Managing organizational health and performance in junior colleges

Janice T.S. Ho
Nanyang Business School, Nanyang Technological University, Singapore

Keywords
Stress, Job satisfaction, Teachers, Performance

Abstract
Organizational Health (OH) is a concept that has been developed to reflect the effectiveness of an organization in various environments and how the organization reacts to "changes in circumstances". The purpose of this study is two-fold. First, it is to determine whether a linear relationship exists between stress and each of the following variables: job satisfaction, wellbeing, and performance. Second, it seeks to determine if OH mediates these relationships. Results of the study highlighted the relationship between stress and wellbeing. Although OH did not mediate any of the three relationships mentioned above, OH was found to have a direct relationship with job satisfaction, wellbeing and college performance. Specifically, the study emphasized the importance of a healthy management environment for job satisfaction and teacher wellbeing (less wornout).

Introduction
Organizational Health (OH) is a concept that has been developed to reflect the effectiveness of an organization in various environments and how the organization reacts to “changes in circumstances” (Cox and Howarth, 1990). The Singapore OH model (Ho, 1998a) was developed based on studies involving teachers from 72 randomly selected local primary and secondary schools. The Singapore OH model has three sub-components: the Management environment, the Social environment and the teachers’ Perception of Performance (PoP).

With Ho’s Singapore OH model as a basis, this study seeks to explore the impact of OH on the teaching profession at the junior college (JC) level. The junior colleges in Singapore provide the important link between secondary (GCE “O” level) and tertiary education. Since the students’ performance at the GCE “A” level (i.e. school performance) is, to a large extent, determined by the “quality of the teaching staff”, the teachers in these junior colleges play a vital role in the educational system.

Issues such as stress, job satisfaction, teacher wellbeing and student performance, have important implications on how well teachers “play their role”. Moreover, past research has shown that teacher stress is related to job satisfaction and wellbeing of the teachers themselves and therefore these issues will be examined in this study.

Often, in the examination of stress in teaching, there is a tendency to imply that the source of stress is mainly from the teachers themselves. Thus, this study also seeks to reduce, and if possible remove, this proclivity to “blame the victim”.

Stress, job satisfaction and teaching
Teaching is one of the most stressful professions (Kyriacou, 1989). Indeed, the level of stress manifestations in teachers is higher than that in doctors, dentists and nurses (Travers and Cooper, 1995). In a review of his own studies of the stress level of teachers in England, Kyriacou (1989) recalls that 25 percent of the teachers felt stress to be at the extreme levels. Ho (1998b), in her study that involved nine secondary schools in a major UK city, found a high level of work stress in the teachers concerned.

McGrath et al. (1989) verified in their study that occupational stress is the main contributor to the high stress level in teachers. Their result also showed that 31 percent of the teacher sample whose descriptions of the symptoms are those found in mild psychiatric morbidity.

While there is a relationship between increasing job stress and decreasing job satisfaction (Hendrix et al., 1995), our concern lies in establishing this relationship in the teaching profession, as McGrath et al. (1989) have done in their study of occupational stress and the teachers in Northern Ireland. From the study, job satisfaction is found to be a significant variable (p < 0.01) in explaining stress. Furthermore, “the lack of autonomy"
is found to be the major contributor to the high level of stress in teaching – 85 percent of the respondents felt the lack of influence in decision making, while 80 percent felt “powerless” under unhappy circumstances.

In another study by McCormick and Solman (1992), significant canonical correlations were found to exist between satisfaction factor scores and stress factor scores. In the analysis, four stress factors were designated as dependent variables: 1 personal; 2 student; 3 school; 4 external (to school).

Four satisfaction factors were designated as independent variables: 1 supervision; 2 income; 3 school culture; 4 advancement.

The results indicated that personal realm and income, and school domain and culture are two pairs that contributed significantly to the correlation between stress and job satisfaction. Thus, the implication is that the better the salary and the working environment, the lower the level of stress for the teachers.

**Stress and wellbeing**

Change seems to be the only unchanging trend at the workplace. Random changes in the work environment, which are part and parcel of any advancing society, pose a threat to the health and wellbeing of the workers (Levi, 1984; Parkes, 1982, 1990). These uncontrolled changes also lead to an increase in stress which has an adverse impact on health (Fisher, 1993). While health is vital (Beehr and Newman, 1976), “the maintenance of health and the quality of life” would indeed be a societal challenge (Cox, 1997) as we look forward to crossing over to the next millennium.

According to WHO, health is a state of physical, psychological as well as social wellbeing (Cox and Gotts, 1987). “Wellbeing is a dynamic state of mind characterized by reasonable harmony; for example, between the abilities, needs and expectations of a worker and the demands and opportunities of his/her occupational environment” (Levi, 1994).

A work environment that brings about a deterioration of wellbeing is actually a “hidden cost of stress at work” (Cooper, 1994). Tetrack and LaRocco (1987) found a direct relationship between perceived stress and psychological wellbeing in the course of their study which involved 206 physicians, dentists and nurses. The results from Cox’s (1985) study also yielded a link between stress and wellbeing. In his study, a high stress level brought about by repetitive work, poses a threat to the health and quality of life of the workers.

In examining the relationship between perceived occupational stress and general wellbeing in the teaching profession, Ho (1996b) found the correlation between the two variables to be significant and positive. Using stepwise multiple regression, teachers’ general satisfaction with life (35 percent), role ambiguity (12 percent), task stress of adjusting to changing professional standards (6 percent) and supervisory support (3 percent) were found to be explanatory variables of general health. In other words, more than half of the variance in the general wellbeing of teachers can be explained by teacher stress.

In examining stress and wellbeing in teachers, Sheffield et al. (1994) found that while job stress has a positive relationship with the anxiety/insomnia measure of psychological health, neither physical nor psychological wellbeing is predicted by job stress. While this result does not seem to provide strong evidence for the link between stress and wellbeing, it does serve as a reminder of the subjective nature of wellbeing assessments.

**Stress and performance**

Models concerning stress and performance generally depict the relationship between the two variables to be positive, negative (Schuler, 1975; Friend, 1982; Jamal, 1984), curvilinear/inverted U (Anderson, 1976) or none (Jamal, 1985). Although all of them try to throw light on the stress-performance relationship, the performance component is usually with respect to individuals. Research that studies the impact of stress on the performance of the organization seems to be the exception rather than the rule. Allen et al.’s (1982) research on occupational stress and perceived organizational effectiveness is one exception.

In their study, they tried to determine the existence of a curvilinear relationship (that exists between stress and individual job performance) between stress and organizational effectiveness. They also suggested that if such a relationship is present, there should be an optimal group stress level that corresponds to the “maximum level of organizational effectiveness”.

However, the results from their study did not support their hypotheses and suggested that a “micro concept” (the proposed
a curvilinear relationship between stress and individual job performance) should not be brought to a “more macro level of analysis”. Instead, the results pointed to a negative relationship between occupational stress and organizational effectiveness, when dysfunctional stress is prevalent.

Dysfunctional stress is naturally “bad” and this fact makes it easy to understand why, when its level increases in intensity, effectiveness falls. Hence, the implication is that the type of stress that is present in the organization mediates the relationship between stress and organizational effectiveness.

While the research study of Westman and Eden (1992) concerns stress and performance at the individual level, they brought to our attention the rarity of the employment of objective performance measures in occupational stress research. They also suggested that subjective assessments of performance could be “error-laden”. To eliminate the problems inherent in subjective performance measures, they propose that objective performance measures be used instead.

**Organizational health**

According to Cox and Howarth (1990), organizational health is a concept that has been developed to reflect the effectiveness of an organization in various environments and how the organization reacts to “changes in circumstances”.

In order that teachers may tackle stress, there is a need for them to understand how they can relate to their own “vulnerabilities” (Albertson and Kagan, 1987). Cole and Walker in Kyriacou (1989) have warned against portraying teachers as “guilty victims of their own emotional inadequacies” in the study of teaching and stress. This is because such a portrayal serves to underpin the unhealthy view that some teachers hold: that is, in admitting that they are experiencing stress, they would be admitting to a whole lot of inadequacies (Dunham, 1984).

Furthermore, Cox and Howarth (1990) put forth the argument that a “healthy” organization needs to ensure some level of consistency between its subjective (e.g. culture) and objective aspects (e.g. structure, policies, procedures). Thus, organizational health is also an indication of the “perceived goodness” of the psychosocial subsystems of an organization and their integration and coherence with “organizational reality” (Cox and Leiter, 1992).

In the study of school health in Britain, Cox and his colleagues identified three psychosocial subsystems:

1. task environment;
2. problem-solving environment; and
3. the development environment.

This model corresponded to the school health model proposed by Hoy and Feldman (1987) which depicts schools to be striving to achieve control at three different levels: 1 the institutional; 2 the managerial; and 3 the technical.

The task environment refers to the work-related tasks of the school and its fit in the community and relates to the effectiveness of the school in delivering “an educational service”. This task factor seems to run parallel to institutional control which is the school’s need for “legitimacy and support in the community”. The problem-solving environment refers to the ways in which the school handles work-related problems. This problem-solving factor corresponds to managerial control which refers to the internal efforts of the school in allocating resources and coordinating work. The third subsystem, the development environment, refers to the opportunities for growth and development of the teachers, both personally and professionally. This third factor relates to technical control in that, at the same time when the teachers’ knowledge and skills are enhanced, so too would be the “teaching-learning” process in the school.

**Organizational health in Singapore**

In a study seeking to understand OH in the Asian context, Ho (1996a) found that the model of OH in Singapore, takes on its own unique factor structure: the management environment, the social environment and PoP. Not unlike the UK model, teachers’ perception of a school’s health lies in the “goodness” of these three subsystems. Ho (1996a) believes that the differences between the two models, the UK model being more task-oriented, while the Singapore model is more relationship or people-oriented, could be owing to the differences in “cultural and societal value” as well as the “educational system”.

Ho (1996a) reported the management environment to encompass “the power balance and support of the superior’s (principal and head of departments) encouragement, confirmation, matching of adequate role expectation, and staff development”. Socially, a school is “healthy” when the environment is one that is of trust and support, where teachers may ask for help and advice when the need arises. The PoP component concerns how teachers perceive their own performance in relation to
students’ morale and academic achievement as well as the benefits and practicality of in-service training.

**Purpose of the study**

While much research has gone into the study of teacher stress and its effect on job performance, this “job performance” concerns mainly the teachers and is usually measured subjectively (Westman and Eden, 1992). However, teachers’ performance on the job determine the “quality of classroom teaching” (Kyriacou, 1989), which in turn affects the students’ work performance. The students’ performance is reflected in their grades (at GCE “A” level), which determines the ranking of the junior colleges (i.e. junior college performance). Thus, this study attempts to examine the relationship between stress, organizational health and college performance.

Employing Ho’s Singapore OH as the framework “working model for intervention”, the findings of the study allows for a structured approach to problem-solving (Ho, 1996a).

The purpose of this study, therefore, is twofold: 1 to determine the relationship between work stress and job satisfaction, wellbeing and college performance; and 2 to determine and analyze the effect of OH on job satisfaction, wellbeing and college performance.

**Methodology**

**The sample**

A total of 297 full-time teachers from four junior colleges in Singapore participated in this study. This represented almost one-third of the junior colleges in Singapore. The response rate from the teachers was 80.4 percent (see Table I). As the junior colleges were assured anonymity, they will henceforth be referred to as College A, B, C and D.

Consistent with the general teacher population in junior colleges in Singapore, 60 percent of the sample are female teachers; 64 per cent are between the ages of 20-39 years old and 62 percent are married or have a stable, intimate relationship. A majority of the respondents have at least six years of teaching experience.

**The research instrument**

The instrument comprised four sections. The first section is a measure of OH assessed by the Singapore OH Questionnaire (SOHQ) (Ho, 1996a). This instrument consists of 24 items, which assesses the healthiness of the management environment (12 items), the social environment (seven items) and the PoP (five items). A ten-point Likert scale, which captures the degree of importance that the respondent felt towards each item, is employed.

Section two tapped the degree of occupational stress and job satisfaction (McCormick, 1997) experienced by the teachers. The factor groupings of occupational stress were namely: time demands, external (to school), student, school and personal domains. Owing to the sensitivity of the issues, the external and school domains were eliminated from this study as they involved the government’s education policies and the principal’s role in the college. A ten-point Likert scale was used, utilizing the fixed anchor of “Not at all stressful [0]”, “Somewhat stressful” and “Extremely stressful [9]”.

The 15 job satisfaction items were derived from a UK study on the mental health, job satisfaction and occupational stress among teachers (Travers and Cooper, 1993). The majority of these items were described as “intrinsic” (Warr, 1990) while some others such as “Chances for promotion” and “Rate of pay” would be described as “extrinsic”. A ten-point Likert scale was used with the anchor low [0], moderate, and high [9] satisfaction.

Section three comprised the General Wellbeing Questionnaire (GWBQ) which taps the degree to which respondents are wornout.

<table>
<thead>
<tr>
<th>Junior college</th>
<th>Number of questionnaires distributed</th>
<th>Number of questionnaires returned</th>
<th>Number of usable questionnaires</th>
<th>Number of unusable questionnaires</th>
<th>Overall response rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>72</td>
<td>58</td>
<td>52</td>
<td>6</td>
<td>80.6</td>
</tr>
<tr>
<td>B</td>
<td>107</td>
<td>71</td>
<td>69</td>
<td>2</td>
<td>66.4</td>
</tr>
<tr>
<td>C</td>
<td>110</td>
<td>93</td>
<td>82</td>
<td>11</td>
<td>84.6</td>
</tr>
<tr>
<td>D</td>
<td>58</td>
<td>57</td>
<td>55</td>
<td>2</td>
<td>98.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>347</td>
<td>279</td>
<td>258</td>
<td>21</td>
<td>80.4</td>
</tr>
</tbody>
</table>
and uptight (Cox and Gotts, 1987).
Respondents are required to answer these 24
questions based on symptoms experienced
over the last six months. Responses to all 24
symptoms are coded from 0 (never) through 4
(all the time).
The final section of the instrument tapped
the personal and professional information of
the respondents.

Performance measures
For the purpose of this study, the mean
subject grade (mean grade) of the General
Cambridge Examination (GCE) “A-level”
students was taken as the performance
measure of each junior college. The mean
subject grade is the average score for the
three best “A-level” subjects and the two
best “AO-level” subjects. The maximum score
is 76.

Results
Prevalence of teacher stress
Findings show that as teachers mature with
age, they report a lower level of work stress.
Teachers between the ages 20-29 years
reported the highest levels of stress, followed
by those in the 30-39 years age group.
Teachers in the “above 40” age groups
reported below average levels of stress. An
obvious explanation would be that
experience has helped teachers to adapt to
their work environment. Female teachers
reported a higher stress level than their male
counterparts \( (F = 6.98, \ p < 0.01). \)

Job satisfaction and wellbeing
Job satisfaction level is highest for the
teaching staff aged 50 years and above. Male
teachers also reported higher levels of
satisfaction.
Teaching staff within the 30-49 years age
groups, especially female teachers, reported
poorer wellbeing than their counterparts (see
Figure 1). This indicates that they report
being more wornout and uptight as compared
to other age groups.

Stress and job satisfaction, wellbeing and
performance
No significant relationship was found
between stress and job satisfaction nor stress
and school performance \( (p > 0.05). \) However, a
linear relationship was found between work
stress and teacher wellbeing. Controlling for
the effect of gender, it is seen that the stress
variable contributed significantly (13.2
percent) to wellbeing (see Table II).
Further investigations were carried out to
test the relationship between stress and the
subcomponents of wellbeing, namely, wornout
and uptight. The main effects of the
demographic variables, gender and age, were
controlled for wornout and uptight,
respectively. Results indicated that there is a
linear relationship between stress as the
independent variable and wornout and
upright as two separate dependent variables,
with stress explaining 13.2 percent of
“wornout” and 13.9 percent of “uptight”. The
results of the regression analysis are
presented in Table III.

Does OH affect job satisfaction?
A regression analysis was run with OH as the
independent variable and job satisfaction the
dependent variable. Results indicated that
OH, as a composite factor, contributed
significantly to job satisfaction \( (F=19.056,\)
\( p<0.0001)\), explaining more than 58 percent
of the total variance of job satisfaction (see
Table IV).
The components of OH were also regressed
individually against the dependent variable
job satisfaction and all were found to be
significant \( (p<0.0001)\), implying a linear
relationship. The management (Mgt)
component was able to explain 59.5 percent
of the total variation of job satisfaction, while
social (Soc) and perception of performance
(PoP) explained 39.4 percent and 33.9 percent,
respectively (see Table V).
However, when the three components of
OH were regressed together against job
satisfaction as the dependent variable,
only the management environment was
found to be significant at the 0.0001 level (see
Table VI).
The results indicate that the management
environment is the major factor that affects
the job satisfaction of the teaching staff. It
was discovered that each time management
environment was regressed together with
Soc and/or PoP, the latter two variables
became insignificant. When a regression was
carried out with job satisfaction as the
dependent and Soc and PoP as the
independent variables, they were found to be
linearly related. This finding is in
accordance with the expectations that the Soc

\[ \text{Figure 1} \]
Wellbeing according to gender

[ 66 ]
Table II
Regression analysis between stress and wellbeing

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wellbeing</td>
<td>Gender</td>
<td>0.038</td>
<td>0.144</td>
<td>2.503</td>
<td>0.013***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>0.170</td>
<td>0.372</td>
<td>6.462</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * p < 0.05; ** p < 0.01; *** p < 0.001

Table III
Regression analysis between stress and the subcomponents of wellbeing

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worn out</td>
<td>Gender</td>
<td>0.050</td>
<td>0.232</td>
<td>3.819</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>0.182</td>
<td>0.372</td>
<td>6.504</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up tight</td>
<td>Age</td>
<td>0.010</td>
<td>0.119</td>
<td>1.919</td>
<td>0.056</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>0.149</td>
<td>0.387</td>
<td>6.539</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * p < 0.05; ** p < 0.01; *** p < 0.0001

Table IV
Regression: OH on job satisfaction

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job satisfaction</td>
<td>OH</td>
<td>0.585</td>
<td>0.766</td>
<td>19.056</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *** p < 0.0001

Table V
Regression: OH subcomponents on job satisfaction

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job satisfaction</td>
<td>Mgt</td>
<td>0.595</td>
<td>0.772</td>
<td>19.453</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>Soc</td>
<td>0.394</td>
<td>0.630</td>
<td>12.970</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job satisfaction</td>
<td>PoP</td>
<td>0.339</td>
<td>0.584</td>
<td>11.512</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *** p < 0.0001

Table VI
Regression analysis: OH subcomponents on job satisfaction

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job satisfaction</td>
<td>Mgt</td>
<td>0.598</td>
<td>0.664</td>
<td>9.756</td>
<td>0.000***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soc</td>
<td>0.068</td>
<td>1.073</td>
<td>0.284</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PoP</td>
<td>0.081</td>
<td>1.437</td>
<td>0.152</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: *** p < 0.0001

Table VII
Hierarchical regression with wellbeing as the dependent variable

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Step</th>
<th>Adjusted</th>
<th>Adj R² change</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th></th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A) wellbeing</td>
<td>Gender</td>
<td>1</td>
<td>0.038</td>
<td>0.205</td>
<td>3.347</td>
<td>0.001**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td>2</td>
<td>0.170</td>
<td>0.372</td>
<td>6.462</td>
<td>0.000***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td></td>
<td>0.231</td>
<td>0.252(·)</td>
<td>4.596(·)</td>
<td>0.000***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(B) wellbeing</td>
<td>Gender</td>
<td>1</td>
<td>0.038</td>
<td>0.205</td>
<td>3.347</td>
<td>0.001**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>2</td>
<td>0.092</td>
<td>0.054</td>
<td>4.004(·)</td>
<td>0.000***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stress</td>
<td></td>
<td>0.231</td>
<td>0.372</td>
<td>6.462</td>
<td>0.000***</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * p < 0.05; ** p < 0.01; *** p < 0.0001

[67]
Table VIII
Regression analysis: OH on wellbeing (controlling gender)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wellbeing</td>
<td>Gender</td>
<td>0.038</td>
<td>0.205</td>
<td>3.347</td>
<td>0.001**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>0.092</td>
<td>0.2338(-)</td>
<td>1.004(-)</td>
<td>0.000***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: **p<0.01; ***p<0.0001

and PoP aspects were encompassed within the management component.

**Does OH affect wellbeing?**
Hierarchical regression analyses were employed to assess the impact of OH on the relationship between stress and wellbeing. Partiailling out the antecedent, gender, the results indicate that although OH did not mediate the relationship between stress and wellbeing, OH explained an additional six percent of the dependent variable, wellbeing ($p<0.0001$) (see Table VII).  
Controlling for the effects of gender, results of the regression analysis indicated a significant relationship between the OH and teacher wellbeing (see Table VIII). When the subcomponents of OH were regressed against wellbeing, they were not found to be significant (see Figure 2). This points towards the composite nature of the concept of OH.

The regression analysis was then taken a step further by looking at the two components of wellbeing individually as dependent variables. First, uptight was studied as the dependent variable with age taken as a control (it was found in the ANOVA analysis that difference in age affected the degree of being uptight). Overall OH was found to have a significant linear relationship with the variable uptight. When the individual components of OH were regressed with the dependent variable uptight, the social environment was found to be of greatest significance ($p<0.0001$) (see Table IX).
Where “wornout” was the dependent variable, gender was controlled. Results, as listed in Table IX, show that OH has an inverse relationship with “wornout”. This indicates that the healthier the junior college, the less wornout the teacher. The management environment ($t = -4.190$, $p < 0.0001$) has the highest level of influence on the variable, wornout (see Table X).

**Does organizational health affect performance?**
No relationship was found between the performance of the junior college (measured in terms of “A” levels mean grade) and teacher stress but will a healthy (positive OH) junior college contribute to better performance? If so, which aspect of OH is most important for a better performing junior college?
Results of the regression analysis demonstrated that college OH was linearly related to the college performance ($p < 0.01$) (see Table XI).
The social environment ($t = -2.65; p < 0.01$) and the teachers’ PoP ($t = -4.31; p < 0.001$) proved to be the two more critical components affecting college performance (see Figure 3).

**Discussion and practical implications**
With the findings of OH having an impact on job satisfaction, wellbeing and students’ performance (i.e. college performance), the implication is that the management of junior colleges should work towards improving OH. Moreover, the findings also highlighted the criticality of the management environment on teachers’ job satisfaction and wellbeing (see Figure 4). For school performance, the PoP is highlighted to be most crucial. Although the recommendations provided discuss each of the subsystems of OH individually: the management environment, the social environment and PoP. However,
Table IX
Regression analysis: OH and OH subcomponents on uptight (controlling age)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptight</td>
<td>Age</td>
<td>0.010</td>
<td>0.119</td>
<td>1.919</td>
<td>0.056</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>0.052</td>
<td>0.212</td>
<td>3.485</td>
<td>0.001**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mgt</td>
<td>0.038</td>
<td>0.177</td>
<td>2.884</td>
<td>0.004*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soc</td>
<td>0.070</td>
<td>0.251</td>
<td>4.162</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PoP</td>
<td>0.032</td>
<td>0.158</td>
<td>2.573</td>
<td>0.011*</td>
<td></td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; ** p < 0.01; *** p < 0.0001

Table X
Regression analysis: OH and OH subcomponents on workout (controlling for gender)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Analysis R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workout</td>
<td>Gender</td>
<td>0.050</td>
<td>0.232</td>
<td>3.819</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OH</td>
<td>0.102</td>
<td>0.234</td>
<td>3.960</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mgt</td>
<td>0.108</td>
<td>0.247</td>
<td>4.190</td>
<td>0.000***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Soc</td>
<td>0.074</td>
<td>0.164</td>
<td>2.739</td>
<td>0.007**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PoP</td>
<td>0.083</td>
<td>0.190</td>
<td>3.181</td>
<td>0.002**</td>
<td></td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; ** p < 0.01; *** p < 0.0001

Table XI
Regression analysis: OH (1) and subcomponents (2) on performance (mean grade)

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Variable entered</th>
<th>Adjusted R²</th>
<th>Beta</th>
<th>T</th>
<th>Prob &gt;</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Mean grade</td>
<td>OH</td>
<td>0.028</td>
<td>0.178</td>
<td>2.901</td>
<td>0.004**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mgt</td>
<td>0.014</td>
<td>0.134</td>
<td>2.159</td>
<td>0.032*</td>
<td></td>
</tr>
<tr>
<td>(2) Mean grade</td>
<td>Soc</td>
<td>0.023</td>
<td>0.164</td>
<td>2.646</td>
<td>0.009**</td>
<td></td>
</tr>
<tr>
<td></td>
<td>PoP</td>
<td>0.064</td>
<td>0.260</td>
<td>4.313</td>
<td>0.000***</td>
<td></td>
</tr>
</tbody>
</table>

Notes: *p < 0.05; ** p < 0.01; *** p < 0.0001

the composite nature of OH must not be overlooked.

The management environment
From this study, the management environment has been found to be the most critical aspect of the OH of the junior college, affecting both the job satisfaction of teachers as well as their wellbeing (workout). This being the case, the management of junior colleges will do well to look into the enhancement of the management environment.

First of all, the college management needs to ensure that there is an atmosphere of care and support for the teachers in the junior college. The college climate should be one in which the teachers are able to discuss any difficulties, objectively and constructively, with the management.

The management should preferably meet with the teachers, on an individual basis, for the latter to discuss their jobs, relationship with colleagues, and expectations. Through such discussions, the management could then work towards a more equitable allocation of jobs among the teachers.

The management must also remain “open” to teachers’ suggestions. The management
environment is enhanced when the school takes an interest in the personal and professional development of the teachers. For instance, a career counseling program could be set up to assist the teachers in assessing their interests and capabilities, and provide guidance towards the application of such capabilities (Warshaw, 1979). It would also benefit the teachers, and indirectly the college, if the teachers receive training in stress and time management (Ho, 1996b).

The college management should also try to increase non-contact time (Ho, 1996b; Dunham, 1989) and reduce after-hours work (Ho, 1996b). This would indicate that the management has the welfare of the teachers at heart because they understand the need for the teachers to have sufficient time to “unwind”. In addition, recreational facilities could be made available to the teachers for their exclusive use.

As far as possible, the college management should involve the teachers in decision-making processes and remain receptive to the varying views that are being expressed by the teachers. It would also enhance the management environment if the management is able to establish a reward system whereby the teachers are given due recognition (Dunham, 1989). Between teachers and the principal, there must be a “two-way” communication and an “open system of dialogue and consultation” (The Straits Times, 8 October, 1995). All in all, attempts should be directed at creating a “family” environment in each of the junior colleges.

The social environment
The social environment is important not only to satisfy the “social” needs of the teachers but also for teachers to be accessible to each other for practical help and support. In this study, the social environment plays an important part in teacher wellbeing where colleges with a healthy social environment tend to have teachers who are less tense and upright and report higher job satisfaction levels. Most interestingly, a healthy social environment contributed positively to college performance in terms of students’ grade point average. Some plausible explanations for this outcome is that teachers are most effective operating in an environment which is supportive, harmonious, has low conflict, has a sense of perceived helpfulness and conducive to relationship-building. This is in line with an earlier study which found the social environment to be positively related to teacher commitment (Ho, 1996), which may therefore lead to better performance.
Some schools in Singapore have realized the importance of the social environment in the overall OH of the school. Attempts at improving the social environment included activities such as organizing short holidays to Malaysia, bowling outings and such. In so doing, the school hopes to “foster camaraderie among its teachers and improve their working relationship” (The Straits Times, 19 April, 1995).

Although the social climate and the level of social support in each junior college usually “evolve” spontaneously, deliberate steps can be taken to enhance them. For instance, the college could encourage the formation of a support group among the teachers themselves. In such support group meetings, the teachers could receive help, guidance and advice, share information and “forge alliances” (positive perspective). Group approaches are effective because peer pressure provides powerful motivation as well as social support (Warshaw, 1979).

Social integration is facilitated when the teachers are certain about the roles they play in the school and find them rewarding. Indeed, when the teachers know what is expected of them, it helps in reducing stress (Dunham, 1989). Thus, if the college is able to help the teachers in defining their “roles”, the social environment would be enhanced.

The college should also ensure that the level of conflict among the teachers is kept to a minimum. The teachers should be encouraged to interact and socialise more among themselves through seminars, workshops and “retreats”. A harmonious social environment makes for a healthy organization.

PoP

PoP is an important aspect of OH for teachers in Singapore, as they are generally “demoralised because everybody tells them they are useless, they are not doing their jobs” (The Straits Times, 27 August, 1996) as there is such a mindset in the community which affects the image and morale of teachers.

This study found that PoP, in the Singapore OH model, is related to the work of the social psychologist, Leon Festinger, who showed how the confidence of an individual in his/her own ability is socially dependent. Using a variety of examples, Festinger (1954) illustrated how the evaluations of others have a greater or lesser weight, depending on the type of performance carried out by the individual. Basically, it draws on the social psychological theory of self-esteem and the sense of self-efficacy, and how self-esteem can be viewed as the “end product” of the complex experience of a multitude of specific personal evaluation of one’s work performance (Westlander, 1993).

As seen in this study, PoP contributed significantly to teacher job satisfaction and wellbeing, and most importantly, to college performance. Thus, the implications of self-esteem and self-efficacy in the PoP variable is what the school environment should offer, how it should be arranged for teachers’ self-esteem to be maintained, for teachers to receive positive feedback for their work efforts.

Conclusion

This study has shown the important role of management, even in educational settings, to manage and influence the OH of the institution. It has been often noted how the actions and reactions of formal leaders and influential persons shape the norms, values and beliefs of others. The focus on the management environment, in the Singapore OH model, also signifies that management has both a technical, goal-oriented side and a symbolic culture-building side that can enhance OH. Teachers need both success in achieving technical ends of their work (i.e. academic performance of students) and a deeper understanding and set of meanings about their daily activities (i.e. interaction with superiors, colleagues, students and parents; personal and professional development).

Thus, from this study, it is apparent that college management needs both to assist in structuring, coordinating, and shaping the successes of college accomplishments, and to attend to the deeper needs of understanding and meaning in the daily work of teachers in the college.

In sum, college leadership should be both technically efficient and symbolically communicative, and attend to the nature and salience of the rewards and feedback system within the college environment.

References


Further reading

Appendix. Singapore Organizational Health Questionnaire (SOHQ) – sample items

**Management environment**
- College encourages teachers’ personal growth and development.
- College is organized to help teachers carry out their tasks effectively.
- Work-related problems are treated positively as normal job challenges.
- College has a generally tolerant attitude towards different points of view.

**Social environment**
- Staff mixes with each other outside working hours.
- There is an atmosphere of support and trust among staff.
- Seeking advice and help from others is acceptable.

**Perception of performance (PoP)**
- Skills and knowledge acquired from the in-service training is applicable to teachers’ work.
- Community perceptions are positive.
- Pupils benefit academically.

For more details on the instrument, please contact the author at e-mail: atsho@ntu.edu.sg.