



Occupational stress of Catholic primary school staff: a study of biographical differences

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Abstract

Purpose – The purpose of this paper is to investigate relationships between biographical variables of gender, age experience and employment position and occupational stress of staff members in Catholic primary schools.

Design/methodology/approach – Survey data were collected from 356 staff members from Catholic primary schools in New South Wales, Australia. Research hypotheses were tested using multivariate analysis and comparison of means.

Findings – Age, gender and position are found to be related to three out of the four identified domains of occupational stress as well as overall occupational stress. In addition, male staff experience higher levels of general occupational stress than their female colleague overall.

Practical implications – The findings hold implications for school systems and school administrators in relation to teacher retention, schools as organizations and gender issues. Further research regarding stress of teacher's aides is also recommended.

Originality/value – The paper includes non-teaching staff and investigates the role of employment position as a biographical variable.

Keywords Australia, Primary schools, Stress, Academic staff, Non-academic staff

Paper type Research paper

Introduction

Occupational stress may be described as the experience of negative feelings, such as worry, frustration, strain and anxiety, attributed to work-related factors (Kyriacou, 2001). A substantial amount of the literature suggests that teaching is a stressful occupation and that teacher stress is an increasing problem (Antoniou *et al.*, 2006; Chaplain, 1995, 2008; Guthrie, 2006; Kyriacou, 2001; Manthei and Gilmore, 1996; Munt, 2004; Otto, 1986). The literature concerning occupational stress in school settings has typically focussed on teachers, but not other staff.

A significant number of studies have suggested that prolonged experience of occupational stress may lead to burnout (Burke and Greenglass, 1994; McCarthy *et al.*, 2009; Mearns and Cain, 2003; O'Driscoll and Brough, 2003). Occupational stress has also been strongly associated with temporary and chronic illnesses, such as headache, hypertension, reduced immune response, stomach complaints, depression and stroke (Ashcraft, 1992; Burke and Greenglass, 1994; Guthrie, 2006; Kahn and Byosiere, 1992; Kyriacou, 2001; Muchinsky, 2006; O'Driscoll and Brough, 2003). Occupational stress has been linked to reduced job satisfaction and job commitment, absenteeism (some of it due to illness) and reduced performance (De Nobile and



McCormick, 2007; Glazer and Kruse, 2008; Jepson and Forrest, 2006; Kyriacou, 2001; Muchinsky, 2006; O'Driscoll and Brough, 2003).

The problem of teachers leaving the profession after only a few years of service has been highlighted in recent times (Committee for the Review of Teaching and Teacher Education, 2003; OECD, 2005; Ramsey, 2000). Occupational stress may be a contributing factor. Two recent Australian studies have reported strong links between teacher burnout and intention to leave the profession (Goddard and Goddard, 2006; O'Brien *et al.*, 2008).

These outcomes can be quite costly to schools and school systems in terms of financial outlays (Ashcraft, 1992; Guthrie, 2006), as well as the inevitable disruption to student learning through reduced performance, absence and, especially, turnover. Therefore, the study of occupational stress in schools should be considered important to staff well-being as well as the development of safe and effective schools.

Degrees of occupational stress experienced by staff members in the same or similar work environments can vary from one individual to another. Demographic factors may play a role in the level of occupational stress felt by teachers and other staff (Kahn and Byosiere, 1992; Kyriacou, 2001). In particular, the literature suggests four variables that may have significant interactions with occupational stress: gender, age, experience in the job and position (Antoniou *et al.*, 2006; Lau *et al.*, 2005; Laughlin, 1984; Manthei and Gilmore, 1996; McCarthy *et al.*, 2009; McCormick, 1997).

Gender has often been investigated as a biographical variable in studies of occupational stress (Clunies-Ross *et al.*, 2008; Dick and Wagner, 2001; Laughlin, 1984; McCormick, 1997; Punch and Tuetteman, 1996). The literature is far from conclusive about the nature of the relationship (Spielberger and Reheiser, 1995). In his study of Australian teachers, Laughlin (1984) reported that female teachers experienced more stress than their male colleagues. Additional responsibility of home and other responsibilities were cited as a possible reason for the difference. This finding has been echoed by other studies (Al-Mohannadi and Capel, 2007; Antoniou *et al.*, 2006; McCormick and Solman, 1992). Guthrie (2006) reported that females employed in education and related sectors accounted for more work stress-related claims than their male colleagues. On the other hand, McCormick (2000) in his study of Australian Catholic school teachers reported that males experienced significantly more stress attributed to system demands than their females colleagues.

When examined in terms of specific sources of stress, females have been found to differ from males in their perception of most to least stressful aspects of work (Al-Mohannadi and Capel, 2007; Borg and Falzon, 1991; Punch and Tuetteman, 1996). However, there are many studies that suggest no gender-based differences in occupational stress (Chan, 2002; Chaplain, 1995; Clunies-Ross *et al.*, 2008; Dick and Wagner, 2001; Jepson and Forrest, 2006; Whitehead and Ryba, 1995).

The literature suggests that a complex relationship exists between occupational stress and age. Laughlin (1984) reported significant differences in stress among age groups, but these differed according to the stressors. For example, the youngest group of teachers (aged under 26 years) reported greater stress from student behaviour issues than their older colleagues, while teachers aged between 26 and 30 years reported higher stress from inadequate professional recognition than their younger and older colleagues. In the same study, the oldest group of teachers (aged over 40 years) reported higher levels of stress from curriculum demands than their younger colleagues.

In their later Australian study of Catholic schools, Solman and Feld (1989) reported similar findings with regard to student behaviour issues and curriculum demands. Lau *et al.* (2005) reported higher levels of burnout among younger teachers. In their recent study of primary and secondary teachers, Antoniou *et al.* (2006) reported that older teachers were experiencing higher levels of stress from lack of system support than their younger colleagues.

As with gender and age, the relationship between occupational stress and experience in the job, or tenure, cannot be determined conclusively in the literature. This might be because various aspects of work affect school employees differently. Some studies have found that teachers with less experience reported greater stress from student behaviour issues than their more experienced colleagues (Laughlin, 1984; Manthei and Gilmore, 1996; Nelson *et al.*, 2001). McCormick (1997), however, reported that stress from external to school factors increased with experience. Likewise, a recent study of primary schools reported that emotional exhaustion (burnout) of teachers increased with experience (McCarthy *et al.*, 2009). In this later study it is suggested that the relationship between tenure and increased perception of work demands may be due to greater likelihood of increased administrative and other responsibilities. Certainly, promotions and mentoring roles (that come with experience) can increase the workload of more experienced teachers.

In contrast to this, however, a number of studies suggest that experience has no relationship with occupational stress (Clunies-Ross *et al.*, 2008; Jepson and Forrest, 2006; Solman and Feld, 1989). It might be that other factors, such as position, play a role in moderating the relationship between experience and occupational stress.

The type of job a staff member performs in a school may be referred to as their position. A number of positions exist in Australian primary schools aside from classroom teachers. These include executive staff (teachers in promotion positions, including assistant principals and principals). Teacher's aides (also known as assistants), clerical staff, itinerant staff and maintenance staff are referred to generally as "non-teaching" as they do not have direct responsibility for the educational outcomes of students.

Several studies have identified differences in levels of stress between classroom teachers and executive staff. For example, Solman and Feld (1989) reported that executive staff experienced less stress from student behaviour issues than classroom teachers. McCormick and Solman (1992) reported similar findings, adding that executive members also experienced less stress than classroom teachers from such aspects of work as time demands and support from the school administration. Other studies have reported executive staff experiencing greater stress than classroom teachers from time, resource and curriculum demands (Laughlin, 1984; Manthei and Gilmore, 1996). Lau *et al.* (2005) reported that executive staff tended to experience less burnout than classroom teachers. However, Whitehead and Ryba (1995) found executive staff experienced higher general occupational stress than their non-promoted colleagues.

With regard to non-teaching staff, there is, at present, a lack of systemic research comparing levels of occupational stress. It is useful to investigate how non-teachers experience occupational stress because they account for a significant number of employees in schools and their roles differ considerably (Catholic Education Commission, 2007). For example, clerical staff might interact with students for a limited period of time when giving or receiving information, while teacher's aides have more

intense and prolonged interactions with student during one on one or group learning activities.

As is evident here, there is a lack of consistency of findings with regard to biographical variables and occupational stress. The amount of research systematically investigating the relationships of these variables is rather limited in the context of primary schools and non-teaching staff members have been neglected in the literature to date. Catholic schools are recognised as being distinct from government schools due to their espoused cultures, which reflect gospel values and, in explicit terms, the teachings of Jesus Christ (Flynn and Mok, 2002).

There exists, therefore, a clear need to investigate how biographical differences are related to occupational stress of Catholic primary school staff. The following study attempts to address gaps in, and contribute to, in the literature concerning biographical differences in occupational stress in that context.

Method

The relationships between biographical variables (gender, age, experience and position) and aspects of occupational stress of Catholic primary school staff members were investigated using data from a larger study (De Nobile, 2003). Taking the findings of previous research into account, four hypotheses were tested:

- H1.* Gender is related to occupational stress.
- H2.* Age is related to occupational stress.
- H3.* Years of experience is related to occupational stress.
- H4.* Position of staff members is related to occupational stress.

Sample

The participants were staff members (teaching and non-teaching) from Catholic primary schools in six Catholic diocesan school systems in New South Wales, Australia. A total of 356 participants were drawn from 52 schools, selected on a stratified random basis in an attempt to achieve comparability with the population in terms of school size and location (urban and rural).

The sample was closely representative of the population. About 85 percent were female, 14 percent were male. The majority of participants were aged between 31 and 50 years and had more than 15 years of experience. About 88 percent were teaching staff (classroom teachers, specialist teachers and executive teachers), while 11 percent were non-teaching staff. Executive teachers included coordinators and assistant principals. Non-teaching staff included teacher's aides, counsellors, clerical staff and maintenance staff. In this study, teacher's aides were treated separately from other non-teaching staff in the subsequent analyses due to their role in the classroom, which often places them in an assistant role, under the supervision of teachers, but in fact frequently engaged in teaching students.

Measures

A questionnaire survey was used to collect data relating to a number of variables. Occupational stress was measured using an adapted version of the teacher's attribution of responsibility for stress questionnaire (TARSQ) developed by

McCormick (1997), McCormick and Shi (1999) and McCormick and Solman (1992). The instrument was chosen for its suitability to Australian schools. The TARSQ contains 20 items that are related to common sources of stress. Participants were required to rate each item according to how stressful they were on a scale ranging from 1 (no stress) to 5 (extreme stress). A general occupational stress item was added. This required respondents to indicate how stressful they found their current jobs overall, on a scale of 1 (not at all stressful) to 5 (extremely stressful).

Biographical data were also collected. Respondents were required to indicate their gender (male or female), age (20-30, 31-40, 41-50 or 50+ years), years of experience in the current role (0-5, 6-10, 11-15 or 15+ years) and position on staff (teacher, executive, teacher's aide or other non-teaching).

Analyses

Questionnaire responses were entered into an SPSS database. Factor analysis was conducted to identify domains of occupational stress. Multiple regression was used to identify relationships of biographical variables with occupational stress. Categorical variables were recoded as dummy variables and all statistically significant results with more than two categories were tested with *post hoc* Scheffe procedures with the significance level at 0.05. To determine effect sizes the means of significantly different groups were compared and the Cohen's *d* statistic calculated (Hittleman and Simon, 2002).

Results

The results are presented in terms of biographical data, factor analysis and analysis of the relationships between biographical variables and occupational stress.

Biographical data

Biographical characteristics of the sample are summarised in Table I. The sample was closely representative of the population (Catholic Education Commission, 2007). About 85 percent were female, 14 percent were male. The majority of participants were aged between 31 and 50 years and had more than 15 years of experience. About 88 percent were teaching staff (classroom teachers, specialist teachers and executive teachers), while 11 percent were non-teaching staff. Executive teachers included coordinators and assistant principals. Non-teaching staff included teacher's aides, counsellors, clerical staff and maintenance staff. Teacher's aides are treated separately for reasons suggested previously.

Factor analysis

Principal axis factoring, with varimax rotation, of the TARSQ items yielded a four-factor solution that accounted for 65 percent of the variance. The factor solution is explained in greater detail elsewhere (De Nobile and McCormick, 2007). Results are given in Table II, followed by a brief description of each factor, hereafter referred to as domains of occupational stress.

Student domain comprised items concerning stress arising from student issues, such as discipline and classroom management problems. Information domain comprised items relating to stress arising from formal and informal communication in the school. School domain comprised items concerning stress attributed to support (or lack thereof) from school leadership and general school climate. Personal domain comprised items

Biographical characteristic	<i>n</i>	%	Occupational stress of school staff
			497
<i>Gender</i>			
Males	49	14	
Females	305	85	
Unstated	2	1	
<i>Age</i>			
20-30	84	24	
31-40	109	31	
41-50	102	28	
50+	58	16	
Unstated	3	1	
<i>Experience (years)</i>			
0-5	67	19	
6-10	61	17	
11-15	54	15	
16+	150	42	
Unstated	24	7	
<i>Position</i>			
Classroom teacher	233	65	
Executive	81	23	
Teacher's aide	14	4	
Other non-teaching	27	7	
Unstated	1	1	

Table I.
Summary of biographical characteristics

Factor name	Number of items	Eigenvalue	Reliability (α)
Student domain	6	6.06	0.87
Information domain	6	2.73	0.82
School domain	3	7.51	0.80
Personal domain	2	1.01	0.63

Table II.
Factor solution for TARSQ items

about issues relating to self, such as the feeling of not being suited to the job and inadequacy or lack of preparedness for the job.

Biographical differences and occupational stress

Biographical data were re-coded into dummy variables. Multiple regression models were developed with each of the four stress domains as well as general occupational stress. The results are shown in Table III.

The results indicate that statistically significant differences, based on gender, age and employment position in school, existed for this sample in several domains of occupational stress. While biographical variables account for relatively small amounts of variance, these are significant, with age and position accounting for most of the variance. The results offer support for *H1*, *H2* and *H4*, but not for *H3*.

What follows is a more detailed analysis of the biographical differences for different domains of occupational stress and general occupational stress based on comparison of group means. Cohen's *d* statistics are included in parentheses to

Variables	df	R ² change	F	
<i>Student domain</i>				
Age	3	0.027	3.00	*
<i>Information domain</i>				
Position	3	0.047	5.30	***
<i>School domain</i>				
Position	3	0.035	3.90	**
<i>Personal domain</i>				
Age	3	0.029	3.21	*
<i>General occupational stress</i>				
Gender	1	0.037	12.42	***
Age	3	0.023	2.61	*
Position	3	0.023	2.67	*

Table III.
Summary of significant biographical differences in stress domains (italic)

Note: Significance at: **p* < 0.05, ***p* < 0.01 and ****p* < 0.001

indicate relative effect sizes. Significant differences are depicted in graphic form, based on comparison of factor score means, in Figures 1-5. Despite the results of the regressions listed above, *post hoc* Scheffe tests indicated that the relationships between school domain and employment position and general occupational stress and age were not significant. Therefore, analyses of those relationships proceed no further.

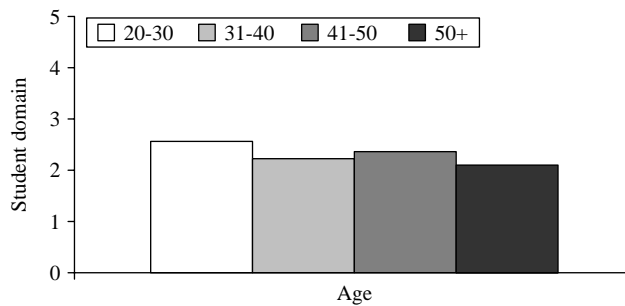


Figure 1.
Means of student domain stress by age

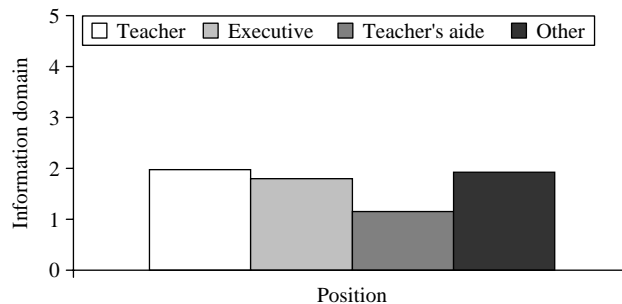


Figure 2.
Means of information domain stress by position

Student domain

Figure 1 shows occupational stress in the student domain by age group. It can be seen that occupational stress from student domain appears to decrease with age overall, with the exception of the 41-50 year age group. However, the Scheffe test indicated that staff members aged 20-30 years were significantly more stressed ($d = 0.50$) by student discipline issues than staff members aged 50 and above.

This result may be partly explained in terms of life experience and professional growth. Older teachers are more likely to have been in the occupation for a longer period and to have learned to deal with student issues more effectively through experience in the job or developed greater resilience. In this light, their lower reported

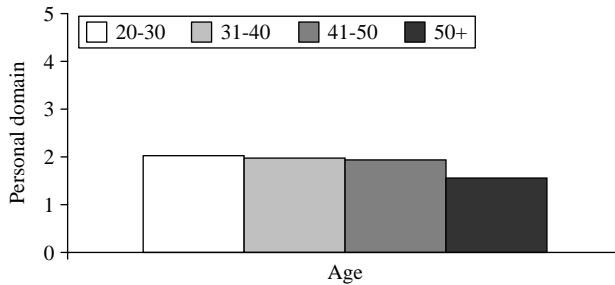


Figure 3.
Means of personal domain stress by age

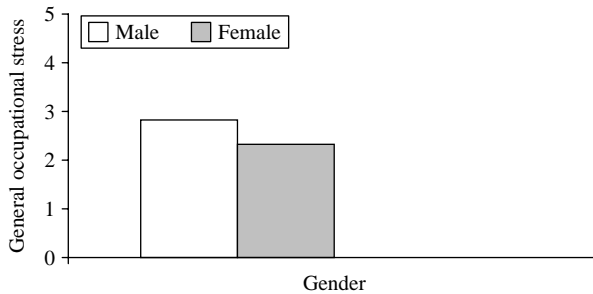


Figure 4.
Means of general occupational stress by gender

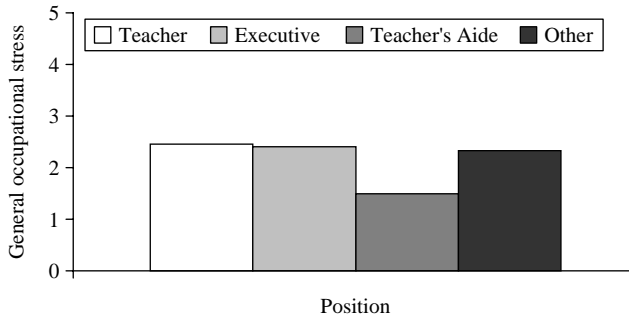


Figure 5.
Means of general occupational stress by position

stress is understandable. A similar explanation may hold for non-teaching staff members. A more speculative explanation might be that older staff members are in their current job because they desire to be, having had enough time to try other careers or having confirmed their occupational choice through successful experience.

Information domain

The means of occupational stress from information domain by position are shown in Figure 2. Classroom teachers appear to experience the most stress from school communication issues. Scheffe tests revealed that teacher's aides were significantly less stressed than classroom teachers, executive staff members and other non-teaching staff members ($d = 1.53, 1.43$ and 1.13 , respectively). Given the rather large effect sizes for teacher's aides (Hittleman and Simon, 2002), this result requires some explanation.

It could be that the reason teacher's aides do not experience as much stress from information domain has to do with level of responsibility. As teacher's aides are not responsible for teaching programs or the general running of classrooms, they may be less reliant on official school communications. Their close proximity to the teachers they work with may lessen stress from information domain as they likely have relatively easy access to the information they need to do their work.

School domain

While multiple regression indicated that position predicted some variance in school domain stress, no statistically significant differences among the position categories were identified by the Scheffe tests. Therefore, it can be surmised that, for this sample, no relationship exists between stress arising from a lack of administrative support and unpleasant school climate and staff biographical characteristics. This is somewhat surprising that the given literature suggests administrative support can be related to stress. Perhaps this is indeed the case, but it is not different for any category of staff.

Personal domain

Figure 3 shows the means of occupational stress from personal domain by age. Stress in this domain appears to decrease with age. However, the most important statistically significant differences were between staff members aged 20-30 years ($d = 0.59$) and 31-40 years ($d = 0.53$) and those aged over 50 years. Again, this relationship may be explained by life experience and professional growth. It is conceivable that staff members who are older are more likely to have been in their occupation for a longer period and, though general life experiences, may have resolved internal issues relating to their self-efficacy and suitability to work. It may also be possible that, over time, older staff members who have had other careers have found, in their current position, the occupation that they feel best suited to.

General occupational stress

Figure 4 shows means of general occupational stress by gender. Males reported greater occupational stress generally than their female colleagues ($d = 0.52$). Given that primary schools in the population from which the sample was drawn have a predominantly female teacher population (Catholic Education Commission, 2007) and that primary teaching, in Australia at least, has been described as a female-oriented profession (Ramsey, 2000), the result may not be surprising. The higher general occupational stress of male staff

members (the majority of whom are teachers in this study) might be attributable to work environments that have, over time, become more suited to females. This is, of course, speculative and the relationship requires further investigation.

The means of general occupational stress by position are shown in Figure 5. While classroom teachers reported the higher levels of general stress, teacher's aides appear to be the least stressed, by a wide margin, compared to classroom teachers ($d = 1.21$), executive staff ($d = 1.18$) and other non-teaching staff ($d = 0.96$). The very low level of general occupational stress reported by teacher's aides compared to their colleagues might reflect lower occupational stress from other aspects of work, as suggested by the results for information domain. It might also be that teacher's aides are performing a role they really want to do and enjoy doing, and that this high level of commitment may moderate stress.

Discussion

Gender, age and position were the biographical variables identified as being related to occupational stress of staff members in the sample. While it was anticipated that a fourth variable, years of experience, would also be related to occupational stress (McCormick, 1997), the relevant hypothesis was not supported. This might reflect shared variance between age and experience. However, other studies have also reported no relationship (Solman and Feld, 1989; Jepson and Forrest, 2006). Occupational stress arising from poor administration support and unpleasant school climate was not influenced by any biographical variables in this study. This is in contrast to studies that have identified effects of such variables on similar aspects of occupational stress (Al-Mohannadi and Capel, 2007; Laughlin, 1984; McCormick and Solman, 1992; Punch and Tuetteman, 1996; Solman and Feld, 1989).

Where gender was a significant predictor of occupational stress, males were more stressed overall than females. The suggestion is that primary schools are work environments that have become more feminised compared to secondary schools (ILO/UNESCO, 2000; Ramsey, 2000). Whatever the underlying explanation, the results reported here contradict those of other studies that reported higher stress in female primary school staff (Antoniou *et al.*, 2006; Laughlin, 1984; McCormick and Solman, 1992), but support the findings of similar research by McCormick (2000).

Where age was a significant predictor of occupational stress, younger staff members reported higher levels than older colleagues. The differences were particularly strong between the youngest and the oldest staff members. These results appear to support the findings of some studies (Lau *et al.*, 2005), but are incongruent with others (Antoniou *et al.*, 2006).

The findings reported here have been explained in terms of the possible benefits life experience may have contributed to the ability of older staff members to cope with stress and the relevant aspects of work. It must also be recognised that, with respect to student domain, classroom management and discipline have been widely recognised as a concern and source of anxiety and stress for younger teachers (Borg and Falzon, 1991; Kyriacou, 2001; Marsh, 2008).

Where position was a significant predictor of occupational stress, classroom teachers reported greater stress than any other group. This is consistent with the findings of other studies (McCormick and Solman, 1992; Manthei and Gilmore, 1996), although the differences between classroom teachers and executive staff members

were only slight and were not statistically significant according to the *post hoc* Scheffe tests, which places these results somewhat at odds with previous studies.

Teacher's aides were, by far, the least stressed of all employment position categories in this study. This has been explained in terms of responsibility in that the accountabilities that come with the roles of classroom teacher, executive staff member and even clerical personnel may not be experienced by teacher's aides, who play specific roles in classrooms under the direction of teachers. They are often not working full time in the role and, therefore, are less likely to be exposed to the work pressures other school staff members face.

Other explanations were also proposed for the low occupational stress of teacher's aides. Close proximity to teachers in the classroom situation may provide opportunities for them to keep up to date with activities in the school and reduce role ambiguity. They may also be experiencing less stress from various aspects of work and might be highly committed people. In the context of schools, commitment has been reported to be negatively associated with occupational stress (Jepson and Forrest, 2006; Starnaman and Miller, 1992).

While significant relationships have been identified between biographical variables and occupational stress, it should be kept in mind that the overall levels of stress, as demonstrated in the graphs, were low to moderate (no means above 3.00 for the variables studied). This is somewhat in contrast to studies that have reported higher levels of teacher stress using comparable measures (Al-Mohannadi and Capel, 2007; Chan, 2002; McCormick and Solman, 1992; Punch and Tuetteman, 1996). Nevertheless, the results reported here provide a further contribution to knowledge about how occupational stress is related to biographical variables.

Conclusion

This study aimed to investigate relationships between biographical variables and occupational stress. Four variables, gender, age, experience and position were investigated. All of the biographical variables, except experience, were shown to have associations with one or more domains of occupational stress.

However, no significant associations were found for stress arising from administrative support and school climate (school domain). This might be due to the prevailing school cultures. Catholic schools are known to have cultures that reflect gospel values and teachings (Flynn, 1993; Flynn and Mok, 2002). These values are manifested, in part, by collegial support and a sense of belonging to community, modelled by principals and common among staff (Bell, 1996; Flynn and Mok, 2002). In this light the finding is not surprising and, indeed, affirming for these schools.

Male staff members experienced more general stress than their female colleagues. This is an important finding, given the concern in Australia over retention of male teachers (Ramsey, 2000). While the finding has been explained in terms of the work environment in this paper, the underlying reasons for this finding need to be investigated by school systems with the aim of maintaining the attractiveness of primary teaching as a career choice for males.

Given recent concerns about the rate at which early career teachers leave the profession (Committee for the Review of Teaching and Teacher Education, 2003; Ramsey, 2000), the finding that younger staff members reported more occupational stress than older colleagues is alarming. There is a clear need for school administration

to provide support for and build up the resilience of younger teachers and other staff members. Bernard (1990) and Marsh (2008) suggest several areas in which school leadership (and systems) can professionally develop staff members in order to help to manage occupational stress and possibly reduce teacher turnover, including: properly structured induction programs, ongoing mentoring, time management skills, exposure to a wider range of classroom management techniques, support from school leaders and encouragement of collegial support among staff members.

Classroom teachers reported the highest levels of general stress, and in particular, stress arising from communication in the school. This finding suggests that classroom teachers need access to timely communication, increased opportunity to interact with other staff and increased opportunities to learn how to cope with stress (Bernard, 1990; Kyriacou, 2001). Teacher's aides, on the other hand, reported the lowest levels of occupational stress. Attempts to explain this finding here have been largely speculative. It requires investigation as to the actual reasons why. Such a study could shed further light on how stress can be reduced for classroom teachers.

While this study has a number of limitations, such as the relatively low reported stress levels, sample size relative to the populations of teachers in Catholic primary schools in New South Wales and reliance on quantitative self-reported data, it is in the interests of schools and school systems to be aware of biographical differences and how they may interact with occupational stress levels. Schools and school systems need to ensure that occupational stress levels of employees are manageable or at least well managed, as the consequences of increased occupational stress can be considerable.

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