Work engagement among nurses in Malta: associations with psychosocial working conditions

Abstract

Engagement has been associated with several benefits in nursing, including work performance and retention. The Job Demands and Resources (JD-R) model proposes that workplace psychosocial resource availability may be positively associated with work engagement through a motivational process. Conversely, job demands may inhibit work engagement through a health impairment process. This study aimed to determine the strength and direction of relations between a set of job resources (manager support, peer support and workplace relationships), job demands, and work engagement in a sample of nurses in Malta. A cross-sectional survey was distributed to nurses in two medical facilities (*N* = 270). Hierarchical multiple linear regression was used to identify associations between psychosocial workplace factors and engagement. The study provided support for the JD-R, with associations identified between greater engagement and lower levels of work demands as well as greater management support. In view of the many benefits linked with engagement in nurses, fostering better psychosocial work conditions within medical facilities may be beneficial.

Keywords: engagement; nurse; demands; support; nursing management

1. Introduction

Several positive outcomes have been associated with engagement in nurses. These includes better levels of job performance (Keyko et al., 2016; Peng & Tseng, 2019), better quality of care, improved job satisfaction, decreased intent to leave nursing (Keyko et al., 2016), reduced hospital mortality rates and increased financial profitability for healthcare organisations (Bargagliotti, 2012). Despite these evident benefits, disagreement remains regarding engagement's definition and antecedents.

Engagement first became known through the writings of Kahn (1990), as the harnessing of workers to their responsibilities. Kahn distinguished between individuals investing themselves physically, emotionally and cognitively in the performance of their tasks. Since these early writings, two major approaches to engagement have emerged. The first approach views engagement and burnout as opposite poles of the same continuum (Maslach & Leiter, 2008). Engagement is viewed as a positive experience, characterised by three dimensions: energy, involvement, and efficacy, which are the opposites of the three dimensions of burnout; exhaustion, cynicism, and inefficacy, respectively. Consequently, followers of this approach studied engagement by means of tools designed to assess burnout, such as the Maslach Burnout Inventory (MBI) (Maslach, Jackson, & Leiter, 1996), where low levels of burnout indicated high levels of engagement (Maslach & Leiter, 2008). The second approach views engagement as a concept that is independent from burnout, although negatively related to it (Bakker et al., 2008). Rather, engagement is considered a positive affective and motivational occupational state (Bakker et al., 2008) that involves high levels of vigour, dedication and absorption (Schaufeli, Bakker, & Salanova, 2006). Vigour refers to high levels of energy, effort and mental resilience when working. Dedication involves viewing work enthusiastically, and as challenging and as meaningful. Absorption refers to being engrossed in one's work (Bakker et al., 2008). Researchers who aim to

measure engagement in this manner most often make use of a version of the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003). A systematic review of engagement studies that focused on nurses found the vast majority of studies used this second definition of engagement and employed a version of the Utrecht Work Engagement Scale (Keyko et al., 2016).

In view of the evident benefits of engagement, several authors have studied the predictors of this state. Of those studies that focus on nurses, many have studied factors consistent with elements of the Job Demands and Resources Model (JD-R) (Demerouti et al., 2001). The model assumes that the factors that are associated with the experience of stress can be classified into two categories: job demands and resources (Bakker & Demerouti, 2007). Job demands are job facets that require sustained physical and/or psychological effort. Job resources are those aspects that aid in achieving goals, reduce demands or stimulate growth. The model also assumes that two different processes influence the development of job strain and motivation. Excessive job demands reduce workers' mental and physical resources leading to exhaustion and health issues. Conversely, job resources can motivate, resulting in increased work engagement and performance. The model also assumes that resources can buffer the effect of demands on job strain, whilst resources particularly impact upon motivation and engagement when demands are high (Bakker & Demerouti, 2007).

Nurses must contend with various types of job demands. These may include excessive workloads, time demands, such as dealing with many tasks within a limited amount of time, physical demands such as aiding immobile patients, cognitive demands such as complex tasks which require nurses to analyse information and draw conclusions, and emotional

demands including coping with death and disease as well as dealing with difficult patients and relatives. In terms of demands in samples of nurses, Kunie et al. (2017) linked higher levels of demands with poorer levels of job engagement. This overall association between demands and engagement was confirmed by van Mol et al. (2018), who also highlighted that emotional demands, but not cognitive or physical demands were negatively associated with engagement in nurses. Cho, Laschinger and Wong (2006) and Fiabane et al. (2013) found that lower levels of workload were also associated with job engagement (unlike the former two studies, both conceptualised engagement as the opposite of burnout). However, not all studies with nurses have confirmed this association. Lewis and Cunningham (2006), for example, did not identify a link between engagement and workload.

In terms of resources, various have featured in the nursing literature. Amongst the most frequently researched is social support, which refers to support provided by leaders and co-workers, such as help during difficult episodes or supportive feedback on one's work. Social support has been associated with improved engagement (Brunetto et al., 2013; García-Sierra, Fernández-Castro, & Martínez-Zaragoza, 2016; Kunie et al., 2017; Simpson, 2009), although others have provided contradicting findings (Fiabane et al., 2013; Lewis & Cunningham, 2016). Othman and Nasurdin (2013) reported that whilst supervisor support was positively related to work engagement, co-workers support was not. Warshawsky, Havens, and Knafl (2012) determined that interpersonal relationships were predictive of nurse managers' work engagement. Work control (or autonomy) has also been associated with improved engagement (Cho, Laschinger, & Wong, 2006; Kunie et al., 2017; Lewis & Cunningham, 2006), however others have failed to identify such an association (Simpson, 2009; van Mol et al., 2018).

Potential outcomes of the interplay between demands and resources have also been associated with engagement. Good levels of mental health and job satisfaction have been linked with engagement (Fiabane et al., 2013), whilst role stress has been linked with lower levels of vigour and dedication (Garrosa et al., 2011).

Whilst it is evident that psychosocial working conditions may be associated with nurses' engagement, there remains a lack of clarity regarding the aetiology of this state. Furthermore, a study of the correlates of engagement in nurses in Malta has not been previously conducted. The JD-R model has proved to be a valuable framework to identify psychosocial factors likely to influence engagement and to explain associations. The JD-R thus underpins the current study.

2. Aims

The study aimed to determine the associations between work engagement and psychosocial factors in ward-based nurses working in the care of older adults. In line with the JD-R model, the study had the following hypotheses:

H1: Greater job demands are associated with lower levels of work engagement.

H2: Greater work resources including higher levels of manager support, peer support and workplace relationships are associated with greater levels of work engagement.

3. Methods

A paper-based cross-sectional survey was administered to nurses within two public medical facilities specialised in the care of the elderly in Malta. A total of 321 nurses from a total of 410 were contacted and invited to participate in the study. As the questionnaire was distributed by hand, nurses who were not present on the days attended by the principal researcher could not be contacted. 283 (88% return rate) of the distributed questionnaires were returned.

In order to protect participant's ethical rights, individuals were provided with a study information sheet and were required to sign a consent form. Questionnaires were returned anonymously. Institutional authorisation was obtained from participating medical facilities. The study received ethical approval from the Research Ethics Committee of the Faculty of Medicine and Health Science, University of Nottingham (ref: OVS19062014 SoM PAPsych).

3.1 Measures

3.1.1 Engagement

The nine-item Utrecht Work Engagement Scale (UWES-9) was used to measaure engagement (Schaufeli & Bakker, 2003). The tool uses a seven-point scale ranging from never (0) to always (6) to measure three facets of engagement: vigour ('At my work, I feel bursting with energy'), dedication ('I am enthusiastic about my job') and absorption ('I am immersed in my work'), with demonstrated reliability and validity (Schaufeli & Bakker, 2003). A mean scale score was calculated, with higher scores indicating higher levels of

engagement (α = 0.88). A mean score was also calculated for each of the sub-scales: vigour (α = 0.74), dedication (α = 0.83) and absorption (α = 0.73).

3.1.3 Psychosocial working conditions

In line with the JD-R (Demerouti et al., 2001), domains of the Management Standards Indicator Tool (MSIT; Health and Safety Executive [HSE], n.d., a), were used to measure job demands (eight items; α = 0.60, e.g., 'I have unachievable deadlines'), and several resources including managerial support (five items; α = 0.80, e.g., 'I can rely on my superior to help me out with a work problem'), peer support (four items; α = 0.81, e.g., 'If work gets difficult, my colleagues will help me'), and workplace relationships (four items; α = 0.60, e.g., 'I am subject to personal harassment in the form of unkind words or behaviour'). The MSIT is a reliable and valid tool (Cousins et al., 2004), with items being scored on a 5-point scale which ranged from never (1) to always (5), or strongly disagree (1) to strongly agree (5). Higher scores indicated more positive conditions: more manageable demands, better levels of support and relationships.

3.1.4 Demographics

Demographic information was collected on age, gender (male [1], female [2]) and grade. Ward-based nurses at the studied organisations were either clinical nurses (1) or charge / deputy-charge nurses with supervisory responsibilities (2).

3.2 Analysis

Thirteen questionnaires were not analysed due to large amounts of missing data (> 50%). Analyses were conducted on the remaining 270 questionnaires (66% of the total population). Small amounts of missing data were tackled via mean substitution. The technique was chosen as less than 10% of data were missing, and were seemingly missing at random (Donner, 1982).

Pearson's correlations were used to determine the strength and direction of associations between work engagement and psychosocial working conditions. Effect sizes of correlation coefficients were interpreted by means of Cohen's (1988) thresholds. Hierarchical multiple linear regression was then used to examine the portion of variance in work engagement explained by the psychosocial working conditions. The technique allows for multiple predictor variables to be used simultaneously, whilst also demonstrating how the addition of variables improves upon the variance explained by other variables (Leech, Barett, & Morgan, 2015). Variables were added to the regression in three stages. Demographic control variables were added in Step 1, these were followed by job demands in Step 2 and psychosocial workplace resources in Step 3.

4. Results

Bivariate correlations indicated that all the studied psychosocial variables were significantly associated with overall engagement (Table 1). Weak correlations in the expected direction were observed between engagement and job demands, peer support, and relationships. Associations between engagement and managerial support were of moderate strength, with higher engagement associated with higher managerial support. Significant associations between the studied psychosocial variables and the subscales of engagement were also in

the expected direction. Weak correlations were identified between vigour and demands, peer support and relationships. Moderate correlations were identified between vigour and management support. In terms of dedication, weak correlations were identified with peer support and relationships, whilst a moderate correlation was identified with management support. In terms of absorption, weak correlations were identified with peer support and management support.

Management support explained a significant portion of the variance in overall work engagement and its subscales after controlling for demographic characteristics and the other studied psychosocial working conditions (Table 2). None of the other studied psychosocial working conditions contributed significantly to the final models of overall engagement and its subscales. Work demands contributed significantly to Model 2 of overall engagement and vigour, however the statistical significance of these associations was lost with the addition of job resources in Model 3.

Demographic control variables also contributed to the final presented models. Older age was associated with greater engagement, vigour and absorption. Higher grade was also associated with vigour.

The final overall engagement model explained 15% of the variance ($F(7, 262) = 7.65$, $p < .001$). Regressions for vigour ($F(7, 262) = 10.59$, $p < .001$), dedication ($F(7, 262) = 5.09$, $p < .001$), and absorption ($F(7, 262) = 3.44$, $p = .002$), explained 20%, 10% and 6% of the total variance respectively.

5. Discussion

Greater levels of management support were associated with greater engagement and higher scores in each of its subscales.

Compared to norm scores provided by Schaufeli & Bakker (2003), mean engagement levels of the studied population, as well as its subscales were all within the average range, and thus engagement was neither high nor low. On the other hand, compared with the UK's Health and Safety Executive's (HSE) Management Standards for Stress norms (HSE, n.d., b), that rate standards by placing scores in one of four categories, mean relationship scores fell within the lowest category (less than the 20th percentile). According to the HSE, this indicates that relationship levels are a notable psychosocial risk and require urgent attention. Mean work demands, peer and management support all fell within the second category (20th till 50th percentile), suggesting that mean scores were also low, and therefore all warrant attention. As the study focused on nurses working with older adults, high levels of demands may be related to Malta's ageing population which places increasing pressure on healthcare resources. Maltese nurses have previously been shown to be emotionally exhausted and stressed (Galea, 2014), experience high levels of illness, such a musculoskeletal disorders and common mental health disorders, which affects their workability (Fiorini, Houdmont, & Griffiths, 2020), and have described nursing as difficult and hazardous occupation (Fiorini, Griffiths, & Houdmont, 2018). Taxing demands and poor health conditions may in turn make it difficult for nurses to support each other.

In terms of the study's first hypothesis, demands were not found to play a major role in engagement or its subscales in the current study. In line with the JD-R (Demerouti et al., 2001), associations with overall engagement and vigour were identified in the expected direction during bivariate analysis and during Step 2 of the multivariate model. A significant

association however was not identified in the final model. The link with vigour may be because it refers to the effort and resilience needed when tackling work demands. Whilst nursing studies have previously reported associations between demands and engagement (Kunie et al., 2017), others have failed to confirm their relevance (Lewis & Cunningham, 2016).

In line with the study's second hypothesis, job resources, specifically managerial support, was positively associated with engagement and its subscales. The relevance of social support has previously been reported in the nursing literature (Brunetto et al., 2013; García-Sierra, Fernández-Castro, & Martínez-Zaragoza, 2016; Kunie et al., 2017; Simpson, 2009). The finding that management support may be more impactful on engagement than peer support is not unique and has previously been reported by Othman and Nasurdin (2013). It is possible that unlike peers, supervisors and managers are able to make more tangible changes to nurses' tasks and work environments, which could have had a more meaningful impact upon the factors that make a job and workplace a more positive experience. Associations between engagement and both peer support and relationships were only significant during bivariate analysis. Difficult working conditions may have hindered nurses' ability to provide meaningful support to co-workers and may also have hampered relationships. Discussions held with nurses highlighted that they frequently worked with replacement staff, which also may have influenced the ability to form relationships and obtain support.

The current study therefore only highlighted partial support for the JD-R model in respect to engagement in nurses. Whilst significant bivariate associations were obtained between engagement and the independent variables in the hypothesised directions, multivariate

246 analysis provided limited support to link between engagement and work demands. Further
247 studies may thus be warranted to explore the role of demands on engagement in nurses
248 working in Malta and to identify other novel factors relevant to fostering engagement.

249 Whilst not the main focus of the study, older nurses were found to be more engaged. Older
250 employees were more likely to hold ward-supervisor responsibilities, however grade was
251 not associated with engagement, and was only significantly associated with the vigour
252 subscale. A limited number of studies have previously reported mixed findings with regards
253 to age. Simpson (2009) highlighted a positive but weak bivariate link between age and
254 engagement in nurses, Aboshaiqah et al. (2016) reported a negative association between
255 age and engagement, whilst Wan et al. (2017) reported a non-linear but significant
256 association, with the youngest and oldest nurses more engaged than those between the
257 ages of 25 and 44. In the current sample, older workers were also found to have better
258 relationships, which may have contributed to the finding. The current study was conducted
259 amongst nurses working with older adults; discussions with nurses revealed that young
260 nurses were often placed in such settings due to human resourcing needs but would
261 regularly leave to work in other settings when the opportunity would arise. This contrasted
262 with older staff who had chosen to stay in such settings, or chose to move to them, and thus
263 might also have contributed to the reported association.

264

265 **5.1 Limitations**

266 The study was cross-sectional in nature, whilst the method of recruitment may have
267 omitted individuals who were away from work due to vacation and sick leave. Conversely,

the study design facilitated participation, evidenced by the high percentage of returned questionnaires.

Some of the scales used, such as the MSIT demands scale, obtained rather low reliabilities. This may have affected the findings. However, all alpha coefficients were ≥0.60 which is considered acceptable (Taber, 2017).

Whilst the study aimed to determine the associations between engagement and several psychosocial working conditions, it is acknowledged that other potentially relevant factors were not studied. These included psychosocial factors such as autonomy (Kunie et al., 2017) as well as other personal factors.

5.2 Practical Implications

Despite its notable benefits, engagement levels were not found to be high. Furthermore, mean scores for all the studied psychosocial working factors were low and require attention. In particular, the study indicated that boosting management support could be beneficial although intervention studies are required to confirm this. Apart from its impact on work engagement, bivariate associations also highlighted links between better levels of management support with greater peer support, fewer work demands and better workplace relationships. Items measured in this regard included the availability of supportive feedback, managers helping with problems, managers' availability to discuss upsetting work events, support during emotionally demanding work, and the provision of encouragement (HSE, nd, a). In view of the low scores obtained in manager support, these factors should be explored and fostered. The current study's findings could be used to improve awareness amongst

those with management duties. Training for nurses with supervisory responsibilities may also aid in improving the levels of support that they provide.

In view of the difficult psychosocial working conditions, nurses may benefit from organizational-level interventions such as services that help them cope with both their working and personal situations; for example, fostering awareness of the Employee Assistance Programme for government workers which offers counselling services may be helpful. Equally, setting up occupational health services for nurses that includes counselling services may be advisable.

In addition to organizational-level interventions, the provision of training to help nurses to cope better with stressors, such as mindfulness training, and the setting up of health promotion programmes may also be beneficial. Both have been associated with improved workplace engagement (Knight, Patterson, & Dawson, 2019). Fostering self-management strategies such as self-observation (e.g., monitoring one's own behaviour) and self-goal setting have also shown promise in nurses (Breevaart, Bakker, & Demerouti, 2014). Studies also suggest that interventions that help individuals to build positive emotions, resilience and improve self-efficacy are also effective in improving engagement (Knight et al., 2019). Examples include interventions which aid individuals to identify and focus on their strengths, thus building self-efficacy, and reminiscing on positive work memories.

Associations between age and engagement highlight the value of older workers. Further studies, however, are warranted to explore why younger nurses were less engaged. The findings may indicate the importance of allowing employees to work in settings that reflect their interests.

6. Conclusion

The study determined that engagement levels in the studied sample were not high. Multivariate models provided support for the JD-R model and indicated that management support in particular was associated with greater levels of work engagement. Descriptive findings highlighted that support levels were low and thus should be fostered. Greater levels of management support were also associated with higher levels of peer support, lower work demands and better work relationships, further highlighting the possible benefits of fostering this psychosocial work factor.

Conflict of interest

The authors report no conflicts of interest.

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418

Table 1: Descriptive statistics and correlations between variables (*N*=270)

	Mean	*SD*	Range	1	2	3	4	5	6	7	8	9	10
Individual factors													
1. Gender	-	-	1-2										
2. Age	38.44	12.94	20-67	-.11*									
3. Grade	-	-	1-2	-.21***	.51***								
Psychosocial working conditions													
4. Demands	3.07	0.51	1-5	-,14**	.07	-.05							
5. Manager support	3.53	0.77	1-5	.06	-.02	-.02	.31***						
6. Peer support	3.82	0.65	1-5	.13*	-.11*	-.07	.14*	.66***					
7. Relationships	3.58	0.67	1-5	-.04	.15**	.18**	.41***	.37***	.36***				
Engagement													
8. Vigour	3.53	1.07	0-6	.02	.22***	.21***	.22***	.37***	.24***	.27***			
9. Dedication	4.54	1.10	0-6	.09	.11*	.08	.08	.30***	.25***	.14**	.60***		
10. Absorption	3.93	1.10	0-6	.09	.13*	.04	.00	.21***	.20***	.09	.50***	.67***	
11. Overall engagement	4.00	0.93	0-6	.07	.18**	.13*	.12*	.35***	.27***	.20**	.82***	.89***	.85***

*$p < .05$; **$p < .01$; ***$p < .001$. *SD*, Standard deviation.

Gender, 1 = male, 2 = female; Grade, 1 = nurse, 2 = deputy or charge nurse

423 Table 2: Hierarchical multiple regression analysis summary predicting overall engagement and its subscales

Variable			Engagement			Vigour			Dedication			Absorption		
			Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
		N	*β*	*β*	*β*	*β*	*β*	*β*	*β*	*β*	*β*	*β*	*β*	*β*
Gender	*Male*	76												
	Female	194	.11	.13*	.09	.07	.11	.07	.11	.13*	.09	.10	.10	.07
Grade	*Nurse*	209												
	Charge nurse	61	.07	.09	.07	.15*	.18*	.15*	.06	.07	.06	-.02	-.02	-.03
Age			.16*	.14*	.17*	.16*	.13	.15*	.09	.08	.11	.15*	.15*	.17*
Demands				.13*	.02		.23***	.10		.10	.01		.01	-.06

Management support			.27**			.29***			.23**			.16*
Peer support			.10			.04			.11			.12
Relationships			.02			.06			.00			.00
R^2	.05	.06	.17	.07	.12	.22	.02	.03	.12	.03	.03	.08
ΔR^2	.05	.01	.11	.07	.05	.10	.02	.01	.09	.03	.00	.06
Adj. R^2	.03	.05	.15	.06	.11	.20	.01	.02	.10	.02	.01	.06

*p< .05; **p < .01; ***p < .001; N = 270

β, standardized beta coefficient; N, number; R^2, explained variance; ΔR^2, change in explained variance; Adj. R^2, adjusted explained variance.