

## Sources and manifestations of stress in female kindergarten teachers

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**Eva Tsai**

Hong Kong Baptist University, Department of Physical Education [evatsai@hkbu.edu.hk](mailto:evatsai@hkbu.edu.hk)

**Lena Fung**

Hong Kong Baptist University, Department of Physical Education [lenaf@hkbu.edu.hk](mailto:lenaf@hkbu.edu.hk)

**Lina Chow**

Hong Kong Institute of Education, Department of Physical Education and Sport Science  
[pychow@ied.edu.hk](mailto:pychow@ied.edu.hk)

*The study of teacher stress is not a new area of research. However, most of the published research studies have been strongly oriented towards primary and secondary school teachers. Given that the teaching environment of kindergarten differs greatly from primary and secondary schools, this study sets out to examine the sources and manifestations of stress of Hong Kong female kindergarten teachers. Results suggest that Time Management and Work-related stressors are more common sources of stress whereas feelings of Fatigue and Emotional related symptoms are more common manifestations of stress.*

Stress sources, stress manifestations, female teachers, kindergarten teachers, Hong Kong

### INTRODUCTION

Within the general area of occupational stress, teaching has been identified as one of the most stressful occupations in many countries (Cooper, Sloan, and Williams, 1988). Teaching related stress, commonly termed 'teacher stress', is defined as a teacher's experience of "unpleasant, negative emotions, such as anger, anxiety, tension, frustration, or depression, resulting from some aspect of their work as a teacher" (Kyriacou, 2001, p. 38). Like other forms of occupational stress, it can have serious implications for the healthy functioning of the individual as well as for the organisation in which the individual serves. At a personal level, teaching related stress can affect a teacher's health, well-being, and performance (Larchick and Chance, 2004). From an organisational perspective, it translates to unproductive employee behaviours such as alienation, apathy, and absenteeism (Gugliemi and Tatrow, 1998). Hence, even after nearly three decades of research effort, the study of teacher stress, particularly its sources and manifestations, continues to attract widespread interest and attention.

Sources of teacher stress are varied (Dewe, 1986). Some of the more common sources include the need to make adaptations to sudden curriculum changes and feeling of disempowerment (Brown, Ralph and Brember, 2002; Moriarty et al., 2001). Apart from school curriculum changes, a change in school structure is also a stressor. Such change causes erosion of collegial relationship (Troman, 2000) and harbours feeling of inequity and uncertainty (Taris et al., 2004). Other often reported stress catalysts include role overload, namely the need for teachers to cope with a number of competing roles within their job (Pithers and Soden, 1998), excessive over-time work (Cooper and Kelly, 1993), and management problems associated with student misbehaviour and large class sizes (Gordon, 2002). In a study with preschool teachers, Kelly and Berthelsen (1995) pointed out

that stress sources in their sample were similar to primary school teachers in many aspects. However, they argued that preschool teachers have additional stressors such as having to deal with parents who treat the school as a child-minding service and having to perform more non-teaching tasks, such as mothering a sick child or cleaning up after them.

Just as sources of stress can vary between individuals, responses to stressful experiences also differ. Whereas some individuals may primarily experience physical symptoms such as ulcers and chest pains, others may experience psychological and emotional disturbances such as depression and apathy. Findings from early studies on health related problems associated with teacher stress indicated that the negative effects of stress could range from minor physical symptoms such as mouth sores to more serious psychopathological symptoms like depression and suicidal ideations (Kyriacou and Pratt, 1985; Litt and Turk, 1985). Pervez and Hanif (2003) in their study with Pakistani female teachers concluded that stress manifestations could be physical, psychological, or emotional in nature. On comparing stress manifestations between teachers of private and government schools, they found that the former had significantly more complaints with cardiovascular and gastronomical problems than those working in government schools.

To date, a large reserve of evidence on sources, manifestations, and consequences of teacher stress is available. As a result of this, we are now more knowledgeable in this area than 20 years ago. However, the information collected was mostly from primary and secondary school teachers. Specialist samples, such as teachers in special schools, head teachers, and university teachers, were included only recently. Evidence from kindergarten teachers is minimal. Therefore, the main purpose of this study is to investigate sources and manifestations of teaching related stress among female kindergarten teachers in Hong Kong. A study with this sample is particularly warranted for several reasons. First, in line with the proposition that stress is a transaction between individuals and their environment (Cox, 1978), it is unwise to generalise feelings from primary and secondary teachers to kindergarten teachers when the settings in which teaching transpires are so different. The kindergarten environment is rather informal when compared to primary or secondary school settings and the role of the kindergarten teachers extends beyond mere teaching. They have to perform tasks such as nursing and mothering the students on top of regular behavioural management and instructional duties. Second, the professional reward system of kindergarten teachers, monetary reward and status recognition, to name a few, are also different from those of primary and secondary teachers. This discrepancy in teacher reward system might predispose kindergarten teachers to respond differently to similar stressors exposed to primary or secondary school teachers. Van Der Linde (2000) argued that higher remuneration and better benefits were important attractions that kept teachers from quitting their jobs. Third, as previous teacher stress research is strongly oriented towards primary and secondary school teachers, kindergarten teachers can be considered a specialist sample with hardly any documented data. Fourth, given that the challenge of school reform, which is a major stressor for primary and secondary teachers, has begun to trickle into the kindergarten system, an early assessment and understanding of kindergarten teachers' stress level are essential from the perspective of the prevention of burnout.

## METHOD

### Sample

One hundred and thirteen female kindergarten teachers were recruited for the study through invitations distributed at in-service workshops provided by the Hong Kong Institute of Education or through heads of schools consenting to take part. Only female teachers were included in the study because over 98 per cent of kindergarten teachers in Hong Kong are females thus making the sourcing of male participants very difficult. The teaching experience of the sample ranged between 1 and 24 years with the mean being 12.1 years. The period of direct teaching time the

teachers reported was 4.1 hours. However, they also reported that they spent on average 9.20 hours at the school. These extra hours included arriving at school prior to actual teaching or staying behind after the students had gone so as to clear accumulated paper work or to prepare for class.

### **Instrument**

Sources and manifestations of teacher stress were assessed with the Teacher Stress Inventory (TSI) developed by Fimian and Fastenu (1990). The TSI is a self-reporting questionnaire and contains 49 experiences. The general framing question guiding the respondents to respond to items on sources of stress were: "How much do you feel stressed by the following?" and for the items referring to manifestations of stress, the framing question was: "How often do you experience the following?" To complete the questionnaire, teachers were asked to circle the number that best reflected their response to each item. "Not at all" (for the stress source responses) and "Never" (for the manifestation responses) were scored as 1 point. The scoring for the responses of "An extreme lot" and (for the stress source responses) and "Always" (for the manifestation responses) were 5 points.

The TSI instrument clusters 20 experiences into five types of stress sources and 29 experiences into five types of stress manifestations. The stress sources are: Time Management related Stressor, Work related Stressor, Professional related Stressor, Discipline and Motivation related Stressor, and Professional Investment related Stressor. Sample experiences for each type of stress source are as follows: "Having to do more than one thing at a time", "Finding that the school day pace is too fast", "Needing more status and respect", "Having to deal with inadequate or poorly defined discipline policies", and "Lacking opportunities for improvement". The five types of stress manifestations are: Emotional, Fatigue, Cardiovascular, Gastronomical, and Behavioral. Sample experiences for each type of stress manifestations are as follows: "Feeling depressed", "Sleeping more than usual", "Feelings of increased blood pressure", "Stomach cramps", and "Using alcohol". The reliability coefficients of the TSI experience clusters were reported to range from 0.75 to 0.88, and for the total scale, the coefficient was 0.93 (Fimian and Fastenu, 1990).

The way in which the inventory is scored allows for interpretation in at least two ways. First, by summing the ratings provided to all 20 experiences representing stress sources, an individual stress level can be identified. Second, as the level of stress source can differ within individuals, the relative contribution of each source to total stress can also be assessed. Similar intra-individual comparisons can be made with stress manifestations. Understanding the more common stress manifestations exhibited by individuals is particularly important because timely treatment of chronic stress symptoms before they turn acute is important for a person's overall health.

As the participants of the study used predominantly Chinese as their first language, the TSI was translated for this study into Chinese through the method of back-translation. The translated version was then further evaluated for accuracy by two expert social psychologists. When both experts concurred that no amendments were necessary, the questionnaire was put to use for data collection.

### **Data Analysis**

In order to understand the sources of teacher stress and the manifestations of such stress, a hypothetical model was developed for testing. The statistical approach employed was structural equation modelling (SEM) and LISREL 8.5 was used for assessing the fit of the data to the model. In building the model, the five types of stress sources were treated as observed variables to the latent variable of Teacher Stress and the five types of stress manifestations were treated as the observed variables of the latent variable Stress Symptoms. Finally a directional path from Teacher

Stress to Stress Symptoms was inserted to assess the causal relationship between Teacher Stress and Stress Symptoms.

The indices of fit selected as reference for evaluating the adequacy of the model were the Chi-square statistics, Bentler-Bonett Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI), and Goodness-of-fit Index (GFI). These indices were provided by the LISREL 8.5 and commonly selected for assessing a model's goodness-of-fit. There was also a general agreement that an index greater than 0.90 and close to 0.95 should be an indicator of an adequately fitted model (Hu and Bentler, 1999).

### RESULTS

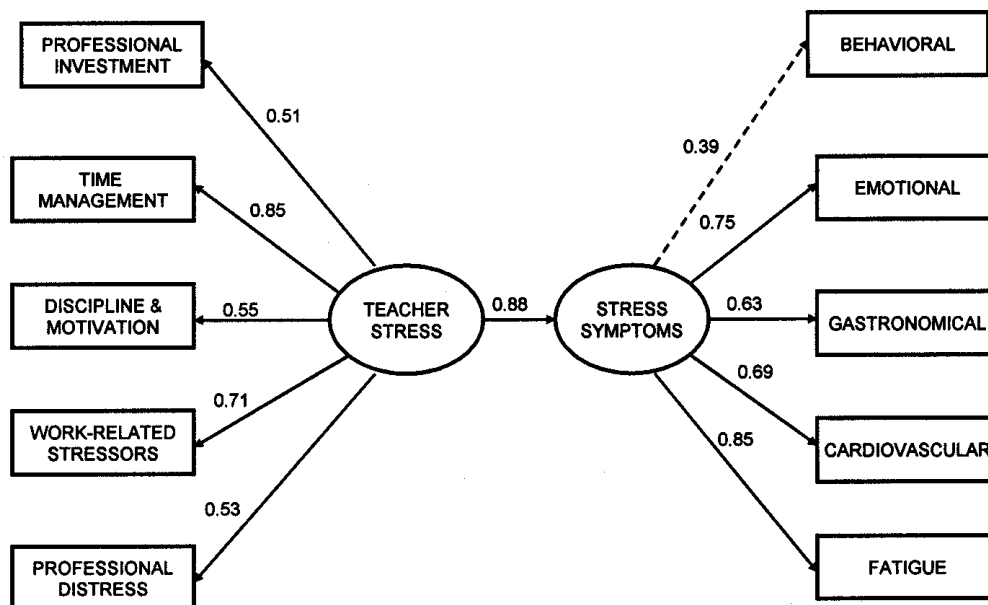
The correlation matrix of various observed variables related to the model, their means and their standard deviations are presented in Table 1.

**Table 1. Correlation coefficients, means and standard deviations of variables in the model**

	Time Management	Work-related Stressors	Professional Distress	Discipline & Motivation	Professional Investment	Mean	SD
Emotional	.59*	.55*	.60*	.48*	.69*	3.15	1.09
Fatigue	.67*	.50*	.40*	.33*	.41*	2.92	.90
Cardiovascular	.46*	.35*	.33*	.24	.24	.94	.90
Gastronomical	.41*	.36*	.22	.26	.35*	1.98	.94
Behavior	.28	.21	.19	.05	.09	1.87	.65
Mean	3.42	3.60	3.26	3.01	3.18		
SD	.68	.77	.74	.75	.81		

\* p < 0.001; N=113 teachers.

When the data were fitted to the hypothetical model, the obtained goodness-of-fit indices were as follows; Chi-square = 50.5, d.f. = 30, p > 0.001; NNFI = 0.94, CFI = 0.96, and GFI = 0.92. These indices suggested that the model was tenable. The model and the standardised path coefficients are presented in Figure 1.



**Figure 1. Model with standardised path coefficients between observed and latent variables where significant path coefficient are p<0.05**

When the corresponding t-values of the path coefficients were examined, they suggested that all paths, except for that between the observed variable Behavioural and the latent variable Stress Symptoms ( $r = 0.39$ ), were significantly different from zero. On comparing the size of the standardised coefficients between different types of stress sources, the source of Time Management surfaced as the strongest indicator of Teacher Stress ( $r = 0.85$ ,  $t = 10.27$ ,  $p < 0.05$ ) followed by Work-related Stressors ( $r = 0.71$ ,  $t = 8.13$ ,  $p < 0.05$ ). Similarly, Fatigue was the most common form of stress manifestation experienced by the teachers ( $r = 0.85$ ,  $t = 3.98$ ,  $p < 0.05$ ) followed by emotional manifestation ( $r = 0.75$ ,  $t = 3.88$ ,  $p < 0.05$ ). The coefficient of the directional path between Teacher Stress and Stress Symptoms was also significant ( $r = 0.88$ ,  $t = 3.87$ ,  $p < 0.05$ ). This suggested that Teacher Stress was a significant contributor to Stress Symptoms.

## DISCUSSION

The main purpose of the study is to identify the sources and manifestations of stress among female kindergarten teachers in Hong Kong. The findings show that Work-related Stressors ( $r = 0.71$ ) and Time Management ( $r = 0.85$ ) are the more salient sources of stress contributing to the overall teaching stress experienced by the sample. This finding is contrary to the evidence provided by Pervez and Hanif (2003) in their study on studied secondary and primary school teachers. In their study, Time Management was rated the least likely source of stress and Work-related Stressors was the second least likely source of stress. In addition, the mean rating of Work-related Stressors and Time Management provided by the Hong Kong kindergarten teachers were 3.60 and 3.41 respectively. It is probably not surprising in the Hong Kong setting that these are considerably higher than the mean ratings provided by Pakistani secondary school (Work-related Stressors = 2.32, Time Management = 2.80) and primary school (Work-related Stressors = 1.34, Time Management = 1.85) teachers. Moreover, when compared to teachers working with students in Indian reservations, the ratings given to Work-related Stressors and Time Management by the Hong Kong kindergarten teachers are also considerably higher. The mean score provided by teachers working in Indian reservations for Work-related Stressors and Time Management were 2.66 and 2.62 respectively (Vance, Miller, Humphreys, and Reynolds, 1989). It is of interest to note that the ratings of these two sources provided by the Hong Kong kindergarten teachers are higher than any stress source ratings provided by teachers working in the Indian reservations. In this study, Work-related Stressors include feelings of having too little time to prepare, having too much work, pace of school day being too fast, class size too big, personal priorities being shortchanged, and having too much administrative paperwork, whereas Time Management includes feelings such as having to do more than one thing at a time, being rushed in speech, and not having enough time to get things done. As stress can reduce a teacher's motivation and ultimately affects the operation of the school and teaching (Brownell, 1997), perhaps kindergarten principals can assist teachers in managing their stress by providing them with better resource support and principals can also search for means to curtail administrative procedures so as to allow teachers to work at a pace that they find more manageable.

Fatigue and Emotional stress are the more common stress manifestations reported by Hong Kong kindergarten teachers. Whereas Emotional stress manifestations include feelings of insecurity, feelings of vulnerability, depressions and anxiety, Fatigue includes symptoms such as physical exhaustion and physical weakness. Teachers harboring such feelings can either become withdrawn or aggressive towards students and peers. When feelings of emotional stress and fatigue are left to persist, the individual may develop more serious pathological symptoms that lead to self-destructive behaviours such as suicide. As tolerance of stress varies across individuals, sensitivity to mood changes among fellow workers is important. With early detection, appropriate counter-measures can be applied to alleviate the condition.

Principles are also in a position to assist teachers to manage stressors by fostering collegial relationship. Within the literature on teacher burnout, the inverse relationship between burnout and supportive school environment and collegiality is well documented (eg. Dworkin, Haney, and Telschow, 1990; Dworkin, Saha, and Hill, 2003). However, collegiality in schools occurs only if it is valued and positive actions taken to overcome the obstacles to its development. Teschke (1996) suggested that principals could play a pivotal role in developing collegiality if they could explicitly state expectations for cooperation among teachers, model collegiality themselves by joining with teachers to work on improving school conditions, and reward collegiality by granting release time, recognition, and other resources.

Apart from relying on help from colleagues, teachers should also learn to manage their own stress. Strategies such as taking direct actions to solve problems and using relaxation techniques would also be useful (Kyriacou, 2001). In addition, the practice of controlling negative and emotional rumination would also be useful alternatives (Roger and Hudson, 1995).

In conclusion, it must be pointed out that although this study is successful in identifying some of the more common stress sources and stress manifestations of female kindergarten teachers, the sample from which the data are obtained is rather small and caution must be exercised in making strong generalisations. Therefore, it is suggested that additional research, perhaps incorporating qualitative approaches to identify stress sources and physiological techniques to obtain measurement of stress levels, needs to be conducted so that teachers' stressors and stress symptoms can be better understood.

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