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HEALTH PSYCHOLOGY | RESEARCH ARTICLE

Positive expressive writing as a tool for alleviating burnout and enhancing wellbeing in teachers and other full-time workers

Emily K. Round[1], Mark A. Wetherell[1], Vicki Elsey[1] and Michael A. Smith[1]*

Abstract: Teachers are an occupational group particularly prone to suffering from burnout, a condition caused by chronic stress from work overload. Burnout is a risk factor for adverse psychological and physical health, thus it is important to test the efficacy of tools and techniques for alleviating burnout and enhancing job satisfaction. One potentially suitable technique is positive expressive writing. In the present study, we investigated the effects of a positive writing intervention on burnout, job satisfaction, anxiety, perceived stress and self-reported physical symptoms and compared these effects in teachers and other full-time workers.A group of teachers ($n = 35$) and a group of non-teachers ($n = 31$) who worked full-time in other professions were randomly allocated to complete either three consecutive days of positive expressive writing, or writing about a more neutral topic, online, 20 minutes per day, for three consecutive days State anxiety declined to a greater extent for participants in the positive writing condition compared to the neutral writing condition. Positive writing also conferred benefits on some aspects of job satisfaction, but not burnout. There were no specific benefits for teachers compared to non-teachers. The present study is the first to observe that positive expressive writing may be a useful technique for enhancing job satisfaction in full-time workers.

Subjects: Psychological Science; Health Psychology; Multidisciplinary Psychology

Keywords: Burnout; job satisfaction; teachers; expressive writing; employee wellbeing; state anxiety

1. Introduction

Within the teaching profession, many individuals report difficulty maintaining a work-life balance due to work overload, which can lead to chronic stress and consequently, burnout (Vercambre et al., 2009). Burnout, which is characterised by emotional exhaustion, a lack of personal accomplishment and feeling detached or having a cynical attitude in relation to one's job (Maslach et al., 2001) is caused by prolonged occupational stress and can lead to both psychological and physical morbidity. Burnout is known to be associated with anxiety and depression (Burke et al., 1996; Koutsimani et al., 2019; Steinhardt et al., 2011), and also increases the risk of chronic physical illnesses, including type 2 diabetes, cardiovascular disease (Shirom et al., 2005) and overall mortality (Ahola et al., 2010). Moreover, in addition to these health-related consequences, burnout often leads to work absenteeism, presenteeism, and is negatively related to other indicators of work performance (Bakker & Costa, 2014). It has been suggested that burnout leads to reduced capacity for sustained concentration, which can lead to making mistakes at work and impaired decision making (Bakker & Costa, 2014).

Burnout is typically a consequence of high job demands and low job resources (Bakker et al., 2014; McCarthy et al., 2016). It is for this reason that teachers are susceptible to burnout, given the high demands of this profession in terms of work overload, emotional demands, work-home interference, classroom management and hitting targets, in the context of reduced financial and physical resources (Iancu et al., 2018; McCarthy et al., 2016). Consequently, teacher burnout leads to reduced job satisfaction (Nagar, 2012) which may partially explain poor teacher retention rates, with 30% of UK teachers leaving the profession within five-years (Geiger & Pivovarova, 2018).

On this basis, it is important to reduce stress, alleviate burnout and increase job satisfaction in teachers to enhance teacher retention rates and job performance in teachers, as well as to reduce absenteeism and presenteeism. This is of particular importance, given that teachers' emotional exhaustion is directly related to student performance and success (Arens & Morin, 2016), and there has been a call for the development of interventions to aid teachers with managing and regulating their emotions (Kinman et al., 2011). Additionally, the expense of recurrent teacher turnover and substitution proves costly financially, through frequent recruitment and training (Geiger & Pivovarova, 2018). These activities exhaust school budgets, further diminishing the capacity for schools to provide teachers with adequate job resources. Given the well-established effects that social support can buffer against the adverse effects of stress (Cohen & Wills, 1985) and improve job satisfaction (Kinman et al., 2011), techniques such as the facilitation of co-worker support networks have been acknowledged to potentially attenuate work-related stress (Unterbrink et al., 2012). However, many teachers attribute burnout to time pressures and high workloads (Kinman et al., 2011), which potentially restricts the time available to form strong and effective support networks with colleagues. Similarly, as burnout and work-related stress affect a large proportion of the teaching population, supporting colleagues may prove challenging. Firstly, a lack of available time to focus on improving personal health and wellbeing means that further depletion of time resources through supporting others may adversely affect stress levels. Secondly, difficulty may arise in positively supporting co-workers, given teachers' own potentially negative emotions towards the same occupation (Lam & Lau, 2012). Additionally, findings from a recent meta-analysis suggested that cognitive behavioural therapy and mindfulness approaches might be beneficial for alleviating burnout in teachers, but these techniques require considerable training, therapeutic interaction and were not effective in reducing the depersonalisation component of burnout (Iancu et al., 2018).

An alternative intervention for potentially alleviating stress and improving job satisfaction in teachers is expressive writing. An advantage of expressive writing over many other low intensity psychological therapies is that these tools can be used, as needed by the individual at a time and place convenient to them (Allen et al., 2020). This overcomes the issue raised above that time-intensive interventions may be ineffective in teachers due to the fact that they already have a lack of time resources. One such expressive writing technique is Written Emotional Disclosure (WED), whereby individuals write about negative emotional experiences as a form of therapeutic disclo-sure. While the efficacy of this technique for reducing depression and work absenteeism has been established (Pennebaker, 1997), a study in teachers failed to observe any benefits of WED for psychological wellbeing or job satisfaction (Ashley et al., 2013). However, other forms of expressive writing have showed promise in terms of their capacity to alleviate stress. For example, Smith and colleagues (2018) found that asking healthy adults to write about intensely positive experiences for 20 minutes per day over three consecutive days was associated with decreased stress and anxiety, and these effects persisted for four weeks. In a further study, a positive expressive writing intervention, which was delivered online, was associated with reductions in depression and per-ceived stress reactivity in socially inhibited adults, again over a four week period post-writing (Allen et al., 2020). Given that the benefits of positive writing for reducing stress, anxiety and other indices of psychological wellbeing have been demonstrated, it seems appropriate to investigate the efficacy of this technique for alleviating burnout, stress and anxiety, and for enhancing job satisfaction and physical health in teachers.

In the present study, we sought to investigate the influence of a positive expressive writing paradigm, delivered online over three consecutive days, on state anxiety, burnout, job satisfaction, perceived stress, trait anxiety and subjectively rated physical health, in teachers compared to non-teachers. The specific aims of the study were to investigate: baseline differences in burnout and perceived stress between teachers and non-teachers (Aim 1, baseline differences between teachers and non-teachers with respect to the other outcome variables were also explored); whether positive expressive writing would result in significant improvement in each outcome, relative to a neutral writing control condition (Aim 2); and whether these effects would be moderated by teacher status (Aim 3). It was hypothesised that: teachers would have relatively higher levels of burnout and perceived stress at baseline, relative to non-teachers (Hypothesis 1); positive expressive writing would result in significant improvement in all outcomes following positive writing, in comparison to writing about neutral topics (Hypothesis 2); and beneficial effects of positive writing would be moderated by teacher status, such that the benefits of positive writing would be greater for teachers relative to non-teachers (Hypothesis 3). Hypothesis 3 was established on the basis that we expected teachers to report higher levels of burnout and stress at baseline. Therefore, we anticipated that this group would particularly benefit from the intervention.

2. Method

2.1. Design

A quantitative, longitudinal, between-subjects 2 × 2 design was utilised. The two independent variables, each with two levels, were condition (positive writing, neutral writing) and group (teachers, non-teachers). Dependent variables were state anxiety, burnout (3 subscales), job-satisfaction (9 subscales and total score), trait anxiety, perceived stress and subjective health; measured on respective self-report scales. The study protocol was pre-registered on the Open Science Framework on 13 December 2018, prior to the commencement of data collection: https://osf.io/rf4cw.
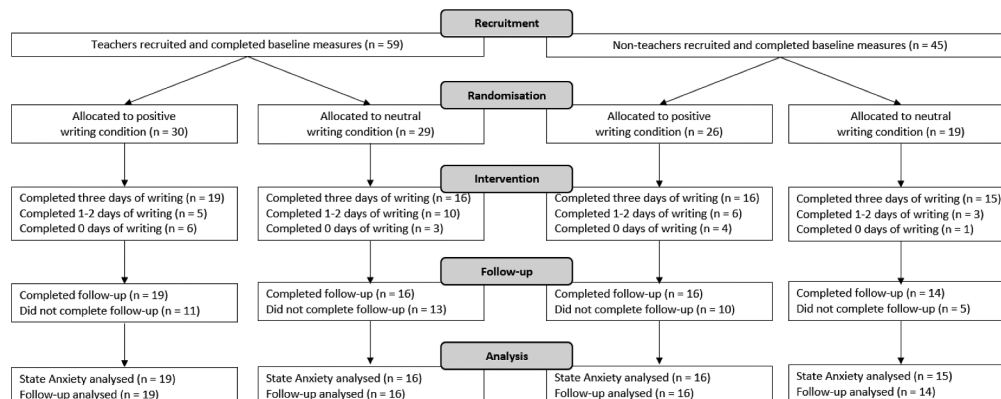
2.2. Participants

A power calculation determined that a sample size of 52 would be required to observe a significant large effect (Cohen's $f = 0.40$) at an alpha level of 0.05 with 80% power. There was an a priori intention to over-recruit to account for attrition. All participants were unpaid volunteers, recruited through social-media and email advertisements. A sample of 104 participants (59 teachers and 45 non-teachers) was recruited. The final sample for analysis comprised 66 participants who completed the intervention (54 females), aged between 20 and 64 years ($M_{age} = 38.1$, $SD_{age} = 12.3$), of whom 35 were teachers (32 females; $M_{age} = 38.3$, $SD_{age} = 9.9$) and 31 were non-teachers (22 females; $M_{age} = 37.6$, $SD_{age} = 14.5$). A requirement of participation was that participants worked full-time. A list of the job titles reported by each participant and the number of hours worked each week can be found at https://osf.io/t5wb8/. Additionally, participants were required to be over 18 years of age and fluent in the English language. A further inclusion criterion was that participants did not have any clinically diagnosed mental health condition, to maximise the homogeneity of the sample with respect to the outcome variables under investigation. Participants were randomly allocated to a positive writing (19 teachers, 16 non-teachers) or neutral writing (16 teachers, 15 non-teachers) condition. The number of participants from each group who participated in each phase of the study is shown in figure 1.

2.3. Materials

2.3.1. Maslach Burnout Inventory (MBI). The MBI (Maslach & Jackson, 1981) incorporates 22 items on a 7-point scale to measure three burnout components: Emotional Exhaustion (9 items; score range = 9–63), Depersonalisation (5 items; score range = 5–35) and Personal Accomplishment (8 items; score range = 8–56). A total score was derived for each subscale by summing the item scores corresponding to each subscale. A higher subscale score is indicative of a higher level of burnout. Good internal consistency has been reported for all subscales (Maslach & Jackson, 1981). For the present sample, internal consistency was good for the Emotional Exhaustion (α = 0.92) and Personal Accomplishment subscales (α = 0.84) and acceptable for the Depersonalisation subscale (α = 0.69.

**Figure 1. The flow of partici-
pants through each phase of
the study.**

2.3.2. *State-Trait Anxiety Inventory (STAI)*. The STAI (Spielberger, 1983) incorporates two 20-item subscales. Both subscales use a 4-point scale (range 0–3). For State Anxiety, participants are required to indicate how they "feel right now". For Trait Anxiety, participants rate how they "generally feel". Reverse-scoring was required for positively-worded items (e.g."I feel rested"). Scores for each item were summed to derive a total score for each subscale. Higher scores indicate higher levels of subjective anxiety and scores on each subscale range from 0 to 60. For the present study sample there was good internal consistency for both subscales (range for the three pre-writing administrations of the State Anxiety subscale = α = 0.94–0.95; Trait Anxiety α = 0.93).

2.3.3. *Job Satisfaction Survey (JSS)*. Job satisfaction was measured using the JSS (Spector, 1985), a 36-item scale comprising nine subscales. Participants respond on a 6-point scale, from 1 ("Disagree very much") to 6 ("Agree very much"). Negatively worded items were reverse scored, and the scores for each item on each subscale summed, so that higher scores are indicative of greater job satisfaction. The nine subscales are: Pay, Promotion, Supervision, Fringe Benefits, Contingent Rewards, Operating Conditions, Co-workers, Nature of Work and Communication. Summed scores for all 36 items provided a total job satisfaction score, ranging between 36 and 216. The internal consistency of the instrument has been established (Spector, 1985). For the present study sample, the full scale internal consistency was good (α = 0.94). For the individual subscales, the observed internal consistency was acceptable or better for all subscales (α = 0.68–0.90), with the exception of the Operating Conditions subscale (α = 0.58).

2.3.4. *Perceived Stress Scale-10 (PSS)*. The PSS (Cohen et al., 1983) is a subjective measure of background stress. The PSS comprises 10 items. Participants are required to respond on a 5-point scale from 0 ("Never") to 4 ("Very-often"), to indicate how often, over the preceding month, they experienced feelings of stress. Four positively-worded questions are reverse scored, and individual item scores summed to derive a total score ranging between 0 and 40, with higher scores indicating greater levels of perceived stress. The internal consistency of the instrument has been determined previously to be acceptable (Lee, 2012), and acceptable internal consistency was also observed in the present study data (α = 0.66).

2.3.5. *Cohen-Hoberman Inventory of Physical Symptoms (CHIPS)*. To measure subjective health, the CHIPS (Cohen & Hoberman, 1983) was employed. The CHIPS requires participants indicated the extent of distress caused by 33 physical symptoms (e.g., "Back Pain"), in the preceding two weeks. Participants respond on a 5-point scale, from 0 ("Not bothered by the problem") to 4 ("An extreme bother"). Scores were summed to obtain an overall score from 0 to 132 with higher scores indicating poorer health. The reliability and validity of the instrument has been ascertained previously (Allen et al., 2017; Cohen & Hoberman, 1983). For the present study, the observed internal consistency was good (α = 0.92).

2.4. Procedure

Prior to data collection, the study protocol was approved via the ethical review process at Northumbria University (application number 12,237). Advertisements were distributed via social media and emailed to several UK schools. Data were collected between January and April 2019, during the second term of the UK school year. People interested in taking part were invited to contact the researcher via email, to receive a unique participant number and links to online portals, hosted via Qualtrics, where the informed consent was provided and data were collected. Following the provision of informed consent, participants provided demographic information on age, gender, job title and marital status. Participants were required to state the number of hours worked per week to confirm they met the eligibility criterion with respect to being engaged in full-time work. For the purposes of this study, participants were considered as full-time if they reported working ≥ 35 hours per week. Participants were also required to provide an email address, which was used to remind participants to take part in subsequent phases of the study. In order to obtain baseline measures for each outcome variable, participants then completed the Trait Anxiety STAI subscale, JSS, PSS, CHIPS and MBI. To avoid any positive or negative effects from having recently returned to work from a holiday, baseline data were collected at least two weeks after teachers returned to work from their Christmas holidays. For some of the teachers who took part, a one-week half-term break coincided with the 4 week period between the writing tasks and collection of the follow-up data. No information was collected regarding any holidays which might have been taken by the non-teachers.

Following completion of the baseline questionnaires, participants completed the writing task to which they were randomly assigned on three consecutive days. A single-blind procedure was employed, in that participants were not made aware that there was a positive and a neutral writing condition. In order to minimise expectancy bias and demand characteristics, participants were not informed as to the true nature of the study and were informed only that "The purpose of this online study is to determine the potential benefits of writing about past and current events in full-time employees". Participants were asked to complete their assigned task each day at any time that was convenient for them, but they were asked to choose a time and place in which they were likely not to be disrupted. For both conditions, participants initially completed the State Anxiety STAI subscale. They then saw the instructions for the writing task, depending on the condition to which they were randomly assigned. The writing instructions for both conditions were identical to those used by Burton and King ([2004](#)), and Smith and colleagues (2018). Within the positive-writing condition, participants were instructed to write about the thoughts and feelings surrounding intensely positive previous experiences. Participants were able to write about the same experience each day, or a new experience. Participants in the neutral writing condition were allocated different instructions for each day, and were instructed to describe their plans for the rest of the day (day 1), shoes they were wearing (day 2) and their bedroom (day 3). Participants were allowed 20 minutes of writing time. A timer was presented at the bottom of the screen, and counted downwards from 20 minutes so that participants were aware how much of their allocated writing time had elapsed. They were not able to progress beyond the writing task until the 20 minutes had elapsed. Immediately following each writing task, participants again completed the State Anxiety subscale.

Four weeks following the third writing day, participants were reminded via email to complete the follow-up questionnaires, which were identical to those completed at baseline. Following completion, a written debrief was presented, revealing the true aims of the study.

2.5. Treatment of data

Pre-writing State Anxiety scores were subtracted from post-writing scores for each writing day, and the mean of each of these scores was determined for each participant, to determine the average change in state anxiety between immediately before and after the writing task for each participant. Similarly, for the Trait Anxiety STAI subscale, JSS subscales and total scores, PSS, CHIPS and MBI subscales, baseline scores were subtracted from the follow-up scores, to determine a respective

change score for each outcome measure. Further, as a manipulation check to confirm that participants adhered to the writing instructions they were assigned, writing extracts were analysed via Linguistic Inquiry and Word Count (LIWC; Pennebaker et al., 2015) software. The relative use of affect process words (e.g., happy, cried), positive emotion words (e.g., love, nice, sweet), negative emotion words (e.g., hurt, ugly, nasty), social process words (e.g., mate, talk, they), past focus words (e.g., ago, did, talked), present focus words (e.g., today, is, now) and future focus words (e.g., may, will, soon) was analysed. Additionally, the number of words written was analysed to determine whether participants engaged similarly with the positive and neutral writing tasks.

Independent samples t-tests were run to determine whether any differences at baseline, on any of the outcome variables, between teachers and non-teachers. A series of 2 (condition: positive writing, neutral writing) x2 (group: teacher, non-teacher) ANOVAs were performed for each outcome variable, and each LIWC variable.

All 66 participants completed the baseline and state anxiety measures, plus the assigned writing task on three consecutive days; thus 66 participants were included in the State Anxiety and LIWC analyses. Extreme outliers, with a change score > 3.24 SD from the mean were removed from analyses. This resulted in one participant being removed from the analysis pertaining to the JSS total score. Additionally, one teacher within the neutral condition failed to complete all of the follow-up measures. Therefore, 65 participants were included in the analyses for all outcomes measures other than the LIWC variables (n = 66), state anxiety (n = 66) and JSS total score (n = 64). Data are publicly available via the Open Science Framework (https://osf.io/t5wb8/).

3. Results

3.1. Baseline data

There were no significant differences between the teacher and non-teacher group on any of the variables at baseline, with the exception of the Emotional Exhaustion subscale of the MBI, t (63) = 2.15, p = 0.036, and the Operating Conditions subscale of the JSS, t (63) = 3.95, $p < 0.001$. Teachers reported greater emotional exhaustion and poorer operating conditions than non-teachers (see, Table 1). However, the between group difference for Emotional Exhaustion was nonsignificant when a Bonferroni adjusted alpha level (α = 0.003) was applied.

3.2. Manipulation check

For Word Count, there was a significant interaction effect, F (1, 62) = 8.88, p = 0.004, with a medium effect size, partial η^2 = 0.12. Planned comparisons revealed that for the positive writing condition, teachers (M = 632.8, SD = 205.6) wrote more words than non-teachers (M = 325.4, SD = 183.8), $p < 0.001$ and that teachers who took part in the positive writing condition wrote more than teachers in the neutral condition (M = 384.2, SD = 181.1), p = 0.001. Main effects of condition revealed that individuals in the positive writing group used more affect process words ($M_{positive}$ = 6.56; $M_{neutral}$ = 2.75), F (1, 62) = 115.45, $p < 0.001$; positive emotion words ($M_{positive}$ = 5.18; $M_{neutral}$ = 2.00), F (1, 62) = 96.37, $p < 0.001$; negative emotion words ($M_{positive}$ = 1.23; $M_{neutral}$ = 0.72), F (1, 62) = 19.44, $p < 0.001$; social process words ($M_{positive}$ = 8.71; $M_{neutral}$ = 4.78), F (1, 62) = 51.18, $p < 0.001$; and past focus words ($M_{positive}$ = 8.84; $M_{neutral}$ = 2.30), F (1, 62) = 179.73, $p < 0.001$ (all effect sizes were large, partial $\eta^2 \geq 0.24$). Further main effects of condition revealed that individuals in the positive writing group used less present focus words ($M_{positive}$ = 6.40; $M_{neutral}$ = 11.93), F (1, 62) = 133.55, $p < 0.001$; and future focus words ($M_{positive}$ = 0.96; $M_{neutral}$ = 2.23), F (1, 62) = 52.51, $p < 0.001$ (both effect sizes were large, partial $\eta^2 \geq 0.46$).

3.3. Psychological and physical health outcomes

The assumptions for conducting the 2 (condition) x 2 (group) ANOVA were met. Visual inspection of histograms revealed that the data were approximately normally distributed for all dependent variables, and this was verified by computing skewness and kurtosis statistics (skewness range = −0.49–0.73, kurtosis range = −0.38–1.92. Levene's Test revealed that the homogeneity of variances

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Table 1. Baseline differences between teachers and non-teachers (raw scores) on each outcome variable			
	Teachers	**Non-Teachers**	***p***
MBI Emotional Exhaustion	35.0 (14.3)	28.3 (10.6)	0.04
MBI Depersonalisation	12.4 (5.7)	11.3 (6.2)	0.49
MBI Personal Accomplishment	37.8 (8.1)	34.2 (10.4)	0.12
JSS Total	135.3 (32.6)	133.0 (29.6)	0.76
JSS Pay	14.4 (4.5)	12.1 (5.3)	0.06
JSS Promotion	12.9 (4.8)	12.2 (5.2)	0.53
JSS Supervision	17.3 (6.4)	18.0 (5.1)	0.60
JSS Fringe Benefits	14.3 (4.3)	13.7 (5.0)	0.65
JSS Contingent Rewards	14.2 (5.4)	14.2 (5.2)	0.99
JSS Operating Conditions	10.4 (3.8)	14.3 (4.1)	< 0.001
JSS Co-workers	18.0 (3.6)	16.2 (4.2)	0.07
JSS Nature of Work	18.7 (4.3)	17.1 (5.4)	0.19
JSS Communication	15.1 (4.6)	14.7 (4.4)	0.70
Trait Anxiety	23.1 (11.6)	21.5 (8.6)	0.54
Perceived Stress	18.4 (5.4)	17.6 (4.6)	0.49
Subjective Health	12.9 (9.8)	16.7 (15.3)	0.24

assumption was met for all analyses (all *p* values ≥ 0.15). Change scores on each dependent variable, for each group and condition, are displayed in xTable 2.

3.3.1. State Anxiety. There was a marginally significant main effect of condition, $F (1, 62) = 3.87$, $p = 0.05$, with a medium effect size, partial $\eta^2 = 0.06$, indicating a greater reduction in state anxiety following positive writing relative to neutral writing. The main effect of group and group x condition interaction were nonsignificant (see, figure 2A).

3.3.2. Burnout. There were no significant main or interaction effects on the Emotional Exhaustion, Depersonalisation or Personal Accomplishment scales of the MBI.

3.3.3. Job Satisfaction. There was a significant group x condition interaction effect on the Promotion subscale of the JSS, $F (1, 61) = 7.86$, $p = 0.007$, with a medium effect size, partial $\eta^2 = 0.11$. Planned comparisons revealed that for non-teachers, scores on the Promotion subscale increased after positive writing, but decreased after neutral writing, $p = 0.026$. Further, after neutral writing, there was a significant decline on the Promotion subscale scores for non-teachers which was not evident for teachers, $p = 0.011$ (see, Figure 2B). On the Contingent Rewards subscale of the JSS, there was a significant main effect of condition, in that scores increased following positive writing, but decreased following neutral writing, $F (1, 61) = 5.28$, $p = 0.025$, with a small effect size, partial $\eta^2 = 0.08$ (see, Figure 2C). There were no further significant main or interaction effects on any of the JSS subscales or the JSS total score.

3.3.4. Perceived Stress, Trait Anxiety and Subjective Health. There were no significant main or interaction effects on Perceived Stress, Trait Anxiety or Subjective Health.

4. Discussion
The present study aimed to investigate the influence of a positive expressive writing intervention on burnout and other indices of psychological and physical wellbeing in teachers, relative to non-

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Table 2. Change scores between the two conditions on each outcome variable, for teachers and non-teachers. *p* values for the main effects of condition and group and the condition x group interaction are displayed

Group	Positive Writing		Neutral Writing		*p* values
	Teachers	Non-Teachers	Teachers	Non-Teachers	Condition
	Condition x Group				
State Anxiety	−5.8 (6.0)	−2.7 (4.5)	−2.1 (4.3)	−1.2 (6.5)	0.05
0.14	0.42				
MBI Emotional Exhaustion	0.7 (6.5)	−0.6 (4.1)	−2.9 (6.9)	0.1 (6.6)	0.35
0.56	0.17				
MBI Depersonalisation	1.4 (4.5)	0.7 (4.3)	0.0 (3.3)	1.1 (6.1)	0.69
0.85	0.44				
MBI Personal Accomplishment	1.0 (4.9)	0.4 (4.5)	1.0 (4.8)	0.9 (6.2)	0.84
0.77	0.81				
JSS Total	3.0 (16.9)	1.4 (11.0)	4.9 (12.9)	−5.9 (10.2)	0.24
0.20	0.10				
JSS Pay	0.6 (3.6)	0.9 (3.7)	0.3 (3.1)	−1.1 (3.2)	0.27
0.63	0.26				
JSS Promotion	−0.5 (3.6)	1.1 (3.9)	1.4 (3.3)	−2.1 (3.8)	0.45
0.29	0.01				
JSS Supervision	0.6 (3.4)	0.0 (3.3)	1.6 (4.0)	0.4 (2.2)	0.41
0.27	0.73				
JSS Fringe Benefits	0.3 (2.7)	0.9 (2.7)	0.1 (3.2)	−1.4 (3.1)	0.09

(Continued)

Table2. (Continued)

	Positive Writing	p	Neutral Writing	p	p values
		0.16		0.56	
JSS Contingent Rewards	0.9 (3.7) / 2.0 (3.2)	0.83	−1.2 (1.7) / 0.3 (2.9)	0.07	0.02
JSS Operating Conditions	1.1 (3.2) / 0.1 (2.7)	0.32	−0.4 (2.8) / 0.1 (2.6)	0.73	0.30
JSS Co-workers	0.4 (2.5) / 0.0 (2.7)	0.48	0.0 (3.1) / 0.5 (1.6)	0.98	0.98
JSS Nature of Work	0.1 (3.6) / 0.4 (2.3)	0.46	−0.9 (2.5) / 0.5 (2.5)	0.24	0.50
JSS Communication	−0.4 (4.4) / −0.1 (2.9)	0.63	0.7 (3.2) / 0.2 (2.6)	0.88	0.40
Trait Anxiety	−1.3 (5.1) / −0.5 (5.9)	0.80	−3.2 (5.4) / −3.1 (6.9)	0.77	0.13
Perceived Stress	−1.1 (5.7) / −1.7 (4.8)	0.22	−0.6 (4.6) / −4.1 (3.4)	0.09	0.43
Subjective Health	4.7 (11.1) / 5.3 (8.5)	0.60	6.7 (11.5) / 4.7 (7.4)	0.77	0.76

Figure 2. Change scores for the teacher and non-teacher groups across the positive and neutral conditions for State Anxiety, JSS Promotion and JSS Contingent Rewards.
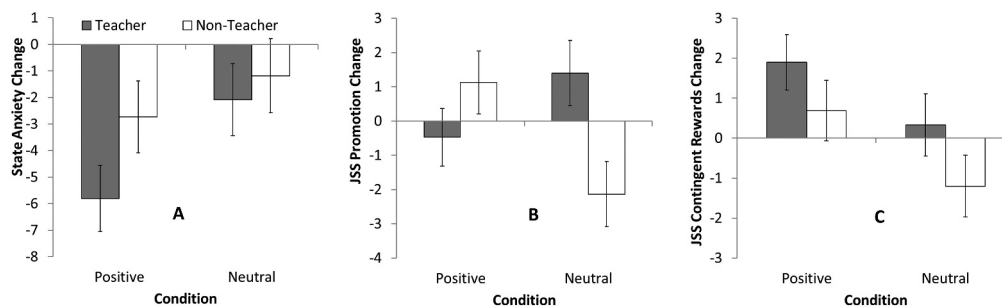
teachers. Hypothesis 1 was not supported, as neither burnout, nor perceived stress, differed significantly between teachers and non-teachers at baseline. Teachers did report relatively higher levels of emotional exhaustion at baseline, although this was nonsignificant when accounting for multiple comparisons. Teachers also reported relatively lower scores on the JSS Operating Conditions subscale, indicating poorer satisfaction with rules and procedures. Hypothesis 2 was partially supported, as participants in the positive writing condition reported a greater reduction in state anxiety, immediately post-writing, relative to those participants who were assigned to write about neutral topics. Further, positive writing increased participants' satisfaction with contingent rewards, that is, rewards and praise for good job performance. Hypothesis 3 was not supported, as no positive writing effects were particularly beneficial for teachers, relative to non-teachers. However, positive writing increased non-teachers' perceptions of promotion likelihood, but this effect did not extend to teachers. Finally, irrespective of teacher status, positive writing increased participants' satisfaction with contingent rewards, that is, rewards and praise for good job performance.

The finding that positive expressive writing was associated with reductions in state anxiety is consistent with previous work (Allen et al., 2020; Smith et al., 2018), and highlights a short-term benefit of positive writing. Therefore, positive expressive writing is a useful technique for reducing acute feelings of anxiety. With respect to longer-term effects, non-teachers reported greater satisfaction with promotion likelihood, four weeks after positive writing. While the present study was not designed to consider mechanisms of action, a plausible interpretation of this finding is that the positive emotions elicited by engaging with positive expressive writing may increase an individual's level of optimism with respect to aspects of work such as promotion. It could also be that pathways to promotion are less regimented (i.e. easier and relatively quicker) in some non-teaching professions, where individuals can take more control over their own career progression, which may account for why the benefits of positive writing on satisfaction with promotion like-lihood in non-teachers didn't extend to teachers. A further interesting finding to emerge from the present study was that positive writing enhanced participants' satisfaction with contingent rewards. Speculatively, a more positive mindset following positive writing may make an individual more receptive to, or more likely to acknowledge, praise. It is also plausible that engaging with positive expressive writing may result in a more positive attitude to work, which in turn may increase the likelihood of an individual receiving praise or contingent rewards. Taken together, there is some evidence from the present study findings to suggest that positive expressive writing improves wellbeing at work and job satisfaction, but that these benefits are not particularly salient for teachers compared to other professions.

Predicated by previous literature (Iancu et al., 2018; Kinman et al., 2011; Nagar, 2012; Unterbrink et al., 2012; Vercambre et al., 2009), we expected that teachers would have higher stress and burnout, relative to non-teachers, at baseline. However, there was only limited evidence to support substantive differences between teachers and non-teachers at baseline.

Teachers reported greater emotional exhaustion than non-teachers and less favourable satisfaction with operating conditions (this subscale of the JSS includes satisfaction with the amount of "red tape", as well as workload) at baseline. It has been established that teaching is an emotionally burdensome profession compared with other occupations, and that teachers frequently report feeling overburdened with their workload (Kinman et al., 2011), which are potential reasons underpinning poor teacher retention (Nagar, 2012). However, it was somewhat surprising that there wasn't greater consistency in reporting of psychological morbidity and poor job satisfaction across more of the baseline variables. This suggests that on the whole, the level of stress and job satisfaction between teachers and non-teachers was reasonably similar, which may account for why positive expressive writing was not found to be particularly beneficial for teachers, compared to non-teachers, as hypothesised. Some participants in the non-teacher group were employed in other professions associated with high levels of stress and burnout including managerial roles (Lee & Cummings, 2008), which may have accounted for the similarities between the groups on the baseline variables. Future studies could better control for the kinds of jobs undertaken by participants in the control group, to enable a better comparison of writing effects in teachers relative to other professions.

A further limitation of the present study was the relatively small sample size for an expressive writing study. An a-priori power calculation indicated that 128 participants would be required to detect a significant medium effect; however, logistically, given constraints regarding the available participant pool and time available for data collection, we made an a-priori decision to recruit a sufficient sample to detect large effects. It is therefore possible that more subtle effects of positive expressive writing were not detected. Future expressive writing work should therefore seek to recruit sufficiently large samples to detect small to medium effects. It was also problematic that we neglected to collect any data on holidays which non-teachers may have taken during the data collection period. In a similar vein, it was not possible to control for any life events or stressors which the participants may have experienced between the writing days and the follow-up, which may have confounded any writing effects. Despite these limitations, there were a number of strengths. This was the first study to consider the influence of positive expressive writing on psychological and health outcomes in teachers and other full-time workers. The findings are sufficiently promising to warrant further investigation of expressive writing benefits for this population. Including only full-time workers in the study meant that the sample is likely to be more representative of the general population than other expressive writing studies which rely more substantially on student participants, who may not be representative of the general population. Additionally, the use of a longitudinal design allowed the persistence of expressive writing benefits over a four week period to be ascertained. Finally, the delivery of the expressive paradigm using an online portal supports the findings of Allen and colleagues (2020) that delivering positive expressive writing interventions in an online context is both feasible and effective.

In conclusion, the present study has supported the notion that positive expressive writing decreases state anxiety. Novel findings to emerge from the present study are that positive writing improves satisfaction with promotion likelihood and contingent rewards in full-time workers. These findings suggest that positive expressive writing is a useful tool for enhancing aspects of job satisfaction, and therefore potentially has the capacity to enhance work-related wellbeing. However, we did not observe any particular benefits of positive expressive writing for teachers, as anticipated, nor did we find any benefits of positive expressive writing on burnout. Future work should further consider the potential benefits of positive expressive writing in occupational settings, but should ensure that studies are adequately powered to detect more subtle benefits of this paradigm. Taken together with previous positive expressive writing studies (Allen et al., 2020; Burton & King, 2004; Smith et al., 2018; Wing et al., 2006), there is now an emerging body of literature supporting the potential physical and psychological benefits of this technique.

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