Cynicism about Change, Work Engagement and Job Satisfaction of Public Sector Nurses

Abstract

This paper uses the Job Demands-Resources (JD-R) theory to examine the consequences of changes to nursing work. Data were collected from 220 public sector nurses in Australia to test the model. We conducted a two-wave data collection process where independent variables (organisational change, workload, job control, nursing administrative stressors, cynicism about organisational change and demographic variables) were collected in Time 1. The dependent variables (nursing work engagement and job satisfaction) were collected six months later. Changes to nursing work were found to cause high workload and an increase of administrative stressors that lead to an increase in nurses' change cynicism. Job control was needed to cope with the increase in workload and reduction in cynicism about change. Cynicism about organisational change was found to have a direct negative effect on nurses' engagement which in turn was found to negatively impact on job satisfaction. Our contribution to theory and practice arises from the discovery that the connections between organisational change, work environment variables and job outcomes of nurses are more complicated than previous research suggests. Theoretical and practical implications will be discussed.

Keywords: organisational change, cynicism, engagement, job satisfaction, public sector

Introduction

A recent report by the Australian Productivity Commission advocates for changes to the design of nursing work to improve healthcare service delivery (Commonwealth of Australia 2015). Some examples of these changes include: reshaping of work teams, empowerment programs and new performance management systems (Newton et al. 2013). Change effectiveness can be affected by employees' cynicism about organisational change (CAOC) (Stanley et al. 2005). CAOC is defined as 'a pessimistic viewpoint about change efforts being successful because those responsible for making changes are blamed for being unmotivated, incompetent, or both' (Wanous et al. 2000: 133). CAOC is considered to incorporate an employee's suspicion about the wisdom of planned change efforts and the tendency to blame management for one's own negative attitudes about change (Choi 2011; Wanous et al. 2000). Research into CAOC and work attitudes is less well developed although a growing body of research suggesting that it negatively affects work attitudes and increases resistance to change as well as reducing work engagement and job satisfaction (Stanley et al. 2005; Thundiyil et al. 2015). Our examination of CAOC and employee attitudes contributes new theoretical perspectives to the job demands-resources model and new practical insights into how public sector managers might improve change efforts.

In this study, we analyse the relationships between CAOC and two employee attitudes and how these connect to organisational change management and the work environment. The first is work engagement, defined as 'a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption' (Schaufeli and Bakker 2004: 295). The second is job satisfaction, defined as when an employee has a feeling of pleasure about being at work and that their work gives them a sense of fulfillment (Warr and Inceoglu 2012). We aim to: (1) examine the extent to which organisational change affects the work environment of nurses working in the Australian public healthcare system; and (2) analyse the connections

between CAOC and employee engagement and job satisfaction among nurses. In pursuing these aims, we address pressing practice-world problems faced by healthcare managers (and public sector managers more generally) responsible for the implementation of change.

Hypothesis Development

Organisational Change in Public Sector and the JD-R Model

Organisational change in the public sector has been subjected to wide-ranging research that reveals positive and negative employee outcomes (Oreg et al. 2011). For instance, organisational change is positively associated with functional flexibility and empowerment (Cunningham et al. 1996). On the other hand, organisational change can result in excessive workload, decreasing morale, lower job satisfaction and higher job stress (Noblet and Rodwell 2009; Pick and Teo 2016). Research suggests that these negative consequences of change tend to be prevalent in the public sector than the private sector (Lindorff et al. 2011). In the context of our research, negative consequences of change on nursing work has also been associated with deterioration in standards of patient care (Duffield et al. 2011).

To understand the effects of organisational change in the public healthcare, we apply work environment theory (Skogstad et al. 2011). This theory applies a number of work environment and job characteristics variables such as job demands (JD) and job resources (JR) to explain job stress and interpersonal conflicts (e.g., workplace bullying). It is suggested that an increase of job demands and a lack of job resources may cause high levels of work-related stress and nuisance that cause interpersonal conflicts and employees' negative work experience and attitudes (Karasek 1979; Skogstad et al. 2011). One particularly influential perspective is the Job Demands-Resources (JD-R) model. This model describes the links between psychological work conditions, resources provided to employees and the outcomes of work and health (Demerouti et al. 2001).

The JD-R model specifies JD as the physical, social and organisational characteristics of a job that requires physical or mental effort (Demerouti et al. 2001). JR refers to physical, social and organisational resources that help employees achieve work objectives (Demerouti et al. 2001). An example of JR includes job control (such as autonomy and skill discretion) that helps reduce work pressures arising from JD by stimulating positive emotions and personal development (Bakker and Demerouti 2007). This is because "meeting … demands requires … investment of valued resources" (Lee and Ashforth 1996, cited in Bakker et al. 2014: 392). Put simply, as JD increases, JR will be depleted.

There is a significant body of research which supports the argument that organisational change has an impact on nurses' JD and JR. Loretto et al. (2010) provide evidence that change leads to work intensification in the UK healthcare sector. Public sector reform in Australia has been found to increase change-related stressors such as lack of unclear expectations and resources to accomplish tasks (Noblet et al. 2006). Australian healthcare organisations similarly experience the positive association between organisational change and non-nursing administrative stressors including a lack of information on why certain decisions are made, unrealistic performance targets and busy, fast paced workload (Teo et al. 2012). Organisational change has also resulted in an increase in workload in the form of an increase in non-nursing administrative stressors and a loss of job control (Teo et al. 2014; Teo et al. 2016). In light of these research findings, we hypothesise that:

Hypothesis 1: Organisational change will have a positive association with workload (1a) and job control (1b).

Hypothesis 2: Workload will have a negative association with job control.

Hypothesis 3: Workload (3a) will have a positive association with administrative stressors while job control (3b) will have a negative association with administrative stressors.

Nurses' Attitudes to Organisational Change

In the public university context, van Emmerik et al. (2009) contend that there is a close association between academic workload and their evaluation of organisational change. Yet, their study did not consider the possible effects of CAOC on employee evaluation of change. Cartwright and Holmes (2009) note that organisational change is positively associated with workload and employee cynicism about the actions of senior management especially when organisations provide little in return to their employees. Research suggests that information provision and participation in change decision-making can improve job control, which in turn has a negative association with CAOC (Bordia et al. 2004b; Brown and Cregan 2008; Wanous et al. 2000). Job control during change is positively associated with improved reactions to change (such as acceptance) and higher psychological wellbeing (Oreg et al. 2011). In light of the equivocal research findings about CAOC, workload, stressors and job control detailed above, we hypothesise:

> *Hypothesis 4: Workload (4a) and administrative stressors (4c) will have a positive relationship to CAOC while job control (4b) will have a negative association with CAOC.*

Consequences of Organisational Change

Negative relationships between job demands, work engagement and job satisfaction have been well established in the literature. Schaufeli and Bakker (2004) and Xanthopoulou et al. (2007) find that a higher level of workload depletes employees' energy levels. Bakker et al. (2014) note that high workload could lead to less work engagement when employees have to draw upon their positive energy to cope, "…which turns into exhaustion, involvement into cynicism, and efficacy into ineffectiveness" (Maslach and Leiter 1997, cited in Bakker et al. 2014: 391). Noblet and Rodwell (2009) indicate that police officers who experience a high level of JD tend to report lower job satisfaction. In the nursing context, Newton et al. (2013)

note the negative association between workload and job satisfaction. In light of these research findings, we hypothesise that:

Hypothesis 5: Workload is negatively related to work engagement (5a) and job satisfaction (5b).

Research evidence about the effect of job control on engagement is equivocal even though job control is widely thought of as a precursor to employee wellbeing (Bakker et al. 2014) and a key job resource when job demands are high (Saks and Gruman 2014). This is important because change recipients are generally averse to situations that are uncertain and that in turn trigger lower control at work (Bordia et al. 2004b). In an attempt to regain control during change, employees often seek relevant information and opportunities to participate in the decision-making (Ashford and Black 1996). If employees are provided with adequate job control, they tend to report higher level of organisational commitment and work engagement as they derive fulfilment from their job (Hakanen et al. 2008; Schaufeli and Bakker 2004). Similarly, a positive relationship between job control and job satisfaction has been found by Noblet and Rodwell (2009: 567) who contend that, "job control offers valuable opportunities for combating the negative consequences of … change". On the other hand, in the event of negative appraisals of change-related uncertainties, there is a concomitant increase in anxiety and psychological strain (DiFonzo and Bordia 2002). As a result of negative sentiments, employees might express lower engagement and job satisfaction (Schweiger and Denisi 1991). We therefore hypothesise the following:

Hypothesis 6: Job control is positively associated with engagement (6a) and job satisfaction (6b).

Public sector employees experiencing change-induced stressors tend to develop negative perceptions about their work environment. Noblet et al. (2005) point to negative effects of these stressors on job satisfaction and psychological wellbeing. In addition, Pick

and Teo (2016) argue that the provision of change information to middle managers can lead to a lower level of change-induced stressors. In the context of nursing, Newton et al. (2013) suggest that stressors can be reduced by introducing flexibility-promoting change practices. Therefore, we examine the extent to which there is a negative association between administrative stressors and job satisfaction.

Hypothesis 7. Administrative stressors are negatively associated with nurses work engagement (7a) and job satisfaction (7b).

As CAOC is a pessimistic view about the success of change efforts (Wanous et al. 2000). Past change failures and the perception that management is unmotivated and/or incompetent in their delivery of change information and participation might increase distrust and/or pessimism among employees (Bommer et al. 2005; Reichers et al. 1997; Wanous et al. 2000). The relationship between CAOC and work engagement is therefore important. This is because CAOC can be deployed as an indicator of how employees become resistant to change. When employees find it difficult to identify with their employers during a change episode, this might lead to a reduction in their work engagement (Cartwright and Holmes 2006).

Failure to effectively manage employee CAOC could also result in lower job satisfaction (Reichers et al. 1997; Wanous et al. 2000). Chiaburu et al. (2013) note that employees who possess cynical attitudes toward their organisations tend to demonstrate low job satisfaction. A recent meta-analytical review by Thundiyil et al. (2015) provides empirical evidence to support the idea that there is a negative association between CAOC, work engagement and job satisfaction. Hence, we hypothesise the following:

Hypothesis 8: CAOC is negatively associated with work engagement (8a) and job satisfaction (8b).

The relationship between work engagement and job satisfaction has generated much interest among researchers. Many scholars (e.g., Saks 2006; Schaufeli 2013) have argued that job satisfaction is different from engagement in that job satisfaction is "… a function of perceptions and affect towards the job while work engagement is the content of the work itself" (Alarcon and Lyons 2011: 465-466). In turn, work engagement and job satisfaction are both connected to employee motivation and commitment that could be described as levels of 'investment of personal energy' (Warr and Inceoglu 2012: 2383). Work engagement has been found to positively impact on job satisfaction in the general population (Saks, 2006) and nurses in particular (Shacklock et al. 2014). Therefore, we test the following hypothesis:

Hypothesis 9: Work engagement is positively associated with job satisfaction.

There exist relatively few studies that examine the relationship between CAOC, employee engagement and job satisfaction. There is, however, research that provide pointers to these connections. Wanous et al. (2000) find that employees tend to react negatively to organisational change when they feel that they have been "uninformed and uninvolved" in the decision-making process. This finding can be developed through reference to Broner (2003) who concludes that public sector educators react negatively to organisational change when feel that the change efforts were not beneficial. Taken together, these two studies suggest 'negative' reactions to organisational change. Assuming that cynicism is also a negative reaction it might be safe to contend that job outcomes are negatively affected by CAOC.

The association between job outcomes and CAOC has some empirical support. Abraham (2000) notes that employees develop CAOC when they feel that there is a degree of violation of his/her psychological contract and that their job control is compromised. Abraham's (2000) study provides evidence to support the idea that CAOC is associated with job dissatisfaction because employees do not perceive any potential improvement to their job

arising from the proposed changes. This argument is supported by Volpe et al. (2014) who find that change cynicism explains about half of the variance in job satisfaction among the nurses and physicians they surveyed. Watt and Piotrowski (2008) also provide evidence that CAOC has a significant negative association with work engagement.

In this study, we examine the contention that work engagement is a mediator of the impact of CAOC on job satisfaction. In situations where CAOC is low, we might expect job satisfaction to be mediated by work engagement because employees have positive energy at work. On the other hand, in situations when CAOC is high, it might be that engagement is weakened by low energy levels associated with the negative influence of cynicism. This in turn could be connected to lower job satisfaction. Therefore, we hypothesise:

Hypothesis 10: Work engagement mediates the relationship between CAOC and job satisfaction.

Figure 1 summarises the hypothesised relationship outlined above.

Insert Figure 1 about here

Method

Sampling

We employed a two-wave survey to collect data from a sample of nurses working in the Australian healthcare sector in 2013. To do this we employed the services of a research company who assisted in recruiting participants. This approach ensures a robust convenience sample in situations where organisational samples are difficult to access (Landers and Behrend 2015). An online panel also provides an efficient and effective approach to sampling a specific population of interest in that it allows the researchers to approach participants who are able to provide reliable and valid data (Brandon et al. 2014; Roulin 2015). Furthermore, an online panel sample allows the collection of data from the same respondents at two different points in time. This approach is useful for minimising the effects of common

method variance and enhancing the generalisability of research findings (Brandon et al. 2014; Jakobsen and Jensen 2015; Podsakoff et al. 2003).

In wave one (T1), we collected demographic information and data on independent variables (i.e., workload and nursing administrative stress, job control, and cynicism about organisational change). In six months later (T2), we collected data on dependent variables including nursing work engagement and job satisfaction from respondents who participated in T1. The final sample size of 220 usable responses (response rate 49.90%) has sufficient power and effect size for accuracy and flexibility of six predictors in the proposed model (Cohen 1988; Faul et al. 2009).

Nearly half of the respondents (43.2%) were employed by state/federal healthcare organisations. Respondents were mainly from New South Wales (31.8%) and Victoria (27.7%). The majority were female (85%). Nearly half of the respondents (47.7%) were full-time nurses and 43.6% were working part-time. Most of them worked in a clinical unit (58.2%). Nearly two-third (65.5%) held non-supervisory position in their current organisations. Of the respondents, nearly half (44.1%) had more than 3 years' work experience with their current organisations and over one-quarter (26.8%) had more than 10 years of experience.

Measures

Validated scales in previous studies with different criterion measures were adopted in our study. This approach provides additional safeguards against the effects of common method variance (Chang et al. 2010; Podsakoff et al. 2003). Descriptive statistics, zero-order Pearson correlations, and exploratory factor analyses (EFA) were produced by using IBM *SPSS v24*. We then used IBM *AMOS v24* to check the convergent and discriminant validity of all the scales and to test the hypothesised model. Confirmatory factor analyses (CFA) were

undertaken for each of the scales as well as the measurement model. Minimum model fit indices were determined following Byrne (2009) and Hu and Bentler (1998).

Organisational change. A 13-item scale from Loretto et al. (2010) was adopted to measure the changes in the workplace and job, respectively. Respondents were asked to indicate their perceptions of changes over the past 12 months from a five-point Likert scale from '1' = decreased a lot to '5' = increased a lot, such that a high score indicated greater increase. Four dimensions of organisational change included Training and Development (α = 0.86), Work Content (α = 0.75), Peer Contact (α = 0.57), and Patient Contact (α = 0.80). CFA showed that a four-factor scale had good model fit (χ^2/df = 1.31, CFI = 0.99, TLI = 0.98, RMSEA = 0.04).

Job Demands. We used 11 items adopted from Caplan, Cobb, French, van Harrison and Pinneau (1980) to measure job demands. Factor analyses resulted in two dimensions, 'role overload' (sample item: "how often does your job require you to work very fast", α = 0.91) and 'quantitative workload' (sample item: "how much workload do you have", α = 0.79). CFA showed that the two-factor scale had a good model (χ^2/df = 0.10, CFI = 1.00, TLI = 1.01, RMSEA = 0.00). A second order composite factor was subsequently created.

Job Control. We used three items from Karasek et al. (1998) to measure the degree of job control. Respondents were asked to indicate their agreement level of statements demonstrating their jobs on a five-point Likert scale, from '1' = strongly disagree to '5' = strongly agree. Sample items included, "My job requires that I learn new things".

Change-induced, Administrative Stressors. Following Teo et al. (2012), we used five items to measure non-nursing, change-induced administrative stressors. Sample items included, "lack of recognition for good work". Respondents were asked to indicate how often they found the situations in their current unit to be stressful on a five-point Likert scale, from '1' = not at all to '7' = major source of stress.

Cynicism about Organisational Change (CAOC). Following Wanous et al. (2000), we used their eight-item scale to measure the level of cynicism about organisational change. A CFA test showed that the scale had two-dimensions with six items. We therefore removed the two items with low factor loadings (< 0.50) (Garver and Mentzer 1999). The first dimension was Pessimism (three items, $\alpha = 0.91$, sample item: "plans for future improvement will not amount to much"). The second dimension was Dispositional Attribution (three items, $\alpha = 0.88$, sample item: "the people responsible for solving problems around here do not try hard enough to solve them"). A second order composite factor was created for the path model which demonstrated a good fit ($\chi^2/df = 0.63$, CFI = 1.00, TLI = 1.01, RMSEA = 0.00).

Work Engagement. To measure the work engagement of nurses, we used the nine-item Schaufeli and Bakker (2003) Utrecht Work Engagement scale (sample item: "At my work, I feel bursting with energy"). Respondents were asked to indicate their experience of work on a seven-point Likert scale from '1' = strongly disagree to '7' = strongly agree.

Job Satisfaction. We used a two-dimension scale from Cook et al. (1981) to measure intrinsic and extrinsic aspects of job satisfaction. Respondents were asked to indicate how satisfied they felt with their jobs on a seven-point Likert scale, from '1' = extremely satisfied to '5' = extremely dissatisfied. CFA showed that job satisfaction had two dimensions comprised of eight items. The first dimension was intrinsic satisfaction (four items, $\alpha = 0.83$, sample item: "the physical work conditions"). The second dimension was extrinsic satisfaction (four items, $\alpha = 0.85$, sample item: "the recognition you get for good work"). The second order composite had a good model fit ($\chi^2/df = 1.63$, CFI = 0.99, TLI = 0.98, RMSEA = 0.05).

Control Variables. We controlled for gender, age, employment status, job title, and job tenure. In this study, results of ANOVA (with Tukey *post hoc* test) tests showed that there was difference between nurses who had different job tenure in relation to perceptions of

organisational change and engagement. Independent-Samples T test analyses showed that there are differences between males and females in relation to the studied constructs.

Model Estimation

Following Anderson and Gerbing (1988), we evaluated the convergent and discriminant validity of the seven scales. The evaluation of individual scales and the measurement model was respectively undertaken in IBM *AMOS v24*. The analysis of the whole hypothesised seven-factor measurement model including second-order constructs showed a good fit to the data (χ^2/df = 1.68, CFI = 0.94, TLI = 0.92, RMSEA = 0.06, SRMR = 0.07). Two tests were then conducted to check the discriminant validity between seven constructs. In the first test, we performed a series of CFAs on proposed model and other alternative measurement models (see Table 1). We compared Chi-square difference between the hypothesised model and the alternative models. As shown in Table 1, Model 1 which is the hypothesised model had the best fit to the data. The findings showed that the seven-factor model had discriminant validity.

Insert Table 1 about here

Following Fornell and Larcker's (1981) approach, we also calculated the square root of average variance extracted (AVE) for each construct to determine discriminant validity. The results in Table 2 showed that the square root of a construct's AVE is much larger than its correlation with any other. These tests showed that the scales in our model had discriminant validity. We created the composite measures by imputing the parameter estimates from the measurement model in IBM *AMOS v24*. These imputed constructs were then used for testing the hypothesised relationships.

Tests for Common Method Variance (CMV)

To reduce the likelihood of CMV, we followed Chang et al.'s (2010) procedural remedies in data collection process, questionnaire design, a mixed order of survey questions and the use of different scale types. We also applied two *ex post* tests to check for CMV (Podsakoff et al. 2003). Harman's single factor test resulted in 17 factors emerged with eigenvalues of greater than 1.0, which accounts for 72.3% of the variance in the exogenous and endogenous constructs. The 'marker variable' (social desirability scale) test showed that the difference of correlations of all constructs between before and after adding marker variable was 0.01. This result indicated that the inter-correlations between the endogenous and exogenous variables in the model were not influenced by the marker variable (Lindell and Whitney 2001). A *t*-test of mean difference was then conducted to compare the correlations of the model included marker variable and the one without marker variable. A large *p* value of 0.97 means insignificant difference between the two models, confirming that CMV has no major influence in this study.

Results

Table 2 presents the means, standard deviations (SD), composite reliability (CR) coefficients, AVE values, and zero-order Pearson correlations of the study constructs. In this study, we identified four types of changes in the Australian health sector, consistent with the changes in the UK healthcare sector (Loretto et al. 2010). Respondents indicated that over the past 12 months, the changes were related to training and development (M = 3.00, SD = .79), work content (M = 3.50, SD = 0.83), peer contact (M = 3.00, SD = .82), and patient contact (M = 3.30, SD = .72). Taken together, nurses reported that these changes to be about the mid-point level of the five-point scale.

Insert Table 2 about here

The structural model comprised of seven composite measures and control variables was tested in IBM *AMOS v24*. Our results indicate that females reported higher workload than their male counterparts (β = 0.19, $p < 0.01$) and full-time nurses reported less job satisfaction than part-time and casual nurses (β = -0.13, $p < 0.05$). The path analysis procedure showed that the model had a good fit (χ^2 = 22.645, df = 25, χ^2/df = 0.91, CFI= 1.00, TLI= 1.01, RMSEA= 0.00, SRMR= 0.05) and these indices satisfied the cut-off criteria (Byrne 2009; Hu and Bentler 1999). As expected, organisational change was positively related to workload (β = 0.31, $p < 0.001$) and job control (β = 0.33, $p < 0.001$). Thus, H1a and H1b were supported. Surprisingly, we found workload to have positively significant relationships with job control (β = 0.20, $p < 0.01$), that was contrary to hypothesis 2. As expected, workload was found to have a positive association with administrative stressors (β = 0.47, $p < 0.001$). Hypothesis H3a was supported. The relationship between job control and CAOC was found to be negatively and statistically significant (β = -0.12, $p < 0.05$), supporting hypothesis 4b. Hypothesis 4c was supported in that there was a positive and significant association between administrative stressors and cynicism (β = 0.47, $p < 0.001$). CAOC was found to have a negative association with engagement (β = -0.19, $p < 0.01$), supporting hypothesis 8a. Finally, as expected in hypothesis 9, there was a positively significant influence of engagement on job satisfaction (β = 0.39, $p < 0.001$). Figure 2 shows the significant paths resulting from the analysis.

Insert Figure 2 about here

Based on the results of path analysis, we then tested for mediation effect of work engagement using Hayes' (2013) PROCESS macro. A 95% confidence interval based on 1,000 bootstrap samples did not include zero, indicating definitive evidence of indirect effect

of CAOC on job satisfaction. We found that engagement fully mediated the relationship between CAOC and job satisfaction (β = -0.07, 95% CI: -0.13, -0.03).

Discussion and Implications

In this study, we set out to explore aspects of how organisational change effects on the work environment of nurses. Specifically, we looked to make a contribution to resolving questions about the impacts of CAOC and to assisting healthcare managers to find ways of improving change implementation. To this end, we aimed to examine the relationships between CAOC and two particular employee attitudes: work engagement and job satisfaction.

We found two paths of influence on nurses' CAOC. Path one is from organisational change to workload and from there to administrative stressors, and subsequently to CAOC. Path two is from organisational change to job control then to CAOC. Our findings also reinforce the argument that work environment factors are important to organisation change. In particular, we found that organisational change is related to an increase of workload (JD) and job control (JR). Contrary to the JD-R model (Schaufeli & Bakker 2004; Xanthopoulou et al. 2007), we found that JD had a positive association with JR. This finding most likely arose because in situations, like nursing, where there is a high level of workload, employees tend to reach out for more job control to help them cope with JD. This is a significant finding because while previous research suggests that job control (JR) has a positive impact on CAOC through employees being given opportunities to participate in change decision-making (Brown and Cregan 2008; Reichers et al. 1997; Wanous et al. 2000), our findings suggest that we also need to consider autonomous agentic action by employees seeking to assert job control.

Our second major finding is that CAOC had an indirect effect on job satisfaction via work engagement. This finding is consistent with the literature (Chiaburu et al. 2013; Thundiyil et al. 2015) which suggests that when nurses experience changes to their workplace

and job, they will develop a degree of cynicism, especially when they do not have a positive prior experience in change. A reduction of work engagement, will therefore most likely play out in decreasing job satisfaction (Reichers et al. 1997; Wanous et al. 2000).

Our study also provided additional empirical evidence to support the assertion that engagement and job satisfaction are distinct constructs (Alarcon and Lyons 2011; Saks 2006) and that engagement is a precursor to job satisfaction. Furthermore, we found that engagement has a direct impact on job satisfaction in the nursing context corroborating the findings of Saks (2006) and Shacklock et al. (2014) that positive work energy results in job satisfaction.

Finally, we discovered two ways that organisational change influences JD and JR. The first effect is that organisational change increases JD that in turn increases administrative stressors, which lead to an increase to CAOC. On the other hand, organisational change is associated with an increase in JR which is important and necessary to reduce the level of CAOC. While we did not find a direct relationship between CAOC and job satisfaction as shown in the literature (e.g. Chiaburu et al. 2013; Wanous et al. 2004), we did find that work engagement fully mediated the influence of CAOC on job satisfaction. Our study is thus one of the first to provide evidence that work engagement is a mediator of the relationship between CAOC to job satisfaction.

Managerial and Practical Implications

This study has implications for managers and supervisory staff that have roles in organisational change in public healthcare specifically and the public service more broadly. Our research lends weight to the arguments that the immediate and longer-term effects of change on the quality of work-life of staff need to be thought through and planned for before change is implemented. The findings corroborate the research by Falkenberg et al. (2009) which suggest that in high demand jobs such as nursing, the burden of organisational change

can lead to more stress and feelings of resistance to change that indirectly affects job satisfaction due to the reduction of work engagement. Research in the UK National Health Service (see Hyde et al. 2013) suggests that those who work in high-pressure work environments, like hospitals, are often cynical about change because they are aware that it does not often play out at the front line in the ways envisaged by senior management. Additional short-terms resources, training and support systems should therefore be provided to ward managers during change to give them breathing space away from the day-to-day pressures of service delivery so that they can effectively cope with and implement change (Hyde et al. 2013).

We suggest that those responsible for implementing change need to consider the implications of their actions in organisational change. Management could involve staff in change decision-making, empower employees with the ability to affect change, equip and provide them with high job control for the medium and longer-term objectives of organisational change. As we found, organisational change often leads to increased workload that in turn are associated with increased stress. In such situations, managers should not be surprised that there is increased cynicism about the change being implemented. Our findings suggest that managers could provide staff with more job control as a way of helping to buffer the negative effects of change. What is interesting about our study is that it sounds a clear warning to managers who do not pay attention to negative effects of increased workload, administrative stressors and CAOC. If they do this they risk long-term decreases in work engagement and job satisfaction. In short, change ends in failure.

Limitations and Future Research Implications

We acknowledged that using a single source of respondents places limits on the generalisability of our research findings (Chang et al. 2010; Podsakoff et al. 2003). However, our use of a two-wave data collection approach and procedural checks (see Chang et al. 2010;

Podsakoff et al. 2003) goes some way to giving our findings broader applicability and credibility. We do though suggest that future studies draw on multiple data sources collected in multiple waves (Chang et al. 2010). One suggestion is that data be collected from immediate supervisors of nurses as an additional way of measuring employees' work engagement. Further research could also be conducted to re-test our findings in other public sector contexts and perhaps investigate the effects of other personal and organisational work-related environmental factors such as leadership behaviours or social climate on work-related stress, frustration about job change and cynicism about organisational change (Skogstad et al. 2011).

Conclusion

Our study indicates that negative effects of change on the work environment can be ameliorated by reducing job demands (e.g., administrative stressors) and enhancing job resources (e.g., job control). This also helps to minimise cynicism about change and contributes to improving work engagement and job satisfaction.

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Table 1. Fit Comparison between Hypothesised Model and the Alternative Models

Model		λ^2	df	CFI	TLI	RMSEA	SRMR	
Model 1	Hypothesised model	340.09	203.00	0.94	0.92	0.06	0.07	
Model 2	Six-factor model (org change, JD+JC, admin stressors, cynicism, engagement, job satisfaction)	581.81	209.00	0.83	0.80	0.09	0.11	$\Delta\lambda^2(6) = 241.72$ $p < 0.001$
Model 3	Five-factor model (org change, JD+JC+admin stressors, cynicism, engagement, job satisfaction)	827.47	214.00	0.72	0.67	0.11	0.12	$\Delta\lambda^2(11) = 487.38$ $p < 0.001$
Model 4	Four-factor model (org change, JD+JC+admin stressors, cynicism, engagement+job satisfaction)	945.65	218.00	0.67	0.62	0.12	0.13	$\Delta\lambda^2(15) = 605.56$ $p < 0.001$
Model 5	Three-factor model (org change, JD+JC+ admin stressors, cynicism+engagement+job satisfaction)	1,054.03	221.00	0.62	0.57	0.13	0.16	$\Delta\lambda^2(18) = 713.94$ $p < 0.001$
Model 6	Two-factor model (org change +JD+JC+ admin stressors, cynicism+engagement+job satisfaction)	1,087.43	223.00	0.61	0.56	0.13	0.14	$\Delta\lambda^2(20) = 747.34$ $p < 0.001$
Model 7	Single factor model	1,524.41	224.00	0.41	0.34	0.16	0.17	$\Delta\lambda^2(21) = 1,184.32$ $p < 0.001$

Note:

Org change: organisational change

Admin stressor: administrative stressors

JC: Job control

N = 220

Table 2. Descriptive and Zero-order Pearson Correlations

	M	SD	AVE	CR	1	2	3	4	5
1. Gender	1.85	0.36	-	-	1				
2. Age	3.63	1.39	-	-	-0.03	1			
3. Employment status	1.61	0.64	-	-	0.20**	-0.06	1		
4. Job title	2.58	1.76	-	-	0.10	0.04	0.08	1	
5. Job tenure	3.37	1.32	-	-	-0.11	-0.13*	-0.15*	0.02	1
6. Organisational change	3.20	0.57	0.50	0.78	0.03	0.10	-0.04	0.04	0.02
7. Workload	3.76	0.86	0.85	0.92	-0.13	0.05	-0.02	0.05	-0.05
8. Job Control	3.28	0.84	0.67	0.89	-0.03	0.10	-0.07	-0.08	0.06
9. Administrative Stressors	3.10	0.97	0.63	0.89	-0.06	0.04	-0.04	-0.07	-0.08
10. CAOC	2.88	0.80	0.78	0.88	0.03	-0.08	-0.02	-0.04	0.07
11. Engagement	4.14	1.21	0.69	0.90	0.02	-0.03	-0.15*	-0.09	0.04
12. Job Satisfaction	4.39	1.14	0.85	0.92	0.03	-0.04	-0.03	-0.03	0.02

Note:

N = 220; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

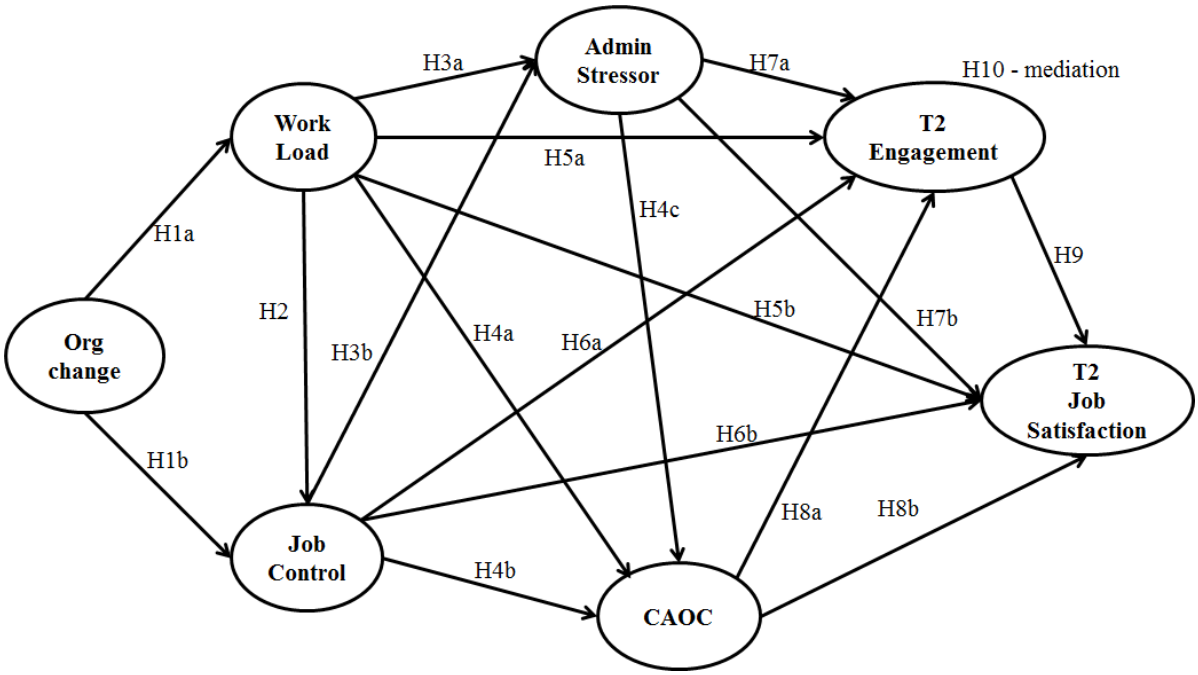
Table 2. Descriptive and Zero-order Pearson Correlations (continued)

	6	7	8	9	10	11	12
1. Gender							
2. Age							
3. Employment status							
4. Job title							
5. Job tenure							
6. Organisational change	***0.71***						
7. Workload	0.29***	***0.92***					
8. Job Control	0.39***	0.30***	***0.82***				
9. Administrative Stress	0.16*	0.47***	0.08	***0.79***			
10. CAOC	-0.02	0.18**	-0.08	0.46***	***0.88***		
11. Engagement	-0.02	0.03	0.07	-0.03	-0.19**	***0.83***	
12. Job Satisfaction	-0.05	-0.02	0.09	-0.04	-0.07	0.39***	***0.92***

Note:

N = 220; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Figure 1. Proposed model of the study

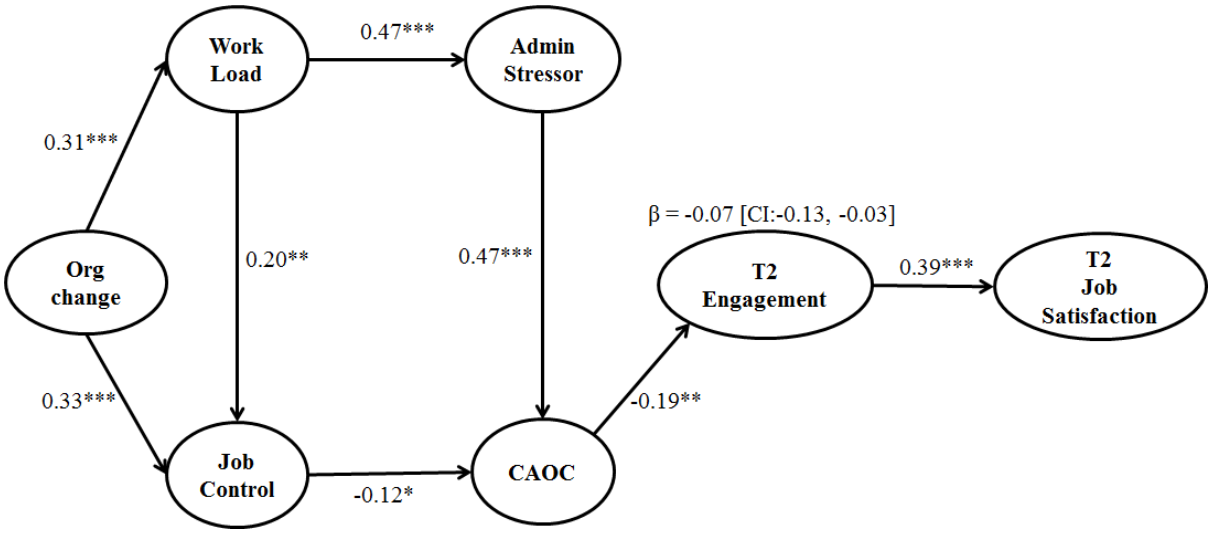


Note:

Org change: organisational change

Admin stressor: administrative stressors

Figure 2. Path analysis results



Note:

Org change: organisational change

Admin stressor: administrative stressors

N = 220, *$p < 0.05$, ***$p < 0.01$, ***$p < 0.001$

Control variables were included in the model