

## Teacher Burnout and Teacher Efficacy: Trends over time

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## Teacher Burnout and Teacher Efficacy: Trends over time.

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The problem of teacher burnout has become salient in Australian educational research during the last decade. While much of the research in this area has focused on organisational factors and static individual traits associated with feelings of burnout, few studies have considered dynamic individual variables that

may mediate between organisational stressors and feelings of burnout. This paper, based on a model of teacher burnout that focuses on the role of teacher efficacy in the development of burnout, reports on the second year of a longitudinal study of changes in the relationship between teachers' beliefs and feelings of burnout. Three hundred and thirty teachers working in New South Wales government schools are currently participating in a longitudinal study monitoring this relationship between changes in their beliefs and their feelings of burnout. This paper reports on the relationship between these changes during the first two years of the study.

### Introduction

Reforms introduced in New South Wales Government schools in the late 1980's highlighted problems with teacher morale; teacher resignation rates rose sharply in 1989 with 2290 teachers resigning from NSW government schools, 41% more than in 1987. Such concerns became the focus of much public discussion have given rise to a growing body of research investigating the phenomenon of teacher burnout.

The phenomenon of burnout in the helping professions was first identified by Freudenburger in 1974, who concluded that it was a phenomenon that resulted when workers found themselves under increasing pressure to succeed in their helping profession and hence demanded more of themselves than they were able to give.

Maslach and Jackson (1981), who initiated most of the early research into the burnout phenomenon in the helping professions, view burnout as a multidimensional construct having three dimensions. These three dimensions are widely used and accepted by burnout researchers (Anderson and Iwanicki 1984; Byrne 1994; Farber 1984a, 1984b; Fisher 1984; Jackson et al 1986; Russell et al 1987; Sarros and Sarros 1987,1990; Schwab et al 1986; Schwab

and Iwanicki 1982; Stephenson 1990) and are measured using the Maslach Burnout Inventory. The three dimensions are:

1. Emotional exhaustion - referring to the depletion of emotional resources and the feeling that one has nothing left to give,
2. Depersonalization - referring to the development of negative and cynical attitudes towards one's clients, and
3. Feelings of low personal accomplishment - referring to the feelings of loss of effectiveness in performing one's duties.

While the multidimensional construct of burnout developed by Maslach and Jackson (1981) has been widely accepted by researchers, the use of the term burnout in the literature is problematic as it is frequently used interchangeably with stress, a use which negates a consistent assessment of results of research. Attempts have been made to distinguish stress from burnout, maintaining that stress can be both positive (eustress) and negative (dystress), and that burnout results from continual failure to cope with dystress (Farber 1984; Iwanicki 1983; Sarros and Sarros 1987). However, the original definition by Freudenburger emphasises that the phenomenon is confined to those who idealise their work, and results in loss of this ideal. This implies that the definition simply distinguishing

burnout from stress is still too broad. For the purposes of this research the multidimensional construct of burnout (Maslach and Jackson 1981) is accepted.

Research into teacher burnout has focused on environmental factors and demographic factors associated with increased feelings of burnout. While more recent research has investigated the significance of dynamic personal variables such as self-esteem (Anderson and Iwanicki 1984; Byrne 1994; Mazur and Lynch 1989), locus of control (Byrne 1994; Pierce and Molloy 1990a), research into dynamic individual variables that may mediate the impact of environmental stressors is limited. Individual differences in responses to environmental stressors for teachers in similar school situations remain largely unexplained (Byrne 1994).

In addition to the limitations in the investigation of the causes of burnout, research into the phenomenon is based largely on correlational studies of these organisational factors with degrees of burnout. While some studies have proposed a model of teacher burnout (Blase 1982; Fisher 1984; 1986; Schwab, Jackson

and Schuler 1986) few studies have investigated changes in levels of burnout in individuals over time. It is considered that such longitudinal data is necessary in understanding the role of causal factors in the development of teacher burnout. As such the research to date is considered inadequate in four ways:

\*The research has focused on organisational factors within schools and static individual characteristics, such as sex, age, years of experience, grade level taught, and little consideration has been given to dynamic individual variables that may mediate teachers' responses to environmental stressors.

\*Burnout research has focused on causes and consequences of burnout, but has not considered insulation against teacher burnout, that is it offers no solutions for the teacher burnout.

\*Longitudinal investigations of teacher burnout are very limited; few studies have investigated changes in individual's level of burnout over time.

\*Freudenburger's original definition emphasises that the phenomenon is confined to those who idealise their work, and results in loss of this ideal. Implicit in the original definition of burnout then is a precondition, that is, the worker must idealise their work, that is, have high goal levels. This pre-condition has not been considered in teacher burnout research.

This study aims to redress these inadequacies by longitudinally studying changes in dynamic individual variables and reported levels of burnout over a three year period.

The neglect of the investigation of dynamic individual variables in the research to date may seem to imply the assumption that all teachers are equally susceptible to burnout. In rejecting this assumption, it is suggested that work-related stressors associated with burnout are mediated by dynamic individual variables. Social Cognitive Theory (Bandura 1986), considers all experiences and related behaviour or action to be mediated by

self-regulatory mechanisms. Bandura considers one of the most important of these self-regulatory mechanisms to be perceived self-efficacy.

Links between teacher burnout and levels of teachers' levels of efficacy have been alluded to (Brissie et al 1988; Schwab et al 1986; Cadiz 1989; Rosenholtz 1989; Rosenholtz and Simpson 1990).

Rosenholtz (1989) and Rosenholtz and Simpson (1990) have suggested relationships between levels of efficacy and commitment to work, as well as enhanced feelings of coping with and solving problems. Schwab et al (1986) and Jackson et al (1986) suggest a relationship between feelings of inefficacy and lower feelings of personal accomplishment, and Cadiz (1989) suggested that teachers needed strong self-efficacy to cope with stress. More recently DeMoulin (1991) proposed that the term burnout was an inappropriate descriptor for low personal efficacy. Reviews of literature in both areas of research reveal strong parallels in findings suggesting that a teacher's level of efficacy may be an important factor in teacher burnout.

The definition of teacher efficacy is the subject of some contention. While some researchers in this area maintain the broad unidimensional definition (Guskey 1987; 1988; Midgley et al 1989), others prefer the bidimensional definition proposed by Ashton and Webb (1986) .

Ashton and Webb (1986) proposed that a teacher's sense of efficacy consists of two dimensions:

1. General Teaching Efficacy - a judgment of whether or not teachers can change student outcomes, and
2. Personal Teaching Efficacy - a judgment about their personal ability to control student outcomes.

A high level of general teaching efficacy would suggest that the teacher believes teachers in general are capable of changing student outcomes regardless of the student's background, and they may view themselves as capable of achieving this (high personal teaching efficacy) or unable to achieve this (low personal teaching efficacy). Alternatively they may have a low level of general teaching efficacy, suggesting that they believe teachers to be unable to change students outcomes as the influence of student background is too great and they may view themselves as being bound by this (low personal teaching efficacy) or as being an exception to the rule (high personal teaching efficacy).

Validation of the Teacher Efficacy Scale provided strong support for the bidimensional nature of the construct (Gibson and Dembo 1984) and research conducted by Woolfolk and Hoy (1990) provided strong support for variations in behaviour resulting from interactions between the dimensions indicating the importance of measuring efficacy as a bidimensional construct. In view of these findings, this study accepts this more specific bidimensional definition of efficacy.

In operationalizing the role of teacher efficacy as a mediating variable and accepting Freudenburger's condition that burnout is most prominent in those who idealise their work, a model of burnout was developed.

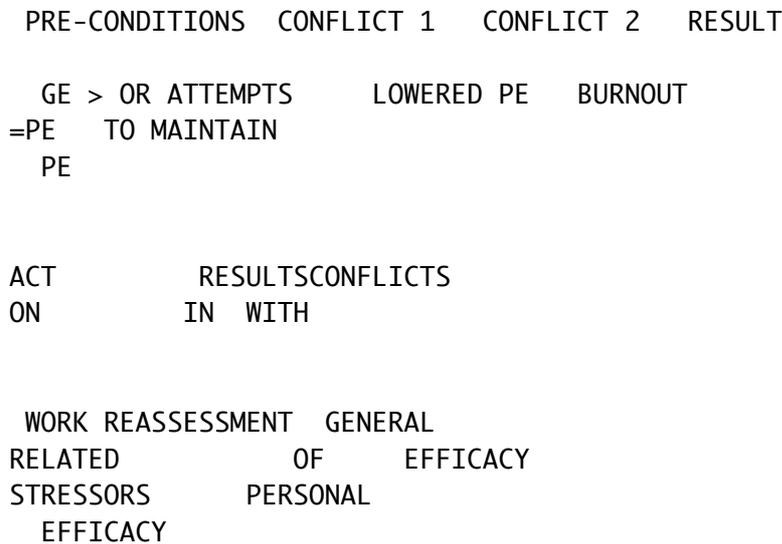


FIGURE 1: Model of the conceptual framework of teacher burnout

The model requires the precondition for burnout to be that the individual's level of personal teaching efficacy is greater than or equal to their level of general teaching efficacy (or ideal). The work-related stressors act on the teacher, inhibiting his/her performance. The teacher attempts to maintain his/her personal teaching efficacy. Unsuccessful attempts to maintain personal efficacy lead to reassessment of personal efficacy. This results in them lowering their personal teaching efficacy, which then conflicts with their general teaching efficacy, that is their performance does not match their ideal. It is hypothesised that this conflict between the two levels of efficacy results in burnout.

It should be noted that it is the levels of the two dimensions of efficacy relative to one another, rather than the purely the level of efficacy alone, that will determine susceptibility to burnout. That is while one teacher may have lower teaching efficacy than another, these teachers' level of personal teaching efficacy relative to their teaching efficacy will determine their susceptibility to burnout.

Few researchers have investigated behaviours associated with attempts to maintain performance under the pressure of work related stressors. Qualitative research conducted by Blase

(1986) implies that such behaviours focus around increased effort and coping resources in order to overcome stressors within an 'Ineffective (Degenerative) Performance Cycle' (Blase 1982). The basis of the effectiveness of coping resources is to try to maintain control, hence teachers may become more custodial in order to maintain control of the situation, and may increase the amount of time allocated to meet demands with little success, leading to the perception that work demands are too difficult to complete satisfactorily (Blase 1982). Such behaviours lead to increased feelings of emotional exhaustion and reduced feelings of personal accomplishment. These feelings are associated with behaviours such as having thoughts about leaving education or finding a new teaching job (Jackson et al 1986), a lower levels of commitment to the job, more frequent absence from work and less career satisfaction (Pierce and Molloy 1990).

Results from the first year of this longitudinal study provided

preliminary support for the model (Labone 1994) finding the discrepancy score between the two efficacy dimensions to be a significant predictor of all the three burnout dimensions. The pattern of high teaching efficacy combined with low personal teaching efficacy was found to be a significant predictor of depersonalisation and emotional exhaustion. The pattern of high personal teaching efficacy and low teaching efficacy was a significant predictor of feelings of personal accomplishment.

While such preliminary support is encouraging, thorough investigation of this model requires longitudinal research of changes in levels of efficacy and associated changes in feelings of burnout. Thus the principal focus of the research is the predictive value of the changes between the two dimensions of efficacy on the three dimensions of burnout. The specific hypotheses are:

1. Changes in the discrepancy between the two dimensions of efficacy over the two years predict corresponding changes in the three dimensions of burnout.

Specifically:

- 1a. Teachers with decreases in personal teaching efficacy relative to their level of general teaching efficacy report decreased levels of personal accomplishment, and teachers with increases in personal teaching efficacy relative to their level of general teaching efficacy report increased levels of personal accomplishment.

1b. Teachers with decreases in personal teaching efficacy relative to their level of general teaching efficacy report increased levels of depersonalisation, and teachers with increases in personal teaching efficacy relative to their level of general teaching efficacy report decreased levels of depersonalisation.

1c. Teachers with decreases in personal teaching efficacy relative to their level of general teaching efficacy report increased levels of emotional exhaustion, and teachers with increases in personal teaching efficacy relative to their level of general teaching efficacy report decreased levels of emotional exhaustion.

In addition the measures of personal and general teaching efficacy, collective efficacy is measured. Collective efficacy is a dimension introduced by Bandura (1993) designed to measure the level of efficacy of the school. Bandura operationalized this variable by measuring overall test results for each school. Considering this to be an inappropriate measure of this dimension in Australian schools, due to the lesser emphasis on standardized testing, this study operationalizes the variable by measuring the teacher's perception of the quality of the school, his/her perception of the students' experience of the school, their perception of their collegial level of work satisfaction within the school, and their perception of the degree of regard the school holds within its surrounding community. Results of Year 1 of the study found collective efficacy to be a significant predictor of all three burnout dimensions. As such it is hypothesised that:

2a. Teachers with increased levels of collective efficacy report increased levels of personal accomplishment, and teachers with decreased levels of collective efficacy report decreased levels of personal accomplishment.

2b. Teachers with increased levels of collective efficacy report decreased levels of depersonalization, and teachers with decreased levels of collective efficacy report increased levels of depersonalization.

2a. Teachers with increased levels of collective efficacy report decreased levels of emotional exhaustion, and teachers with decreased levels of collective efficacy report increased levels of emotional exhaustion.

In operationalizing the work related stressors organisational

factors frequently associated with high levels of burnout have been considered. High burnout teachers have been found to perceive their school as more difficult to teach at, perceived less social support in their school environment, were less self-confident, more custodial in their pupil control ideology, and used regressive coping strategies more frequently (eg; physically withdrawing from the situation) (Pierce and Molloy 1990; Schwab et al 1986). A recent Australian study into school effectiveness (Rowe, Holmes-Smith and Hill 1993) found teacher morale to be affected by the teacher's perceived level of goal congruence with the goals of the school, the perceived level of support from the school administration and the perceived level of collegial support.

These latter three factors have been included in the second year of this study, specifically to investigate the predictive value of these organisational factors on levels of personal efficacy. The specific hypotheses are:

3a. Perceived level of goal congruence is positively correlated with personal teaching efficacy.

3b. Perceived level of administrative support is positively correlated with personal teaching efficacy.

3c. Perceived level of collegial support is positively correlated with personal teaching efficacy.

## Methodology

### Measures

A sixty-one item questionnaire was designed. This questionnaire measured levels of the three dimensions of burnout and levels of personal and general teaching efficacy, perceived collective efficacy. In addition to the efficacy and burnout measures the questionnaire measured conceptions of ability (for both teaching ability and student learning; results related to conceptions of ability are not reported in this paper) and the three organisational factors of perceived level of goal congruence, administrative support and collegial support.

Burnout was measured using the Maslach Burnout Inventory. Twenty-two items measured three dimensions of burnout: Emotional

Exhaustion, Personal Accomplishment, and depersonalisation. The word student was substituted for recipient and items were rated on a five-point scale. The validity of this instrument when applied to teachers has been firmly established (Byrne 1991;1994; Iwanicki and Schwab 1981; Sarros and Sarros 1990).

Teacher efficacy was measured using the Teacher Efficacy Scale (Gibson and Dembo 1984). The twenty-eight item scale measured two dimensions of efficacy: General teaching efficacy and personal teaching efficacy.

Four items were developed to measure collective efficacy. These items focus on the teacher's perceptions of their school eg: My school is a good school, students seem to have a positive experience at my school, My school is viewed positively by neighbouring schools.

The three organisational factors were measured using twelve items developed by Rowe, Holmes-Smith and Hill (1993).

## Subjects

Subjects for this study are full-time teachers working in NSW government schools. These teachers were randomly selected from the membership database of the New South Wales Teachers Federation. The original sample consisted of 800 teachers, 500 females and 300 males. A first year response rate of 41% yielded 330 subjects. The 61 item questionnaire was administered for this second year to these 330 teachers. Of these responses were received from 264 subjects.

## Procedure.

The sixty-one item questionnaire was mailed to the teacher's home address, this method was chosen as the study is longitudinal, and mailing to home addresses was the most effective method of maintaining records of the sample.

## Sample

A demographic summary of the second year respondents is presented in Table 1. The sample comprised 162 females and 99 males. Approximately half of the sample were primary school teachers (120) and half secondary school teachers (127). the majority of the sample were classroom teachers or advanced skills teachers (170), the remainder held executive positions. The mean age of the sample was 40 years (std 7.58). Mean years

of teaching experience was 17 (std 7.87). The majority of the sample were four year trained (148).

Variable	Mean		Std Dev		Min		Max		N
	YR1	YR2	YR1	YR2	YR1	YR2	YR1	YR2	
AGE	38.97	40.54	7.87	7.58	20	20	60	63	259
SEX	1.63	1.62	.48	.49	1	1	2	2	261

SCHOOL TYPE	2.58	2.56	.88	.78	0	1	66	330	261
POSITION	2.39	2.62	1.94	1.91	0	1	9	93	261
YRS TRAINING	3.81	3.87	.79	.88	2	2	6	6	329
EXPERIENCE	16.02	17.32	8.04	7.87	1	13	30	330	261
REGION	5.02	5.22	2.94	2.94	1	11	10	330	261
LOAD 10	9.89	.01	.82	0	2	11	330	261	
SES OF COMM	2.88	2.89	1.52	1.49	1	1	6	63	261

Table 1: Demographic summary of the sample.

SEX	NUMBER		PERCENTAGE	
	YR1	YR2	YR1	YR2
MALE	121	99	36.7	37.9
FEMALE	209	162	63.3	62.1
TYPE OF SCHOOL	NUMBER		PERCENTAGE	
	YR1	YR2	YR1	YR2
INFANTS	17	16	5.2	6.1
PRIMARY	131	104	39.7	39.8
SECONDARY	156	127	47.3	48.7
SSP	8	7	2.4	2.7
CENTRAL	11	6	3.3	2.3
OTHER	3	1	.9	.4
POSITION	NUMBER		PERCENTAGE	
	YR1	YR2	YR1	YR2
CLASSROOM TEACHER	165	98	50.0	37.5
AST	57	72	17.3	27.6
ET	16	14	4.8	5.4
HT	41	36	12.4	13.8
AP	14	14	4.2	5.4
DP	7	5	2.1	1.9
PRINCIPAL	23	20	7.0	7.7
COUNSELLOR	2	1	.6	.4
CONSULTANT	1	1	.3	.4

Table 1: Demographic summary of the sample.

YEARS OF TRAINING	NUMBER		PERCENTAGE	
	YR1	YR2	YR1	YR2
2YT	19	16	5.8	6.1
3YT	72	57	21.8	21.8

YEARS OF EXPERIENCE	NUMBER	PERCENTAGE
4YT	20114860	.956.7
5YT	27 25	8.2 9.6
MORE THAN 5YT	10 15	3.0 5.7
YEARS OF EXPERIENCE	NUMBER	PERCENTAGE
	YR1	YR2
1-5	24 13	7.2 5.0
6-10	40 27	12.0 3.3
11-15	59 38	17.7 14.6
16-20	82 64	24.6 24.5
21-25	64 59	19.2 22.6
26-30	39 34	11.7 13.0
OVER 30	25 26	7.5 10.0
REGION	NUMBER	PERCENTAGE
	YR1	YR2
MET SOUTH WEST	38 26	11.5 10.0
MET WEST	41 31	12.4 11.9
MET NORTH	45 32	13.6 12.3
MET EAST	45 37	13.6 14.2
WESTERN	22 17	6.7 6.5
SOUTH COAST	41 34	12.4 13.0
NORTH COAST	26 22	7.9 8.4
RIVERINA	10 10	3.0 3.8
NORTH WEST	15 12	4.5 4.6

SOCIOECONOMIC STATUS OF SCHOOL COMMUNITY	NUMBER	PERCENTAGE
HUNTER	47 40	14.2 15.3
SOCIOECONOMIC STATUS OF SCHOOL COMMUNITY	NUMBER	PERCENTAGE
	YR1	YR2
LOW	61 42	18.5 16.1
LOW-MEDIUM	93 77	28.2 29.5
MEDIUM	86 80	26.1 30.7
MEDIUM-HIGH	43 24	13.0 9.2
HIGH	7 6	2.1 2.3
MIX HIGH & LOW	40 32	12.1 12.3

TABLE 1: Demographic summary of the sample.

## RESULTS

In order to assess the consistency of the results for Year 2 of the study with Year 1 findings, the Year 1 analyses were replicated for the Year 2 data. Tables present results for both years of the study (it should be noted that means and correlational results presented for Year 1 have been reviewed to only include the 264 subjects that responded in Year 2).

Teachers in the second year of the study reported levels of

burnout relatively consistent with Year 1 means. The means for depersonalisation and emotional exhaustion have decreased slightly. Paired T-tests yielded no significant difference between years one and two, however a significant difference was recorded for emotional exhaustion ( $p < .01$ ). Correspondingly the mean for personal accomplishment has increased slightly from Year 1 but again this difference is not significant.

These levels have remained relatively consistent with teachers in both overseas and Australian studies, as well as the norms established by Maslach and Jackson (1981) for helping service professionals (Table 2). The reported levels of depersonalisation have remained slightly lower than the Maslach and Jackson norms (C), and higher than both the Canadian sample (E) and the previous Australian research (D). This result is congruent with findings of a cross-cultural study of teacher burnout (Sarros and Sarros 1990), which found Australian teachers to report higher levels of depersonalisation than their North American or Canadian counterparts.

EMOTIONAL PERSONAL ACCOMPLISHMENT  
 EXHAUSTION DEPERSONAL ACCOMPLISHMENT

Mean Mean Mean

A. 3.022.083.77

B. 3.152.133.74

C. 3.522.342.04

D. 3.161.942.64

E. 2.480.724.67

A. 2nd Year of this study.

B. 1st Year of this study

C. Norms established by Maslach and Jackson (1981)

D. Sarros and Sarros (1990).

E. Iwanicki and Schwab (1981).

TABLE 2: Comparison of Burnout Scores among Various Studies

Teachers in this study continued to experience considerably

higher levels of personal accomplishment when compared with the Maslach and Jackson norms. Reported levels of personal accomplishment remained lower than the Canadian sample (E). Results of the cross-cultural study found Australian teachers to report lower levels of personal accomplishment than their North American and Canadian counterparts (Sarros and Sarros 1990). Levels of personal accomplishment in the Year 2 data have also remained consistent with the cross-cultural research.

Levels of emotional exhaustion were again consistent with previous Australian research (D), lower than the Maslach and

Jackson norms (C) and higher than the Canadian sample (E).

Levels of the three dimensions of efficacy remained have remained fairly consistent over the two years of the study (see Table 3). Paired T-test yielded no significant difference between levels of any of the dimensions of efficacy over the two years.

	Mean	Std Dev
YR1YR2 YR1YR2		
PERSONAL EFFICACY	3.813	.7950
GENERAL EFFICACY	3.273	.2770
COLLECTIVE EFFICACY	3.86	3.87

TABLE 3: Comparison of means for efficacy dimensions over the first two years of this study.

Correlational analysis between the dimensions of efficacy and each burnout dimension (Table 4) confirmed the Year 1 findings yielding significant correlations in the predicted direction between all dimensions of efficacy and all three burnout dimensions. While a negative correlation between personal efficacy and emotional exhaustion was yielded in both Year 1 and Year 2, the Year 2 correlation reached a significant level ( $r = -.19$   $p < .01$ ).

The analysis revealed general teaching efficacy to be significantly positively correlated with emotional exhaustion ( $r = .29$   $p < .001$ ) and depersonalisation ( $r = .41$   $p < .001$ ), and significantly negatively correlated with personal accomplishment ( $r = -.29$   $p < .001$ ). These findings confirm the Year 1 results, suggesting higher ideals are associated with higher levels of burnout.

	PERSONAL EFFICACY	GENERAL EFFICACY	COLLECTIVE EFFICACY
YR1YR2	YR1YR2	YR1YR2	YR1YR2
EMOTIONAL EXHAUS	-.018	-.187*	.198*
DEPERSONALIZATIO	-.215**	-.231**	.387**
PERSONAL ACCOMP.	.447**	.462**	-.274**

\*\* $p < .001$  \* $p < .01$

TABLE 4: Correlations between efficacy dimensions and burnout dimensions

Personal teaching efficacy was significantly positively correlated with personal accomplishment ( $r = .47$   $p < .001$ ) and significantly negatively correlated with both depersonalisation ( $r = -.23$   $p < .001$ ) and emotional exhaustion ( $r = -.19$   $p < .01$ ),

suggesting feelings of burnout to be associated with lower

perceptions of personal efficacy and again confirming support the predicted association between lower personal efficacy and higher levels of burnout.

Correlations between collective efficacy and the burnout dimensions revealed collective efficacy to be significantly negatively correlated with both emotional exhaustion ( $r = -.32$   $p < .001$ ) and depersonalisation ( $r = -.29$   $p < .001$ ) and significantly positively correlated with personal accomplishment ( $r = .32$   $p < .001$ ), suggesting that decreases in collective efficacy may also contribute to burnout. This provides preliminary support for hypotheses 2a, 2b, and 2c. This dimension warrants further investigation.

	PERSONAL EFFICACY	GENERAL EFFICACY	COLLECTIVE EFFICACY
GOAL CONGRUENCE	.312**	-.126	.682**
ADMIN. SUPPORT	.201*	-.133	.560**
COLLEGIAL SUPPORT	.167*	-.127	.562**

TABLE 5: Correlations between efficacy dimensions and organisational factors.

Correlations between the three organisational factors and personal efficacy (Table 5) were as predicted. Personal efficacy was positively correlated with goal congruence ( $r = .31$   $p < .001$ ), administrative support ( $r = .20$   $p < .01$ ), and collegial support ( $r = .17$   $p < .01$ ). These results confirm hypotheses 3a, 3b and 3c, suggesting personal efficacy to increase as goal congruence, administrative support and collegial support increase. Collective efficacy was also highly positively correlated with all three organisational factors. The relationship between collective efficacy and these organisational factors warrants further investigation.

	DEPERSONALIZATION	PERSONAL ACCOMPLISHMENT	EMOTIONAL EXHAUSTION
GOAL CONGRUENCE	-.204**	.337**	-.264**
ADMIN. SUPPORT	-.246**	.295**	-.366**
COLLEGIAL SUPPORT	-.204**	.341**	-.298**

TABLE 6: Correlations between burnout dimensions and organisational factors.

Correlations between the organisational factors and the three burnout dimensions (Table 6) were all significant in the expected direction. Depersonalisation was significantly

negatively correlated with goal congruence ( $r = -.20$   $p < .001$ ), administrative support ( $r = -.25$   $p < .001$ ) and collegial support ( $r = -.20$   $p < .001$ ). Emotional exhaustion was also significantly negatively correlated with goal congruence ( $r = -.26$   $p < .001$ ), administrative support ( $r = -.37$   $p < .001$ ) and collegial support ( $r = -.30$   $p < .001$ ). These results suggest reported levels of depersonalisation and emotional exhaustion increase as goal congruence, administrative support and collegial support decrease. Personal accomplishment was significantly positively correlated with goal congruence ( $r = .34$   $p < .001$ ), administrative support ( $r = .29$   $p < .001$ ) and collegial support ( $r = .34$   $p < .001$ ). These results suggest reported levels of personal accomplishment to increase as goal congruence, administrative support and collegial support increase. This finding is consistent with previous research ((Brissie et al 1988; Fisher 1984; Jackson,

Schwab and Schuler 1986; Mercado 1987; O'Connor and Clarke 1990; Pierce and Molloy 1990a).

Correlations between demographic variables (Table 7) and the efficacy and burnout dimensions revealed a significant negative correlation between sex and depersonalisation ( $r = -.25$   $p < .001$ ); this was consistent with the Year 1 results indicating that male teachers report higher levels of depersonalisation than female teachers. This finding is also consistent with previous research (Anderson and Iwanicki 1984; Byrne and Hall 1989; Greenglass and Burke 1988; Pierce and Molloy 1990a; Russell et al 1987; Schwab and Iwanicki 1982b).

The significant negative correlation between sex and general teaching efficacy ( $r = -.20$   $p < .01$ ) indicates that males report higher levels of general efficacy than females. The significant positive correlation between sex and personal efficacy ( $r = .24$   $p < .01$ ), suggests that females report higher levels of personal efficacy.

Emotional exhaustion was weakly correlated with teaching experience ( $r = .16$   $p < .01$ ) the positive direction suggesting a tendency for emotional exhaustion to increase as years of teaching experience increase.

	AGE		SEX		TYPE	
	YR1	YR2	YR1	YR2	YR1	YR2
PERSEF	-.004	.009	.112	.235*	-.104	-.083
GENEF	-.013	.086	.115	-.203*	.004	.014
COLEF	.087	.063	.026	.055	-.034	-.096
EMOTEX	.087	.092	-.068	-.127	-.061	-.016

DEPERS-	.033	.035-	.166*-	.246**	.009	.082
PERSAC-	.037-	.037	.114	.086	.017	.015
	POSITION		TRAINING		EXPERIENCE	
	YR1	YR2	YR1 YR2	YR1	YR2	
PERSEF	.148*	.081-	.071-	.011	.056	.018
GENEF	.203**-	.150	.029	.006-	.015	.113
COLEF	.115	.019-	.083	.026	.039	.019
EMOTEX-	.022-	.035	.010	.047	.170*	.161*
DEPERS-	.119-	.024	.060	.091	.031	.077
PERSAC	.162*	.132-	.050	.011	.061-	.035
	REGION		LOAD		SES	
	YR1	YR2	YR1 YR2	YR1	YR2	
PERSEF-	.095	.029-	.057	.021-	.085-	.092
GENEF	.012	.106	.079	.050	.093	.006
COLEF-	.007-	.015-	.030	.067	.136*	.082
EMOTEX	.066	.045-	.083-	.061-	.003	.109
DEPERS	.121	.090	.007-	.002	.038	.086
PERSAC-	.088-	.075-	.041	.002-	.034-	.005
**p<.001 *p<.01						

TABLE 7 :Correlations between efficacy and burnout dimensions

Regression analysis was conducted to examine the hypothesised predictive relationship among the variables (Table 8). In order to test the major hypotheses concerning the relationship between the two dimensions of efficacy as a predictor of the burnout dimensions, scores on the two efficacy dimensions were standardised and the difference between them calculated (EFFDIFF). The residuals for this difference score between Year 1 and Year 2 (RESDIFF) were then entered a regression equation

to test the predictive value of the residual gains on the three burnout dimensions at Year 2. Analysis revealed RESDIFF to be a significant predictor of all burnout dimensions. The residual gain in the difference between the two levels of efficacy over Year 1 and Year 2 accounted for 22% ( $p<.0001$ ) of the variance in personal accomplishment, 15% ( $p<.001$ ) of the variance in depersonalisation, and 8% ( $p<.01$ ) of the variance in emotional exhaustion. The Beta-weights for emotional exhaustion and depersonalisation were positive suggesting these measures to be greater when the discrepancy score between the two dimensions of efficacy has become greater over the two years, while the Beta-weight for personal accomplishment was negative suggesting personal accomplishment to be greater when the discrepancy score between the two dimensions of efficacy has decreased over the two years. This provides support for the major hypotheses 1a, 1b and 1c.

PERSONAL ACCOMPLISHMENT Mu1 R R2Beta F  
 RESIDUAL DIFFERENCE .474.225- .47474.70\*\*\*  
 STEP  
 1. PERSONAL EFF. RESID.372.138.37241.46\*\*\*  
 2. GENERAL EFF. RESID.413.171- .18326.46\*\*\*  
 3. COLL EFF. RESID.430.185.12619.39\*\*\*  
 DEPERSONALIZATION Mu1 R R2Beta F  
 RESIDUAL DIFFERENCE .398.158.39741.42\*\*\*  
 STEP  
 1. GENERAL EFF. RESID.296.088.29624.80\*\*\*  
 2. COLL EFF. RESID.362.131- .21319.38\*\*\*  
 3. PERSONAL EFF. RESID.382.146- .12714.57\*\*\*  
 EMOTIONAL EXHAUSTION Mu1 RR2Beta F  
 RESIDUAL DIFFERENCE .296.088.29624.81\*\*\*  
 STEP  
 1. GENERAL EFF. RESID.249.062.24917.09\*\*\*  
 2. COLL EFF. RESID.320.102- .20414.64\*\*\*  
 3. PERSONAL EFF. RESID.342.117- .12811.34\*\*\*  
 \*p<.01 \*\*p<.001 \*\*\*p<.0001

TABLE 8: Multiple regression analysis for the residual gains in the difference score and stepwise multiple regression analysis for the residual gains in the three efficacy dimensions on the burnout dimensions. (Year 1 results are enclosed in brackets)

In addition to the regression analysis testing the predictive value of the residual gain in the difference score, a regression analysis was conducted to test the predictive value of the residual gains in the three measures of efficacy independently.

To establish the predictive value of each dimension of efficacy on burnout the residual gains for all dimensions of efficacy were entered into the equation for each dimension of burnout.

The residual gain in personal efficacy was found to be the best predictor of personal accomplishment accounting for 13% of the variance ( $r=.372$   $p<.001$ ), followed by general efficacy accounting for a further 4% of the variance ( $r=.413$   $p<.001$ ) and collective efficacy accounting for a further 1% of the variance ( $r=.430$   $p<.001$ ).

The residual gain in general efficacy was the best predictor of emotional exhaustion accounting for 6% of the variance ( $r=.249$

$p<.001$ ), followed by collective efficacy accounting for a further 4% of the variance ( $r=.320$   $p<.001$ ) and personal efficacy accounting for a further 1% of the variance ( $r=.342$   $p<.001$ ).

The residual gain in general efficacy was the best predictor of

depersonalisation accounting for 8% of the variance ( $r=.296$   $p<.001$ ), followed by collective efficacy accounting for a further 5% ( $r=.362$   $p<.001$ ) and personal efficacy accounting for a further 1% of the variance ( $r=.382$   $p<.001$ ).

The strength of the predictive value of collective efficacy warrants its further investigation.

As subsidiary analysis, analysis of variance was conducted to investigate between group differences and confirm the results of the regression analysis. In order to determine differences in reported levels of burnout between teachers with different levels of efficacy, teachers were divided into four groups according to their level of efficacy. The four groups were:

Teachers with high general efficacy and high personal efficacy (HIHI).

Teachers with high general efficacy and low personal teaching efficacy (HILO).

Teachers with low general efficacy and high personal teaching efficacy (LOHI).

Teachers with low general efficacy and low personal teaching efficacy (LOLO).

As for the Year 1 data groups were formed using the standardised efficacy scores. High efficacy was considered to be that greater than half a standard deviation above the mean, while low efficacy was considered to be more than half a standard deviation below the mean. The pattern of group means was as predicted

While fewer significant group differences were yielded than in Year 1 the pattern of group differences was the same providing further support for the proposed model.

Results for emotional exhaustion revealed that Group 2 (HILO) differed significantly from group 1 (HIHI) and group 3 (LOHI), suggesting that teachers with low personal efficacy and high general efficacy, that is a level of personal efficacy below their ideal, differ significantly from teachers with a level of personal efficacy that equals or exceeds their ideal.

Group differences for depersonalisation found group 3 (LOHI) to differ significantly from all other groups. Group 2 (HILO) differed significantly from group 1 (HIHI). Suggesting that teachers with low personal efficacy and high general efficacy experience significantly greater feelings of depersonalisation than teachers with high personal efficacy which adds further

support for the model.

For personal accomplishment group 3 (LOHI) differed significantly from group 1 (HIHI) and group 2 (HILO). Suggesting those with ideals greater than or equal to their level of personal efficacy experience less personal accomplishment than those whose personal efficacy exceeds their ideal. This again

suggest that it is the relationship between the two levels of efficacy that determine the level of burnout.

## DISCUSSION

The results of the Year 2 analysis provide further support for the suggestion that levels of teacher efficacy play an important role in the understanding of teacher burnout.

The major focus of the Year 2 analysis was to test the predictive value of the changes in efficacy over the two years on the three dimensions of burnout. The results of the regression analysis testing the residual gain in the discrepancy between personal and general efficacy on the burnout dimensions provided strong support for the model, finding increases in the discrepancy between general and personal efficacy over the two years to be the best predictor of all three burnout dimensions in Year 2. The regression testing the predictive value of the residual gain in each dimension of efficacy over the two years on the three dimensions of burnout, further supported the model finding the gain in personal efficacy to be the best predictor of personal accomplishment, while the gain in general efficacy was the best predictor of depersonalisation and emotional exhaustion.

The inclusion of the three organisational factors in the Year 2 questionnaire has provided support for the relationship between perceived goal congruence, perceived collegial support, and perceived administrative support and levels of burnout. This is congruent with the research investigating the impact of these three factors on teacher morale (Rowe, Holmes-Smith and Hill 1993) as well as previous research investigating the role of organisational factors in the development of burnout (Brissie et al 1988; Fisher 1984; Jackson, Schwab and Schuler 1986; Mercado 1987; O'Connor and Clarke 1990; Pierce and Molloy 1990a).

The significant positive correlations between the three organisational factors and personal efficacy provide preliminary support for the impact of these work related stressors on personal efficacy, again providing initial support for the

proposal in the model that work related stressors may erode personal efficacy. Regression analysis testing the predictive value of these organisational factors on personal efficacy found goal congruence to be a significant predictor of personal efficacy.

Replication of the Year 1 analysis with the Year 2 data parallel the results of the Year 1 analysis across all tests. Results of the correlational analysis for Year 2 confirmed the Year 1 results. The direction of the relationship between personal efficacy and emotional exhaustion was the same in both years, however the correlation reached a significant level in Year 2.

The results of the subsidiary analysis on the Year 2 data provided further support for the importance of the interaction between the two levels of efficacy finding teachers whose general efficacy exceeded their level of personal efficacy to report higher levels of depersonalisation and personal accomplishment, and lower levels of personal accomplishment than those teachers whose personal efficacy exceeded or equalled their level of general efficacy. This finding lends further

support to the model confirming the mismatch between perceived personal teaching efficacy and the teacher's ideals to be associated with increased levels of burnout.

These trends provide further support for the proposed model of burnout by indicating that the interaction between the two levels of efficacy in an individual may determine the level of emotional exhaustion, depersonalisation and personal accomplishment that they experience.

The Year 2 findings provide support for the proposed theory of the relationship between teacher efficacy and burnout by suggesting that when teaching efficacy is higher than personal teaching efficacy, teachers experience greater feelings of burnout. A teacher's levels of teaching efficacy determine the standard by which she/he assesses his/her own performance as a teacher. The proposed model suggests that when a teacher's personal teaching efficacy decreases to a level below that of their general efficacy, they move further below their self-set standard for teachers. The results of the analysis support this by confirming that depersonalisation and emotional exhaustion and personal accomplishment are best predicted by changes over time in the discrepancy between the between personal teaching efficacy and general teaching efficacy. Increases in this discrepancy between perceptions of personal efficacy and perceived ideals are predictive of increases in feelings of depersonalisation and emotional exhaustion and decreases in

feelings of personal accomplishment. Overall the study yielded results that supported the proposed model of the relationship between teachers' levels of efficacy and burnout.

### Implications of the findings

Confirmation of a relationship between the difference between the two dimensions of efficacy and the burnout components provides indications for possible processes for the prevention of burnout. It is suggested that burnout may be prevented if teachers can maintain a level of personal teaching efficacy higher than or equal to their general level of efficacy.

Bandura proposes various strategies for enhancing self-efficacy including modelling of successful strategies and goal-setting. Inservices which focus on modelling teaching strategies may be effective in enhancing efficacy. Goal setting research suggests that breaking tasks into smaller more achievable self-set goals enhances performance. Teachers should be encouraged to focus on more proximal and achievable lesson objectives than on long term learning goals.

Various studies with children have investigated the enhancement of self-efficacy through methods such as attribution retraining and goal-setting. As burnout is associated with reduced perceived self-efficacy, then steps to enhance efficacy may reduce incidence of burnout. This research is currently focussing on the development of strategies to assist teachers to maintain their personal efficacy by testing the impact of teaching teachers to set and monitor proximal goals in order to maintain or enhance personal efficacy. Preliminary indications of the success of this strategy are promising, but further

analysis is needed before conclusive results can be reported.

The significant predictive value of collective efficacy on the three dimensions of burnout suggest a teacher's perception of the efficacy of the school within which they work contributes to their level of feelings of burnout. The high correlations between collective efficacy and the three organisational factors suggests a strong relationship between collective efficacy and the perceptions of goal congruence, administrative support and collegial support. The origin and impact of collective efficacy strongly warrants further investigation.

The significant correlations between the three organisational

factors and the dimensions of burnout confirm the findings of previous research (Brissie et al 1988; Fisher 1984; Jackson, Schwab and Schuler 1986; Mercado 1987; O'Connor and Clarke 1990; Pierce and Molloy 1990a) in suggesting that low levels of perceived goal congruence, administrative support and collegial support may be associated with teachers' feelings of burnout, however a causal relationship between these organisational factors and burnout cannot be confirmed from these correlational results. The predictive value of changes in teachers' perceptions of goal congruence, administrative support and collegial support over time on reported levels of burnout will be further investigated in the next year of this study. In addition the significant positive correlation between perceptions of goal congruence, administrative support and collegial support, and personal teaching efficacy again confirms previous research (Ashton 1985; Chester 1991) in suggesting a relationship between high levels of personal teaching efficacy and positive perceptions of the three organisational factors, however any predictive relationship between these dimensions needs confirmation.

#### Directions for future research

The Year two results of this study provided preliminary confirmation of the effects of changes in efficacy over time on reported feelings of burnout. To more conclusively test the proposed model this study will continue to monitor these teachers for a third year.

The next year of this study should investigate the predictive value of changes in perceptions of goal congruence, administrative support, and collegial support on the three dimensions of burnout, as well as on personal teaching efficacy. Further investigation of the nature and impact of collective efficacy is strongly warranted.

In addition to this, research into the use of goal-setting in maintaining and /or increasing personal efficacy should continue. Future research could investigate the development of perceptions of general teaching efficacy in order to assess the origin and validity of teachers ideals.

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