Department of Applied Social Studies

Post Graduate Diploma in Psychology

SS 5790 Psychology Research Paper

FINAL YEAR PROJECT

PGDP-2002

Stress and Coping in a High Public Performance Appraisal Situation

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Abstract

**Objectives.** This study explored the relation between reported stress level, perceived control in the workplace, and usage of coping strategies of employees in a high public performance appraisal situation or high performance visibility situation.

**Methods.** The reported stress symptoms and the visibility scores of 40 professionals in the investment industry in Hong Kong and 40 non-investment professionals were compared.

**Results.** A positive relation was found between the reported stress level and the score on the visibility scale. Despite a higher stress level experienced by employees in high performance visibility jobs, a higher perceived control in the workplace and more usage of coping strategies were found to have a negative relation with the stress level reported. The study also revealed that the most frequently used coping strategies were those focusing on positive reaction approach, which employees seek to work at solving a problem to the best of their ability.

**Discussion.** The results demonstrate the importance of the strategies used in organizations in the investment industry. By adopting appropriate strategies, employees’ psychological and physiological health may be improved substantially.
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Stress and Coping in a High Public Performance Appraisal Situation

Stress has been widely regarded as an integral part of modern life. An optimal level of stress can help to improve our performance in various settings by boosting our motivation. However, stress in excess of some optimum can be harmful to both our physiological and psychological health (Franken, 1998). Given the significance of stress, there have been numerous studies carried out on various related areas, including the sources, nature, and effects of stress. A thorough understanding of stress can help us to develop strategies and therapies to deal with problems created by excessive levels of stress. The recent increase in suicide cases in Hong Kong can be partially explained by the stress arising from financial problems, loss of employment and household conflicts etc. These tragic events highlight the fact that stress is now playing a more important role in our life, compared with 20 years ago.

While the family is a major source of stress, the workplace can be regarded as an even more important source, especially as people are spending more and more time in the office. Organisations in Hong Kong continue to downsize in order to improve efficiency and this has resulted in reduction of headcounts and increase in demand on individual employees. While there are many studies on stress in the workplace, most of them have focused on the measurement of stress levels and their impact on job performance. There
are also studies devoted to identifying the key stressors in the workplace (Jex, 1998).

However, comparatively few articles are focused on the relation between the characteristics of job performance measurement and the stress level experienced by an employee. Specifically, questions like “Will certain job measurement factors lead to greater employee stress?” have not been addressed. An understanding of such questions is important in the context of a “loop of performance” – since the performance measurement itself will affect the stress level which in turn affects the job performance.

The current study focused on the relation between the job factors and stress level and, in particular, examined one of the characteristics of job measurement that played a role on the job stress – visibility of job performance. It is clear that some jobs have much higher visibility when compared with others. For example, lawyers winning (or losing) an important court case, senior civil servants delivering a policy speech (or making inappropriate comments), investment bankers winning (or losing) a deal and stock analysts making a correct (or wrong) call on stocks. People’s performance on these jobs is public and can be easily picked up by newspapers or other media, carrying their stories with maximum public exposures. Performance for professionals in these jobs is more visible than, for example, bank managers who have signed up a new portfolio of customers and salespersons exceeding a monthly quota. It is the aim of the present study
to investigate whether the difference in visibility of job performance will have an impact on job-related stress level experienced by the employee.

While transparency and visibility may play an important role in the stress level, there are some factors that may help to moderate or worsen their impact. Jex (1998) has identified six stressors in the workplace, namely role stressors, workload, interpersonal conflicts, situational constraints, perceived control and traumatic job stressors. These stressors, when interacting with the employees, will shape their stress levels. In this study, we focused on the impact of higher perceived control. A higher perceived control on job performance or outcome may substantially reduce the stress experienced by an employee with high performance visibility. While in cases of jobs with lower visibility, the importance of perceived control will be less significant given the employee has more room to manage responses of supervisors and the performance measurement process.

Although stress has now become a part of our everyday work life, there is different impact on different people, even after exposure to virtually the same stressors. The way an individual handles stress has a determining impact on whether they can successfully overcome the obstacles in their lives. Identifying the effective coping strategies will be of paramount significance in preventing and resolving various psychological and physiological problems. It is because of the importance of the benefits
brought about by effective stress coping that huge research efforts have been devoted to studying coping strategies. Research on coping can be dated back to as early as the late 19th century by Freud. Some typical strategies identified include repression, rationalisation, sublimation or projections (Brown, 1964). There have also been studies focusing on the two main approaches, namely dispositional and situational approaches. While the present study have not provided a detailed analysis of either approach applied to employees with high performance transparency and visibility, it attempted to identify the relationship between employment of coping strategies and an individual’s psychological and physiological problems under stressful situations.

The subjects of the current studies are practitioners in the investment banking and equity analysis industry (collectively the investment industry) in Hong Kong. Besides the accessibility of such subjects due to the author’s profession, the significance of their work to the Hong Kong financial markets also means that they are interesting subjects to study. There is very limited research available on this specific target subject group. One reason is the short history of the industry and comparatively small size of workforce in the industry. The investment industry is estimated to have less than 20 years of history and there are only rapid developments in the last ten years. Total number of employees of the industry in Hong Kong is estimated to be within the range of 2,000-2,500, or less
than 1% of Hong Kong’s total labour force. The current study aimed to establish some background parameters on this group of people, while serving as a starting point for further analysis of professions with similar characteristic of high performance visibility.

The aims of this study are as follows:

1.) To identify the relation between the visibility of performance and the stress level experienced by employees by using investment professionals as subjects;

2.) To highlight the effect of perceived control on the level of stress experienced by the subjects;

3.) To examine the coping strategies of the subjects in handling stress level and relationship between coping and stress.

Literature Review

The following literature review serves as the background in the development of hypotheses for the current studies. Concepts and literature on stress, visibility of performance, perceived control and coping strategies have been reviewed to explore previous studies relating to the interrelationship between these variables. This is then followed by the statement of the hypotheses of the current study.
What is stress?

According to Lazarus & Folkman (1984), the term stress first appeared in the index of Psychological Abstracts in 1944. The Oxford English Dictionary defines stress as ‘pressure; condition causing hardship, disquiet, etc’, which may be overly simplistic and broad. Cox (1993) stated that ‘stress can be defined as a psychological state which is part of and reflects a wider process of interaction between individuals and their work environment’. This definition by Cox clearly has overemphasized the significance of the work environment, and may serve better as a partial definition of organisational stress.

By far, the most popular definition of stress is the one by McGarth (1976). McGarth defined stress as ‘a (perceived) substantial imbalance between demand and response capability, under conditions where failure to meet demand has important (perceived) consequences’. McGarth’s definition incorporated a stimulus and response approach to the concept of stress. The stimulus-response approach is one popular way of defining stress. Jex, Beehr and Roberts (1992) conducted a search on issues of six major journals in organisational behavior from 1985 to 1989 in one study. They found that the word “stress” or “stressful” was being assigned to one of four categories. Of 51 articles, 41% used the word to refer to stimulus conditions, 22% to response, 25% implied both stimulus and response conditions and the remaining 14% were unclear.
Selye (1979) offered another interesting definition for stress. He stated that stress is the nonspecific response of the body to any demand made upon it. More importantly, Selye included favourable events such as getting married or taking a new job as stressors, and highlighted that they can be stressful too. Clearly, stress is not just something unpleasant and some pleasant events are also stressful.

**Measurement of stress**

The most popular instrument for measuring life stress is the Schedule of Readjustment Rating Scale developed by Holmes and Rahe (1967). The instrument consists of a checklist of events with spaces for subjects to indicate, if any, of these events have happened to them in a specified period of time, usually within the last 12 months. These events include, for example, death of immediate close family, unemployment, divorce and going on holidays etc. Each of these events is assigned a weighing to reflect the degree of disruption that caused to a person. These weights are expressed in the form of ‘Life Change Units’. The score of an individual on the Schedule of Readjustment Rating Scale is calculated by summing up the total of the Life Change Units of the events that one has reported. Individuals with more than a certain number of Life Change Units are considered at risk for developing diseases.
Since the development of the Schedule of Readjustment Rating Scale, there were numerous stressful Life Event Inventories being developed for different subjects, including those specifically for college settings, children and adolescents and the elderly etc. These Life Events Inventories are now used as supplements to clinical interviews and as a standardised measure of the amount of stress that has been present in a person’s immediate environment in a defined period.

While Life Event Inventories are popular measurements of stress, it is only intended as a stimulus measure. The responses that any individual makes to the events are determined by other factors which require measuring separately. A response measure, like the popular Affect Balance Scale (Bradburn, 1969), can be used to provide a more complete picture of stress subjectively experienced by an individual. The Affect Balance Scale is a 10-item, interviewer-administered rating scale containing five statements reflecting positive feelings and five statements reflecting negative feelings. Ratings of positive affect, negative affect and affect balance are obtained as measurements. An alternative form of response measurement is by looking at the symptoms developed. The Serious of Illness Rating Scale (Wyler, Masuda & Holmes, 1968) is one of such response measurement instruments. The Scale contains a wide range of illness as well as assigned weights on the seriousness that indicate the threat to life, discomfort, and disruptiveness.
of the illnesses. Some examples of the illnesses include heartburn, shortness of breath and shaky hands. Subjects need to indicate the extent to which they were bothered by these illnesses over a specified period of time by ratings whether such disruptions were not at all serious to extremely serious on a four-point scale. The sum of all these ratings forms the strain score of the individual and the higher the score, the higher level of stress experienced.

What is performance visibility?

In *Merriam-Webster Dictionary*, visibility is defined as ‘being obvious to the eye or mind’. In the context of our study, we refer visibility to performance visibility, which means the extent that an employee’s performance can be observed or seen by others. Various textbooks on organisational behavior have offered definitions for performance. Specifically, performance is an evaluation of the results of a person’s behavior: It involves determining how well or poorly a person has accomplished a task or done a job (Kanfer, 1990). Although the definition offered a clear explanation of meaning for performance measurement, one key point that it missed is the reference to who carried out the evaluation. In our changing business world, it is no longer that one’s supervisor is the sole and most important appraiser of an employee’s performance. Increasingly, performance of the practitioners in some industries is being judged by clients’ and the
public’s assessment of their competence in certain tasks and one’s supervisors are playing
a less and less significant role.

An example of jobs in which performance is publicly visible is that of high ranked
business executives. Although the existing literature seldom uses visibility to describe
the work of these business executives, some characteristics of their job highlight that they
are in a highly visible performance appraisal situation. For example, they are being
‘portrayed in the popular media …….’ (Kobasa, 1982). One essential criterion for
performance visibility is the coverage by media. For example, BusinessWeek carries out
annual survey on Top Managers of the Year and South China Morning Post in Hong
Kong also presents Business Achievement Awards annually. For the current study, jobs
with high performance visibility are referred as those which the public have easy assess
to their performance which is directly relevant to success or failure in the job.

Research on stress and visibility

The special nature of the current study on performance visibility and its focus on
an undercovered profession – investment industry, has, to date, received little research
attention. A related study by Kobasa (1982) measured the stress, strain and illness
experienced by a group of 157 Canadian lawyers, with a follow-up study on the coping
strategies employed by these lawyers. Along with the cases for senior business
executives, lawyer is another profession that can be considered to have high visibility of performance. The study found that there was no simple direct correlation between lawyers’ stressful life-events and reported illness. Increased strains were significantly determined by the personality characteristics of alienation and the use of regressive coping techniques, as well as by stress level. However, some coping strategies like social support and exercise were not found to significantly affect the degree of strain reported. Given the limited existing studies on the inter-relationship between stress and visibility, the current study explored such relationship by using a questionnaire approach, particular in a Hong Kong context. The hypotheses that there is a positive relationship between stress and visibility is thus derived from Kobasa’s previous work, and the assumption that threat to self identity and reputation are more salient in high visibility jobs.

Stress and health

While there are numerous studies on effects of stress, exploration of the relationship between stress and illness have received the most attention. Some common illnesses or diseases found to be associated with stress are cancer (Cooper, Cooper and Faragher, 1989), cardiovascular disease (Karasek and Theorell, 1989) and psychiatric
problems (Brown & Harris, 1978). A study by Evans and Edgerton (1991) even found a relationship between stress and common colds.

The study by Cooper, Cooper, and Faragher (1989) focused mainly on breast cancer, instead of cancer in general. They studied 1,596 women attending breast screening clinics with symptoms of breast lumpiness or tenderness, as well as 567 controls. Prior to the examinations, they were being asked about their life events in the previous two years by filling out a questionnaire. The study found that stressful life events like death of a husband or close friend were associated with breast cancer and its severity. Another study also found similar relation (Chen et.al., 1995). A total of 119 women referred for biopsies were interviewed. Out of 41 women with cancer, 19 of them had ‘greatly threatening life events’ over the last five years before diagnosis, compared with just 15 out of a control group of 78 women. The study also found increased risk associated with moderately threatening events while none with minor events. Not only that some studies found a relationship between stress and cancer, there is study which uncovered that stress is particularly destructive in people who resign themselves to diseases (Olff, 1999). The study discovered that when people try to attack their problems, like diseases, and gain some sense of control, their immune system is stronger and therefore they are also healthier.
Besides cancer, cardiovascular disease is another very common illness. According to the Department of Health in Hong Kong, a total of 5,532 people were died of all kind of heart disease in 2000. This put it as the second key killer in Hong Kong, right after cancer which accounted for 11,223 deaths in the year. Many studies have looked at the relationship between some job stressors and cardiovascular disease. In particular, the focus is on two key dimensions of work stress, namely, job demands and control. One study by Karasek and Theorell (1989) found that hectic work combined with low control on one’s work was associated with higher incidence of heart disease. Another study by Steptoe et.al. (1993) also revealed that middle-aged men showed a larger change in their blood pressure when they could not control the work pace in a laboratory setting involving problem solving and mirror drawing. In other words, work pace is discovered to have a specific effect on cardiovascular functioning.

The most frequent psychiatric illness that identified as having the closest relationship with stress is depression. According to DSM-IV (American Psychiatric Association, 1994), people with a major depression feel sad and helpless every day for weeks at a time. They have little energy, feel worthless, contemplate suicide, have trouble sleeping, cannot concentrate, get little pleasure from sex or food, and in many cases can hardly even imagine being happy again. One study found that women who
both experienced stressful life events and lacked the sufficient social and personal
support were more likely to develop depression (Brown & Harris, 1978). The study
considered that there were difficulties in distinguishing between clinical depression and
depressed mood and it relied on a standardised clinical interview to make a diagnosis of
depression. Their conclusion is that life stress is moderately related to depression.
Personal differences were also highlighted as reasons for some people which do not
develop depression even they have experienced same stressful events. Besides stressful
experience, many other factors have contributed to the development of depression. These
include genetic pre-disposition, childhood experience and a lack of interpersonal
resources, or poor social support systems.

Not only that stress is found to be related to serious illnesses as mentioned earlier.
There are also studies that discovered the relationship between stressful events and some
usual illness like common colds. One interesting study was done by Evans and Edgerton
(1991). They monitored the daily stress of 100 subjects by asking them to fill in
questionnaires for 10 weeks. During that 10-week period, 17 of them developed common
colds. The interesting finding was that desirable events decreased in frequency in the
week just before the onset of a cold and there was an increase in hassles or negative
events. More importantly, they found that the lack of social support and intimacy and
hassles related to interpersonal problems were closely related to the occurrence of common colds. A more detailed study was carried out by Cohen, Tyrell and Smith (1991) on stressful life events and common colds. The study recruited volunteers to complete retrospective questionnaires about major life events and perception of stress. One group of the volunteers was given injection of a small dose of cold virus while another group was given saline drops as control. Neither the investigators nor volunteers knew who had been given the virus and who had received the saline drops. After 28 days, of the total 394 participants exposed to the viruses, 82% were infected and 38% got clinical colds. Only 19% of the control group of 26 participants was infected and none of them got clinical cold. The study found that psychological stress before exposure to the virus was associated with an increase in respiratory infection of common colds. That is, for each increase in stress score, there was a corresponding increase in the proportion with colds. This latter study offered another piece of evidence for the association between stress levels and the development of common colds.

From a biological perspective, the effect of stress on health is explained by the relation between stress and our immune systems, which is referred as the study of psychoneuroimmunology. Short-term and moderate stress is beneficial to our health as it will activate our sympathetic nervous system (SNS) and Hypothalamus-Pituitary-Adrenal
Cortex Axis (HPA) which will strengthen our immune response (Benschop et al., 1995).

However, continued and long-term anxiety and stress have been proved to be harmful to one’s immune system. The heightened activation of HPA will increase the secretion of cortisol, or stress hormone, which will direct our energy toward higher blood sugar and metabolism but away from the synthesis of proteins, which are useful for our immune system. One study carried out in Antarctica found that a 9-month period of cold, darkness, and social isolation (which is stressful to a normal person) reduced T cell (a kind of white blood cells) functioning to about half of normal level (Tingate et al., 1997). In other words, excessive stress will reflect negatively on our physiology, highlighting the importance of understanding and managing stress levels. In the current study, the measurements of both psychological and physiological health were used as the indicators for the stress level experienced.

Relationship between perceived control and stress

Despite the potential negative impacts of stress on one’s physiological and psychological well being, there are some factors in the workplace that may serve to moderate their impacts. One of these is the perceived control on one’s job. Jex (1998) identified perceived control as one of the six stressors in the workplace. In fact, there are many studies focusing on the relationship between perceived control and stress. Studies
showed that just having the illusion of control is already comforting for a person (Friedland, Keinan & Regev, 1992). Another study also revealed similar relation in the workplace. Specter (1986) found that maintaining the feelings of control is important in the workplace while employees generally tend to find it stressful when they lack a sense of control in their work.

Karasek (1979) has done some important work on the relationship between perceived control and stress. In his demand-control model, he predicted that a job with characteristics of high demand but low control would result in high levels of psychological and physical strain. One study later carried out by Karasek has provided support for such prediction. In a study related to company restructuring, Karasek (1990) found that people who had experienced company reorganisations in which they participated, and as such, they have an increased control, showed lower levels of stressful symptoms including depression, exhaustion, heart problems, dizziness and headaches.

The relationship between perceived control and stress actually extends beyond the workplace. Geer, Davison and Gatchel (1970) had done a study in a laboratory setting. In a reaction time task, 40 subjects were told to react to the onset of a 6-second shock. Following 10 trials, half of them were told that by decreasing their reaction time, they would reduce shock duration. The remaining subjects were being told that shock
duration would be reduced. In fact, all subjects, regardless of group assignment or reaction time, received 3-second shocks in the second half of the study. Their physiological response including galvanic skin responses (GSRs) and basal skin resistance were measured throughout the process. It is found that the group of subjects, which perceived that they have control over the shock, showed a significantly smaller number of spontaneous GSR fluctuations once they began to believe that they had influence over the shock than did the subjects without perceived control. This evidence suggested that the former group was less aroused when compared with the latter group, implying that the stress level experienced by the group with perceived control was lower than the no perceived control group.

To measure perceived control, one method is to assess it directly. The scale developed by Ashford, Lee, and Bobko (1989) is one useful instrument for measurement. The scale asks respondents whether they feel a general sense of control in their workplace. For example, an employee will be asked the extent that he agree with the statement “I have enough power in this organisation to control events that might affect my job”. Clearly, if the employee shows a strong disagreement with this statement, it will indicate that there is a lack of perceived control in his working environment.
Putting these previous researches into Hong Kong context, it is relevant to explore the similarity of the relationship between perceived control and stress. The current study explored such relationship, and particularly, focused on the group of investment professionals which have high visibility of job performance.

*Coping strategies towards stress*

By far, the most abundant research studies on stress have been devoted to study coping strategies and their effectiveness of reducing the stress levels experienced by a person. Although the origins of coping research can be traced back to the late 19th century by psychoanalytical theorists like Freud, it was not until the 1960s that the term ‘coping’ started to be used to describe certain kind of defense mechanisms against stress (Parker & Endler, 1996). Freud’s work mainly focused on how individuals deal with unpleasant feelings and emotions. When faced with these kinds of situations, an individual may use a number of defense mechanisms like repression, rationalisation, sublimation or projection. Freud’s daughter, Anna, has also done extensive work in the area of coping, suggesting that there may be different preferred defense mechanisms or defensive style in different situations and a particular kind of defense may link to specific psychopathologies.
Modern studies of coping strategies in a psychological context mainly focus on two key approaches, namely dispositional approach and situational approach.

Dispositional approach looks at whether there are specific coping styles or dispositions that enable people to cope better across situations. The situational approach, however, looks at the process of coping and whether there are specific strategies that are useful in different situations (Jones & Bright, 2001).

Within the dispositional approach, there is an important dichotomy that distinguishes two different ways of coping. At one end, it is the avoidant way of dealing with stressors. At the other end, it is the approach way of handling stress. The avoidant style of coping effectively means that an individual cope with anxiety-arousing stimulus and their consequences by avoidant behavior. Some examples of avoidant behavior are repression and denial. On the other extreme, people using approach style of coping will try to reduce anxiety by approaching or controlling threats creating such anxiety. Some approach strategies are intellectualisation and obsessive behaviors.

Along a similar line, Lazarus and Folkman (1984) suggested two types of coping process, namely problem-focus coping and emotion-focused coping. In problem-focused coping, a person’s coping strategy is aimed at managing, handling and dealing with the stressor directly. This strategy is more often used in a situation by which the stressors are
appraised by a person as amenable to change. However, in the case of emotion-focused coping, a person’s strategy is directed at dealing with the emotion caused by the stressors, instead of directly against the stressors. When a person appraised that there is nothing can be done to modify the stressors, this emotion-focused strategy are most likely to be employed.

In terms of measurement of stress coping, the Ways of Coping checklist for measuring coping developed by Folkman and Laxarus (1988) is one popular tool. The checklist consists of eight subscales which measure confrontative coping, distancing, using self-control, seeking social support, accepting responsibility; escape avoidance, planful problem solving and positive re-appraisal. To study people’s coping approaches, subjects have to identify a stressful experience and complete a rating scale in respect of that situation based on the strategies that have been employed over the stressful situation. While there are some criticism that most subscales are needed and some items included in the measures are much less applicable to certain situations, the Ways of Coping checklist continue to represent an important measurement scale used in studies on coping.

The effectiveness of different coping strategies varies depending on the characteristics of the stressful situations. For example, Mullen and Sulls (1982) found that avoidant strategies were more effective in reducing emotional stress in the short term.
Meanwhile, approach strategies were more effective over the long term. The stressfulness of a situation will also affect the relation between a particular coping strategy and mental health. Some problems are minor and ignoring these problems is often a best strategy. There are problems which are ambiguous in terms of their severity, and by using minimal reaction to these problems until further information is obtainable may also be a reasonable strategy. It is clear from the above examples that there are interaction effects between situational characteristics and use of coping strategies that moderate the relation between coping and health outcome.

There are studies that address the positive impacts of coping on illnesses. Following Cooper, Cooper and Faragher (1989) identified the relationship between stress and cancer, Fawzy, Cousins, et.al. (1990) carried out detailed work on the connection between coping and cancer. Fawzy conducted a coping intervention with melanoma patients and examined their coping effectiveness, affect, immune function, and survival. The coping intervention consisted of a structured, six-week group intervention that included health education, training in both problem-solving skills and stress management, and psychological support. At the end of the intervention, the subjects had more positive effect and were more likely to use active behavioral coping. At a six-month assessment, the intervention group also had better immune functioning. At a five-year follow-up
study, nearly one-third of the control group had died, but less than 10% of the experimental group had died. Higher distress levels and more active coping at baseline were significantly associated with longer survival, as was an increase in active coping.

The positive impact of employment of coping strategies was examined in the current study. More importantly, the focus was being put on such relationship in the cases of investment professionals which have high visibility of job performance. The third hypothesis is thus derived from the previous literature concerning stress and coping strategies.

Hypotheses

The review of the literature on stress highlighted the close inter-relation between the variables including stress levels, perceived control and coping strategies. The current study intended to put the relationship between these three variables in the context of persons with high visibility of their job performance. There were three key hypotheses and two sub-hypotheses in this study:

1.) Employees with high performance visibility will experience more stress symptoms compared with those with low visibility;

2.) Employees with higher perceived control on their jobs will report less stress symptoms; and additionally:
a. Employees with higher perceived control on their jobs will report less stress symptoms, even if their jobs are of high performance visibility.

3.) Employees with more extensive usage of coping strategies will report fewer stress symptoms; and additionally:

a. Employees with more extensive usage of coping strategies will report fewer stress symptoms developed, even if their jobs are of high performance visibility.

Method

Data for this study were collected through the administration of a structured questionnaire to the subjects. The data collected include characteristics of the subjects’ jobs, the amount of stress symptoms experienced, subjects’ perceived control in the workplace and the coping strategies employed under stressful situations. Demographic data including sex, age, education, occupation and working experience were also collected for the analysis of their relations to the variables mentioned above. Data analysis was carried out by using the statistical software Statistical Packages for Social Science (SPSS).
Subjects

A total of 80 questionnaires were administered to the subjects. Since this study focused on the difference in stress level and coping strategies of professionals in investment industry and those not in the investment industry, the subjects were divided into two groups of 40 each, with one group works in the investment industry and the other in non-investment industry. Professionals in investment industry were defined as those employed by investment banks, fund management houses and venture capital companies in the analysis and management of investments for propriety or client purposes. All other professionals were classified as working in non-investment industry. An analysis of the questionnaires collected showed that there were 44 male respondents and 36 female respondents. Most of the respondents completed university education as a total of 79 had education of bachelor degrees, representing 98.8% of total respondents. Details of their demographic background as categorised according to occupation groups were showed in Table 1.
Table 1: Summary of demographic information of subjects

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<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Below 25</td>
<td>0</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>26-35</td>
<td>38</td>
<td>95.0%</td>
<td>38</td>
<td>95.0%</td>
<td></td>
</tr>
<tr>
<td>36-40</td>
<td>2</td>
<td>5.0%</td>
<td>1</td>
<td>2.5%</td>
<td></td>
</tr>
<tr>
<td>41 and above</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>2.5%</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>2.5%</td>
</tr>
<tr>
<td>Below university education</td>
<td>0</td>
<td>0.0%</td>
<td>1</td>
<td>2.5%</td>
<td></td>
</tr>
<tr>
<td>Bachelor degree</td>
<td>19</td>
<td>47.5%</td>
<td>27</td>
<td>67.5%</td>
<td></td>
</tr>
<tr>
<td>Masters or Doctoral degree</td>
<td>21</td>
<td>52.5%</td>
<td>12</td>
<td>30.0%</td>
<td></td>
</tr>
<tr>
<td>Year in current industry</td>
<td></td>
<td>4</td>
<td>10.0%</td>
<td>7</td>
<td>17.5%</td>
</tr>
<tr>
<td>Less than 3 years</td>
<td>4</td>
<td>10.0%</td>
<td>7</td>
<td>17.5%</td>
<td></td>
</tr>
<tr>
<td>3-8 years</td>
<td>30</td>
<td>75.0%</td>
<td>23</td>
<td>57.5%</td>
<td></td>
</tr>
<tr>
<td>More than 8 years</td>
<td>6</td>
<td>15.0%</td>
<td>10</td>
<td>25.0%</td>
<td></td>
</tr>
</tbody>
</table>

**Instrument**

A structured self-administered English questionnaire was the data-collecting instrument for this study. The 4-page questionnaire was divided into five sections, with questions focusing on different variables, namely, job visibility, stress symptoms,
perceived control in jobs, coping strategies and demographic statistics. For each questionnaire, a total of 73 data points were collected.

**Job visibility**

Section one of the questionnaire was designed to measure the job visibility of the respondents. Given that there is no readily available scale for assessing job visibility, a five-item scale has been developed for this study. The scale was used to measure the extent that a respondent’s job performance can be easily available and disclosed to public and people outside of his/her organisation. Respondents were asked to rate the degree that they agree with five statements describing their job nature. These statements include, for example, “My name can easily be found on the internet because of the nature of my job.”, “Besides my boss, my job performance will be assessed by others.” etc. The respondents rated the individual statements from strongly disagree to strongly agree, with lower score means lower job visibility. In order to avoid the selection of a neutral answer, a six-point Likert scale was used. An aggregate score was computed for all the items for each respondent and used for classifying the respondent’s job as with high visibility or low visibility. Given that this is a new scale constructed firstly in this study, there was no previous reliability score (Cronbach Alpha) available.
Stress symptoms

The extent that a subject experienced stress symptoms was assessed in section two of the questionnaire. This section consisted of a list of 35 stress symptoms, including both physical and psychological symptoms. Examples for physical symptoms include chest pains, upset stomach and diarrhea etc. Psychological symptoms include depression, anxiety and emotional outbursts. The list was adopted from the Chinese stress symptom checklist based on research by Cheung & Hamid (1996). The reliability of the scale was measured by Cronbach Alpha, which was reported to be 0.95 in the study, indicating very high reliability of the checklist in measuring stress symptoms. The original checklist consisted of 40 items but there were some modifications made to eliminate items which were confusing or overlap with each other. A total of three items were dropped from the original checklist while two new items had been added based on the work of Kobasa (1982). Subjects were asked how frequent they experienced the stress symptoms in the list by rating the frequency from not at all to extremely frequent. Similar to the measurement of job visibility, the rating were based on a six-point Likert scale with the rating “1” means the least frequent occurrence and “6” being the most.
Perceived control

Section three of the questionnaire was constructed to measure the perceived control of the respondents in their workplace. Similar to section one, the scale consisted of five statements which describe the respondents’ perceived degree of control in the workplace and the respondents were asked to what degree they agreed with these individual statements based on a six-point Likert scale. A lower score means that the respondent disagrees more with the statements and have lower perceived control in the workplace. The items in the list were based on the Powerlessness section of the Job Security Scale developed by Ashford, Lee and Bobko (1989). There were only three items in the original scale which measure the power that an employee has in his/her job and hence the feeling about job insecurity. Two items were added to the scale to measure one’s ability to control his/her performance in the workplace and the control over adverse situations. These two statements were “I can easily manage my performance so that I am in control of my job.” and “No matter what happens, I can control the situation to minimise the event’s impact on my job.” No reliability coefficients were being reported previously on such scale given the modifications made to Ashford, Lee and Bobko’s original instrument.
Coping strategies

Coping strategies of the respondents were measured by twenty statements in section four of the questionnaire. Respondents were asked as to the frequency of using twenty different coping strategies in handling stressful situations. The respondents indicated such frequency on a six-point Likert scale with the rating “1” means that he/she has never used such strategy and “6” means that the strategy is definitely used. An aggregate score was calculated with a higher score means a higher utilisation of coping strategies and lower score indicates lower utilisation.

The scale used in this section was adopted from the Adolescent Coping Style Scale of Shek and Mak (1987) with the original scale of 30-items. The Cronbach Alpha of the Scale was reported to be 0.64 in this study, meaning that this Scale has moderate reliability in the measurement of coping strategies of individuals. Modifications had been made to drop some items that were similar to each other and to make the questionnaire shorter to reduce the non-response rates. The Scale can be classified into five subscales including: 1.) Mobilisation of personal resource (item 6-9); 2.) Seeking help from social resources (item 1,2,4 and 5); 3.) Appeal to supernatural power (item 3, 10 and 14); 4.) Adoption of philosophy of doing nothing (item 15, 18, 19 and 20); and 5.) Avoidance and blaming self/others (item 8, 11, 12, 13, 16 and 17).
This section also included a question which asked the respondents to name the three most frequent coping strategies they use to handle stress. The purpose of this question is to identify the most popular coping strategies.

Demographic data

The last section was devoted to the collection of the demographic data of the respondents. The respondents were requested to indicate their sex, age range, education level, occupation and working experience in the current industry by checking the appropriate boxes. The five variables were treated as nominal variables given that they were either of discrete nature (like sex) or that the respondents only need to indicate a range for their answer but no need to provide the exact figure (for example, age). These data were used to explore any correlation with the four variables measured in first four sections of the questionnaire so as to identify if any systematic relationship between these variables and the demographic characteristics.

Administration procedures

Date collection was carried out in March and April 2002. Two forms of administration were adopted, including email or face-to-face interviews. For email administration, completed questionnaires were sent back to the researcher for coding and data input through email. For face-to-face administration, the respondents filled in the
questionnaire in the presence of the researcher during the process and once completed, the questionnaires were handed back for coding and data input.

The respondents were selected on the base of convenience sampling. Given that the population of the professionals in the investment industry is small, the researcher relied on the colleagues, ex-colleagues and business acquaintances as key sources of subjects. The subjects from the non-investment industry group were sourced through business acquaintances, classmates and personal friends of the researcher.

Results

Reliability of instruments

Reliability checks were carried out on the visibility scale, stress symptom checklist, perceived control scale and coping strategy checklist to measure internal consistency. A higher Cronbach Alpha reflects that a scale is internally consistent and that the data collected are stable, dependable and can be replicated (Pervin & John, 2001).

The reliability coefficient for the visibility scale was found to be 0.57, which was considered as moderate. This indicated that although the scale can measure the subjects’ visibility, internal consistency might not be very high. There was a slight improvement when items 1.) and 2.) were dropped, with Cronbach Alpha increased to 0.64.
The reliability coefficient for the stress symptom checklist, perceived control scale and coping strategy checklists were high, as reflected by a Cronbach Alpha of 0.94, 0.86 and 0.72 respectively. The result indicated that these scales were of high internal consistency.

**Summary statistics of the scales**

Summary descriptive statistics for the subjects on the visibility scale, stress symptom checklist, perceived control scale and coping strategy checklist were shown in Table 2.

<table>
<thead>
<tr>
<th>Total Score*</th>
<th>Mean</th>
<th>Scale mid-point</th>
<th>Standard deviation</th>
<th>Range of scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Visibility scale</td>
<td>14.49</td>
<td>17.5</td>
<td>3.57</td>
<td>8-25</td>
</tr>
<tr>
<td>2 Stress symptom checklist</td>
<td>95.38</td>
<td>122.5</td>
<td>23.27</td>
<td>47-147</td>
</tr>
<tr>
<td>3 Perceived control scale</td>
<td>13.80</td>
<td>17.5</td>
<td>4.82</td>
<td>5-28</td>
</tr>
<tr>
<td>4 Coping strategy checklist</td>
<td>63.45</td>
<td>70.0</td>
<td>9.73</td>
<td>44-87</td>
</tr>
</tbody>
</table>

*Higher score indicates higher visibility, more stress symptoms, higher perceived control and more usage of coping strategies.*

Mean visibility score for the subjects was 14.49, which indicated that most of the subjects regarded their job of moderate visibility to the public.

The overall amount of the stress symptoms of the subject was measured by the aggregate score of their responses in the stress symptom checklist. The higher the score,
the more frequent occurrence of stress symptoms and hence a higher stress level experienced. With a six-point Likert scale and 35 different symptoms, the total score should range between 35 and 210, with a score of 122.5 being the mid-point. Mean total stress score for all the subjects was 95.38, or 2.73 per item, which lied between “rarely” and “sometimes” in terms of the attack by the stress related physical and psychological problems. The item with the most occurrences was “fatigue” with an average score of 3.57 while “hostile and assaultive behaviors” was the least frequent symptom with an average score of only 2.01.

The perceived control scale had a total of 5 items on a 6-point Likert scale, meaning that total score should range between 5 and 30 with a mid-point of 17.5. In this scale, the higher the score indicates the higher perceived control in the workplace. Mean total score for the subjects was 13.8, or an average of 2.76 for each item, indicating that most of them regarded they have limited control at their workplace.

Mean total score for the coping strategy checklist was 63.45, or an average of 3.17 for each item. A higher total score indicated that there was more frequent employment of various coping strategy to handle stressful situations. The result indicated that most of the subjects either use a few coping strategies frequently or many coping strategies but not so frequent.
Visibility and occupation

The key hypothesis tested in the current study was that professionals in jobs with high performance visibility experienced higher stress levels and exhibited more stress symptoms. Investment professionals were used as the subjects for this study. To measure whether job performance of investment professionals has a higher visibility, their visibility score was measured and contrasted against those for non-investment professionals. Independent sample t-tests were carried out on the individual items and total score in the visibility scale to test the difference between the means for visibility of investment and non-investment professionals. The results were displayed in Table 3 below.
Table 3: Independent sample t-test for difference between investment and non-investment professionals on mean visibility score

<table>
<thead>
<tr>
<th>Items on visibility scale</th>
<th>Mean score</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean score</td>
<td>Invest.</td>
<td>Non-invest.</td>
<td></td>
</tr>
<tr>
<td>1. My name can easily be found on the internet because of the nature of my job.*</td>
<td>3.03</td>
<td>2.40</td>
<td>2.594</td>
</tr>
<tr>
<td>2. Besides my boss, my job performance will be assessed by others.</td>
<td>3.30</td>
<td>3.08</td>
<td>0.821</td>
</tr>
<tr>
<td>3. Public media can easily track my job performance.</td>
<td>2.68</td>
<td>2.40</td>
<td>1.277</td>
</tr>
<tr>
<td>4. My job performance is used by my company to promote its services to the public/media.</td>
<td>3.30</td>
<td>3.08</td>
<td>0.851</td>
</tr>
<tr>
<td>5. My job performance is measured by publicly published surveys which are not carried out by my company.*</td>
<td>3.43</td>
<td>2.30</td>
<td>4.053</td>
</tr>
<tr>
<td><strong>Total score on visibility scale</strong></td>
<td><strong>15.73</strong></td>
<td><strong>13.25</strong></td>
<td><strong>3.289</strong></td>
</tr>
</tbody>
</table>

* Significant at p<0.05, N.S. indicates not significant

The mean total visibility score for investment professionals was 15.73 while that for non-investment professionals was 13.25. Standard deviation of the total score was 3.64 for investment professionals and 3.07 for non-investment professionals. In all 5 items in the visibility scales, the scores for investment professionals were high than the non-investment professionals by a range of between 0.22 and 1.13 points.
A significant difference was found between the means visibility score of investment professionals and non-investment professionals, with a mean difference of 2.47 points in total visibility score, and investment professionals scored higher than non-investment professionals ($t=3.289$, $p<0.05$). Independent sample t-tests on individual items also yielded similar results with significance for two items at $p<0.05$, namely “my name can easily be found on the internet because of the nature of my job” and “my job performance is measured by publicly published surveys which are not carried out by my company”, as shown in Table 3 above. The results supported the assumption that investment professionals have a higher performance visibility when compared with non-investment professionals.

*Stress and visibility*

As mentioned in the previous section, this study aimed at exploring the relationship between visibility and stress level. Total visibility score and total stress score were calculated for individual subjects. Independent sample t-tests were carried out on the data to examine whether there was significant difference in the scores on individual items as well as in the total stress scores for investment and non-investment professional. Pearson correlation analysis was carried out to examine whether there was a systematic relationship between overall visibility and stress symptoms reported by the
subjects. The mean scores of individual items of the stress symptom checklist and the results of the t-tests were displayed in Table 4 below.

Table 4: Independent sample t-test for difference between investment and non-investment professionals on mean and total stress symptom score

<table>
<thead>
<tr>
<th>Stress Symptoms</th>
<th>Mean score</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Invest.</td>
<td>Non-invest.</td>
<td>Mean difference</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------</td>
<td>--------------</td>
<td>-----------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>1</td>
<td>Change in breathing rate</td>
<td>2.88</td>
<td>2.42</td>
<td>0.45</td>
<td>1.742</td>
</tr>
<tr>
<td>2</td>
<td>Chest pain*</td>
<td>2.83</td>
<td>1.85</td>
<td>0.98</td>
<td>3.873</td>
</tr>
<tr>
<td>3</td>
<td>Dry mouth</td>
<td>3.15</td>
<td>2.70</td>
<td>0.45</td>
<td>1.626</td>
</tr>
<tr>
<td>4</td>
<td>Frequent need to urinate*</td>
<td>3.33</td>
<td>2.58</td>
<td>0.75</td>
<td>3.046</td>
</tr>
<tr>
<td>5</td>
<td>Upset stomach*</td>
<td>3.48</td>
<td>2.85</td>
<td>0.63</td>
<td>2.108</td>
</tr>
<tr>
<td>6</td>
<td>Diarrhea</td>
<td>2.70</td>
<td>2.48</td>
<td>0.23</td>
<td>0.831</td>
</tr>
<tr>
<td>7</td>
<td>Lower back pain</td>
<td>3.65</td>
<td>3.33</td>
<td>0.32</td>
<td>0.917</td>
</tr>
<tr>
<td>8</td>
<td>Insomnia*</td>
<td>2.98</td>
<td>2.38</td>
<td>0.60</td>
<td>2.440</td>
</tr>
<tr>
<td>9</td>
<td>Soar throat</td>
<td>3.00</td>
<td>2.60</td>
<td>0.40</td>
<td>1.482</td>
</tr>
<tr>
<td>10</td>
<td>Trembling hands</td>
<td>2.13</td>
<td>2.13</td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>11</td>
<td>Fatigue*</td>
<td>3.98</td>
<td>3.18</td>
<td>0.80</td>
<td>2.557</td>
</tr>
<tr>
<td>12</td>
<td>Increased muscular tension</td>
<td>2.98</td>
<td>3.18</td>
<td>-0.20</td>
<td>-0.691</td>
</tr>
<tr>
<td>13</td>
<td>Elevated pulse rate</td>
<td>3.00</td>
<td>2.73</td>
<td>0.27</td>
<td>0.968</td>
</tr>
<tr>
<td>14</td>
<td>Sweaty palm or feet</td>
<td>2.25</td>
<td>2.13</td>
<td>0.13</td>
<td>0.510</td>
</tr>
<tr>
<td>15</td>
<td>Sudden change in appetite</td>
<td>2.63</td>
<td>2.68</td>
<td>0.05</td>
<td>-0.183</td>
</tr>
<tr>
<td>16</td>
<td>Headaches*</td>
<td>3.23</td>
<td>2.63</td>
<td>0.60</td>
<td>2.160</td>
</tr>
<tr>
<td>17</td>
<td>Dizziness</td>
<td>2.45</td>
<td>2.55</td>
<td>0.00</td>
<td>-0.358</td>
</tr>
<tr>
<td>18</td>
<td>Cold and stuffy nose</td>
<td>3.20</td>
<td>3.00</td>
<td>0.20</td>
<td>0.653</td>
</tr>
<tr>
<td>19</td>
<td>Blurred vision</td>
<td>2.58</td>
<td>2.55</td>
<td>0.00</td>
<td>0.089</td>
</tr>
<tr>
<td>20</td>
<td>Inability to concentrate on tasks</td>
<td>2.80</td>
<td>2.83</td>
<td>0.00</td>
<td>-0.094</td>
</tr>
<tr>
<td>21</td>
<td>Tendency to make more</td>
<td>3.00</td>
<td>2.38</td>
<td>0.63</td>
<td>2.555</td>
</tr>
<tr>
<td>Item</td>
<td>Variable Description</td>
<td>Mean Investment</td>
<td>Mean Non-Investment</td>
<td>t-value</td>
<td>p-value</td>
</tr>
<tr>
<td>------</td>
<td>----------------------</td>
<td>-----------------</td>
<td>---------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>22</td>
<td>Decreased performance in general</td>
<td>2.65</td>
<td>2.78</td>
<td>-0.13</td>
<td>-0.509</td>
</tr>
<tr>
<td>23</td>
<td>Excessive “daydreaming” or “spacing out”</td>
<td>2.55</td>
<td>2.55</td>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>24</td>
<td>Sudden change in ways of thinking*</td>
<td>2.95</td>
<td>2.33</td>
<td>0.63</td>
<td>2.390</td>
</tr>
<tr>
<td>25</td>
<td>Increased forgetfulness*</td>
<td>3.53</td>
<td>2.88</td>
<td>0.65</td>
<td>2.444</td>
</tr>
<tr>
<td>26</td>
<td>Less rational thinking</td>
<td>2.55</td>
<td>2.33</td>
<td>0.22</td>
<td>1.028</td>
</tr>
<tr>
<td>27</td>
<td>Poor judgment*</td>
<td>2.75</td>
<td>2.23</td>
<td>0.52</td>
<td>2.470</td>
</tr>
<tr>
<td>28</td>
<td>Irritability</td>
<td>3.13</td>
<td>2.45</td>
<td>0.67</td>
<td>2.746</td>
</tr>
<tr>
<td>29</td>
<td>Development of fears</td>
<td>2.70</td>
<td>2.65</td>
<td>0.00</td>
<td>0.189</td>
</tr>
<tr>
<td>30</td>
<td>Defensive reaction to people’s comments*</td>
<td>3.28</td>
<td>2.68</td>
<td>0.60</td>
<td>2.435</td>
</tr>
<tr>
<td>31</td>
<td>Depression</td>
<td>3.05</td>
<td>2.90</td>
<td>0.15</td>
<td>0.547</td>
</tr>
<tr>
<td>32</td>
<td>Emotional outbursts and crying</td>
<td>2.50</td>
<td>2.23</td>
<td>0.27</td>
<td>1.192</td>
</tr>
<tr>
<td>33</td>
<td>Anxiety*</td>
<td>3.18</td>
<td>2.58</td>
<td>0.60</td>
<td>2.504</td>
</tr>
<tr>
<td>34</td>
<td>Nervous laughter*</td>
<td>2.30</td>
<td>1.80</td>
<td>0.50</td>
<td>2.492</td>
</tr>
<tr>
<td>35</td>
<td>Hostile and assaultive behavior</td>
<td>2.20</td>
<td>1.83</td>
<td>0.38</td>
<td>1.976</td>
</tr>
<tr>
<td><strong>Total stress symptom score</strong></td>
<td><strong>101.48</strong></td>
<td><strong>89.28</strong></td>
<td><strong>12.20</strong></td>
<td><strong>2.416</strong></td>
<td><strong>0.02</strong></td>
</tr>
</tbody>
</table>

* Significant at p<0.05, N.S. means not significant

Within the 35 items in the stress symptom checklist, there were significant differences between the mean score of 13 items for investment and non-investment professionals. In all of these 13 items, investment professionals reported that stress symptoms were significantly higher than non-investment professional at p<0.05. These items were “chest pain”, “frequent need to urinate”, “upset stomach”, “insomnia”,...
“fatigue”, “headaches”, “tendency to make more mistakes”, “sudden change in ways of thinking”, “increased forgetfulness”, “poor judgment”, “defensive reaction to other people’s comments”, “anxiety” and “nervous laughter”. All significant differences were in predicted direction.

The mean total stress score for investment professionals and non-investment professionals was 101.48 and 89.28 respectively. Independent sample t-test indicated that there was significant difference between the total score stress score of these two different professionals, with investment professionals scoring higher in this scale and on average having a score of 12.2 points higher than non-investment professionals (t=2.416, p<0.05).

Pearson correlation analysis was carried out on the total visibility score and total stress score. A correlation coefficient R of 0.718 was found between these two variables. The correlation relation was significant at p<0.01. This result indicated that there was a reasonable strong positive relation between visibility of job performance and the stress level experienced by an employee. A follow-up regression analysis was conducted on the data using total stress score as the dependent variable and total visibility score as the independent variable. A regression equation was derived with an R-squared of 0.515 (F=82.788, p<0.05). In other words, 51.5% of the variance of total stress score was
explained by the variation of total visibility score. This derived regression equation can be represented by the following relation:

\[ Y = 27.597 + 4.678X, \]

Where

- \( Y \) is the total stress score and
- \( X \) is the total visibility score

The relationship between visibility and stress can be represented by the above mathematical relation. It also highlighted the positive relation between the two variables: the higher the visibility, the higher the stress scores. Summing up the results of these tests, Hypothesis One of this study was accepted with the conclusion that “employees with high performance visibility experience more stress symptoms compared with those with low visibility”

**Stress and perceived control**

To assess the relationship between stress and perceived control, Pearson correlation coefficient was calculated for total stress score and total perceived control score. A correlation coefficient \( R \) of -0.576 was found. Although the correlations
coefficient R was not very high, it was significant at a p<0.01, indicating that there was significant negative relationship between total stress score and total perceived control.

Remember that a lower total perceived control score means a lower perceived control and a high total stress score indicates a higher stress level.

Regression analysis was carried out with the total stress score as dependent variable and total perceived score as independent variable with the following equation derived:

\[ Y = 133.779 - 2.783X \]

Where

\( Y \) is the total stress score and

\( X \) is the total perceived control score.

The regression equation had an R-squared of 0.332 (F=38.816, p<0.05), which effectively means that 33.2% of the variance of total stress score was explained by the variation of total perceived control score. Care should be exercised in interpretation of the result along with the previous equation on stress and visibility. The R-squared in each of the above regression analysis was based on either visibility or perceived control.
as the single independent variable. Should these two variables were taken together as independent variables, the percentage of the variance explained by each of them would be different from above given the inter-correlation between the two variables.

Summing up the result of the correlation analysis and regression analysis, Hypothesis Two was accepted with the conclusion that “employees with higher perceived control on their jobs will report less stress symptoms”.

Regarding the sub-hypothesis 2a.), a regression analysis was conducted between the two variables of total stress score and total perceived control score by selecting only those cases with a total visibility score of over 14 (being the mean total visibility score of all subjects). In other words, the relationship between stress and perceived control was explored for those with high job visibility. The regression analysis found a significant negative relationship between total stress score and total perceived control score for those subjects with high job visibility (F=11.605, p<0.05). R-squared of 0.244 means that for the high visibility subject group, 24.4% of the variance of total stress score was explained by the variation of total perceived control score.

Based on the result of the regression analysis, Hypothesis 2a.) was accepted with a conclusion that “employees with higher perceived control on their jobs will report less stress symptoms, even if their jobs are of high performance visibility”.
Stress and coping strategy

The relationship between stress and the employment of coping strategies was examined through a correlation analysis on the total score on the coping strategy checklist and the total stress score. A correlation coefficient $R$ was found to be $-0.568$, implying that there was a moderate negative relationship between the total stress score and the total score on the Coping Strategy scale. Since the higher the score on the coping strategy scale indicated the more frequent employment of different coping strategy, the correlation analysis supported our expectation that stress level was lower for employees which used more coping strategies.

Similar to the above two analysis, a regression analysis was carried out on the two scores to derive a regression equation to relate the two variables. The relation was displayed as below:

$$Y = 181.558 - 1.358X$$

Where

$Y$ is the total stress score and

$X$ is the total score on the coping strategy checklist.
The regression equation had a R-squared of 0.322 (F=37.12, p<0.05) which means that 32.2% of the variance of total stress score was explained by the variation of total score on the Coping Strategy checklist. Results from the correlation analysis supported Hypothesis Three and concluded that “employees with more extensive usage of coping strategies will report fewer stress symptoms”.

To test the sub-hypothesis 3a.), a regression analysis was also conducted between the two variables - total stress score and total score on the coping strategy checklist - by selecting only those cases with a total visibility score of over 14. In other words, the relationship between stress and employment of coping strategies was explored for those subjects with high job visibility. The regression analysis found a significant negative relationship between total stress score and total score on the coping strategy checklist for those subjects with high job visibility (F=7.397, p<0.05). R-squared of 0.181 means that for the high visibility subject group, 18.1% of the variance of total stress score was explained by the total score on the coping strategy checklist.

Based on the result of the regression analysis, Hypothesis 3a.) was accepted with a conclusion that “employees with more extensive usage of coping strategies will report fewer stress symptoms, even if their jobs are of high performance visibility.”
Frequency counts for the top three most popular coping strategies were made.

When being asked the three most frequently used coping strategies, the most popular answer of the subject was “work at solving the problem to the best of my ability” and was highlighted by 46 subjects. Other more frequent strategies include “maintain optimism and self-confidence” and “seek help/advice from family members” and “seek help/advice from friends, which accounted for 12.9%, 9.2% and 9.2% respectively of total mentioned as the top three most frequently used coping strategies. Other strategies were displayed in Table 5 below.

Table 5: Top 3 most used coping strategies

<table>
<thead>
<tr>
<th>Coping Strategy</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work at solving the problem to the best of my ability.</td>
<td>46</td>
<td>19.2%</td>
</tr>
<tr>
<td>2. Maintain optimism and self-confidence.</td>
<td>31</td>
<td>12.9%</td>
</tr>
<tr>
<td>3. Seek help/advice from family members.</td>
<td>22</td>
<td>9.2%</td>
</tr>
<tr>
<td>4. Use self-reflection to find the reasons for the problem.</td>
<td>20</td>
<td>8.3%</td>
</tr>
<tr>
<td>5. Find a way to relax, e.g. eating/drinking, listening to music etc.</td>
<td>19</td>
<td>7.9%</td>
</tr>
<tr>
<td>6. Play sports.</td>
<td>16</td>
<td>6.7%</td>
</tr>
<tr>
<td>7. Pray and let God take care of my worries.</td>
<td>13</td>
<td>5.4%</td>
</tr>
<tr>
<td>8. Take some time off.</td>
<td>10</td>
<td>4.2%</td>
</tr>
<tr>
<td>9. Seek help/advice from fortune-tellers.</td>
<td>5</td>
<td>2.1%</td>
</tr>
<tr>
<td>10. Seek help/advice from professional helpers.</td>
<td>4</td>
<td>1.7%</td>
</tr>
<tr>
<td>11. Wish a miracle would happen.</td>
<td>3</td>
<td>1.3%</td>
</tr>
<tr>
<td>12. Let nature take its course and believe that the problem will be solved.</td>
<td>2</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
The strategy of “work at solving the problem to the best of my ability” was also being mostly cited as the most frequent one, with a total of 23 subjects, or 28.8% of total, indicated it was the most frequently used strategy. The other popular top coping strategies were “seek help/advice from family members” and “play sports”. The results were shown in Table 6.

Table 6: Most frequently used coping strategy

<table>
<thead>
<tr>
<th>Coping Strategy</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Work at solving the problem to the best of my ability.</td>
<td>23</td>
<td>28.8%</td>
</tr>
<tr>
<td>2. Seek help/advice from family members.</td>
<td>13</td>
<td>16.3%</td>
</tr>
<tr>
<td>3. Play sports.</td>
<td>12</td>
<td>15.0%</td>
</tr>
<tr>
<td>4. Use self-reflection to find the reasons for the problem.</td>
<td>6</td>
<td>7.5%</td>
</tr>
<tr>
<td>5. Seek help/advice from friends.</td>
<td>5</td>
<td>6.3%</td>
</tr>
<tr>
<td>Spend more time with best friends.</td>
<td>5</td>
<td>6.3%</td>
</tr>
<tr>
<td>Maintain optimism and self-confidence.</td>
<td>5</td>
<td>6.3%</td>
</tr>
<tr>
<td>Find a way to relax, e.g. eating/drinking, listening to music etc.</td>
<td>5</td>
<td>6.3%</td>
</tr>
<tr>
<td>6. Pray and let God take care of my worries.</td>
<td>4</td>
<td>5.0%</td>
</tr>
<tr>
<td>7. Take some time off.</td>
<td>2</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Factor analysis on coping strategy checklist

While the current sample size of 80 was small and not large enough (over 200) to make a factor analysis reliable, an attempt was made to use it to identify the key factors in the coping strategy checklist. The results were hoped to be useful in providing some
initial idea on the coping strategies used by the subjects. The criteria of the selection of the appropriate factors for interpretations were higher factor loading, which the cut off point of higher than 0.5 was adopted, the factors must be meaningful and they need to explain reasonable proportion of the variations. As shown in Table 7 below, a total of 5 factors were reported, which on aggregate explained 56.9% of the variation of the data.

Table 7: Factor analysis of coping strategies checklist

<table>
<thead>
<tr>
<th>Factor</th>
<th>Factor label/Components</th>
<th>Factor Loading</th>
<th>Variance explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>“Positive Resolution Approach”</td>
<td>0.734</td>
<td>19.1%</td>
</tr>
<tr>
<td></td>
<td>• Maintain optimism and self-confidence.</td>
<td>0.687</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Use self-reflection to find the reasons for the problem.</td>
<td>0.616</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Spend more time with best friends.</td>
<td>0.574</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Let nature take its course and believe that the problem will be solved.</td>
<td>0.534</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Seek help/advice from friends.</td>
<td>0.526</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Believe that other people are responsible for the fault.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>“Unenthusiastic attitude I”</td>
<td>0.747</td>
<td>12.9%</td>
</tr>
<tr>
<td></td>
<td>• Wish a miracle would happen.</td>
<td>0.612</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• There is nothing I can do about the problem so I don’t do anything.</td>
<td>0.552</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Become apathetic or indifferent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>“Unenthusiastic attitude II”</td>
<td>0.671</td>
<td>9.4%</td>
</tr>
<tr>
<td></td>
<td>• Ignore the problem.</td>
<td>0.586</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>“Family support”</td>
<td>0.867</td>
<td>8.0%</td>
</tr>
<tr>
<td></td>
<td>• Seek help/advice from family members.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>“Emotional comfort”</td>
<td>0.693</td>
<td>7.5%</td>
</tr>
<tr>
<td></td>
<td>• Take medication to relax.</td>
<td>0.614</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pray and let God take care of my worries.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TOTAL VARIANCE EXPLAINED</strong></td>
<td></td>
<td><strong>56.9%</strong></td>
</tr>
</tbody>
</table>
The first factor identified explained 19.1% of the variance in the data. There were a total of 6 variables that have a factor loading of over 0.5 in this factor. However, the difference between factor loads for many variables were small as 3 variables have a factor load of between 0.526 and 0.574. The variables that showed higher factor loads were “maintain optimism and self-confidence” (0.734), “work at solving the problem to the best of my ability” (0.687) and “spend more time with best friends” (0.616). A common characteristic of these variables was the more positive views towards the stressful situation and a more proactive stance on resolving the stressful situation. The factor was labeled as “Positive resolution approach”.

The second factor of the analysis explained 12.9% of the variance in the data. A total of 3 variables having a factor load of over 0.5 contributed to this factor. These variables were “wish a miracle would happen” (0.747), “there is nothing I can do about the problem so I don’t do anything” (0.612) and “become apathetic or indifferent” (0.552). These variables reflected that a relatively laid back view towards the stressful situation was used and subject used avoidance approach to face the problems ahead. The factor was labeled as “Unenthusiastic attitude”.

The third factor accounted for 9.3% of the total variance. Only 2 variables with a factor loading of over 0.5 contributed to this factor with these variables reflected that
external forces were used to handle the situation as variables like “ignore the problem” and “seek help/advice from fortune-tellers” belonged to this factor. In fact, this factor was quite similar with the second factor “Unenthusiastic attitude” given that the factors both reflected a more reactive approach towards the stressful situation. Though somewhat out of judgment, these two factors were interpreted under the same category.

The fourth factor, which explained 8.0% of the total variance, was quite straightforward as one single variable represented the bulk of the factor loading. This factor was named as “Family support” since the variable “seek help/advice from family members” has a factor loading of as high as 0.867, which was significantly higher than 0.503 for the next variable “there is nothing I can do about the problem so I don’t do anything”. Noted that while “seek help/advice from family members” contributed significantly to this factor but not “seek help/advice from friends”. This means that the roles played by the family and friends were quite different in resolving a stressful situation.

The last factor accounted for 7.5% of the total variance in the data. Two variables which have a factor load of over 0.5 were “take medication to relax” (0.693) and “pray and let God take care of my worries” (0.614). These two variables were concerning mostly on the spiritual comfort by relaxing oneself from the tension and worries from the effect of stress and the factor was labeled as “Emotional comfort”.

The factor analysis on the coping strategies checklist identified the major types of coping strategies employed by the subjects, which included “Positive Reaction Approach”, “Unenthusiastic attitude”, “Family support” and “Emotional comfort”. Such findings were useful in deriving suggestions for useful coping strategies for individuals and also in organisational settings.

*Stress and demographic characteristics*

Although this study did not intended to explore the relationship between the stress levels and demographic background, a look into the data obtained from the questionnaires should also provide information on such relationship, if any.

Pearson correlation analysis was carried out to calculate the correlations between the total stress score and demographic figures including age, sex, education and year in current industry. Amongst all demographic variables, the one with the highest correlation with the total stress score was “Year in current industry” with a correlation coefficient $R$ of 0.07. None of the demographic variable showed a correlation coefficient $R$ with the total stress score higher than 0.5. The results of the correlation analysis are displayed in the Table 8 below.
Table 8: Correlation analysis of demographic information with different scales/checklists

<table>
<thead>
<tr>
<th>Correlation coefficient*</th>
<th>Sex</th>
<th>Age</th>
<th>Education</th>
<th>Year in industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total visibility score</td>
<td>0.173</td>
<td>-0.103</td>
<td>-0.031</td>
<td>0.003</td>
</tr>
<tr>
<td>Total stress score</td>
<td>0.057</td>
<td>-0.043</td>
<td>-0.012</td>
<td>0.070</td>
</tr>
<tr>
<td>Total perceived control score</td>
<td>-0.051</td>
<td>0.072</td>
<td>-0.079</td>
<td>-0.108</td>
</tr>
<tr>
<td>Total coping strategy score</td>
<td>-0.120</td>
<td>0.057</td>
<td>0.192</td>
<td>-0.130</td>
</tr>
</tbody>
</table>

* None of them is significant at p<0.05

The result indicated that that in the current study, no relationship was found between the stress levels and the demographic background of the subjects. Similar correlation exercises were carried out on perceived control and coping strategies against the demographic variables. Again, the correlation coefficient R found in all cases were smaller than 0.5. In other word, the subjects in the current study also showed no relationship between perceived control and demographic characteristics (sex, age, education and year in industry) and no relationship between coping strategy and the above-mentioned demographic characteristics.
Discussion

Discussion of findings

Stress and visibility

The study revealed that there was a positive relationship between the visibility of job performance and the stress level experienced. This was indirectly in contrast to the findings of Kobasa (1982) on the stress and illness experienced by lawyers, which is also considered as a profession with high visibility.

The current study, however, showed that professionals in industry with high job visibility might not exhibit a higher stress level than those with low visibility on all stress symptoms. In fact, there is no significant difference between the two groups in many stress symptoms although the high job visibility group has a higher score on most of the items in the 35 stress symptoms.

In the context of Chinese people, the relationship of higher stress in high job performance visibility group can be partly explained by the concept of social comparison and the concept of face. As Festinger (1954) pointed out in his social comparison theory, people tend to make self-evaluations by comparing themselves to other people who are similar to themselves, that is, they make a social comparison. The high visibility of one’s job will enhance the transparency of performance comparison by people. Esse (1989)
states that any experience that creates a positive mood raises one’s self-esteem while a negative mood lowers self-esteem. In other words, high job visibility will facilitate social comparison, which in turn increases the possibility of experiencing fluctuation in one’s self-esteem. More importantly, findings by Butler, Hokanson, and Flynn (1994) revealed that people whose self-evaluations fluctuate up and down in response to changes in situations were the ones most likely to become depressed. As discussed in Chapter II, depression is one of the major psychiatric problems associated with stress. Thus, the high visibility of job performance will lead to a more transparent environment for social comparison and people may readily be affected by the fluctuations of self-esteem, hence developed symptoms of stress. In particular, Chinese society has been characterized by the strong emphasis on “face”, which is defined as the respectability and/or deference which a person can claim for himself from others (Ho, 1976). Such concern on “face” means that Chinese people generally emphasize the need to achieve a positive outcome from social comparison and this will increase the stress experienced. While this is not a cause-and-effect explanation on visibility and stress level, it clearly draws a close link between these two variables.
**Stress and perceived control**

The results of the current study indicated that subjects with a higher perceived control in their job have a lower score on the stress symptoms checklist. The result in the regression analysis also confirmed the negative relationship between perceived control in the workplace and the stress level experienced. This was similar to findings in early studies including those carried out by Friedland, Keinan & Regev (1992), Specter (1986), Karasek (1979) and Geer, Davison and Gatchel (1970). Furthermore, the current study also found that such relationship also exists with people who engaged in jobs with high visibility of performance. In other words, perceiving that one has control in the workplace should help to reduce the stress experienced, even if one is in a job with high performance visibility.

In fact, the inverse relation between perceived control and stress has a biological explanation. Studies have found that events are more likely to produce stress and disease if the event is unpredictable and uncontrollable. Such events produce higher level of corticosterone (Weiss, 1970) and led to stress symptoms like more severe stomach ulceration (Caul, Buchanan, & Hays, 1972). Besides the biological explanation, Franken (1998) offered a cognitive explanation to this relation. He suggested that if an event is perceived to be controllable, people will engage in problem-solving behavior and develop
a positive emotion that act as a motivational support for their problem solving approach. As a result, they are experiencing a situation where they will expend efforts in searching for the best solution to a problem or event. The enhanced ability to resolve the problem will reduce the stress experienced. However, when a person perceives a situation or an event is uncontrollable, they will appraise it as threatening and experience negative emotion. When a person experiences a negative emotion, they tend to focus on that emotion and the time and efforts devoted to coping with such emotion distract the person from activities better calculated to solve the situation or problem. In other words, such efforts will delay the fundamental resolution of the underlying problem and hence prolonged the stress experienced by a person. However, in the investment industry, there is little time to dwell on the negative emotion because the problem must be solved immediately. As a result, the depression cycle may be more likely to be circumvented.

The findings above suggested that an increase in perceived control in the workplace, one could reduce both the psychological and physiological burden created by stress.

**Stress and coping strategies**

The current study discovered an inverse relation between the amount of reported stress symptoms and the extent of usage of coping strategies. Such findings were in line
with what other studies including those by Cooper, Cooper and Faragher (1989) and Fawzy, Cousins, et.al. (1990) found, though their researches were focused more on specific illness. Moreover, the current study also confirmed that such relation also exists on professionals in the investment industry as a sub-group. The result provided support that the stress experienced has an inverse relation with extensive usage of coping strategies; even one is in an employment position with high visibility of performance appraisal.

The effectiveness of coping strategies on reducing a person’s stress levels can be explained by the three key functions of coping. The following discussions highlighted the three categories of stress reduction methods for coping with stress, as identified by Murphy (1996):

1.) Primary prevention, which involves reducing the stressors at the sources. The “Positive Reaction Approach” factor as identified in the factor analysis of this study, and specifically strategy like “use self-reflection to find the reasons for the problem” is an example. By maintaining a “Positive Reaction Approach”, one’s resources can be mobilised to resolve the fundamental problem by tackling the underlying cause of the stressful situation. Obviously, when the cause of the
stressful situation is resolved, the amount of stress symptoms reported, hence the stress level experienced, will reduce;

2.) Secondary prevention, which involves reducing the severity of symptoms before they lead to more serious problems. The strategies under this category include, for example, items like “find a way to relax” and “play sports” in the questionnaire. The basis for the effectiveness of these coping strategies can be explained by the findings that fit individuals have less sympathetic nervous system activation to a physical workload than the unfit, including less adrenaline secretion and lower increases in heart rate, hence increasing physiological stress resistance (Van Doornen, de Ceus, & Orlbeke, 1988). Several studies also found that exercise has psychological benefits in terms of improving psychological well being like moods and emotions (Tuson & Sinyor, 1993 & Biddle, 2000).

Investment banks like Goldman Sachs clearly understood such relation as it intended to open a gymnasium at its Hong Kong office exclusively for its employees (but such plan was put on hold after the September 11 attacks in the US which affect the industry’s profitability).
3.) Tertiary prevention, which involves intervention like counseling, aimed at alleviating a problem once it has occurred. Besides “seek/help advice from professional helpers”, the advice/help from family members and friends are also important in providing psychological support to a person in periods of hard times. The factor analysis of the coping strategy checklist also identified “family support” as one of the key factor to reduce the amount of stress experienced by a person.

The current study also found that the most popular strategies employed were of primary and tertiary nature, with secondary prevention strategies being less popular. While these findings highlighted that the subjects tend to be more problem focused, it also revealed an imbalance in coping strategies employed. This echoed the fact that people in Hong Kong are generally lack of exercises and seldom play sports, and this has a direct relation with the amount of stress symptoms reported.

Recommendation

An important finding in this study was the relationship between visibility, reported stress symptoms, perceived control in the workplace and usage of coping strategies. While a person may experience higher stress level in a high performance
visibility situation, by increasing perceived control and using coping strategies more extensively, one can reduce the stress level experienced.

A number of strategies can be adopted to achieve the objective of increasing employee’s perceived control through making the office environment of the investment industry to be more predictable and more controllable. More transparent company policies on reward and punishment mechanism and more open communications between senior and junior levels of the staff on company policies and directions are some examples of useful strategies. In addition, a more systematic and structured job appraisal process can also allow the staff to increase their perceived control in the office. Given the high performance visibility of the investment professionals, more comprehensive information relaying to the public is important to increase their perceived control. This will provide the public more information for the evaluation of the performance of the professionals of the industry, rather than focusing on the “headlines” while missing the details.

In addition to improved perceived control, there is a lot can be done by individuals and organisations to improve the adequate usage of appropriate coping strategies to reduce stress and its psychological and physiological symptoms. On an individual level, strategies on the coping strategies checklist can provide different degree
of help. On the company level, however, there are even more can be done. There are companies that have started to introduce Stress Management Training Programs for their employee. These Training Programs might include a diverse range of techniques including training about relaxation, meditation, cognitive restructuring which involves individuals changing the way they think about stressful issues, assertive training which aims to improve a person’s interaction with others and stress inoculation training which helps individuals to develop different coping strategies to withstand more stressful situation in the future (Meichenbaum, 1985). Although such Stress Management Training Programs are popular in overseas countries, they are less frequently adopted in Hong Kong. In fact, training programs of the Hong Kong office of some multinational investment banks are still focusing on “soft and hard” technical skills but not these stress management programs which are equally essential to the employees.

Limitations of current study and recommendation for future study

1. **Sampling errors**

The samples drawn for this study were based on convenience sampling. While this sampling method emphasized the ease in locating subjects for the study, it had the problem of distortion due to its unsystematic nature. As a result, the findings of the current study may have problems in generalising to the industry as a whole and to other
professionals with high visibility. The adoption of a systematic sampling method, for example, random sampling in future studies should be able to enhance the ability of generalisation of findings.

2. **Small sample size**

The current study had a small sample size of 80 subjects only. Although 40 of them were investment professionals, it only represented about 1.6% of the total estimated population (of investment professionals), such a small sample size may be not sufficient enough to estimate the visibility, stress level and coping strategy of the industry professionals as a whole. With the relatively easy access to professionals in this area, further survey can involve more subjects given a long research schedule is allowed.

3. **Study of individual items**

The current study focused on the study of the aggregate values of a subject’s scores on visibility, stress level, perceived work control and coping strategies. The numerous data collected by the instrument can be used for the investigation of individual phenomenon, for example, relationship between individual stress symptoms and visibility and/or demographic data. While the data collected were comprehensive, an improved design of the questionnaire should help to achieve this objective. This study only investigated whether more extensive use of coping strategies will result in a lower overall
stress level. Further studies on the effectiveness of individual coping strategies on reducing the stress levels will prove to be useful in finding the best coping strategy and for clinical purpose.

4. **Reliability of the visibility scale**

The calculated Cronbach Alpha of the visibility scale was only 0.57 which indicated that internal consistency within the scale was not very high. Such weak reliability affected the conclusion of the survey and future studies on such variable need to modify this scale in order to achieve a better consistency. This may involve the addition/removal of some statements based on detailed pretest administration of the questionnaire.

5. **Design of questionnaire**

Many subjects complained that the questionnaire for the current survey of excessive length. The need to fill in the frequency of 35 different stress symptoms and 20 different coping strategies was regarded as “too tedious”. It is possible that the lengthy questionnaire design may prompt the respondents to engage in routine answering. That is, selecting the same answer again without detailed consideration. Another problem was the issue of social desirability. As an example, the study revealed that most subjects selected “work at solving the problem to the best of my ability” as one of the
most frequent coping strategies. It is possible that this may be a result of the inclination towards selecting a socially desirable answer – everyone wants to appear to others that they will try their best in tough times. Modifications of the length and wordings of the questionnaire should be carried out to resolve the above problem in future studies.

6. **Restricted sample under study**

While the current study addressed the stress and coping situation for the investment professionals as a group with high visibility of job performance, it had not involved other occupations with similar visibility characteristics. These include, for examples, civil servants, legislators, professional actors etc. Consequently, the results of the study may not be able to be applied to these professionals. However, given the limited existing literature addressing the issue of stress and visibility, this study can serve as a background survey for future studies in this area. Future studies can extend the scope of subjects surveyed to other industry which are of high visibility so that the results and findings can be interpreted across different industries.

**Conclusion**

Findings of this study provided support to the hypothesis that employees in a high public performance appraisal situation, or high visibility jobs, reported more stress symptoms when compared with employees in jobs with lower visibility, using investment
professionals as the subjects for study. In addition, an inverse relation was found between perceived control in the workplace and the amount of stress symptoms reported. In other words, the higher the perceived control, the lower the stress level reported. This phenomenon also exists for the professionals in the investment industry which have their job performance highly visible. The extent of employment of coping strategies was found to be negatively related to the amount of reported stress symptoms, highlighting that stress experienced could be mitigated by using appropriate coping strategies. The results of the current study were generally in line with previous studies, except that this was the first study carried out on exploring the relation between visibility and the variables including reported stress, perceived control in the workplace and usage of coping strategies.

Explanations of the above relationships were drawn from previous studies, which highlighted that such relations may be a result of biological, social and cognitive factors. Besides the individual coping strategies, there are a lot that can be done in organisational settings to reduce the stress experienced by the employees and help to maintain their psychological and physiological health. This is especially important for employees in the highly visible investment industry.
The future trend is that employees in most jobs will see their performance appraisal getting more and more visible given the increase in information transparency due to the extensive penetration of the internet. The increasingly competitive marketplace also highlights the prevailing trend of benchmarking against competitors and peers. As a result, the visibility of performance appraisal will be growing across industries, with employees expected to experience more and more stress. As the first study focusing on visibility of performance appraisal, it is hope that this study will be an important background for further researches on stress and performance visibility, which is a job characteristic shared by an increasing number of people.
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