ultimate stress reaction" In: J. M. Violanti & D. Paton (Eds.), *Police trauma: Psychological aftermath of civilian combat* (pp. 241–254), Springfield, IL: Charles C. Thomas.

Loscocco, K. A., & Roschelle, A. R., (1991) "Influences on the quality of work and nonwork life: Two decades in review", *Journal of Vocational Behaviour*, 39, 182–225.

Lowe, G. S., & Northcott, H. C., (1988) "The impact of working conditions, social roles, and personal characteristics on gender differences in distress", *Work and Occupations*, 15, 55–77.

Mandler, G., (1967) "Adaptive stress behaviour: Invited commentary" In: M. H. Appley & R. Thumbull (Eds.), *Psychological stress: Issues in research* (pp. 307–310), New York: Appleton-Century-Crofts.

——, (1984) *Mind and body: Psychology of emotion and stress*. New York: Norton.

Marshall, J., (1980) "Stress amongst nurses" In: C. L. Cooper & J. Marshall (Eds.), White collar and professional stress (pp. 19–59), Chichester: Wiley.

Matheny, K. B., & Cupp, P., (1983) "Control, desirability and anticipation as moderating variables between life changes and illness", *Journal of Human Stress*, 90, 14–23.

McColl, M. A., Lei, H., & Skinner, H., (1995) "Structural relationships between social support and coping", *Social Science & Medicine*, 41, 395–407.

McDonald, L. M., & Korabik, K., (1991) "Sources of stress and ways of coping among male and female managers", *Journal of Social Behaviour and Personality*, 6, 185–198.

McFarlane, A. H., Norman, G. R., Streiner, D. L., & Roy, R. G., (1983) "The process of social stress: Stable, reciprocal, and mediating relationships", *Journal of Health and Social Behaviour*, 24, 124–133.

Mead, G. H., (1938) *The philosophy of the act* (C. W. Morris, Ed.). Chicago: University of Chicago Press.

Mearns, J., & Mauch, T. G., (1998) "Negative mood regulation expectancies predict anger among police officers and buffer the effects of job stress", *Journal of Nervous & Mental Disease*, 186, 120–125.

Meiksins, P., (1984) "Scientific management and class relations", *Theory and Society*, 13(2), 177–209.

Menaghan, E. G., & Merves, E. S., (1984) "Coping with occupational problems: The limits of individual efforts", *Journal of Health and Social Behaviour*, 25, 406–423.

Mills, C. W., (1959) *The Sociological Imagination*. New York: Oxford University Press.

Miller, T. Q., Smith, T. W., Turner, C. W., Guijarro, M. L., & Hallet, A. J., (1996) "A meta-analytic review of research on hostility and physical health", *Psychological Bulletin*, 119, 322–348.

Ministry of Education, Government of Singapore, (1990) *Education statistics digest 1990*. Singapore: Mentor Printers.

Mitchell, J. T., & Everly, G. S., (1997) *Critical incident stress debriefing: An operation manual for the prevention of traumatic stress among emergency services and disaster workers* (2nd ed.). Elliott City, MD: Chevron Publishing.

——, (1998) *Critical incident stress management: The basic course workbook* (2nd ed.). Baltimore, MD: International Critical Incident Stress Foundation Inc.

Mitchell, M., (1999) "Psychological distress in police officers attending serious and fatal road traffic accidents" In: E. J. Hickling & E. B. Blanchard (Eds.), *The international handbook of road traffic accidents and psychological trauma: Current understanding, treatment and law* (pp. 129–139), New York: Elsevier Science.

Mitchell, P. R., Cronkite, R. C., & Moos, R. H., (1983) "Stress, coping and depression among married couples", *Journal of Abnormal Psychology*, 92, 433–448.

Monat, A., & Lazarus, R. S., (1977) *Stress and coping: An anthology*. New York: Columbia University Press.

Moos, R. H., (1986) *Work Environment Scale manual* (2nd ed.). Palo Alto, CA: Consulting Psychologists Press.

Moos, R. H., & Billings, A. G., (1982) "Conceptualizing and measuring coping resources and processes" In: L. Goldberger & S. Breznits (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 212–230), New York: Free Press.

Morris, M., (1995) "Need to reduce stress", *British Journal of Nursing*, 4, 572–573.

Nagatomi, Y. (1983) "The softening of the economy", *Japan Quarterly*, 30(3), 256–260.

Nakano, K., (1991) "The cause-effect relationship between coping and psychological/physical symptoms", *Japanese Journal of Psychology*, 61, 404–408.

Neo, J., (1996) "Serving a hostile world: How life insurance agents cope with rejection". Unpublished academic exercise, Department of Sociology, National University of Singapore.

Newman, J. P., (1984) "Sex differences in symptoms of depression: Clinical disorder or normal distress?", *Journal of Health and Social Behaviour*, 25, 136–160.

Ngui, P., & Yuan, J., (1989) "An epidemiological study on mental health in Singapore" Paper presented at the International Symposium on Mental Health, Taiwan: Academia Sinica.

Noble, D., (1979) *America by design: Science, technology and the rise of corporate capitalism*. Oxford: Oxford University Press.

Novaco, R. W., (1977) "A stress inoculation approach to anger management in the training of law enforcement officers", *American Journal of Community Psychology*, 5, 327–346.

Numerof, R. R., & Abrams, M. N., (1984) "Sources of stress among nurses: An empirical investigation", *Journal of Human Stress*, 10, 88–100.

Palinkas, L. A., (1992) "Going to extremes: The cultural context of stress, illness, and coping in Antarctica", *Social Science & Medicine*, 35, 651–664.

Parkes, K. R., (1980) "Occupational stress among student nurses", *Nursing Times*, 76, 113–116.

Patterson, G. T., (1999) "Coping effectiveness and occupational stress in police officers" In: J. M. Violanti & D. Paton (Eds.), *Police trauma: Psychological aftermath of civilian combat* (pp. 214–226), Springfield, IL: Charles C. Thomas.

Pearlin, L. I., (1989) "The sociological study of stress", *Journal of Health and Social Behaviour*, 30, 241–256.

——, (1999) "Stress and mental health: A conceptual overview" In: A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health* (pp. 161–175), New York: Cambridge University Press.

Pearlin, L. I., Menaghan, E. G., Lieberman, M. A., & Mullan, J. T., (1971) "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 Behaviour*, 19, 2–21.

Peter, R., & Siegrist, J., (1997) "Chronic work stress, sickness absence, and hypertension in middle managers: General or specific sociological explanations?", *Social Science & Medicine*, 45, 1111–1120.

Phelan, J., Schwartz J. E., Romet, E. J., Dew, M. A., Parkinson, D. K., Schulberg, H. C., Dunn, L. O., Blane, H., & Curtis, E. C., (1991) "Work stress, family stress and depression in professional and managerial employees", *Psychological Medicine*, 21, 999–1012.

Pierce, G. R., et al., (1996) "Conceptualizing and assessing social support in the context of the family" In: G. R. Pierce, B. R. Sarason, & I. G. Sarason (Eds.), *Handbook of social support and the family* (pp. 3–24), New York: Plenum.

Police Psychological Unit, Singapore Police Force, (2002a) *OHS Report 2001–2*. Unpublished report.

Police Psychological Unit, Singapore Police Force, (2002b) "Organisational Health Survey Results 2001". Unpublished report.

Quick, J. C., (1999) "Occupational health psychology: The convergence of health and clinical psychology with public health and preventive medicine in an organisational context", *Professional Psychology: Research and Practice*, 30(2), 123–128.

Quick, J. C., Murphy, L. R., Hurrel J. J., Jr., (1992) *Stress and well-being at work: Assessments and interventions for occupational mental health*. Washington, DC: American Psychological Association.

Quick, J. C., Murphy, L. R., Hurrel, J. J., Jr., & Orman, D., (1992) "The value of work, the risk of distress and the power of prevention (Chapter 1)", In: J. C. Quick, L. R. Murphy & J. J. Hurrel, *Stress and well-being at work: Assessments and interventions for occupational mental health* (Chapter 1), Washington, DC: American Psychological Association.

Quick, J. C., Quick, J. D., Nelson, D. L. & Hurrel, J. J., Jr., (1984/1997) *Preventive stress management in organisations*. Washington DC: American Psychological Association.

Ragin, C. C., (1994) *Constructing social research: The unity and diversity of method*. Thousand Oaks, CA: Pine Forge Press.

——, (2000) *Fuzzy-Set Social Science*. Chicago and London: The University of Chicago Press.

Raymond, J. S., Wood, D. W., & Patrick, W. D., (1990) "Psychology training in work and health", *American Psychologist*, 45, 1159–1161.

Reese, J. T., & Scrivner, E., (Eds.) (1994) *Law enforcement families: Issues and answers*. Washington, DC: Department of Justice.

Reese, J. T., & Solomon, R., (Eds.) (1996) *Organisational issues in law enforcement*. Washington, DC: U.S. Department of Justice.

Richard, S. W., (1995) *Institutions and organizations*. Thousand Oaks, CA: Sage.

Richardson, A. M., & Burke, R. J., (1991) "Occupational stress and job satisfaction among physicians: Sex difference", *Social Science & Medicine*, 33, 1179–1187.

Rosen, G. M., Geyman, I. P., & Layton, R. H., (1980) *Behavioural Science in Family Practice*. Appleton Century Crafts.

Rosen, R. H., (1986) *Healthy companies*. New York: American Management Association.

Rosenberg, M., (1965) *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M., & Pearlin, L. I., (1978) "Social class and self-esteem among children and adults", *American Journal of Sociology*, 84, 53–77.

Rosenman, R. H., (1978) "The interview method of assessment of the coronary prone behaviour pattern" In: T. M. Dembroski, S. M. Weiss, J. L. Shields, S. G. Haynes & M. Feinleib (Eds.), *Coronary-prone behaviour* (pp. 55–67), New York: Springer-Verlag.

Rothbaum, F., Weisz, J. R., & Snyder, S. S., (1982) "Changing the world and changing the self: A two-process model of perceived control" *Journal of Personality and Social Psychology*, 42, 5–37.

Rotter, J. B., (1966) "Generalized expectancies for internal versus external control of reinforcement", *Psychological Monograph*, 80 (no. 609), 1–28.

Ryan, W., (1976) *Blaming the Victim*. New York: Vintage.

Sarason, I. G., Johnson, J. H., Berberich, J. P., & Siegel, J. M., (1979) "Helping police officers to cope with stress: A cognitive-behavioural approach", *American Journal of Community Psychology*, 7, 593–603.

Sarason, I. G., Levine, H. M., Basham, R. B., & Sarason, B. R., (1983) "Assessing social support: The Social Support Questionnaire", *Journal of Personality and Social Psychology*, 44, 127–139.

Saw, S. H., (1984) The labour force of Singapore, *Census Monograph No. 3*. Singapore: Department of Statistics.

Scalzi, C. C., (1988) "Role stress and coping strategies of nurse executives", *Journal of Nursing Administration*, 18, 34–38.

Scheff, T. J., (1979) *Catharsis in healing, ritual, and drama*. Berkeley: University of California Press.

——, (1997) *Emotions, the social bond, and human reality: Part/whole analysis*. Paris: Cambridge University Press.

Schultz, T. W., (1970) *Investment in human capital*. New York: Free Press.

Seligman, M., (1990) *Learned optimism: How to change your mind and your life*. New York: Pocket Books.

Selye, H., (1956) *The stress of life*. London: Longmans.

——, (1974) *Stress without distress*. Philadelphia: Lippincott.

Sewell, J. D., (1983) "The development of the Critical Life Events Scale for law enforcement", *Journal of Police Science and Administration*, 11, 109–116.

——, (1993) "Traumatic stress of multiple murder investigations", *Journal of Traumatic Stress*, 6(1), 103–118.

Shek, D. T., & Tsang, S. K., (1993) "Coping responses of Chinese parents with pre-school mentally handicapped children", *Social Behaviour and Personality*, 21, 303–312.

Shek, T. T., & Cheung, C. K., (1990) "Locus of coping in a sample of Chinese working parents: Reliance on self or seeking help from others", *Social Behaviour and Personality*, 18, 327–345.

Simon, R. W., (1992) "Parental role strain, salience of parental identity and gender differences in psychological distress", *Journal of Health and Social Behaviour*, 33, 25–35.

Simoni, P. S., & Paterson, J. J., (1997) "Hardiness, coping, and burnout in the nursing workplace", *Journal of Professional Nursing*, 13, 178–185.

Singapore Industrial Automation Association, National Automation Survey 1989/90.

Singapore Medical Council, (1989) *Annual report 1989*. Mentor Printers: Singapore.

Singapore Nursing Board, (1993) *Annual report 1993*. Singapore: Singapore Nursing Board.

Smith, P. B., & Bond, M. H., (1993) *Social psychology across cultures: Analysis and perspectives*. Boston: Allyn and Bacon.

Smith, W. K., (1987) "The stress analogy", *Schizophrenia Bulletin*, 13, 215–220.

Soh, K. C., (1988) *Attitude towards responsibility and teacher locus of control: Predicting teacher stress and attitudes*. Singapore: Institute of Education.

Spencer, A., & Podmore, D., (1984) "Women in a male-dominated profession in English: Pressure and strain in family and domestic life", *International Journal of Sociology of the Family*, 14, 47–66.

Spielberger, C. D., (1988) *State-Trait Anger Expression Inventory (revised research edition)* Odessa, FL: Psychological Assessment Resources.

Spielberger, C. D., Gorsuch, R. L., Lushene, R. E., & Vagg, P. R., (1983) *State-Trait Anxiety Inventory manual*. Palo Alto, CA: Consulting Psychologists Press.

Spitze, G., (1988) "Women's employment and family relations: A review", *Journal of Marriage and the Family*, 50, 595–618.

Srivastava, A. K., (1991) "A study of role stress: Mental health relationship as moderated by adopted coping strategies", *Psychological Studies*, 36, 192–197.

Stone, W. C., (1962) *The Successful System that Never Fails*. Englewood Cliffs, N.I.: Prentice Hall.

Super, J. T., (1996) "Intelligence testing as a predictor of officer certification examination performance" In: J. T. Reese & R. M. Solomon (Eds.), *Organisational issues in law enforcement* (pp. 259–265), Washington, DC: U.S. Government Printing Office.

Sutherland, V. J., & Cooper, C. L., (1988) "Sources of work stress" In: J. J. Hurrell, Jr., L. R. Murphy, S. L. Sauter & C. L. Cooper (Eds.), *Occupational stress: Issues and developments in research* (pp. 3–40), New York: Taylor & Francis.

Swanson, G., (1989) "On the motives and motivation of selves" In: D. D. Franks & E. D. McCarthy (Eds.), *The sociology of emotion: Original essays and research papers* (pp. 3–31), Greenwich, CT: JAI Press.

Tan, S. I. W., (1999) Report on the Para-counsellor Survey. Unpublished report, Police Psychological Unit, Singapore Police Force.

Tan, S. K. P., (1997) Report on the validation of the Senior Officer Battery. Unpublished report, Police Psychological Unit, Singapore Police Force.

Territo, L., & Vetter, H. J., (1981) "Stress and police personnel", *Journal of Police Science and Administration*, 9, 195–208.

Theorell, T., Ahlberg-Hulten, H., Sigala, F., Aleksander, P., Soderholm, M., Kallner, A., & Eneroth, P., (1990) "A psychological and biomedical comparison between men in six contrasting service occupations", *Work and Stress*, 4, 51–63.

Thoits, P., (1986) "Multiple identities: Examining gender and marital status differences in distress", *American Sociological Review*, 51, 259–272.

——, (1995) "Stress, coping, and social support processes: Where are we? What next?", *Journal of Health and Social Behaviour*, Extra Issue, 53–79.

Thoits, P. A., (1994) "Stressors and problem-solving: The individual as psychological activist", *Journal of Health and Social Behaviour*, 35, 143–159.

——, (1995) "Stress, coping and social support processes: Where are we? What next?", *Journal of Health and Social Behaviour*, 36, Extra Issue, 53–79.

Toffler, A., (1980) *The third wave*, London: Pan.

Tong, E. M. W., Bishop, G. D., Diong, S.-M., Enkelmann, H. C., Why, Y. P., Ang, J. C. H., & Khader, M., "Social support and personality among male police officers in Singapore", (2004) *Personality and Individual Differences*, 36, 109–123.

Touraine, A., (1974) *The post industrial society*. London: Wildwood House.

Triandis, H. C., (1994) *Culture and social behaviour*. New York: McGraw-Hill.

Tsai, S. L., (1993) "Chinese nurse stress in Taiwan, Republic of China", *Issues in Mental Health Nursing*, 14, 275–285.

Turner, R. J., and Marino, F., (1994) "Social support and social structure: A descriptive epidemiology", *Journal of Health and Social Behaviour*, 35, 193–212.

United Nations Centre on Transnational Corporations, (1988) *Transnational corporations in world development*. New York.

Vanfossen, B. E., (1981) "Sex differences in the mental health effects of spouse support and equity", *Journal of Health and Social Behaviour*, 22, 130–143.

Violanti, J. M., (1992) "Coping strategies among police recruits in a high-stress training environment", *Journal of Social Psychology*, 132, 717–729.

Violanti, J. M., & Paton, D., (1999) *Police trauma: Psychological aftermath of civilian combat*. Springfield, IL: Charles C. Thomas.

Vitaliano, P. P., DeWolfe, D. J., Maiuro, R. D., Russo, J., & Katon, W., (1990) "Appraised changeability of a stressor as a modifier of the relationship between coping and depression: A test of the hypothesis of fit", *Journal of Personality and Social Psychology*, 59, 582–592.

Waddington, P. A. J., (1999) *Policing citizens*. London: UCL Press.

Waller, W., (1932) *Sociology of teaching*. New York: Wiley.

Wearing, A. J., & Hart, P. M., (1996) "Work and non-work coping strategies: Their relation to personality, appraisal and life domain", *Stress Medicine*, 12, 93–103.

Wethington, E., and Kessler, R. C., (1986) "Perceived support, received support, and adjustment to stressful life events", *Journal of Health and Social Behaviour*, 27, 78–89.

Wheaton, B., (1990) "Where work and family meet: Stress across social roles" In: J. Eckenrode & S. Gore (Eds.), *Stress between work and family* (pp. 153–174), New York: Plenum Press.

——, (1996) "The domains and boundaries of stress concepts" In: H. B. Kaplan (Ed.), *Psycho-social stress: Perspectives on structure, theory, life-course, and methods*. New York: Academic Press.

Wheaton, B., (1999) "The nature of stressors" In: A. V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health* (pp. 176–197), Cambridge: Cambridge University Press.

White, R. W., (1974) "Strategies of adaptation: An attempt at systematic description" In: G. V. Coelho et al., (Eds.), *Coping and adaptation* (pp. 47–68). New York: Basic Books.

Why, Y. P., Bishop, G. D., Tong, E. M. W., Enkelmann, H. C., Diong, S.-M., Ang, J. C. H., & Khader, M., (2003) "Cardiovascular reactivity of Singaporean males as a function of task, ethnicity and hostility", *International Journal of Psychophysiology*, 49, 99–110.

Williams, V., & Williams, R. B., (1997) *LifeSkills*. New York: Times Books.

Wright, E. O., (1978) *Class, crisis and the state*. London: New Left Books.

Wright, T. A., (1990) "Coping and job performance", *Perceptual and Motor Skills*, 7(1), 403–408.

Wright, T. A., & Cropanzano, R., (1997) "Well being, satisfaction and job performance: Another look at the happy/productive worker thesis" In: L. N. Dosier & J. B. Keys (Eds.), *Academy of Management: Best paper proceedings* (pp. 364–368), Statesboro, GA: Georgia Southern University.

Wu, D. Y. H., & Tseng, W. S., (1985) "Introduction: The characteristics of Chinese culture" In: W. S. Tseng & D. Y. H. Wu (Eds.), *Chinese Culture and Mental Health* (pp. 3–13), Orlando: Academic Press, Inc.

Zelizer, V., & Rotman, A., (1983) *Morals and markets: The development of life insurance in the United States*. New Brunswick: Transaction Books.

Zohar, D., (1980) "Safety climate in industrial organisations: Theoretical and applied implications", *Journal of Applied Psychology*, 65, 96–102.

Zussman, R., (1984) "The middle levels: Engineers and the 'working middle class'", *Politics and Society*, 13(3), 217–237.

SUBJECT INDEX