

## **Occupational Stress of Catholic Primary School Staff: Investigating Biographical Differences.**

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### **Abstract**

Numerous studies have established that teaching can be a stressful profession. Teacher occupational stress has been linked to absenteeism, turnover, productivity and other negative organisational outcomes. The 'stressfulness' of schools, however, cannot be fully understood without the input of non-teaching staff and there is a lack of research involving them. This study reports relationships between biographical variables and occupational stress of staff members in Catholic primary schools. The sample consisted of 356 staff members of Catholic primary schools in New South Wales, Australia. Data were collected using a questionnaire survey. Multivariate analysis and comparison of means were employed to test research hypotheses. Biographical differences, particularly age, sex and position, were related to several aspects of occupational stress. The results are discussed in terms of implications for schools and future research.

### **Introduction**

Occupational stress has been described as the experience of negative feelings, such as frustration, worry and anxiety, perceived to arise from work related factors (Kyriacou, 2001). There exists a substantial body of literature describing teaching as a stressful occupation and suggesting that teacher stress appears to be an increasing problem (Antoniou, Polychroni & Vlachakis, 2006; Chaplain, 1995; Guthrie, 2006; Kyriacou, 2001; Laughlin, 1984; Manthei & Gilmore, 1996; Munt, 2004; Punch & Tuetteman, 1996). While the literature concerning occupational stress in school settings has, naturally enough, focussed on teachers, there has been far too little investigation of this phenomenon in non-teaching staff members.

Occupational stress has been associated with burnout, which is considered a product of long term exposure to stress (Burke & Greenglass, 1994; Mearns & Cain, 2003). It has also been strongly associated with temporary and chronic illnesses, such as headache, hypertension, reduced immune response, stomach complaints, ulcers, depression and stroke (Ashcraft, 1992; Burke & Greenglass, 1994; Guthrie, 2006; Kahn & Byosiere, 1992; Kyriacou, 2001; Kyriacou & Sutcliffe, 1977). Occupational stress has been linked to decreased job satisfaction and job commitment, absenteeism (some of it probably due to illness), turnover and reduced performance (De Nobile & McCormick, 2007; Jepson & Forrest, 2006; Kyriacou, 2001; Muchinsky, 2000; Spector, 2000).

All of these outcomes can be quite costly to schools and school systems in terms of financial outlays (Ashcraft, 1992; Guthrie, 2006), as well as disruption to student

learning through reduced performance, absence and turnover. Therefore, the study of occupational stress in schools should be considered a priority.

Levels of occupational stress experienced by staff members in 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 & 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, Yuen & Chan, 2005; Laughlin, 1984; Manthei & Gilmore, 1996; McCormick, 1997; Punch & Tuetteman, 1996).

Gender has frequently been investigated as a biographical variable in studies of occupational stress (see, for example, Dick & Wagner, 2001; Laughlin, 1984; McCormick, 1997; Punch & Tuetteman, 1996). The literature is far from conclusive about the nature of the relationship gender has with occupational stress (Spielberger & Reheiser, 1995). In his study of Australian teachers Laughlin (1984) reported that female teachers experienced more stress than males. 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 & Capel, 2007; Antoniou et al, 2006; McCormick & 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 schoolteachers reported that males experienced significantly more stress attributed to system demands than females.

When examined in terms of particular sources of stress, females have been found to differ from males in their perception of most to least stressful aspects of work (Al-Mohannadi & Capel, 2007; Borg & Falzon, 1991; Punch & Tuetteman, 1996). However, there is also an abundance of research suggesting no gender differences in occupational stress (Chan, 2002; Chaplain, 1995; Dick & Wagner, 2001; Jepson & Forrest, 2006; Solman & Feld, 1989; Whitehead & Ryba, 1995).

A complex relationship appears to exist 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 pupil behaviour issues than older colleagues, while teachers aged between 26 and 30 years reported higher stress from professional recognition needs 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. Solman and Feld (1989) reported similar findings with regard to pupil behaviour and curriculum demands from a later study of Australian Catholic schools. 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 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. Some studies have found that teachers with low levels of experience reported greater stress

from student behaviour issues than their more experienced colleagues (Laughlin, 1984; Manthei & Gilmore, 1996). McCormick (1997) noted that stress from external to school factors increased with experience. Borg and Falzon (1991) identified differing rank orders of the strengths of a set of stressors for each years-of-experience category. However, a number of studies suggest that experience has no relationship with occupational stress (Chaplain, 1995; Jepson & Forrest, 2006; Solman & Feld, 1989).

Position refers to employment classification in schools. A number of positions exist in Australian primary schools besides classroom teachers. These include classroom teachers and executive staff (teachers in promotion positions, including assistant principals and principals). Teacher's aides, clerical staff, itinerant staff and maintenance staff are referred to as 'non-teaching' as they do not involve responsibility for instruction or its planning.

Studies have often shown 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 & 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. There is, at present, a lack of systemic research comparing the occupational stress of teachers and non-teaching staff in schools.

There is 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 Catholic primary schools and non-teaching staff members have been neglected in the literature to date. There exists, therefore, a need to investigate how biographical differences are related to occupational stress of primary school staff.

### **Method**

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

H1: Gender is related to occupational stress.

H2: Age has 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 356 staff members (teaching and non-teaching) from Catholic primary schools in six Catholic diocesan school systems in New South Wales, Australia. Participants were drawn from 52 schools, selected on a stratified random basis to try to achieve similarity with the population in terms of school size and location (urban and rural).

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

***Measures***

A questionnaire survey was used to collect data relating to a number of variables. A full description of these is reported elsewhere (De Nobile, 2003).

Occupational stress was measured using an adapted version of the Teacher's Attribution of Responsibility for Stress Questionnaire (TARSQ) developed by McCormick and associates (McCormick, 1997; McCormick & Shi, 1999; McCormick & Solman, 1992). The instrument was chosen for its suitability to Australian schools. Some items concerned with external to school stressors were replaced with items concerning communication in the school for the purposes of the larger study. 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) through 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, other non-teaching).

***Analyses***

Data 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 significance level at .05. Means of significantly different groups were compared and the Cohen's *d* statistic calculated.

## Results

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

### *Factor Analysis*

Principal axis factoring, with varimax rotation, of the TARSQ items yielded a four factor solution that accounted for 65% of the variance. The factor solution is explained in greater detail elsewhere (De Nobile, 2003). Results are displayed in Table 1, followed by a brief description of each factor, hereafter referred to as domains of occupational stress.

Table 1: Factor solution for TARSQ items.

Factor name	Number of items	Eigenvalue	Reliability (alpha)
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

*Student domain* comprised items that referred to student related stressors such as verbal abuse and discipline problems. *Information domain* concerned the effectiveness of formal and informal communication in the school. *School domain* referred to the extent to which the principal and the general atmosphere of the school were supportive and friendly. The *Personal domain* factor was concerned with issues that were personal in relation to work, 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 2.

Table 2: Summary of significant biographical differences in stress domains (bold).

Variables	df	R <sup>2</sup> Change	F	
<b>Student domain</b>				
Age	3	.027	3.00	*
<b>Information domain</b>				
Position	3	.047	5.30	***
<b>School domain</b>				
Position	3	.035	3.90	**
<b>Personal domain</b>				
Age	3	.029	3.21	*
<b>General occupational stress</b>				
Gender	1	.037	12.42	***
Age	3	.023	2.61	*
Position	3	.023	2.67	*

\* p<.05 \*\* p<.01 \*\*\* p<.001

These 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 Hypotheses 1, 2 and 4, but not for Hypothesis 3.

The following 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 indicate relative effect sizes. Significant differences identified above 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.

### ***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.

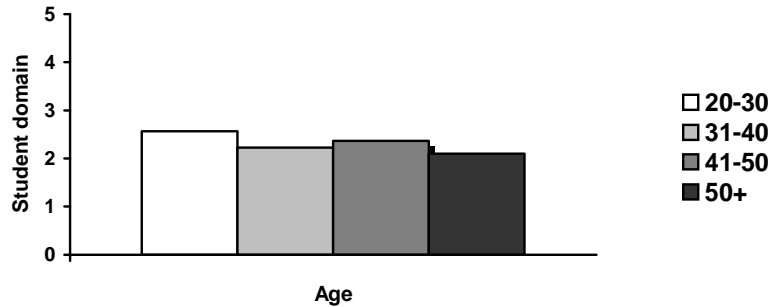


Figure 1: Means of Student domain stress by age.

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 and other general life experiences. In this light, their lower reported stress is understandable. A similar explanation may hold for non-teaching staff members. A more speculative explanation is 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 displayed in Figure 2. Classroom teachers appear to have been experiencing the most stress from school communication issues. Scheffe tests revealed that teacher's aides were statistically 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 & Simon, 2002), this result requires some explanation.

It could be that the reason teachers' aides do not experience as much stress from *Information domain* concerns 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 teachers may also lessen stress from *Information domain* as they have relatively easy access to the information they need to do their work.

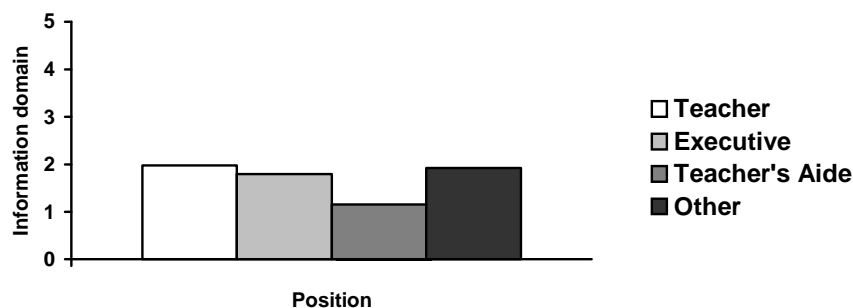


Figure 2: Means of Information domain stress by position.

### ***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.

### ***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.

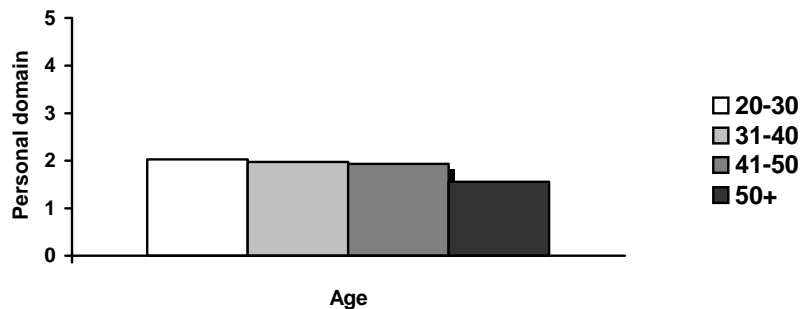


Figure 3: Means of Personal domain stress by age.

### ***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 Australia have a predominantly female teacher population 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.

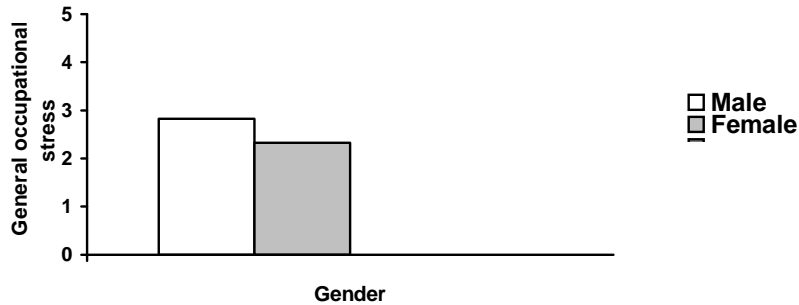


Figure 4: Means of General occupational stress by gender.

The means of *General occupational stress* by position are shown in Figure 5. While classroom teachers reported the highest 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 ameliorate felt stress.

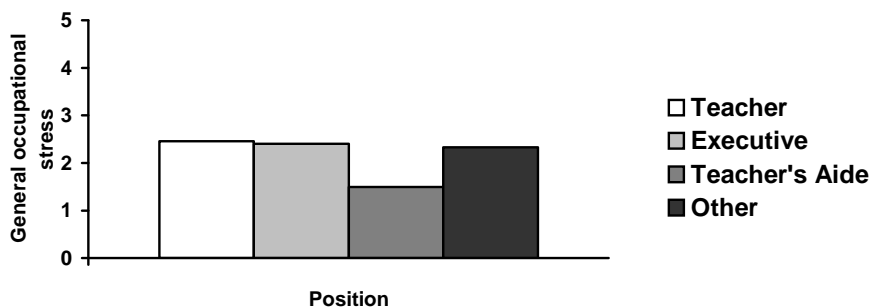


Figure 5: Means of General occupational stress by position.

## 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 by statistical evidence. This might reflect shared variance between age and experience. This finding is congruent with other research that also reported no relationship (Solman & Feld, 1989; Jepson & 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 & Capel, 2007; Laughlin, 1984; McCormick & Solman, 1992; Punch & Tuetteman, 1996; Solman & Feld, 1989).

Where gender was a significant predictor of occupational stress, males were more stressed overall than females. The suggestion is put forward 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 & Solman, 1992).

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 (for example, Lau et al, 2005), but are incongruent with others (for example, 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 student discipline have been widely recognised as a concern and source of anxiety and stress for younger teachers (Borg & Falzon, 1991; Kyriacou, 2001; Marsh, 2004).

Where position was a significant predictor of occupational stress, classroom teachers reported greater stress than any other group. This would appear to support the findings of other studies (for example, McCormick & Solman, 1992; Manthei & 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. That finding puts these results somewhat at odds with those 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. Commitment has been reported to have a negative relationship with occupational stress (for example, Jepson & Forrest, 2006; Starnaman & 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 & Capel, 2007; Chan, 2002; McCormick & Solman, 1992; Tuetteman & Punch, 1996). Nevertheless, the results reported here are a further contribution to knowledge about how occupational stress is related to biographical variables.

### **Conclusion**

This study aimed to investigate what relationships biographical variables had with 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*).

Male staff members experienced more general stress than their female colleagues. This is an important finding, given the concern over retention of male teachers in recent years (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 (MCEETYA, 2003; Ramsey, 2000), the finding that younger staff members reported more occupational stress than older colleagues is alarming. There is an apparent need to support and build resilience in younger teachers and other staff members. This can be done through properly structured induction programs, ongoing mentoring 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 is, perhaps, unavoidable due to the nature of the work compared with other roles in schools. However, 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 (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. It is in the interests of schools and school systems to ensure that occupational stress levels of employees are low as the consequences of increased occupational stress can be costly.

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