The physiological, psychological and work stress of primary school principals

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Introduction

In May 1993, the Australian National Project on Leadership and Management Training for principals published its report entitled Leaders and Their Learning[1]. The report acknowledged that the project was undertaken in a time in which economic and social changes were occurring at reckless pace, values long regarded as desirable were vanishing, and restructuring was under way in every business, bureaucracy and endeavour in the quest for better efficiencies, rationalization and value for money. The report concluded that, as a result, “the role and functions of principals are evolving in different directions”.

The report identified several new realities for principals. Included were:

• a sharper delineation between leadership and management in schools;
• the need to accept, learn about and develop skills in new styles of leadership previously not part of the principal’s repertoire of activities; and
• the essential prerequisite for growth in a growing world – ongoing professional development.

Similar themes of reform and fragmentation were identified by Savery and Detiuk[3] who give some indication as to the complexity of a principal’s working life when they write:

...there are now ever increasing demands made on the principals by a number of diverse interests, for instance, parents, school children, the teachers, government and its ever growing regulations, the Education Department and its practices and regulations, all of which the principal must attempt to placate.

It must be remembered that behind every principal’s day of decision and action there is often a great deal of staff debate, individual justification, frustration, agonising over outcomes and perhaps anger. In this whirlpool of change, a principal’s major responsibility is for people. Schools are people places. Recent research indicates that such responsibility is more likely to lead to heart trouble than any other types of responsibilities[4]. Stress is a major factor in the prevalence of heart disease and controlling stress in self and others is vital in the promotion of a healthy and productive work environment.

Background

Stress is as unique as the individual and its influence on psychological and physiological health is determined by:

• the characteristics or nature of the given stressor;
• the perception of the individual regarding that stressor;
• the hereditary, psychological and physiological susceptibility of the individual experiencing that stressor; and
• the ability of the individual to perceive positive control over the outcomes potentially generated by that stressor[5].
The above determinants are indicative of the modern trend to view stress holistically and in a transactional sense, where stress is discussed in terms of an imbalance between the person and the environment operated within. This approach has not always been taken and stress research has evolved over a period of time. The current research is based on the transactional theory which supports the following notion:

(Stress is) a complex interaction amongst the environment, personality and the body that is an external environment puts demands on the nervous system which are mediated by the personality (the combination of desires, drives, preferences, background and upbringing) triggering complex biochemical reactions[6].

The conceptual model shown in Figure 1 provides the framework on stress that guided the current study.

The three perspectives presented and the aspects associated with them are intertwined and constantly changing in emphasis as the daily rhythms of life change. Together they impact on a person, singly or through others, to cause stress. The model shows how a holistic understanding of stress can be reached by considering all perspectives. In the past, most research into stress took a subjective approach using self-report questionnaires and survey type documents. The present study, however, approached the problem of discovering the amount of on-the-job stress principals face by gathering data from each of the three perspectives including reliable medical statistics gained through the use of blood pressure monitoring which is accepted as a trustworthy indicator of physiological stress[5, p. 631].

Research purposes

The primary research purposes were as follows:

1. Observe, describe and analyse the physiological, psychological and work demands placed on principals. Is there a relationship between managerial tasks (as identified by Sieverding[7] and defined by Mintzberg[8] and recorded by the researcher) and job stress?

2. Physiologically measure principals (using blood pressure as an indicator) and relate these measurements to recorded incidents in the day (incidents as observed by the researcher or reported to the researcher by the subject).

3. What role does the psychological perspective play in the stress equation?

The study

This strategy permitted the researcher to gather a mix of qualitative and quantitative data. Qualitative observational data combined with quantitative physiological data, backed up by extensive debriefing and closely targeted questionnaire work, helped to ensure that the study was both reliable and valid. Additionally, this research can be described by the following five characteristics:

1. Field based. Principals are studied in action, first hand, for a one-week period of close-quarters observational analysis.

2. Psychological. The research design and philosophy took into account personality characteristics such as individual strengths and weaknesses and how the principal relates to others and his or her work through the use of the Enneagram, a personality-typing tool.

3. Physiological. Reliable, medically accepted and accurate blood pressure monitoring was used to judge stress levels on the body at 15 minute intervals each day of the study.
Field-based study

A crucial component of this study was the structured observation of five principals at work. It was chosen as a means of gathering data because it is practical, has a history of use in Australian settings[9] and is less open to challenge than participant diary keeping. There are difficulties with structured observation and critics such as Gronn[10] have claimed that it is an exercise in futility since, in the face of intrusion and scrutiny, informants will cease to be natural. While Thomas [9, p. 45] recognizes the potential problems with researchers who may impose their own experiences, or who are selective in recall, or who are overtly intrusive thus failing to gain satisfactory rapport with the subject, he insists that observational studies can offer the researcher an extensive variety of approaches to gather data. The logical approach, according to Schatzman and Strauss[11], is for the researcher to be as close as possible to the object of study, to watch, listen and learn from the symbolic sounds that characterize this world. This study was in many respects a replication of earlier work by Sieverding[7] and Whan[12] both of whom attempted to match physiological data with management tasks. The methodology differs from Sieverding’s work in several respects, one being the use of observation in this study as opposed to participant diary keeping, used by Sieverding’s study group. The use of diaries was rejected because of methodological concerns over the principals’ ability to sustain accurate reporting. As demonstrated, structured observation has its challenges and, to ensure criticisms were counterbalanced protocols were put in place to alert both the participant and observer to certain phenomena. An observation protocol outlined expectations for both parties and informed the school staff on aspects of the study.

Psychological perspective

While the body’s reaction to physiological change is relatively limited, the subtleties of psychological expression are richer varied[13]. Our thoughts and reasons for taking certain actions or responses are our most private possessions, and even the owner can be forgiven for not fully discerning why he or she is feeling a certain way. Stress, personality and mental health are closely linked. There are many personality-type tests that have been developed to identify personal traits including the Myers-Briggs type indicator[14], Type A and B and the Enneagram[15]. The Enneagram represents a journey into self and can bring the participant a whole new understanding of their personality. It is based on nine personality types and each one is identified in a negative way although each type has positive characteristics. The investigation of the Enneagram begins with the study of each type according to its specific avoidance:

Type 1: Ones avoid personal anger and expressing anger to others.
Type 2: Twos avoid recognizing personal needs and are preoccupied with serving others’ needs. They do not admit to needing help and take pride in helping others.
Type 3: Threes avoid failure. A three will be driven to success.
Type 4: Fours avoid ordinariness and strive to be special. A four will try to be unique at all times.
Type 5: Fives avoid emptiness and are preoccupied with increasing knowledge through personal efforts. In this pursuit, a five shares little and is usually a poor socializer.
Type 6: Sixes avoid deviance and see life as being governed by rules and norms. A six will be preoccupied with rules and authority and will value loyalty to the group.
Type 7: Sevens avoid pain and are optimistic, fun-loving persons. A seven will fail to see pain or distress in others and will fail to carry out what they have planned because of the discomfort involved in the execution.
Type 8: Eights avoid weakness and take glory in being seen as a strong person. Life for an eight is a struggle for what is right and a battle against injustice.
Type 9: Nines avoid conflict and will feel uncomfortable with any group tension or lack of harmony. Peace is vital at all costs as is personal tranquility[15].

Principals in the study assessed themselves on the Enneagram to discover their personality type. Each personality type has a full description of the idiosyncrasies, traits and typical response pattern of the person in a range of work and social settings. After a week of close-quarter observation, watching the principals’ every move, conversation, expression, mood and behaviour, the researcher was struck by the accuracy of the Enneagram descriptors. Principals who are type 3s and type 2s on the Enneagram are generally more susceptible to stress than
Physiological perspective
Within the physiological perspective, blood pressure (BP) readings are one medical way to measure changes in the body’s physical state. High blood pressure, called hypertension, is potentially fatal and readings of 140/90 are considered borderline hypertensive and merit effort to bring them down[16]. In general terms, the higher the numbers, the higher the risk of developing heart disease. Blood pressure rises with age because the walls of the arteries become increasingly rigid while coping with the same level of cardiac output. The recognized problem with high blood pressure is that there is often no external symptom so that, when circulation is restricted, it is frequently undetected and complications with the major organs can set in. This is why hypertension is referred to as a “silent killer”[13, pp. 1-7]. “The first evidence of target organ involvement is all too often stroke, myocardial infarction or sudden death”[13].

Blood pressure measuring in clinical settings is routine; however, field studies over time of BP movements have not been conducted because of the size of the equipment. The technology now exists to measure BP successfully by using an unobtrusive and fully ambulatory apparatus. This device’s size, accuracy, memory and various technical functions enable the wearer to do almost anything except use a power tool. The Welch Allyn “QuietTrak” is an example of such advances in microchip technology. To an outsider looking on, the equipment looks similar to an ordinary belt pager. QuietTrak is lightweight, weighing 355 grams, and small, with dimensions of 11.43 x 8.6 x 4.1cm. It has a silent cuff inflation and deflation mechanism which can barely be heard by a person standing alongside the wearer and allows the subject to continue working immediately after an inflation. The cuff is fitted to the upper arm and discreetly located under the shirt or dress sleeve. This makes the system most effective in the ambulatory environment. The patient does not have to record or even look at the display reading on the belt, as this information remains in the machine’s memory until downloaded on to a computer. The QuietTrak system is powered by four AAA batteries.

The system was programmed to take a BP reading every 15 minutes while the principal was at work. With direct observation being a central part of the methodology, the researcher could thus match managerial activity to a blood pressure reading once the day’s results were downloaded on to the QuietTrak software.

Managerial activity
The consistent and accurate identification of managerial tasks performed by principals is essential. Mintzberg[8, p. 55] focused on what managers do and defined a role as an organized set of behaviours belonging to an identifiable office or position. In many ways it is a categorizing process, a partitioning of the managers’ activities into task demands. Mintzberg[8] explains these roles as logical, with enough empirical evidence to support these divisions as common to the work of all managers. His categories are well suited to this study for three reasons. First, they are all observable. They can be witnessed and noted. This is a crucial consideration in the methodological path chosen for the study. Second, they account for all things a manager may actually do. Third, while the roles are described individually, they cannot be isolated. They were always intended to be an integrated whole. Mintzberg[8] calls this a gestalt. In the fast-paced, varied and atypical life of a school principal, recognition of these three attributes is vital.

Mintzberg[8] provides the following as a sketch of the ten roles. In this study they were used as the standard definition for the researcher.

1. Figurehead. Symbolic head, obliged to perform a number of routine duties of a legal or social nature. Associated with ceremony or solicitations. Perhaps the simplest of managerial roles.
2. Leader. Responsible for the motivation of staff, staffing, training and similar duties. This role identifies the manager’s relationship with the subordinates.
3. Liaison. Maintains a self-developed network of outside contacts and informers who provide favours or information. Managers can spend a significant amount of time working in this guise.
4. Monitor. Seeks and receives a wider range of information to develop a thorough understanding of the organization and the work environment. Acts as the nerve centre for internal and external information. The unique position of the manager often makes this person the best source of non-routine information.
5. Disseminator. Transmits information received from outsiders and from employees to other members. Some information may be factual, some may be more informal.
6. Spokesperson. Transmits information to outsiders on the organization’s plans,
policies, actions and results. The manager must be an expert in the field.

7 Entrepreneur. Searches the organization for possible improvement projects and initiates change. Supervises the design of certain new projects.

8 Disturbance handler. Handles corrective action when necessary. Disturbances occur at all levels of the organization and may come about from poor decision making and insensitive actions or through good decision making that others were unprepared for leading to unanticipated consequences.

9 Resource allocator. Allocates resources of all kinds and in effect signals approval for significant organizational decisions. This involves three essentials: scheduling own time, programming the work of the organization and authorizing actions. Resource allocation can involve money, personnel or reputation.

10 Negotiator. Represents the organization at all major formal and informal gatherings where decisions are to be made. In this role the manager takes charge and represents the organization in the bargaining process[8, pp. 93-7].

By using these standard task definitions across all principals, the researcher was able to match changes in blood pressure to actual management tasks undertaken at the time. Additional information was gained through the observation process. Participant and staff debriefing added to the information base and subsequent analysis of the data.

Procedures

Five principals (identified as PP01-PP05) were selected from across the Brisbane Catholic Education systemic schools on the basis that their personalities and management style were not known to the researcher. One full working week was spent in each school with the researcher arriving before the principal and leaving as the participant departed school for the day.

On arrival, participants were connected to the ABPM. This simple procedure takes several minutes. The brachial artery is located above the inside of the elbow and a microphone sensor is placed over this artery and taped down. The inflatable arm cuff is strapped on over this sensor and under the shirt sleeve. A flexible rubber tube connects the arm cuff to the monitor. This tube goes under the participant’s shirt to the monitor which is worn on the belt. All participants reported that after a short period the wearer forgets that the machine is being worn. There are no beeps or buzzers, and only a gentle hum can be heard in the inflation period of about 30 seconds. There is no need to shave the chest region and the device can be attached without any embarrassment, making it easier to include women in the study. Recorded data are stored in the machine and downloaded once the day’s observation has concluded. Once connected, the principal immediately began his or her usual daily routine. In an effort to be unobtrusive yet still close to the action, the observer maintained a distance of about eight metres from the principal which did not interfere with the participant’s personal space while still allowing visual and voice contact. A logbook carried by the observer was used to record management activity, time, outward psychological appearance, work description, location, participants and other related information, including any obvious and observable evidence of stress.

All participants were given a personal inventory to help assess their current lifestyle, workstyle, health and physiology under the following headings:

- basic physiology;
- educational experience;
- current educational responsibility;
- leisure and work activities;
- medical history;
- nutritional information;
- school working conditions; and
- organizational relationships.

This information, along with the daily debrief, end-of-week formal interview and staff debrief, provided the researcher with a wealth of valuable knowledge about the subject.

Findings

The study findings are presented in three sections covering case presentation, situational intensifies and recommendations to administrators.

Case presentation

Two of the five principals observed are selected to demonstrate the management profile and behavioral patterns of a high and a low physiologically stressed principal. These two examples will serve to illustrate:

- the application of the methodology;
- the ways future research may be contemplated;
- how management styles and differing personalities lead to variations in physiological responses.

Blood pressure over 90mmHg (diastolic) is regarded as hypertensive. Table I provides
the number of management tasks recorded and the total tasks recorded above this hypertensive threshold. Results from all five principals are included and the two case-study presentations herein relate to PP02 and PP05. The two case-study presentations are summaries of the full report and serve to illustrate the type of material collected and the ways in which it was applied to address the research purposes. PP02 recorded 65.9 per cent of all management tasks above the 90mmHg threshold and PP05 recorded 29.3 per cent of all management tasks above the threshold. No system-wide comparisons were made with such a small sample; however, these two principals represent widely varying blood pressure results. Daily blood pressure results were reported in the full study but are not included here for reasons of space. As mentioned, readings were recorded every 15 minutes and included systolic pressure, diastolic pressure and heart rate. On an average day, around 40 separate cuff inflations occurred. The exact number depended on the length of time a principal spent at school. All case study results were graphed in four ways:

1. Daily pressure averages (a daily average for systolic and diastolic pressures).
2. Daily diastolic spread (recording the upper and lower limits of the diastolic pressure for each day).
3. Daily above norm analysis (the percentage of diastolic readings rating above 90mmHg for each day).
4. Blood pressure movement (recording the change from resting BP to the upper limit of BP in both systolic and diastolic pressure).

A selection from these graphs is presented in Table I.

The opportunity to use chi square and log linear analysis to measure relationships between task, personality and stress level was extensively explored and eventually abandoned because of the low frequency scores in some cells, shown in Table I. The only way these statistical tools could have been employed in the current study was by collapsing some of the cells to achieve a greater frequency count. In doing so, the distinctive qualities of each category would be corrupted. Hence the decision not to proceed with this style of statistical analysis. It remains, however, a constructive approach for follow-up studies using a greater number of participants. Both statistical processes have obvious utility in this field and should be the focus of further study.

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An analysis of the results for case study 1 are given in Figures 2 and 3.

The shaded bars in Figure 2 indicate systolic pressure and the white bars indicate diastolic pressure. The reference mark (RM) is a measure of BP which is the average of those readings taken on the occasions when the principal was alone, at his or her desk and working on low-key material. It provides an illustration of the lower end of working day BP and thus forms a useful mark for comparison. The RM is discussed later. It can be seen that for four of the five days the average diastolic pressure was over 90mmHg, indicating a significant degree of hypertension. In a clinical setting, this would cause a doctor some concern. It should be remembered that to obtain this average some much higher diastolic pressures must have been recorded. During the week the highest diastolic reading was 138mmHg (Day 3).

The percentage of readings above normal analysis (Figure 3) shows the unshaded bars (diastolic pressure) above 50 per cent on almost every day and for Day 5 73 per cent of the readings were over 90mmHg. The norm refers to the principal’s average weekly BP and therefore differs for each principal. The graph shows a consistent trend to above norm figures for both systolic and diastolic pressures. The reference mark figure (142/85mmHg) shows that the principal is capable of lower blood pressures and achieved them in moments of quiet, reflective and unbothered work periods, but blood pressures moved up sharply when this was not the case. Physiologically, PP02 was presented with sustained high working day blood pressures. Her fine sense of self, natural self-confidence which comes from years of successful
educational management of primary school principals

The physiological, psychological and work stress of these high readings; however, the researcher observed PP02's intense engagement in every task. No matter what the issue, status of the person or length of time involved she was an ardent listener. This has implications in the findings section where the new concept of situational intensities is discussed.

PP02's most frequent management activities were:
• Disseminator: 42 per cent (58.6 per cent above the 90mmHg threshold).
• Leader: 21 per cent (67.8 per cent above the 90mmHg threshold).
• Monitor: 20 per cent (69.2 per cent above the 90mmHg threshold).

These results should be read in conjunction with the earlier descriptions of work style and personality. Being a "hands-on", very verbal and directive person, PP02 spent most of her time disseminating information and giving advice and direction to others. While her personality is such that she can do this in a non-threatening way, the physiological toll goes unnoticed until measured.

Case study No. 2 PP05
PP05 conducts himself in a relaxed manner and is not prone to emotional outbursts with teachers or parents. He is slow to anger and will tend not to confront people without giving the other party some space or time. During the day he enjoys spending time with people and being out of the office. Consequently, paperwork and routine desk jobs tend to slip behind. PP05 often complained about the paperwork left over from the afternoon before and the fact that it mounts up. He regularly takes a deal of it home to complete. PP05 is not the type of person to be in control of the agenda in all situations and he can delegate jobs effectively. He admitted to the researcher that he is not keen on organizing timetables and the researcher saw little evidence of the array of timetables that are sometimes seen in schools.

PP05 has a clear idea of his position and responsibilities and he knows himself well. He is personality type 2 on the Enneagram and the observer witnessed several incidents that confirm this placement. Type 2 personalities are commonly called the "helpers" because they are insightful and generous and tuned in to how others feel. They relate easily with other people and have caring, sensitive natures. They value the time they spend in relationships more than how much of the agenda is accomplished. They are non-violent and non-judgemental. The observer saw the principal as a very calm, interested and obliging person who even when describing the actions of a staff member who made life quite wearisome for him several years ago, remained quite balanced and non-judgemental about the person although the incident still troubles him. Type 2 personalities have to watch their stress levels because they find it hard to say "no". They need to set limits for themselves and not feel they are responsible for everything. They tend to suppress their real feelings in an effort to be tactful. They like taking care of others and need to remember to take care of themselves. Type 2 personalities have a strong desire to be loved by everyone and in "real life" this is a somewhat unreal expectation.

The RM diastolic figure of 81mmHg indicates a sound blood pressure and, apart from day 1 (see Figure 4), the daily averages were all under 90mmHg and close to the RM (Figure 4). PP05's relaxed and easy-going nature possibly contributed to these figures. Day 1 shows as higher than normal and an analysis of the daily returns here shows 11 readings over 90mmHg contributing to the higher result.

The observation record for the day indicates a very busy and intense period up to 11:15 a.m. and it took some time for the diastolic pressure to drop. The highest reading during this period (diastolic 113mmHg) was obtained at school assembly where the principal addressed the entire school. This trend was consistent for all principals.

The percentage of readings above the norm for day 1 (Figure 5) bears out this assessment of a busy and interactive day with 32 per cent of readings above 90mmHg. The rest of the week shows a gradual easing back to Friday's 20 per cent above norm. As with PP02, this needs to be read in conjunction with the daily diastolic spread. PP05's highest mark was on day 1 at 113mmHg. While high, it was not consistently achieved and for the rest of the week the totals amounted to 103mmHg (Tuesday), 98mmHg (Thursday) and 95mmHg (Friday).

Case study No. 2 PP05
PP05 conducts himself in a relaxed manner and is not prone to emotional outbursts with teachers or parents. He is slow to anger and will tend not to confront people without giving the other party some space or time. During the day he enjoys spending time with people and being out of the office. Consequently, paperwork and routine desk jobs tend to slip behind. PP05 often complained about the paperwork left over from the afternoon before and the fact that it mounts up. He regularly takes a deal of it home to complete. PP05 is not the type of person to be in control of the agenda in all situations and he can delegate jobs effectively. He admitted to the researcher that he is not keen on organizing timetables and the researcher saw little evidence of the array of timetables that are sometimes seen in schools.

PP05 has a clear idea of his position and responsibilities and he knows himself well. He is personality type 2 on the Enneagram and the observer witnessed several incidents that confirm this placement. Type 2 personalities are commonly called the "helpers" because they are insightful and generous and tuned in to how others feel. They relate easily with other people and have caring, sensitive natures. They value the time they spend in relationships more than how much of the agenda is accomplished. They are non-violent and non-judgemental. The observer saw the principal as a very calm, interested and obliging person who even when describing the actions of a staff member who made life rather wearisome for him several years ago, remained quite balanced and non-judgemental about the person although the incident still troubles him. Type 2 personalities have to watch their stress levels because they find it hard to say "no". They need to set limits for themselves and not feel they are responsible for everything. They tend to suppress their real feelings in an effort to be tactful. They like taking care of others and need to remember to take care of themselves. Type 2 personalities have a strong desire to be loved by everyone and in "real life" this is a somewhat unreal expectation.

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Situational intensities

During the conduct of the observational and data-gathering phase, the researcher noticed inconsistencies occurring between managerial activity and rising stress levels. There was no consistent rise in blood pressure when certain managerial tasks required of the principal were repeated. This occurred even in seemingly comparable circumstances. It seemed that changes in the body’s blood pressure during the day could not be ascribed solely to a Mintzberg’s managerial task. This observation, supported by the BP results, differs from Sieverding’s findings[7, p. 158].

Sievendranked stress by effect of managerial activity and listed the top three stress-producing activities as spokesperson, disturbance handler and student supervision[7, p. 158]. Note that student supervision was not included in Mintzberg’s original list of management activities and this category was added by Sieverding. Of these, the first two were by far the highest stress-producing managerial activities. In the current study, the managerial activities of spokesperson and disturbance handler both returned a low frequency incidence total (32 and 16 incidents respectively out of 661 management tasks recorded for all participants), indicating that other managerial activities were taking up more of a principal’s time. Sieverding’s results indicate a much higher incidence of activity in these management spheres.

Whan[12, p. 294] notes that stressors such as the shortcomings of teachers, pupil misdeemeanours, meetings, deadlines, interruptions and work overload caused physiological signs of stress. Whan’s findings are in line with the more traditional notion of stressors. That is, such incidents will generally provoke a stress response no matter who is involved or what the circumstances are at the time.

The current research takes issue with this assumption and clarifies the role of stressors by stating that the mere presence of a generally-accepted stressor (for example, a recalcitrant pupil or having to speak to a crowd of children or parents) does not necessarily always mean a rise in BP. Other factors are at play. These mediating factors can be explained through the concept of situational intensities.

Throughout the weeks of observational study, there were times during each day when each principal had a BP reading taken with several conditions constant, namely:

- The principal was alone and unbothered for five minutes either side of the reading.
- The reading was taken when the principal was seated.
The reading was taken when the principal was at his or her desk.
- There were no phones ringing or outside intrusive noise to distract.
- The principal was working quietly (light reading or note-taking but not furious dead-line writing or activity requiring intense concentration).

These specific BP readings were noted and an average reading for the week was calculated. This is termed the reference mark (RM). The RM is a measure of the lower end of a principal's working day BP. It is not an average, which by definition takes in all readings (including the highs), but the BP measure of a working principal alone and unbothered. The opportunities for taking an RM varied between principal and hence the need to average these readings across a week for each subject. The RMs for each of the five principals were:

1. PP01 119/82 mmHg;
2. PP02 142/85 mmHg;
3. PP03 119/83 mmHg;
4. PP04 117/82 mmHg;
5. PP05 128/81 mmHg.

The researcher noticed that this brief period of tranquillity in a principal's day rarely lasted and other factors quickly intruded into the scene. These are explained as situational intensities because they have the ability to change the working equilibrium immediately. To describe them as stressors is perhaps a simplification because the events previously defined in such a way do not always evoke a rising BP response. Whan’s[12] study shows the near impossibility for successful forward planning of events and meetings in a principal’s day. Each of Whan’s[12] case studies is brimming with unforeseen, unwanted and unavoidable interruptions of every conceivable nature from major to minor and serious to humorous. Other studies by Phillipps and Thomas[18] on interruptibility confirm this phenomenon. Clearly, the principal has little control over the situation, unlike the doctor who has a schedule of appointments and a secretary to vet telephone calls and deter unannounced intrusions.

Figure 6 explains this unique working environment. During the weeks of observation, the researcher saw principals’ days in a state of constant flux. Sometimes the intensity of the situation changed from minute-to-minute. Variations to the RM can be caused by the following six factors:

1. Movement: in this situation, is the principal walking, standing or sitting?
2. People: in this situation, is the principal involved in conversation/discussion? Does the conversation involve one or more persons? What is the status of the person(s) with whom the principal is engaged?
3. Degree of engagement: in this situation, is the level of contact “heavy or light”? Is the conversation business or social? Does the paperwork require intense concentration or is it bland, routine mail?
4. Distractions: in this situation, are there other distractions competing for the principal’s attention (phones, other teachers, parents, children, etc.)?
5. Task: in this situation, in what management task is the principal engaged? Is it one handled with ease or perhaps a more difficult task?
6. Mood: in this situation is the principal in good humour, energetic, alert and interested? Does the principal’s mood change during the conversation?

The model explains how in any encounter the intensity can fade away or gain potency rapidly. In the past, category 5 tasks have most often been described as traditional “stressors”. The model shows that there is more going on around the principal than just the obvious and visible event of the moment. These changes in intensity are reflected in the body’s physiological functioning (as evidenced by BP movement). Events such as:
- a child arriving at the office with a wound which is bleeding;
- an angry parent arriving to see the principal without an appointment;
- a teacher demanding clarification on a principal’s policy position;
- the secretary expressing anger at the amount of work;
- a computer breaking down; and
- the principal counselling children who have been fighting;

need to be judged in terms of the six categories above. On this reading they may all appear to be stressful events likely to cause a significant rise in BP. In reality, this may not be the case as other elements from the situational intensities might serve to dampen any rise in BP. Some of these might be:
- an acceptable joint agreement between the parties was easily reached;
- humour diffused the situation;
- an acceptance of responsibility or of a misunderstanding was offered by either or both parties;
- the principal’s people management skills calm the person(s);
- a new drama takes precedence distracting attention.

Tables II and III illustrate some of the inconsistent returns recorded when the researcher...
thought every indication was that the stressor’s effect would be minimal and yet the diastolic BP return showed a hypertensive state. Obviously there was more going on around and within the principal, leading to a much higher than expected reading. These serve as examples of high situational intensities.

The reverse was also evidenced and there were occasions when the principal appeared to be in a situation which might well be construed as high stress and yet the end-of-day figures did not bear this out. Mediating circumstances were present and the daily debrief served to assist in the analysis of why these events did or did not greatly trouble the principal.

Situational intensities can also gather force incrementally and change the circumstance of the interaction in a subtle way. This happens when:

• social calls change to business and matters turn serious;
• a conversation with one teacher suddenly becomes potentially troublesome when several others join in;
• a student interview reveals more than was expected;
• discussions with a supervisor cause a sudden change in mood.

This model can explain changes to the working equilibrium and why a certain managerial task may not be as stressful as it initially appears to the observer. It also accounts for “play-acting” on the part of principals in cases of student discipline and how seemingly friendly social interactions change tempo and turn serious.

Recommendations to administrators

The following recommendations are divided up into short-term and longer-term options to reduce the impact and spread of stress.

Short-term options

The short-term options as proposed are not “quick fixers” designed to give instant relief to stressed principals. Without a good measure of self-reflection they will deliver little. There is no doubt that in the ebb and flow of school life variations in a principal’s intensity level and attention to issues is inevitable. Situational intensities (SI) is an attempt to describe that changing and occasionally volatile working environment.

In the short-term options available to principals, there is great value in understanding the concept of SI as applied to self. An awareness of self allows the person to make possible future adjustments after reflecting back on the way a situation developed or was handled. Personal reactions to stressful events can be understood better by thinking through the six factors of SI and asking questions such as:

• Do I need to focus my attention more clearly when conversing with that staff member (degree of engagement)?

Table II

<table>
<thead>
<tr>
<th>Activity description</th>
<th>Diastolic BP</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>At desk simply reading, no contact, no phones, no noise</td>
<td>91</td>
<td>1</td>
</tr>
<tr>
<td>Conversation with a teacher, light business, appeared friendly</td>
<td>128</td>
<td>1</td>
</tr>
<tr>
<td>Conversation with a child, social, appeared relaxed</td>
<td>116</td>
<td>1</td>
</tr>
<tr>
<td>Principal at desk, reading papers</td>
<td>109</td>
<td>5</td>
</tr>
<tr>
<td>Principal at desk, attending to papers, no distractions</td>
<td>92</td>
<td>1</td>
</tr>
<tr>
<td>Principal walking to assembly</td>
<td>94</td>
<td>1</td>
</tr>
<tr>
<td>End of day conversation with a fellow principal, appears relaxed</td>
<td>94</td>
<td>5</td>
</tr>
</tbody>
</table>

Table III

<table>
<thead>
<tr>
<th>Activity description</th>
<th>Diastolic BP</th>
<th>Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attending the funeral of a well-known and local principal</td>
<td>76</td>
<td>2</td>
</tr>
<tr>
<td>Supervising bus lines in a high traffic zone with hundreds of children about</td>
<td>79</td>
<td>4</td>
</tr>
<tr>
<td>Conducting a sensitive interview with the deputy regarding the behaviour of his child</td>
<td>72</td>
<td>4</td>
</tr>
<tr>
<td>Interview with the cleaner regarding non-performance of her duties</td>
<td>75</td>
<td>2</td>
</tr>
<tr>
<td>Sensitive interview with parent regarding possible sexual misconduct by several boys</td>
<td>81</td>
<td>4</td>
</tr>
</tbody>
</table>
• Should I allow myself to answer that always difficult query in front of everyone or would a better solution be to answer people individually (people)?
• Is my depressed mood of late affecting my relationships with people and in turn causing others to be negative (mood)?
• Do I need to slow down, stay at one task for a while and stop rushing about everywhere (movement)?
• Is there someone better able to handle the receipting of money so I do not have to spend so much time with the books (task)?

A good measure of frank self-reflection is also essential when considering the original conceptual model (Figure 1), for it too has utility in the short-term options for understanding where stress comes from in a person’s life. It is strongly suggested that the principal honestly assess the relevance for his or her personal situation and take the appropriate remedial action. In that consideration, strengths should be acknowledged so it does not become a negative process.

Lifestyle/workstyle options
At home:
• Examine the state of spouse relations. Renew if necessary.
• Is relaxation at home important or overlooked?
• Is too much work taken home?
• Is sufficient time taken for meditation, prayer, sport, exercise?
• Amount of sleep taken.
• Time spent studying.
• Is the morning departure routine relaxed?
• Amount of time devoted to “cultural activities” and hobbies.
• Time with friends outside school circles.

At work:
• Check social support mechanisms.
• Examine personal time management techniques.
• Record the hours worked in a day, adjust if necessary.
• Note the volume of work in a day, adjust if necessary.
• Is delegation effectively achieved?
• Are the physical working conditions adequate?
• Examine relationships in the school.
• Are opportunities for peer support and socialization taken?
• Is a “trusted other” effectively used?
• Are sufficient opportunities taken for professional development?
• Appraise the number of meetings attended. Cut back if necessary.
• Appraise the “open door” policy. Adjust if necessary.
• Is technology used to maximum advantage?

Psychological options:
• Appraise avoidance behaviours.
• How much laughter is there in a day?
• Watch temper and anger levels.
• Use of rewards to staff (praise).
• Use of rewards for self (home early, long lunch).
• Is there time for relaxation or unwinding at work?
• Do others give positive feedback?
• Is motivation a concern?

Physiological options:
• Appraise diet, types of food taken (sugar, fats, fibre, salt).
• Assess physical sports and/or relaxation sports programme.
• Is medication taken? Effect on the day?
• Is there a need for participation in team sports?
• Check energy level in the day?

Longer-term options
The following six longer-term options are presented to assist principals cope better with the complexity of the job. They cannot be put into practice over night and they will not provide instant relief. They require a high degree of commitment and dedication. The six longer-term options provide a professional framework to assist school principals to operate in a complex web of human interactions. The six options relate to:
1. vision;
2. decision-making style;
3. communication;
4. hardiness;
5. character;
6. peer support.

When combined with a carefully considered personal taxonomy of coping across the three perspectives (lifestyle/workstyle, psychological, physiological) and an understanding of SI in the work environment the principal will have both professional and practical ways to stay at optimum performance in both the short and the longer terms.

Vision
Recommendation: develop a process for securing a shared school vision with parents and teachers.

This vision recommendation relates to both school “mission statements” and to the development of a joint staff and parent action plan over several years.

Decision-making style
Recommendation: develop an appropriate decision-making style based on knowledge of self.
Chamley et al. [19] believe that because of the vast range of decisions a principal must make he or she can easily fall victim to the "super principal complex". This heroic figure aspires to be an expert in all areas. Trying to be everything for everyone is a perilous endeavour.

Communication
Recommendation: adopt attitudes and behaviours in communication that are stress reducing (rewarding) to others rather than stress provoking (punishing).

Communication and decision-making style are closely linked. Good communication takes time. Notes in pigeon-holes, rushed verandah conversations and distracted discussions in crowded lunch rooms may be necessary, but time for better quality sessions should be sought. Good communication eases the stresses of the day by exchanging information agreeably.

Hardiness
Recommendation: seek to develop a strong psychological profile through the hardiness constructs of control, commitment and challenge and through a thorough knowledge of self.

Hardiness is a general personal characteristic that emerges from rich, rewarding and varied childhood experiences [20]. This general quality manifests itself in feelings and behaviours that are characterized as:

- Commitment. Where a hardy person views new challenges as interesting and meaningful.
- Control. Where a hardy person sees stressors as changeable.
- Challenge. Where a hardy person sees change as a normal aspect of life rather than a threat and looks to develop new opportunities for growth [21].

Character
Recommendation: in the final analysis what we communicate far more eloquently than what we say or do; so seek to develop sound character traits as the foundation of success.

In the longer term, recommendations about the development or recognition of the importance of character as a “stress reducer” may seem somewhat out of place and yet modern managerial theorists such as DePree [22], Block [23] and Covey [24] all go to great lengths to extol its virtues. Trustworthy relationships are a key factor in organizational health and this recommendation clearly places the school principal in a modelling role for maintaining the good repair of relationships in a school.

Peer support
Recommendation: use peers (fellow principals and trusted others) as a means of social support to buffer stress.

As part of a strategy to guard against stress, this final professional recommendation to principals seeks a large measure of personal honesty. Numerous suggestions have been made in the stress literature of the possible beneficial effects of social support. Willis [25] calls on principals to develop a personal support system of trusted others to whom the person can turn for advice and empathy. In making this call he cautions that it should not just be a case of “talking shop” with colleagues but should include opportunities for constructive criticism, analysis of problems and the opportunity to develop new perspectives.

References
The physiological, psychological and work stress of primary school principals


23 Block, P., Stewardship: Choosing Service over Self-interest, Berrett-Koehler, San Francisco, CA.