This article was published as:

Pillay, P., Scheepers, C.B. and Diesel, R. (2024), "Effect of authentic leadership on nurses' stress, burnout, presenteeism during COVID-19", *Leadership in Health Services*, Vol. 37 No. 3, pp. 423-441.

https://doi.org/10.1108/LHS-10-2023-0082

Effect of authentic leadership on nurses' stress, burnout, presenteeism during Covid-19

Preeadashnie Pillay, Caren Brenda Scheepers and Rick Diesel

Gordon Institute of Business Science, University of Pretoria, Johannesburg, South Africa

Abstract

Purpose: COVID-19 has burdened the healthcare system and exposed nurses to immense stress. The current study therefore investigates nurses' mental well-being who are working with COVID-19 positive patients. Burnout leads to decreased productivity and manifests as emotional exhaustion, depersonalisation (cynicism) and low personal accomplishment (professional efficacy). Authentic leadership is built on a humanistic value system which is the core value of nurses and other healthcare professionals. The current study therefore used authentic leadership as the independent variable.

Design: A cross-sectional quantitative research method was adopted by distributing validated online questionnaires to 1334 nurses in a private pathology laboratory and 241 questionnaires were analysed with 93.4% female respondents. Multiple linear regression model testing was conducted.

Findings: Multiple regression analyses showed statistically significant negative correlations between authentic leadership and emotional exhaustion, cynicism, job stress and job-stress-

related presenteeism, and a positive correlation between authentic leadership and professional efficacy.

Originality/ value: There were two contributions in this study, first, to determine whether there is a relationship between authentic leadership job stress; and job-stress-related presenteeism. Second, to determine whether there is a relationship between authentic leadership and the three sub-constructs of burnout.

Practical implications: The study provides empirical data to encourage organisations to focus on developing authentic leaders to decrease nurses' burnout, job stress and presenteeism. The healthcare sector should strive to create an environment where nurses are valued and their talent is recognised to increase employee engagement and commitment.

Keywords: Authentic leadership, nurses, presenteeism, job-stress-related presenteeism, burnout

Paper type: Research paper

Introduction

Globally, there are more than 245 million confirmed cases of COVID-19 and more than 4.5 million deaths (WHO, 2021). This has not only burdened the healthcare system with increased hospitalisations, but has also exposed nurses to immense stress, as they have been treating critically ill patients for prolonged periods (Lubbadeh, 2020; Vuorivirta-Vuoti *et al*., 2023). The mental well-being of healthcare workers during the COVID-19 pandemic is thus an important focus area (Allen and Cug, 2020).

Burnout is defined as a psychological response to chronic stress and is prevalent in the healthcare sector due to the physical and emotional demands of the job (Lubbadeh, 2020). The World Health Organization (WHO) has recognised the detrimental impact of burnout on the

physical and mental well-being of individuals and has included this condition in the International Classification of Diseases (ICD), 11th edition (Woo *et al*., 2020). Burnout leads to decreased productivity and manifests as emotional exhaustion, depersonalisation (cynicism) and a sense of low personal accomplishment (professional efficacy) (Maslach *et al*., 2009).

In response to these challenges, strong leadership, open communication, a focus on staff well-being and a safe work environment are required. This pandemic has thus led to the need to modify leadership, business strategy and operational processes to create sustainable organisations (Vuorivirta-Vuoti *et al*., 2023). Authentic leadership (AL) focuses on a specific subfield in psychology, called positive psychology, which was created by Seligman and Csikszentmihalyi (2000) who grew frustrated with the psychology domain which paid so much attention to mental illness and trauma and less on wellbeing and happiness. Positive psychology is built on a humanistic value which is the core value of nurses and other healthcare professionals (Alilyyani *et al*., 2018). Vuorivirta-Vuoti *et al*. (2023, p.14) advise that, "Flexibility and more authentic human leadership styles can provide the foundation for new kinds of leadership, better work conditions and more meaningful work". The current study therefore used Authentic leadership as the independent variable. Nurses who work in intensive care units in direct contact with COVID-19-positive patients have experienced higher levels of emotional exhaustion and cynicism and low levels of professional efficacy. Emergency and frontline nurses are more prone to burnout due to the long working hours, redeployment of staff and chronic stress (Woo *et al*., 2020). Therefore, the current research included nurses who worked at COVID-19 swab sites were in direct contact with COVID-19-positive patients as this sample of nurses represented a high-risk population.

Presenteeism is defined as physically present but mentally absent employees, resulting in disengaged employees (Gilbreath and Karimi, 2012; Lohaus and Habermann, 2019). There are two forms of presenteeism: sickness-related and job-stress-related presenteeism (JSRP). The

rate of presenteeism is high among nurses mainly due to the nature of the profession, loyalty and the shortage of skilled nursing staff (Freeling *et al*., 2020; Pieters and Matheus, 2020). There is limited literature on the effect of JSRP on the general well-being of healthcare workers or the related cost implication of presenteeism in the healthcare industry (Lohaus and Habermann, 2019). Therefore, presenteeism in healthcare workers, especially JSRP and the consequences such as burnout, need to be further explored and understood in the context of the pandemic.

AL has a positive effect on psychological capital and psychological well-being and decreases stress and burnout (Avolio and Gardner, 2005). Therefore, AL may decrease presenteeism and burnout in healthcare workers during the pandemic. Authentic leaders are described as being highly conscious of their behaviour, insightful and observant (Avolio and Gardner, 2005). These leaders act with deep conviction and create hope, optimism and resilience in their followers (Avolio *et al*., 2004); essential factors in the COVID-19 pandemic.

The relationship between AL and JSRP in the healthcare industry in the context of the pandemic has not been investigated. Therefore, this research aims to determine the strength of the relationship between AL, job stress, JSRP and burnout in nurses during the COVID-19 pandemic.

Literature review

The research is framed around the relationship between the independent variable AL and the three dependent variables, namely job stress, JSRP and burnout.

Positive Psychology Theory of Authentic Leadership (AL)

Authentic leadership is a type of leadership that encourages positive psychology through: an increased level of self-awareness; an internalized moral perspective; balanced processing of information and relational transparency (Avolio and Gardner, 2005; Gardner *et al*. 2005).

These four sub-constructs have been criticized by Alvesson and Einola (2019). They found no significant relationship between self-awareness and authenticity. They further argued that managers who try to be authentic leaders are faced with a dilemma, as being oneself is context-dependent and a continuously developing process. Furthermore, relational transparency depends on the context and leaders needed to adapt and align their behaviour with their organisation's values. In addition, balanced processing is not feasible in real-life situations and may not be in line with being authentic. Their criticism of an internalised moral perspective involves ethics which vary in the business and work environments, as being altruistic may clash within the same organisation, and authentic decisions may not be beneficial.

Gardner and Karam's response to this criticism, in Gardner *et al*. (2021), can be summarised around three main areas: first, self-awareness in leaders and followers provides a depth of understanding that could be communicated through the goals and values of the organisation; second relational transparency and balanced processing provide a safe work environment for leaders and followers to express and debate to achieve a common goal and third, an internalised moral perspective encompasses values such as respect and justice that an authentic leader attempts to achieve.

Nurses need to trust their leaders, especially during this pandemic. Authenticity, relational transparency and balanced processing will instil trust in followers; therefore, this study focused on this construct despite recent criticisms. Furthermore, the systematic review by Alilyyani *et al*. (2018) confirmed that the four dimensions of AL are associated with positive outcomes in healthcare workers such as job satisfaction and work engagement.

Relevant to the current study, Wei *et al*. (2020) researched AL and burnout and found that AL decreases burnout through a healthy work environment. Finally, various studies on AL show construct and predictive validity of the subscales of AL (Avolio *et al*., 2004; Gardner *et al*.,

2011; Scheepers and Elstob, 2016) and this supports the use of the authentic leadership questionnaire (ALQ) in this study.

Various researchers have utilised Affective Process Theory to explain the positive and negative impact of AL on followers and the impact of emotional intelligence on the development of an authentic leader (Gardner *et al*., 2011). Alilyyani *et al*. (2018) determined indirect relationships between AL and staff and patient outcome; however, there was only one study on direct patient outcome, which opened the door for further longitudinal studies. The literature review show in summary that AL as a form of positive leadership enhances the psychological and physical well-being of followers through positive psychological capital, work-life balance, transparency and communication.

The Multidimensional Theory of Burnout

According to the multidimensional theory of burnout, there are three fundamental components: emotional exhaustion, cynicism and professional efficacy (Maslach and Leiter, 2016; Pieters and Matheus, 2020). Woo *et al*. (2020, p. 9) described burnout as a condition due to "chronic workplace stress". The nursing profession has been observed to experience more stress than any other profession and this could be due to various factors such as resource constraints, work-life balance and decreased support (Pieters and Matheus, 2020; Woo *et al*., 2020). The WHO has released alarming statistics, and it has been estimated that there will be a global deficit of almost 7.6 million nurses by 2030. This will increase the workload and may increase nurses' turnover, as 35% of non-practising nurses have cited burnout as the main reason for leaving the profession (Woo *et al*., 2020).

Increased workload and lack of control form part of the demand-control model of job stress and are associated with increased burnout (Maslach and Leiter, 2016). Various risk factors during the COVID-19 pandemic, such as long working hours, increased workload and poor

resources are key indicators for organisations to be monitoring to prevent burnout; revealing the importance of the contribution of the current research. Nurses have been identified as the group of healthcare workers that are generally prone to burnout (Pieters and Matheus, 2020; Woo *et al*., 2020).

Burnout in nurses could negatively impact organisations and result in absenteeism, presenteeism and diminished mental capacity (Pieters and Matheus, 2020; Woo *et al*., 2020). The consequence is compromised patient care with an increase in errors, which could result in litigation and increased staff turnover (Wei *et al*., 2020). Depersonalisation/cynicism and personal accomplishment affect employees' interaction with customers and the employees' self-esteem, productivity and motivation (Lubbadeh, 2020). The outcome of a systemic review of the antecedents, mediators and outcomes of AL in the healthcare sector by Alilyyani *et al*. (2018) shows that embedded in the model are the mediators: burnout, trust, areas of work-life and psychological capital. Trust, emotional exhaustion and cynicism are reported as significant mediators of AL. The latter two were applicable to this study as we aim to determine the relationship between AL and burnout.

Based on the literature review above, the following hypotheses are offered:

Hypothesis 1: There is a negative relationship between AL and burnout.

H1a: There is a negative relationship between AL and emotional exhaustion.

H1b: There is a negative relationship between AL and cynicism.

H1c: There is a positive relationship between AL and professional efficacy.

Theories on Presenteeism

Presenteeism, as defined by Johns (2010), refers to an employee's presence at work despite being unwell, and therefore implies that this decision lies with the individual, as employees

tend to use their perception of the severity of their illness to decide whether to work (Bierla *et al*., 2013; Lohaus and Habermann, 2019). Understanding the circumstances around this decision is important for organisations; however, the definition lacks depth and does not include the cause and consequences. Presenteeism was initially attributed to illness being most common in teachers and nurses (Johns, 2010). This further supports the decision to focus on the nursing profession in this study.

A definition that is specific to nurses and that incorporates the antecedents of presenteeism is: "physical presence at work when one should not be due to one's health and wellbeing, environment, lack of work-life balance or sense of professional identity or obligation" (Rainbow and Steege, 2017, p. 6).

In this study, the presenteeism in nursing model (PNM) of Rainbow, Gilbreath and Steege (2021) will be focused on, which recognises nurses as high-risk healthcare workers that are predisposed to presenteeism and its negative consequences. Rainbow *et al*. (2021) found that increased perceived stress, less work-life balance and a positive work environment have significant relationships with presenteeism. The study also found that higher presenteeism leads to a higher rate of missed care and lower stress leads to a lower rate of missed care. Consequences of JSRP in nurses include compromised patient care, burnout and increased staff turnover (Rainbow *et al*., 2021). This model is the foundation of the current study as it is based on empirical data and confirms relationships between presenteeism and burnout, and stress and presenteeism, which are constructs in this research.

Early work by Gilbreath and Karimi (2012) stressed the link between supervisor behaviour and presenteeism and they stated that supervisors could affect morale and work environment and subsequently presenteeism. These relationships may influence the decision of subordinates to

attend work when ill and further supports the relevance of determining whether there is a relationship between AL and JSRP in this study (Lohaus and Habermann, 2019).

Although work-life balance is an important cause of presenteeism, the relationship between leader and subordinate is equally important to decrease stress in the workplace (Yang *et al*., 2016). Stress-related factors in nursing include long working hours, increased workload and work responsibilities (Rainbow and Steege, 2017; Rainbow *et al*., 2021; Yang *et al*., 2016). As supervisor behaviour is an important antecedent of presenteeism and job stress (Gilbreath and Karimi, 2012; Lohaus and Habermann, 2019), improving leadership through AL can decrease stress, as well as JSRP, as negative supervisor behaviour negatively impacts employee health and well-being. We therefore hypothesise:

Hypothesis 2: There is a negative relationship between AL and job stress and between AL and JSRP

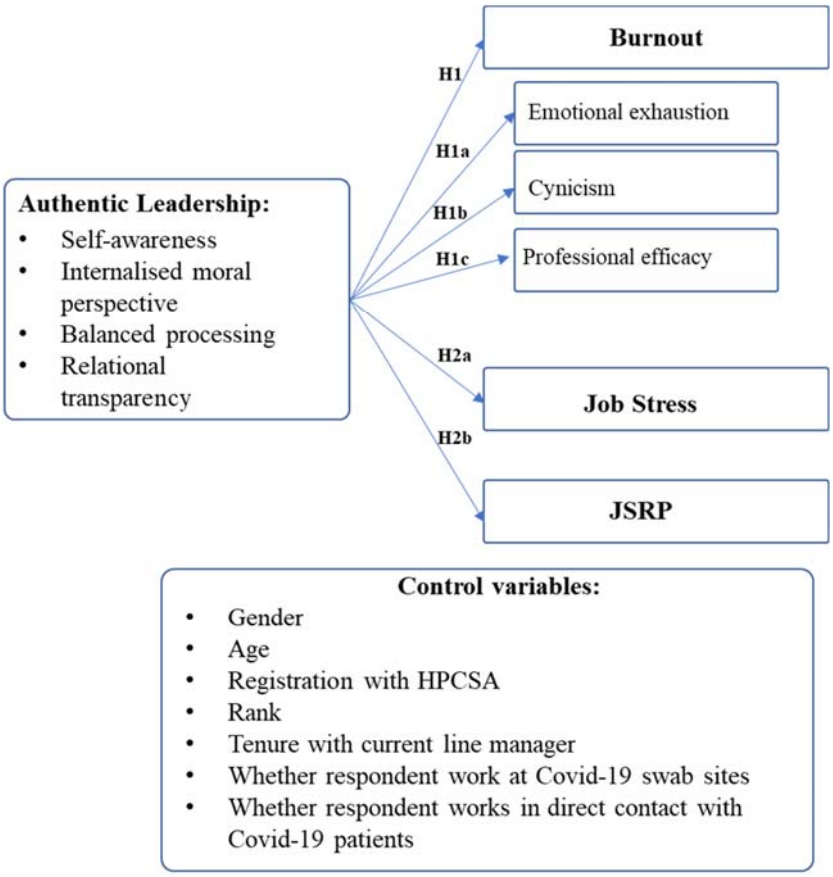
H2a: There is a negative relationship between AL and job stress.

H2b: There is a negative relationship between AL and JSRP.

Figure 1 below illustrates the conceptual framework for the study with the hypotheses.

FIGURE 1

Conceptual Framework



Source: Authors' own work

Methodology

The study extended beyond purely descriptive research and involved an explanatory research method and, as such, followed a descripto-explanatory design (Saunders and Lewis, 2018). This quantitative study was data-specific, involved testing hypotheses and followed the positivist paradigm. The research was structured to determine the causal relationship between the independent variable, namely AL, and the two dependent variables, namely burnout and JSRP. A deductive research method was used, and this entailed a structured approach (Saunders

and Lewis, 2018). All the data was collected by a single method using structured online self-completed questionnaires, a mono-method quantitative study (Saunders and Lewis, 2018) and cross-sectional in design. A survey strategy was best suited as this involved asking questions such as what, where and who (Saunders and Lewis, 2018). The research questions supported the use of the survey strategy as data could be collected in a structured manner, and all respondents were subjected to the same questions.

Data collection and sample

The target population was nurses in a private pathology laboratory in South Africa, and their line manager's relationship with these nurses. Respondents' responses were the unit of analysis for this study. During the research process and before distributing the questionnaires, several ethical principles were considered: permission from the organisation's CEO was obtained, ethical approval from the appropriate ethics committee and protection of personal information. Additionally participants were not at risk and participation was entirely voluntary. The sample consisted of nurses in a private pathology laboratory via the questionnaire distribution, representing a non-probability sampling technique through a convenience sampling method. In order to determine if the sample was representative, the online questionnaire began with the consent and then screening questions; hence purposive sampling was conducted. The respondents were given the opportunity to choose whether to respond, known as volunteer sampling (Saunders and Lewis, 2018). The demographic questions determined whether the respondent was registered with SANC/HPCSA and ensured that current registered nurses were part of the study. The rank of the nurses, i.e. registered nurses, enrolled nurses and phlebotomists, were also determined. The separation of the rank was determined by the scope of practice. Phlebotomy technicians have a limited scope of practice, including drawing blood and performing nasopharyngeal swabbing to test for COVID-19 infection. The scope of practice of registered nurses and enrolled nurses has been outlined by SANC and includes administering medication and dealing with the general care and rehabilitation of patients. This scope of practice is based on the Nursing Act of 1978 (SANC, 2020). Other questions determined whether the nurse had a direct line manager/team leader, was patient-facing, worked at the Covid swab site, or was in direct contact with Covid positive patients. The registered nurses and enrolled nurses as well as phlebotomy technicians were included in the sample.

The remaining three sections contained questions from the Authentic leadership Questionnaire, JSRP scale and MBI–GS**.** The survey was piloted and then improved. The questionnaires were

distributed to 1 334 nurses and 246 responses were received, yielding a response rate of 18.07%.

Measures

Authentic Leadership. The ALQ was used as a measurement instrument for this study (Gardner *et al*., 2011). This is a 16-item questionnaire with four sub-scales, namely Self-awareness, Relational transparency, Internalised moral perspectives and Balanced processing. The total survey scores were obtained with permission from www.mindgarden.com. Permission to use a survey platform other than Mind Garden was also obtained. The copyright statement was reflected on the questionnaire. The questions were evaluated on a 5-point Likert scale, and responses were captured between 0 (not at all) and 4 (frequently, if not always).

Job-stress-related presenteeism. The researcher used the adapted, validated JSRP scale by George *et al*. (2017). *Job stress* was measured using a two-item scale. Instead of the 5-point Likert scale Gilbreath and Karimi (2012) used, the researcher used a 4-point Likert scale where 1 was strongly disagree and 4 strongly agree (George *et al*., 2017). In order to measure *JSRP*, the researcher used a 6-item scale. The researcher used a 3-point Likert scale: 1 - all the time, 2 - sometimes and 3 - never (George et al., 2017).

Burnout. The researcher used the MBI-GS as the measurement tool (Maslach *et al*., 2008). The tool consists of 22 items and 3 sub-constructs: Emotional exhaustion (7 items), Cynicism (7 items) and Professional efficacy (8 items). A 7-point Likert score was used, ranging from 0 (never) to 6 (always). For emotional exhaustion and cynicism, a lower score equated to a lower degree of burnout, whereas a lower score for professional efficacy equated to a higher degree of burnout (Maslach *et al.,* 2008).

Analysis approach

In order to conduct the analysis, data coding was conducted. The demographic variables were converted to binary variables to assist with the analysis. Reverse coding was done on the scale for JSRP, which kept the data consistent with job stress. The data was transferred to SPSS V26 and entered onto the SPSS analysis software tool in the format of a data matrix (Saunders & Lewis, 2018). The statistical analysis was performed at a 95% confidence interval ($p = 0.05$). In order to ensure content validity, questionnaires from existing measurement tools were used and pilot testing was done, to determine whether the questions were accurately interpreted. Exploratory factor analysis (EFA) and correlation coefficients were utilized to determine the validity of the constructs. The researcher utilised the most common EFA inspection techniques, namely Bartlett's test and the Kaiser-Meyer-Olkin (KMO). These tests measure the adequacy

of sampling. The KMO measure determines if there are latent factors, and Bartlett's test is a test of sphericity. The results were interpreted as follows: KMO > 0.5 and Bartlett's test of sphericity p-value < 0.05 were considered acceptable. The sample consisted of one sub-group, namely nurses, and the population sampled was homogeneous, allowing for minimal variation of the data collection.

For reliability Cronbach's alpha was used, and the researcher regarded the lower limit of 0.7 as acceptable. The Shapiro-Wilks test for normality was done as this detects all departures from normality. Normally distributed data can undergo parametric statistical testing; however, skewed data will undergo non-parametric testing. A p-value of less than 0.05 was used to reject the hypothesis of normality. The normality of the construct variables was also measured using kurtosis and skewness, with the benchmark of -2.58 to +2.58 used as the acceptable range (Hair *et al*., 2010).

In order to determine the relationship between the two variables (job stress and JSRP), Pearson's correlation coefficient was determined. The value of Pearson's *r* correlation ranges from 0 to 1, which can be positive or negative. If the result is closer to 1, then a strong relationship is noted, and if closer to 0, a weak relationship. A significance level of p = 0.005 was used in this study. The relationship between job stress and JSRP was first determined before testing whether AL had an effect on JSRP.

Multiple linear regression model testing was conducted as the study included an explanatory focus. The regression model predicted the value of the dependent variables (burnout, job stress and JSRP) on the independent variable.

Results

Demographic characteristics of the sample

The questionnaire was answered by predominantly females consisting of 225 (93.4%) females and the remaining 16 (6.6%) males. There were 117 (48.5%) respondents in the age group > 40 years, and 124 (51.5%) in the age group ≤ 40 years; 55.2% respondents were from KwaZulu Natal and 108 (44.8%) were from the other provinces in South Africa. The sample comprised 171 (71%) registered nurses and enrolled nurses and 70 (29%) phlebotomists; 174 (72.2%) respondents worked at the Covid swab sites, 231 (95.9%) were patient-facing, and 227 (94.2%)

of the respondents worked with Covid-positive patients; 179 (74.3%) had been with their line manager/supervisor for longer than 6 months and 62 (25.7%) for less than 6 months; finally, 115 (47.7%) of the respondents had a meeting with their line manager/supervisor more than once a week and 126 (52.3%) less than once a week, or had never had a meeting with their line manager/supervisor. Table 1 illustrates this demographic dimensions and percentages.

TABLE 1

Demographic profile of the sample

	Demographic data dimension	**Values in percentages**	
1	the percentage of males and females who participated in the study	Female: 93.4	Male: 6.6
2	the age group (≤40 and >40)	>40: 48.5	<40: 51.5
3	the geographic location	KZN: 44.8	Other: 55.2
4	the rank of the nurses	Nurses: 71	Phlebotomists: 29
5	percentage of respondents who worked at the Covid swab sites	At Covid-19 sites: 72.2	Not at Covid-19 sites: 27.8
6	percentage of respondents who were direct patient-facing	Direct patient facing: Yes: 95.9	Not direct patient facing: 4.1
7	percentage of nurses who worked with Covid positive patients	Work with Covid-19 positive patients: 94.2	Not work with Covid-19 positive patients: 14
8	tenure with the line manager/supervisor	< 6 months: 25.7	> 6 months: 74.3
9	interaction with the line manager/supervisor	Once or not at all: 52.3	More than once: 47.7

Source: Authors' own work

Descriptive Statistics

Authentic Leadership. Self-awareness, Relational transparency, Internalized moral perspectives and Balanced processing was measured on the ALQ scale. The sample reported that the majority of their line managers/supervisors had high levels of relational transparency with good communication that was open and transparent, with truth-telling. The majority also reported high levels of internalised moral perspective with managers that are ethical, consistent

and true to their core values. Additionally, respondents felt that their manager displayed balanced processing before making a decision as they very often or frequently listened to others' opinions and the decisions were also data-driven. Overall, most respondents felt that their manager displayed self-awareness as they were sometimes, fairly often or frequently aware of how others viewed their capabilities and how their actions impacted others.

Job stress. A total of 77.6% of respondents felt a great deal of stress because of their jobs, and 75.9% reported that their jobs were extremely stressful. Therefore, the majority of respondents strongly agreed or agreed that their jobs were extremely stressful and felt stressed due to their jobs.

JRSP. The perceived level of JSRP that the respondents reported was high: a total of 63.9% of respondents were unable to concentrate because of job stress, 77.6% spent a "significant proportion of their day coping with work stress", and 69.3% reported that mental energy, that should have been devoted to work, was spent on work stressors. Therefore, the majority of respondents experienced JSRP either sometimes or all the time, but despite this, 56.8% did not delay new projects due to work stress.

Burnout. The MBI-GS as the measurement tool (Maslach *et al*., 2008) reports on 3 sub-constructs: Emotional exhaustion, Cynicism and Professional efficacy. Despite the high levels of job stress and JRSP, the majority of respondents felt emotional exhaustion on a less frequent basis, typically less than a few times a month, and were still able to work with patients. In reporting cynicism, 72.2% never treated colleagues impersonally, 57.3% never felt that their job made them uncaring and 74.3% cared what happened to their colleagues: the majority of respondents felt cynicism less than a few times a month. The respondents also felt a high level of professional efficacy on a frequent basis.

Principle Component Analysis

Several questions were asked on the independent and dependent variables, and it was necessary

to determine if the data could be reduced to build a higher construct. Each of the variables was subjected to principal component analysis (PCA). Table 1 shows a summary of the PCA. The KMO measured sampling adequacy for the questions asked on the variables; the results were interpreted as follows: KMO > 0.5 and Bartlett's test of sphericity p-value < 0.05 were considered acceptable. The eigenvalue, which explains the percentage of variance for all constructs, was close to or higher than the 50% benchmark suggested by Hair *et al*. (2010). This indicates that all constructs exhibited acceptable levels of validity.

TABLE 2

Summary of PCA and Reliability

Construct	**No. of items prior to Cronbach's alpha**	**KMO**	**Bartlett's test of sphericity sig.**	**Initial eigenvalue % of variance**	**Reliability: Cronbach Alphas**
Authentic leadership	16	0.950	0.000	57.57	0.950
Job stress	2	0.500	0.000	85.96	0.836
JSRP	6	0.840	0.000	50.68	0.792
Emotional exhaustion	7	0.879	0.000	61.83	0.887
Cynicism	7	0.833	0.000	54.17	0.854
Professional efficacy	8	0.859	0.000	48.16	0.845

Source: Authors' own work

Internal Consistency and Reliability

The data from each of the sections of the questionnaire were checked for internal consistency and reliability. Table 2 shows that the Cronbach's alpha scores are greater than 0.7 and the data is therefore reliable.

Normality

Table 3 presents the mean, standard deviation, skewness and kurtosis results for each relevant

construct. As highlighted in Table 3, the range of the skewness and kurtosis is within the acceptable band of -2.58 to +2.58 (Hair *et al*., 2010).

TABLE 3

Tests for normality

N = 241					**Shapiro-Wilks test**		
Construct	**Mean**	**Std deviation**	**Skewness**	**Kurtosis**	**Statistic**	**df**	**p-value**
Authentic leadership	2.42	0.95	-0.275	-0.614	0.98	241	0.000
Job stress	3.029	0.82	-0.720	0.009	0.89	241	0.000
Reverse JSRP	1.707	0.41	0.120	-0.274	0.10	241	0.000
Emotional exhaustion	2.28	1.51	0.392	-0.860	0.96	241	0.000
Cynicism	1.42	1.27	1.160	0.495	0.87	241	0.000
Professional efficacy	4.36	1.22	-0.500	-0.538	0.95	241	0.000

Source: Authors' own work

Table 2 shows the results for the Shapiro-Wilks test for normality. This test is designed to detect all departures from normality and rejects the hypothesis of normality when the p-value is less than or equal to 0.05. In this research, all the variables show a p-value of less than 0.05; therefore all the variables were normally distributed.

Pearson correlation between Job Stress and JSRP relationship

Supervisors' behaviour (both positive and negative) have been associated with job stress, and job stress is an antecedent of JSRP (Gilbreath and Karimi, 2012; George *et al*., 2017). The research by these scholars determined the relationship between job stress and JSRP; therefore, before proceeding to test the hypotheses, the relationship between job stress and JSRP was determined.

Pearson's correlation coefficient was analysed to determine the relationship and strength of the relationship between job stress and JSRP. Table 4 shows the results of this analysis. Pearson's *r* coefficient is 0.586, which means that there is a significant positive correlation between job stress and JSRP; as job stress changes, so does JSRP. There is a strong correlation between the two variables as the *r* coefficient is closer to 1.

TABLE 4
Pearson's correlation coefficient of job stress and JSRP

		Job stress	**JSRP**
Job stress	Pearson's correlation	1	0.586**
	Sig 2-tailed		0.000
	N	241	241

**Correlation is significant at 0.001 (2-tailed)

Source: Authors' own work

Hypotheses testing

Linear regression was done to determine if there is a relationship between the independent variable AL and the dependent variables. Pearson coefficient was reviewed before regressions were done to determine whether the issue of multicollinearity was present, which would violate one of the assumptions of the regression model.

Hypothesis 1.

AL and emotional exhaustion. Table 5 presents the model summary, ANOVA and the regression model. The model summary shows an adjusted R square of 0.128, which means that 12.8% of variance of the dependent variable (emotional exhaustion) can be explained by the variance of the independent variable (AL). The remaining was 96.8% was due to other factors. The model significance was tested, and the F-statistic of 36.198 had a p-value < 0.001. This indicates that the regression model is significant and that the relationship between the

independent variable (AL) and the dependent variable is significant. The Beta coefficient value is -0.36, which suggests a negative relationship between the dependent and independent variables. In other words, when AL increases, emotional exhaustion decreases. However, the strength of the relationship is weak as the value is closer to 0.

TABLE 5

Model summary, ANOVA and regression model for hypothesis 1a on the relationship between AL and emotional exhaustion

Model summary					
Model	**R**	**R square**	**Adjusted R square**	**Std error of the estimate**	
1	0.363[a]	0.132	0.128	1.410	
a. Predictor: (Constant), Authentic leadership					
ANOVA[a]					
Model	**Sum of squares**	**df**	**Mean square**	**F**	**Sig**
Regression	72.015	1	72.015	36.198	0.000[b]
Residual	475.485	239	1.989		
Total	547.500	240			
a. Dependent variable: Emotional exhaustion b. Predictor: (Constant), Authentic leadership					
Regression model[a]					
Model	**Unstandardized coefficient**		**Standardized coefficient**		
	B	**Std error**	**Beta**	**t**	**Sig**
(Constant)	3.661	0.249		14.724	0.000
Authentic leadership	-0.575	0.096	-0.363	-6.016	0.000
a. Dependent variable: Emotional exhaustion					

Source: Authors' own work

AL and cynicism. Table 6 presents the model summary, ANOVA and the regression model. The model summary shows an adjusted R square of 0.113, which means that 11.3% of variance of the dependent variable (cynicism) can be explained by the variance of the independent variable (AL). The remaining was 88.7% was due to other factors. The model significance was tested, and the F-statistic of 36.638 had a p-value < 0.001. This indicates that the regression model is significant and that the relationship between the independent variable (AL) and the dependent variable (cynicism) is significant. Therefore, this is a good model fit. The Beta

coefficient value is -0.342, which suggests a negative relationship between the dependent and independent variables. In other words, when AL increases, cynicism decreases. However, the strength of the relationship is weak as the value is closer to 0.

TABLE 6
Model summary, ANOVA and regression model for hypothesis 1b on the relationship between AL and cynicism

Model summary					
Model	**R**	**R square**	**Adjusted R square**	**Std error of the estimate**	
1	0.342[a]	0.117	0.113	1.196	
a. Predictor: (Constant), Authentic leadership					
ANOVA[a]					
Model	**Sum of squares**	**df**	**Mean square**	**F**	**Sig**
Regression	45.264	1	45.264	31.638	0.000[b]
Residual	341.926	239	1.431		
Total	387.190	240			
a. Dependent variable: Cynicism b. Predictor: (Constant), Authentic leadership					
Regression model[a]					
	Unstandardized coefficients		**Standardized coefficient**		
Model	**B**	**Std error**	**Beta**	**t**	**Sig**
(Constant)	2.525	0.211		11.975	0.000
Authentic leadership	-0.456	0.081	-0.342	-5.625	0.000
a. Dependent variable: Cynicism					

Source: Authors' own work

AL and professional efficacy. Table 7 shows the model summary, ANOVA and the regression model. The model summary shows an adjusted R square of 0.094, which means that 9.4% of variance of the dependent variable (professional efficacy) can be explained by the variance of the independent variable (AL). The remaining was 90.6% was due to other factors. The model significance was tested, and the F-statistic of 25.856 had a p-value < 0.001. This indicates that the regression model is significant and that there is a significant relationship between the independent variable (AL) and the dependent variable (professional efficacy). The Beta coefficient value is 0.312 and this suggests a positive relationship between the AL and

professional efficacy. In other words, when AL increases, professional efficacy increases. However, the strength of the relationship is weak as the value is closer to 0.

TABLE 7

Model summary, ANOVA and regression model for hypothesis 1c on the relationship between AL and Professional efficacy

Model summary				
Model	**R**	**R square**	**Adjusted R square**	**Std error of the estimate**
1	0.312[a]	0.098	0.094	1.163
a. Predictor: (Constant), Authentic leadership				

ANOVA[a]					
Model	**Sum of squares**	**df**	**Mean square**	**f**	**Sig**
Regression	34.951	1	34.951	25.846	0.000[b]
Residual	332.193	239	1,352		
Total	358.144	240			
a. Dependent variable: Professional efficacy b. Predictor: (Constant), Authentic leadership					

Regression model[a]					
	Unstandardized coefficient		**Standardized coefficient**		
Model	**B**	**Std error**	**Beta**	**t**	**Sig**
Constant	3.387	0.205		16.524	0.000
Authentic leadership	0.400	0.079	0.312	5.084	0.000
a. Dependent variable: Professional efficacy					

Source: Authors' own work

Hypothesis 2

AL and job stress. Table 8 presents the model summary, ANOVA and the regression model. The model summary shows an adjusted R square of 0.073, which means that 7.3% of variance of the dependent variable (job stress) can be explained by the variance of the independent variable (AL). The remaining was 92.7% was due to other factors. The model significance was tested, and the F-statistic of 19.956 had a p-value < 0.001. This indicates that the regression model is significant and that the relationship between the independent variable (AL) and the dependent variable (job stress) is significant. The model is therefore a good fit. The Beta

coefficient value is -0.278 and this suggests a negative relationship between the dependent and independent variables. In other words, when AL increases, job stress decreases. However, the strength of the relationship is weak as the value is closer to 0.

TABLE 8
Model summary, ANOVA and regression model for hypothesis 2a on the relationship between AL and Job stress

Model summary					
Model	**R**	**R square**	**Adjusted R square**	**Std error of the estimate**	
1	0.278[a]	0.077	0.073	0.790	
a. Predictor: (Constant), Authentic leadership					
ANOVA[a]					
Model	**Sum of squares**	**df**	**Mean square**	**f**	**Sig**
Regression	12.469	1	12.469	19.956	0.000[b]
Residual	149.328	239	0.625		
Total	161.797	240			
a. Dependent variable: Job stress b. Predictor: (Constant), Authentic leadership					
Regression model[a]					
Model	**Unstandardized coefficients**		**Standardized coefficient**		
	B	**Std error**	**Beta**	**t**	**Sig**
Constant	3.608	0.139		25.879	0.000
Authentic leadership	-0.239	0.054	-0.278	-4.467	0.000
a. Dependent variable: Job stress					

Source: Authors' own work

AL and JSRP. Table 9 presents the model summary, ANOVA and the regression model. The model summary shows an adjusted R square of 0.109, which means that 10.9% of variance of the dependent variable (JSRP) can be explained by the variance of the independent variable (AL). The model significance was tested, and the F-statistic of 30.295 had a p-value < 0.001. This indicates that the regression model is significant and that there is a significant relationship between the independent variable (AL) and the dependent variable (JSRP). In other words, this model is a good fit. The Beta coefficient value is -0.335, which suggests a negative relationship between the dependent and independent variables. In other words, as AL increases, JSRP decreases. However, the strength of the relationship is weak as the value is closer to 0.

TABLE 9

Model summary, ANOVA and regression model for hypothesis 2b on the relationship between AL and Presenteeism

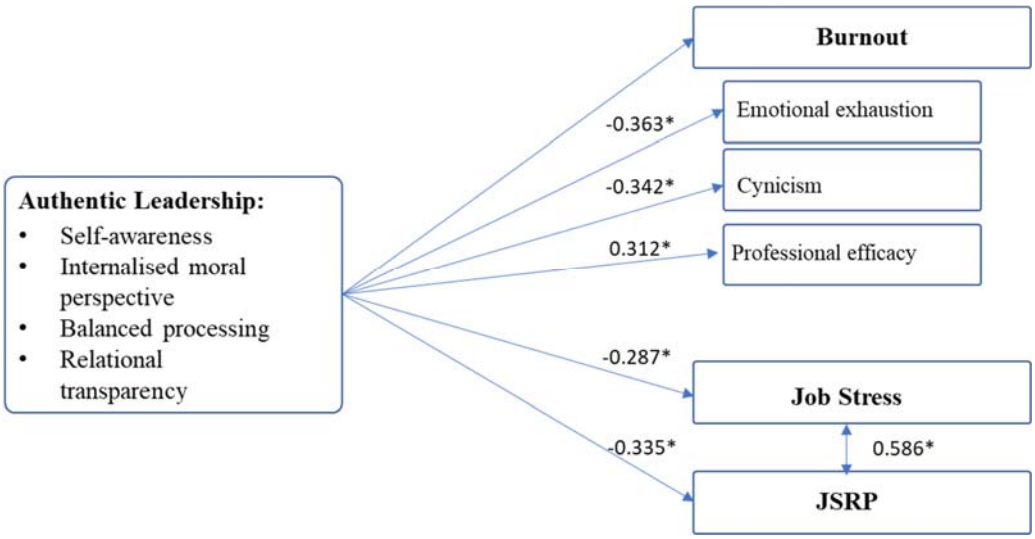
Model summary					
Model	**R[a]**	**R square**	**Adjusted R square**	**Std error of the estimate**	
1	0.335[a]	0.112	0.109	0.388	
a. Predictor: (Constant), Authentic leadership					
ANOVA[a]					
Model	**Sum of squares**	**df**	**Mean square**	**f**	**Sig**
Regression	4.561	1	4.561	30.295	0.000[b]
Residual	35.980	239	0.151		
Total	40.541	240			
a. Dependent variable: Presenteeism b. Predictor: (Constant), Authentic leadership					
Regression model[a]					
Model	**Unstandardized coefficients**		**Standardized coefficient**		
	B	**Std error**	**Beta**	**t**	**Sig**
Constant	2.058	0.068		30.082	0.000
Authentic leadership	-0.145	0.026	-0.335	-5.504	0.000
a. Dependent variable: Presenteeism					

Source: Authors' own work

There is a positive relationship between AL and professional efficacy; as AL increases, professional efficacy increases. There are negative relationships between AL and emotional exhaustion, cynicism, job stress and JSRP. Therefore, as AL increases, emotional exhaustion, cynicism, job stress and JSRP decrease. With regards to the control variables, none of them, including, gender, age, tenure with current manager, etc. had a significant influence on the models described above. Figure 2 below, illustrates the summary of the hypotheses and which of the relationships were significant.

FIGURE 2

Summary of findings



Source: Authors' own work

Discussion

Discussion of Hypothesis 1

Overall AL accounts for 33.5% of the variance of burnout and this means that there is residual variance in the sub-constructs that this particular leadership style cannot explain.

These factors may include any of the six factors from the areas of work-life balance model, such as organisational fairness and sense of control which may have been affected due to the challenges that leaders faced in the COVID-19 pandemic.

Employees who are in control of situations can experience less burnout (Maslach and Leiter, 2016) and authentic leaders can, through the dimension of balanced processing, exhibit consultative leadership, which will allow employees to feel more in control, thereby decreasing burnout. In addition, stress results in emotional exhaustion, cynicism and reduced professional

efficacy, resulting from relationships in the work environment (Maslach and Leiter, 2016) and highlighting the importance of developing healthy work relationships.

The loss of control can apply to the current COVID-19 pandemic as leaders have to implement extraordinary measures at short notice to remain relevant in the current environment. This study confirms that AL decreases job stress and therefore authentic leaders will reduce emotional exhaustion. Therefore, the assumption is that the AL style is advantageous during crises such as the current pandemic. In addition, through the relational dimension AL can foster healthy relationships to mitigate cynicism and increase professional efficacy.

This study confirms that AL effectively reduces burnout. The nurses in the laboratory expressed emotional exhaustion and cynicism on an infrequent basis and the leaders in this organisation did apply the AL style. Therefore, this organisation can decrease emotional exhaustion and cynicism and subsequently increase professional efficacy during the current pandemic, through this positive leadership. This would subsequently decrease the negative outcomes of burnout, including increased staff turnover, decreased productivity and compromised patient care.

The nurses in this study reported high levels of professional efficacy in the organisation, with the majority reporting that they were able to "accomplish worthwhile things through work" and had a "positive influence on people".

More than 90% of the respondents in the current study worked with COVID-19-positive patients and this would account for the levels of burnout in these respondents. Leadership during crises plays a key role to provide employees with the resources and tools to navigate through turmoil and perform their tasks.

Authentic leaders are known to create healthy work environments and positive psychology through balanced processing and relational transparency (Gardner *et al*., 2021). This has been

confirmed by the current study as the majority of nurses within the organisation felt that their line managers/supervisors displayed relational transparency through communication and consultation. The respondents also felt that their line managers/supervisors showed balanced processing by telling them "the hard truth", by soliciting "views that challenge his/her deeply held positions, analysing relevant data before coming to a decision" and finally by listening "carefully to different points of view before coming to conclusions". This confirms the importance of AL in the face of a crisis.

Discussion of Hypothesis 2

AL has a significant negative relationship with job stress and explained 7.3% of the variance. AL also has a significant negative relationship with JSRP and explained 10.9% of the variance.

Leadership has been shown to play a role in decreasing JSRP and this was confirmed in the current study and previous studies by George *et al*. (2017) and Gilbreath and Karimi (2017). This empirical study is also in line with the modified presenteeism framework presented by Lohaus and Habermann (2019) where emotional exhaustion is added as a work-related factor that can affect presenteeism; this framework includes emotional exhaustion and cynicism. Pearson's correlation coefficient (0.586) confirmed a strong positive relationship between job stress and JSRP, confirming that an increase in job stress will increase JSRP. This confirms the findings of Gilbreath and Karimi (2012) and George *et al*. (2017) and reinforces the finding that not only sickness should be regarded as an antecedent of presenteeism, but also job stress.

The results from this study confirm that leaders who are authentic, self-aware, consultative and transparent as displayed by authentic leaders are more likely to lead teams and employees who are less affected by burnout, job stress and JSRP and are therefore more engaged and productive. This will in turn prevent the negative outcomes of burnout and JSRP, such as increased turnover of staff, low job satisfaction and absenteeism during the pandemic.

Theoretical and practical implications

The study provided theoretical insights into the relationship between AL and the three sub-constructs of burnout, as well as between AL and job stress and JSRP in nurses during the COVID-19 pandemic. There is a positive correlation between job stress and JSRP, which adds to the body of knowledge on the effect of leadership styles on JSRP. This study also adds credibility to JSRP as a distinct entity.

The modified model of authentic leadership in the healthcare sector by Alilyyani *et al*. (2021) is based on a systematic review and this empirical study can add data to this model. In addition, the current study complements the findings of the study by Rainbow *et al*. (2021) and expands on the presenteeism in nursing model by adding authentic leadership as a positive leadership style that can positively affect presenteeism, stress and burnout. Therefore, this study can expand the presenteeism in nursing model proposed by Rainbow *et al*. (2021) and the areas of work-life model by adding authentic leadership style as an antecedent of a decrease in JSRP and burnout.

The study adds to the growing body of knowledge on burnout and job stress in frontline healthcare workers during the current pandemic, as well as to research on authentic leadership in the nursing profession. This study also adds to the literature on leadership in Africa and represents the first study on the effect of authentic leadership on burnout and JSRP in nurses in South Africa during the COVID-19 pandemic.

Organisations must develop coaching and mentoring programmes to develop authentic leaders within the healthcare sector. These organizations should offer executive coaching to nurse managers/leaders, focusing on increasing self-awareness and authenticity. Leaders must be encouraged to be more focused on self-reflection and personal development programmes (Scheepers and Storm, 2019). Developing leaders and leadership should be a multi-

disciplinary approach as suggested by Day *et al*. (2021) with a hybrid approach encompassing both formal and informal training. Developing self-awareness in leaders will therefore allow leaders to be acutely aware of their own feelings and behaviour and the emotions of their subordinates. In addition, leaders need to be driven by strong ethics and morals to make ethical decisions that would inculcate a culture of trust and honesty and prioritise quality patient care. Regular feedback must be gathered from nursing staff regarding workplace culture and satisfaction.

Limitations and future research

The study was done in a private laboratory and may not be representative of the entire population of nurses. This research was done in South Africa and is industry-specific, and therefore the findings of this study cannot be generalised to all employees or regions beyond the borders of South Africa.

This cross-sectional study highlights the need for organisations to develop value-based authentic leaders. A study on healthcare workers in the post-pandemic period and thus conduct a longitudinal study to measure leadership styles over a period of time, could be valuable.

Conclusion

Authentic leadership is a positive leadership style that is flexible, caring and empathetic and the type of leadership that is needed in an extreme context such as this pandemic. This study shows that authentic leadership decreases the adverse effects of burnout, job stress and JSRP. Leadership in the healthcare sector, especially during the pandemic, needs to be ethical and value-centric where patient care, quality healthcare and all healthcare workers' well-being are prioritised.

References

Alilyyani, B., Wong, C.A. and Cummings, G. (2018), "Antecedents, mediators, and outcomes of authentic leadership in healthcare: A systematic review", *International Journal of Nursing Studies*, Vol. 83, pp. 34–64.

Allen, M. and Cug, J. (2020), "Demoralization, fear, and burnout associated with being a COVID-19 frontline healthcare worker", *Psychosociological Issues in Human Resource Management,* Vol. 8 No. 1, pp. 43–48.

Alvesson, M. and Einola, K. (2019), "Warning for excessive positivity: Authentic leadership and other traps in leadership studies", *The Leadership Quarterly,* Vol. 30 No. 4, pp. 383–395.

Aronsson, G. and Gustafsson, K. (2005), "Sickness presenteeism: Prevalence, attendance-pressure factors, and an outline of a model for research", *Journal of Occupational and Environmental Medicine*, Vol. 47 No. 9, pp. 958–966.

Avolio, B.J. and Gardner, W.L. (2005), "Authentic leadership development: Getting to the root of positive forms of leadership", *The Leadership Quarterly,* Vol. 16 No. 3, pp. 315–338.

Avolio, B.J., Gardner, W.L., Walumbwa, F.O., Luthans, F. and May, D.R. (2004), "Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors*", The Leadership Quarterly,* Vol. 15 No. 6, pp. 801–823.

Bierla, I., Huver, B. and Richard, S. (2013), "New evidence on absenteeism and presenteeism", *The International Journal of Human Resource Management*, Vol. 24 No. 7, pp. 1536–1550.

Day, D.V, Riggio, R.E., Tan, S.J. and Conger, J.A. (2021), "Advancing the science of 21st-century leadership development: Theory, research, and practice, "*The Leadership Quarterly*, Vol. 32 No. 5, 101557. https://www.sciencedirect.com/science/article/pii/S104898432100062X?via%3Dihub

Freeling, M., Rainbow, J.G. and Chamberlain, D. (2020), "Painting a picture of nurse presenteeism: A multi-country integrative review: Nurse presenteeism: An integrative review", *International Journal of Nursing Studies,* Vol. 109, No. 103659. https://www.sciencedirect.com/science/article/abs/pii/S0020748920301437?via%3Dihub

Gardner, W.L., Avolio, B.J., Luthans, F., May, D.R. and Walumbwa, F. (2005), "Can you see the real me?" A self-based model of authentic leader and follower development", *The Leadership Quarterly,* Vol. 16 No. 3, pp. 343–372.

Gardner, W.L., Cogliser, C.C., Davis, K.M. and Dickens, M.P. (2011), "Authentic leadership: A review of the literature and research agenda", *The Leadership Quarterly,* Vol. 22 No. 6, pp. 1120–1145.

Gardner, W.L., Karam, E.P., Alvesson, M. and Einola, K. (2021), "Authentic leadership theory: The case for and against", *The Leadership Quarterly*, Vol. 32 No. 6, 101495. https://www.sciencedirect.com/science/article/pii/S1048984321000011

George, R., Chiba, M. and Scheepers, C. B. (2017), "An investigation into the effect of leadership style on stress-related presenteeism in South African knowledge workers", *South African Journal of Human Resource Management*, Vol. 15 No. 1, pp. 1–13.

Gilbreath, B. and Karimi, L. (2012), "Supervisor behavior and employee presenteeism", *International Journal of Leadership Studies*, Vol. 7 No. 1, pp. 114–131.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R. (2010). *Multivariate data analysis*. Uppersaddle River, NJ: Pearson Prentice Hall.

Johns, G. (2010), "Presenteeism in the workplace: A review and research agenda", *Journal of Organizational Behaviour,* Vol. 31 No. 4, pp. 519–542.

Lohaus, D. and Habermann, W. (2019), "Presenteeism: A review and research directions", *Human Resource Management Review,* Vol. 29 No. 1, pp. 43–58.

Lubbadeh, T. (2020), "Job burnout: A general literature review", *International Review of Management and Marketing,* Vol. 10 No. 3, pp. 7–15.

Maslach, C. and Leiter, M.P. (2016), "Understanding the burnout experience: recent research and its implications for psychiatry", *World Psychiatry,* Vol. 15 No. 2, pp. 103–111.

Maslach C., Leiter M.P. and Schaufeli, W.B. (2009), "Measuring burnout", In S. Cartwright & C. L. Cooper (Eds.), *The Oxford handbook of organizational well-being***.** Oxford: Oxford University Press.

Pieters, W.R. and Matheus, L. (2020), "Improving general health and reducing burnout of nurses in Namibia", *South African Journal of Human Resource Management,* Vol. 18 No. 1, pp. 1–13.

Rainbow, J.G., Gilbreath, B. and Steege, L.M. (2021), "Risky Business: A mediated model of antecedents and consequences of presenteeism in nursing", *Nursing Research*, Vol. 70 No. 2, pp. 85–94.

Rainbow, J.G. and Steege, L.M. (2017), "Presenteeism in nursing: An evolutionary concept analysis", *Nursing Outlook*, Vol. 65 No. 5, pp. 615–623.

Saunders, M.N.K. and Lewis, P. (2018), *Doing research in business & management: An essential guide to planning your project* (2nd ed.), England: Pearson Education.

Scheepers, C.B. and Elstob, S.L. (2016), "Beneficiary contact moderates relationship between authentic leadership and engagement", *South African Journal of Human Resource Management*, Vol. 14 No. 1, pp. 1–10.

Scheepers, C.B. and Storm, C.P. (2019), "Authentic leadership's influence on ambidexterity with mediators in the South African context", *European Business Review*, Vol. 31 No. 3, pp. 352-378.

Seligman, M.E.P. and Csikszentmihalyi, M. (2000), "Positive psychology: An introduction", *American Psychologist*, Vol. 55 No. 1, pp. 5–14. https://doi.org/10.1037/0003-066X.55.1.5

SANC (South African Nursing Council). (2021), *Scope of practice of nurses*. Assessed online https://www.sanc.co.za/r2598/. Viewed October 13, 2021

Vuorivirta-Vuoti, E., Kuha, S. and Kanste, O. (2023), "Nurse leaders' perceptions of future leadership in hospital settings in the post-pandemic era: a qualitative descriptive study", *Leadership in Health Services*, ahead-of-print, https://doi.org/10.1108/LHS-05-2023-0032

Wei, H., King, A., Jiang, Y., Sewell, K.A. and Lake, D.M. (2020), "The Impact of nurse leadership styles on nurse burnout: A systematic literature review", *Nurse Leader,* Vol. 18 No. 5, pp. 439–450.

Woo, T., Ho, R., Tang, A. and Tam, W. (2020), "Global prevalence of burnout symptoms among nurses: A systematic review and meta-analysis", *Journal of Psychiatric Research*, Vol. 123, pp. 9–20.

WHO (World Health Organization). (2021), WHO Coronovirus (COVID-19) overview dashboard. Assessed online https://covid19.who.int/table. Viewed October 30, 2021.

Yang, T., Zhu, M. and Xie, X. (2016), "The determinants of presenteeism: A comprehensive investigation of stress-related factors at work, health, and individual factors among the aging workforce", *Journal of Occupational Health,* Vol. 58 No. 1, pp. 25–35.