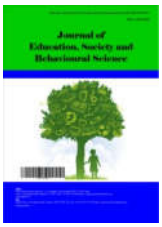

Journal of Education, Society and Behavioural Science

34(4): 1-9, 2021; Article no.JESBS.69238
ISSN: 2456-981X
(Past name: British Journal of Education, Society & Behavioural Science, Past ISSN: 2278-0998)

The Well-being of Staff in a Welsh Secondary School before and After a COVID-19 Lockdown

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Authors' contributions

This work was carried out as a collaboration between both authors. Author APS designed the study, wrote the protocol and the online survey. He also conducted the statistical analysis and wrote the first draft of the manuscript. Author AJ designed the study, translated the questionnaires and managed the project. Both authors read and approved the final manuscript.

Article Information

DOI: 10.9734/JESBS/2021/v34i430319
Editor(s):
(1) Dr. Redhwan Ahmed Mohammed Al-Naggar, Management and Science and University, Malaysia.
(2) Dr. Sara Marelli, IRCCS San Raffaele Scientific Institute Via Stamira D'Ancona, Italy.
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Reviewers:
(1) Rosella Tomassoni, University of Cassino and Southern Lazio, Italy.
(2) Geraldo A. Fiamenghi-Jr, GEPA - Grupo de Estudos em Psicanálise, Brazil.
(3) Ludwig Kreuzpointner, University of Regensburg, Germany.
Complete Peer review History: http://www.sdiarticle4.com/review-history/69238

Original Research Article

Received 02 April 2021
Accepted 08 June 2021
Published 12 June 2021

ABSTRACT

Background: There has been extensive research on the well-being of teachers, with much of it focusing on stress and mental health problems. Recent research has led to the development of the well-being process model, which examines predictors of positive and negative well-being outcomes. Research is now required to examine this model's applicability to teachers and those who communicate in languages other than English. Well-being has also been reduced by social isolation associated with COVID-19, and it is essential to investigate the causes of this reduced well-being.
Aims: The present study had three main aims. First, to examine the applicability of the well-being process model to teachers. Secondly, to investigate a sample where teaching was in the Welsh language. Finally, to examine the response to the COVID-19 lockdown in this group and identify predictors of current and long term well-being.
Methodology: The research was approved by the ethics committee, School of Psychology, Cardiff University, and carried out with the informed consent of the volunteers (67 staff from a Welsh-medium secondary school; mean age 36.8 years, range 19-53 years; 71% female). An online survey

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was carried out, and regressions conducted to examine associations between the well-being process predictor variables and the well-being outcomes. Predictors of current and long term well-being were also examined.
Results: Thirty-six per cent of the sample reported high stress levels, but clinically significant anxiety and depression levels were low (7.2% anxiety; 4.4% depression). Positive well-being was predicted by high scores for psychological capital, social support, positive coping and low scores for negative work characteristics. Negative well-being was predicted by high negative work characteristics and negative coping, and low psychological capital scores. Current and long term COVID-19-related well-being was predicted by fear of infection and the stress of isolation.
Conclusion: The results confirmed the applicability of the well-being process model to Welsh secondary school staff. Lockdown during COVID-19 affected well-being, with the risk of infection and the stress of isolation being the major influences.

Keywords: Teachers; wellbeing process; COVID-19; welsh secondary school; lockdown.

1. INTRODUCTION

1.1 The Mental Health of Teachers

Research in the UK has shown that teachers report higher stress levels than many other professions [1,2,3]. This has been confirmed in Labour Force Surveys [4] conducted by the Health and Safety Executive, with teachers having a higher prevalence of reported stress, common mental health problems such as anxiety and depression, and illnesses caused or made worse by work. These findings have been replicated in studies in other countries [5,6,7]. Stress and mental health problems are often associated with other issues such as absenteeism [8,9,10], presenteeism where individuals are underperforming [10,11,12] and even retirement on the grounds of ill-health [13]. These outcomes are likely to affect the students being taught. Presenteeism and poor classroom management harm student learning [14], and teacher absenteeism is associated with lower student achievement [15]. Teachers' mental health problems are also associated with less support for students, who may then suffer problems in their emotional development [14,16,17,18]. Indeed, teaching involves a high level of "emotional labour", which requires careful management and expression of emotion during interactions with students [19].

1.2 The Wellbeing of Teachers

Recent research has examined both mental health problems of teachers and well-being [20]. This study found that the well-being of teachers in English secondary schools was lower than that reported in the general working population, and nearly 20% of the teachers had symptoms of moderate to severe depression. Lack of social support, low job satisfaction and high presenteeism were associated with poor well-being and depressive symptoms. This study leads into the one carried out here which used a well-being process model.

1.3 The DRIVE and Well-being Process Models

The well-being process model underlying the present study was developed from the Demands-Resources-IndiVidual Effects (DRIVE) model [21]. This model examined negative outcomes by considering predictor variables such as job demands, job resources (e.g. control and support) and individual coping styles. Research [22,23] showed that these factors directly affected mental health outcomes but rarely interacted. This led to a model like the one shown in Fig. 1.

The next step in developing the model [24,25] was to included positive outcomes (e.g. happiness, positive affect and job satisfaction). In addition, individual differences were expanded to include psychological capital (self-efficacy, self-esteem and optimism). Work-related outcomes such as absenteeism, presenteeism and work efficiency were also included. This led to the development of the Wellbeing Process Questionnaire [26,27,28], which has been used with general worker samples, university staff and nurses [29,30,31]. Main effects of the predictor variables have been found, but there has been little evidence of interactions. This has led to a model like the one shown in Fig. 2.

1.4 The Present Study: Pre-COVID-19

The Wellbeing Process Questionnaire was used here to examine the well-being of secondary school teachers in a Welsh-medium school. This

is the first study to use the well-being process model to investigate teachers and use a Welsh translation. Other research has shown that the well-being process applies to samples from Kazakhstan [32], Kuwait [33] and China [34]. The first part of the survey examined well-being before the first COVID-19 lockdown. The aim was to determine whether the Wellbeing Process Model was appropriate for Welsh secondary school teachers. It was predicted that positive work characteristics, high psychological capital and positive coping styles (problem-focused coping; seeking support) would be associated with positive well-being (happiness, positive affect, job and life satisfaction). Secondly, negative job characteristics and negative coping styles (wishful thinking, self-blame, avoidance) should be associated with negative outcomes (stress, anxiety and depression). Finally, associations between these established predictors and absenteeism, presenteeism and work-life balance were examined.

1.5 The Present Study: Post-COVID-19 Lockdown

Many studies have shown that isolation strategies (lockdown) to reduce the spread of COVID-19 have led to an increase in mental health problems [35,36,37,38]. Several causes of this include risk of infection, loneliness, economic insecurity, and information overload. The present study examined the experience of the secondary school teachers during the lockdown, with the main interest being in changes in well-being related to these experiences. Their current state of well-being was examined, as were perceptions of long-term well-being. Finally, analyses were conducted to determine whether well-being before the COVID-19 lockdown predicted response to it.

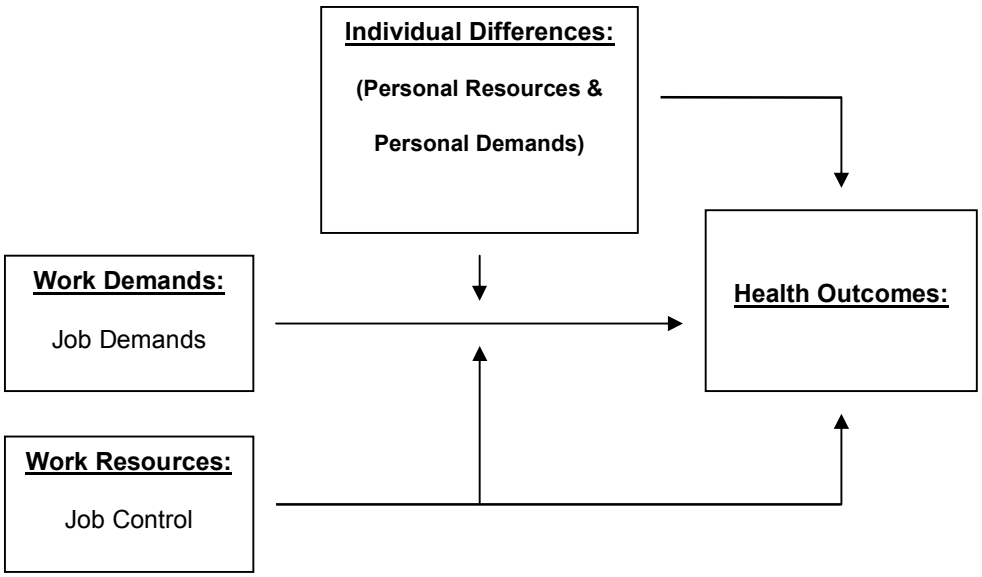

Fig. 1. The Demands-Resources-Individual Effects (DRIVE) Model

Predictors of Positive Outcomes e.g. Job resources; Psychological Capital; Positive Coping	----------→	Positive Outcomes e.g. Happiness; Life Satisfaction; Positive Affect
Predictors of Negative Outcomes e.g. Demands; Negative Coping	----------→	Perceived stress; Anxiety; Depression

Fig. 2. The well-being process model

2. METHODOLOGY

The research described in this paper was carried out with the informed consent of the participants and the approval of the School of Psychology, Cardiff University, Ethics Committee. Data were collected using an online survey methodology delivered using the Qualtrics platform at the end of the first UK lockdown in April 2020.

2.1 Participants

The participants were members of staff at a Welsh-medium secondary school in South Wales. All were invited to participate, and 67 completed the survey (response rate = 93%). The mean age of the sample was 36.8 years with a range of 19-53 years. 71% of the sample were female, and 94.1% had a degree and/or higher educational qualification. 98.5% of the sample were white, and 83.8% were married or living with their partner. 29% were senior staff (e.g. Headteacher or head of a department), 60% were teachers and 11% support staff.

2.2 Measures

The survey included a Welsh translation of the Wellbeing Process Questionnaire, and the independent variables were components of the well-being process model:

- Positive personality (self-esteem, self-efficacy and optimism)
- Negative work characteristics (e.g. high job demands)
- Positive work characteristics (e.g. job control)
- Negative coping styles (Wishful thinking; Self-Blame; Avoidance)
- Positive coping styles (Problem-focused coping; seeking support)
- Social support

The dependent variables were:

- Positive well-being outcomes (e.g. happiness, job satisfaction, positive affect)
- Negative well-being outcome (e.g. perceived stress at work, anxiety and depression)
- Job-related health and safety outcomes (absenteeism, presenteeism, and accidents at work)
- Work-life balance

The survey also included the Smith COVID-19 Questionnaire [39], which collected information on health status, perceived risk of infection, hygiene, communication about COVID-19, and current and potential long-term stress and well-being. Again, this was translated into Welsh.

The Welsh and English versions of the survey are available online [40]. The Welsh versions were translated by the second author (first language Welsh) and checked by the Welsh Language Unit of the school.
The data from the online survey was transferred to the statistical package (IBM SPSS version 25) for analysis.

3. RESULTS

Sections 3.1 and 3.2 of the results cover the pre-COVID time period.

3.1 Pre-COVID Stress and Mental Health

The initial analyses examined whether the present sample was highly stressed and reported a high level of mental health problems. About 20% of the working population in the UK report that they are very or extremely stressed at work (and about half of these have clinically significant levels of anxiety or depression), and teachers often report above-average stress levels. In the present survey, 36.3% reported high stress levels (7 or above on a 10-point perceived stress scale [1]), with another 27% being just below the threshold. However, only 7.2% reported high anxiety and 4.4% high depression (6 and above on anxiety and depression scales [41].

3.2 Pre-COVID-19 Lockdown Well-being

These analyses examined whether the well-being process model applied to the present sample. Linear regressions were carried out with the established predictors as the independent variables and positive and negative well-being scores as the outcomes. The regression for positive well-being is shown in Table 1. Positive well-being was predicted mainly by positive characteristics (psychological capital, positive coping and social support), although negative job characteristics were also significant.

Negative job characteristics and negative coping predicted negative well-being. Psychological capital also had a significant negative association with the negative well-being outcome (see Table 2).

Table 1. Predictors of positive well-being

Model	Un-standardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	17.767	7.066		2.514	.015
Negative Work	-.282	.113	-.185	-2.494	.016
Positive Work	.168	.101	.145	1.668	.101
Social Support	.311	.148	.160	2.101	.040
Positive Coping	.332	.154	.196	2.156	.036
Negative Coping	-.191	.125	-.127	-1.526	.133
Psychological capital	1.402	.221	.689	6.342	.000

Table 2. Predictors of negative well-being

Model		Un-standardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.470	9.742		1.896	.064
	Negative Work	.845	.159	.499	5.306	.000
	Positive Work	.214	.141	.165	1.518	.135
	Social Support	.037	.200	.017	.184	.855
	Positive Coping	-.137	.217	-.072	-.630	.532
	Negative Coping	.588	.178	.343	3.297	.002
	Psychological Capital	-.808	.310	-.350	-2.610	.012

The next set of regressions examined whether the well-being predictors and outcomes were associated with health and safety measures, and work-life balance. These health and safety outcomes have been shown to be predicted by both wellbeing predictors and outcomes [42]. Absenteeism, presenteeism, accidents at work, an illness caused or made worse by work, and poor work-life balance are usually associated with the presence of negative predictors and outcomes, or the absence of positive characteristics and outcomes. Positive work characteristics were associated with the person being less likely to report an illness caused or made worse by work ($p < 0.05$) and with reporting a good work-life balance ($p < 0.05$). Negative well-being was associated with greater presenteeism ($p < 0.05$). Lack of support was associated with a greater likelihood of accidents at work ($p < 0.05$).

Overall, these results show that the wellbeing process model is applicable for Welsh secondary school staff.

3.3 Post COVID-19 Lockdown

94% of the sample were uninfected, with 1.5% having a current illness and 4.5% having recovered from an illness. 13.2% had a member of their immediate family who had been ill with COVID-19, 32.4% had friends who had been ill, 19.1% had work colleagues who had been ill, and 39.7% knew of others (e.g. neighbours) who had been ill. 61.8% had never been in isolation, 2.9% had been alone in isolation, 11.8% had been in isolation with their partner and 19.4% in isolation with their family. 8.7% had a relative or friend die from COVID-19.

Factor analysis was carried out on the questions dealing with the risk of infection, well-being, hygiene and communication about COVID-19. A varimax rotation was used and four-factor solution was obtained, accounting for 71.7% of the variance. The first factor was the risk of infection for the person and others (Cronbach alpha: 0.89). The second factor covered stress due to social isolation, and risk of infection, and the impact on current and long-term well-being (Cronbach alpha: 0.75). The third factor covered compliance with hygiene (e.g. hand washing) and social isolation (Cronbach alpha: 0.75). The last factor covered perceptions of the clarity and extent of communication about COVID-19 (Cronbach alpha: 0.76).

The factor structure shows the predictors of current and long-term well-being, namely stress due to risk of illness and isolation. The next set of analyses examined whether well-being before lockdown contributed to the issues covered by

the COVID-19 questionnaire. Each factor score was used as the outcome in a regression with the pre-COVID-19 well-being process predictors and outcomes as dependent variables. The only significant effect was obtained with the first factor, perceived risk of infection, where a high negative coping style score was associated with a greater perceived risk of infection ($p < 0.05$).

4. DISCUSSION

There has been extensive research on secondary school teachers' stress and mental health, but few studies have examined positive well-being [20]. Those studies that have examined well-being do not consider established predictors of positive and negative well-being outcomes. The well-being process model has been examined in several specific occupations and samples, including various jobs [29-31]. The present results confirmed the applicability of the model to secondary school staff. Most studies that have used the well-being process model have investigated English speaking samples. However, recent studies suggest that the translated questionnaire gives similar results [31-33]. This was confirmed here, and the study is the first to use the Welsh version of the WPQ.

The present study considered the time before COVID-19 and also the effects of the first UK lockdown. 94% of the sample were uninfected, but about a third knew people who had been ill with COVID-19. The COVID-19 questionnaire measured the risk of infection, hygiene, communication about COVID-19 and current and long-term well-being. Recent experiences, perceived risk of infection and isolation, were the main predictors of well-being. Well-being before lockdown had little effect on well-being after lockdown.

The present study has some limitations. First, the sample is relatively small, and further research is required to determine whether the results generalize to other teaching staff and the other groups involved in education (students and parents). The WPQ is now well established, and the present findings suggest that it can be translated for use with non-English groups. In contrast, the COVID-19 questionnaire is new and probably needs some modification to cover issues related to COVID-19 in other groups. For example, loneliness and problematic internet use are significant problems during lockdown [41], and other professions have had tremendous economic uncertainty during the pandemic. Education has also involved more distance learning, and the strengths and weakness of this need to be evaluated [43].

5. CONCLUSION

In summary, the present study has shown that the well-being process model applies to secondary school staff. This is also the first study to use the Welsh translation of the WPQ, and the results confirm those obtained with the English version. Well-being following COVID-19 lockdown was also investigated, and the results showed that it was strongly related to the perceived risk of infection and stress during the lockdown. These findings form the basis for future research incorporating the crucial factors identified in other COVID-19 research.

CONSENT AND ETHICAL APPROVAL

The research described in this paper was carried out with the informed consent of the participants and the approval of the School of Psychology, Cardiff University, Ethics Committee. Data were collected using an online survey methodology delivered using the Qualtrics platform at the end of the first UK lockdown in April 2020.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/69238