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Burnout and absence among hospital nurses: an empirical study of the role of context in Argentina

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Abstract: This study explores the role of contextual factors of significant relevance to hospitals and their impact on burnout. These include shiftwork rotation, stressful work units, and understaffing. The efficacy of absence as a coping mechanism in managing nurse burnout is examined in both the most and least stressful work units under conditions of shiftwork rotation and understaffing, respectively. The sample consists of 304 hospital nurses in Argentina. Hierarchical moderated regression analysis was employed to test the hypotheses. Results reveal that absence plays a complex and differential role in moderating the impact of shift work on nurse burnout. Absence mitigates the impact of emotional exhaustion on diminished personal accomplishment among fixed shift nurses who work in the least stressful units. But the pattern is different in more stressful units. Absence buffers the impact of emotional exhaustion on diminished personal accomplishment in units that are substantially understaffed. But its role changes when it comes to buffering the impact of emotional exhaustion on depersonalisation across levels of understaffing. Consequently, we argue that absence plays an attenuating role only when specific contextual factors cohere. Nurses who are aware of this contextual confluence manage their mental health better. We suggest that these findings have significant implications for health care management in Argentina.

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Keywords: burnout; absenteeism; shiftwork rotation; staffing; Argentina nurses.

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1 Introduction

Research in occupational mental health has been a subject of focus for quite some time (Baba et al., 1998; Blustein, 2008; Ford et al., 2011; Kahill, 1988). Among mental health concepts, burnout has been most often examined (Baba et al., 1998; Cordes and Dougherty, 1993; Kahill, 1988; Leiter, 1993; Maslach et al., 2001). Theoretical models of burnout cover a wide range of stressors as antecedents and organisationally relevant attitudes and behaviours as consequences (Lee and Ashforth, 1993, 1996). Several individual moderators of burnout have been investigated such as personality (Alarcon et al., 2009), cognitive control (Diestel, 2011), behavioural coping (Peeters and Rutte, 2005), rational and emotional coping (Rioli and Savicki, 2003), and absence (Hackett and Bycio, 1996). Yet, there is little attention paid to the presence of contextual factors that can alter how one copes with burnout (Cropanzano et al., 2003; Ford et al., 2011; Wright and Cropanzano, 1998). This can be attributed to a lack of exploration of country specific contextual or cultural factors in modelling burnout. Our interest in this research is to focus on micro-level explanations of individual differences. However, we argue that explanatory factors at the individual level need to be placed in a larger context in order to develop portable conceptual models (Minbaeva, 2016). Although the meaning of concepts is related to one's own experiences, such experiences are conditioned by the

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social environment. Consequently, the purpose of this study is to examine how nurses cope with burnout at work in public hospitals in Argentina. The health care system in Argentina is characterised by an alarming shortage of nurses as reflected by a ratio of 1.55 nurses per thousand individuals (Kruth, 2013; Siantz de Leon and Malvárez, 2008). Such shortage contributes to severe understaffing, high job demands, and huge workloads. To further exacerbate this situation, Argentina is experiencing a shortage of registered nurses (RN), which puts more responsibilities and job demands on current nursing staff increasing their stress levels (Siantz de Leon and Malvárez, 2008).

There is documentation that nursing is an occupation prone to stress and burnout (Parker and Kulik, 1995). Nursing work is fraught with uncertainty and resource shortages with little control over the work environment and resources available to meet job demands (Garrett and McDaniel, 2001). The workload is heavy, shifts are disruptive, demands are unrelenting, time is tight, and staffing is short (Duquette et al., 1994). These conditions are stressful and result in adverse outcomes for the nurse and the patient (Laschinger and Leiter, 2006; McVicar, 2003). Globally, nursing is changing dramatically with intensification of patient care, the need to master new and evolving technology, increased workload, and inadequate resources (Guevara and Mendias, 2002). Many tasks previously handled by physicians have been transferred to nurses, thereby increasing responsibility and accountability without commensurate increase in authority or autonomy (Baumgart and Larsen, 1992). This has led to dissatisfaction among nurses (Hibberd, 1992).

Limited resources, nursing shortage, and a changing landscape pose critical challenges in health care, particularly in developing countries with rising aspirations and recurrent financial and political crises. Argentina is an example of a country that has experienced frequent economic downturns with a simultaneous increase in demand for better health care. Nurses in Argentina face recurrent problems such as increased workloads, decreased job security, insufficient supplies, low salaries, and a need for greater technical competence (Aspiazu, 2017; Guevara and Mendias, 2002; Heredia et al., 2001).

According to the Ministry of Health in Argentina, there is no Advanced Practice Nursing in Argentina. Recently established in 2008, the registry for licensed nurses shows that registered nurses (RN) are not the largest component of the healthcare workforce in Argentina (Siantz de Leon and Malvárez, 2008; Kruth, 2013). Nursing in Latin America is based on three levels of training, which include registered professional nurses (RN), technically trained nurses and auxiliary nurses - something akin to a nurse's aide. In Argentina, about 62% of nurse practitioners are auxiliary. Developed economies offer higher salaries and better living and working conditions to registered nurses (RN) as well as opportunities for advanced nursing education. RNs in Latin America are attracted by these pull factors and tend to migrate to developed economies that are also facing a shortage of nurses (Malvárez et al., 2006; Siantz de Leon and Malvárez, 2008). In 2010, the World Health Organization estimated that Argentina had one of the lowest densities of nursing personnel and midwifery per 10,000 in population. This problem is further exacerbated by a 70% dropout rate of students in nursing schools in Argentina (Durante, 2012). Therefore, Argentina faces problems with attracting, training and retaining nurses in the country. Such problems directly impact the quality and delivery of healthcare, and patient and nurse outcomes (Aspiazu, 2017). Furthermore, it means that Argentinian hospitals have to provide patient services in the context of an alarming shortage of nurses.

In 2016, Macri became the third non-Peronist leader since the end of the military rule in 1983. Much needs to be done to grow the economy after some 60 years of populism and dictatorship. Public hospitals in Argentina receive their budgets from the government. Therefore, unless major economic changes bring back some prosperity to the country, public hospitals will find it very challenging to provide adequate healthcare to the population. Such a situation will directly impact the work of nurses. As is, a majority of nurses in Argentina are not satisfied with their jobs (Ferraro, 2016). This is largely due to poor working conditions and inadequate compensation (Aspiazu, 2017; Ferraro, 2016). To make up for the low salaries many nurses engage in moonlighting. In fact, it has been estimated that as high as 43% of nurses in Argentina hold second jobs (Aspiazu, 2017). In addition, short training periods for nurses leave them feeling inadequate in terms of their skill levels (Aspiazu, 2017). Moonlighting among nurses is known to be disruptive (Rispel et al., 2014) and so do inadequacies in training (Aspiazu, 2017). They cause stress. Such stress tends to persist among Argentinian nurses without effective means of dissipation or relief (Ferraro, 2016). There is strong endorsement in the literature as well that chronic stress leads to burnout (Maslach et al., 2001). As a result, we can anticipate that burnout will be a serious threat to the mental health of nurses in Argentina (Ferraro, 2016). Yet there is little research on the consequences of such problems for them.

Therefore, this study will focus on burnout among nurses in Argentina. The objective is to understand how nurses cope with burnout under aversive working conditions. In doing so, we will explore the role of absence. We understand absence as a possible withdrawal behaviour to escape aversive working conditions that present a threat to one's physical and mental health. Absence can also be viewed as a precursor to turnover among nurses (Borda and Norman, 1997). Moreover, research reveals that work characteristics can predict sickness absence during periods of economic decline (Kivimäki et al., 1997). However, our motivation is triggered by the multiple roles that absence can play in shaping organisational behaviour (Johns and Nicholson, 1982). Consequently, we argue that absence can be mindful and be used as a proactive means to alleviate burnout. Absence can be motivated by a need to replenish when nurses feel physically or emotionally depleted (Hackett and Bycio, 1996). Therefore, without ascribing motives to one's absence, we examine whether volitional absence has the potential to buffer the detrimental effects of burnout. In doing so, we focus on the actual context of work in the public hospitals in Argentina. The current shortage of nurses negatively impacts working conditions of public hospital nurses. Consequently, we are interested in understaffing as a major contextual factor that can exacerbate job demands. We further want to understand how burnout is experienced among nurses who work in units or wards that are considered to be among the most stressful in public hospitals. Finally, we add another situational dimension by focusing on shiftwork rotation. The shortage of nurses not only contributes to understaffing and elevated stress levels in some work units or wards, but it also means that resources need to be stretched. Consequently, many nurses in public hospitals have to work rotating shifts in order to have sufficient personnel around the clock. Shift work is known for its disruptive impact on one's overall quality of life. Although shift work is not specific to Argentinean nurses, we do think that working on rotating shifts in stressful work units or wards with limited resources needs to be viewed as a potential exacerbating factor that can increase the likelihood of burnout.

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Consequently, we will focus on whether absence can buffer burnout. We will further examine whether such moderating effect works equally well for nurses working rotating shifts in comparison to those who work fixed shifts. In addition, we will investigate how understaffing and working in stressful work units or wards influence the use of absence as a coping mechanism against burnout. Thus, our intention is twofold. First, we want to validate burnout theory in Argentina and address its cross-cultural or cross-national portability. Second, we want to document cultural or national variations in the manifestations of burnout. For a start, we think that findings obtained in Argentina may be replicated in Latin American countries or other developing countries with low densities of nursing and midwifery. Thus, we purposefully selected variables that can be tested in other countries with similar characteristics.

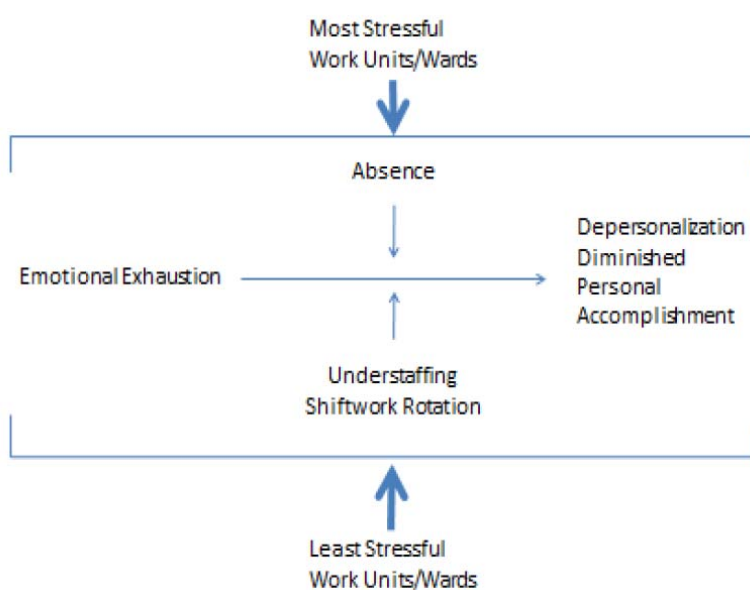
2 Theory and hypotheses

Burnout is a syndrome composed of a set of interrelated symptoms of emotional exhaustion, diminished personal accomplishment, and depersonalisation. It is a chronic and dysfunctional negative affective response pattern to stressful and aversive working conditions involving high interpersonal contacts (Cordes and Dougherty, 1993; Ganster and Schaubroeck, 1991). Maslach (2003) proposed that emotional exhaustion occurs as excessive job demands drain an individual's emotional resources, resulting in loss of energy or chronic fatigue. Such emotional exhaustion provokes a profound sense of inadequacy in dealing with the demands leading to a diminished sense of personal accomplishment (Maslach et al., 2001). A typical response to emotional exhaustion consists of distancing oneself from others and depersonalising them. Such defensive response is aimed at limiting one's psychological or social involvement with others (Cordes and Dougherty, 1993). The strength of these linkages are further influenced by coping mechanisms such as absence and other contextual demands such as shift work, stress levels in the work unit or ward, and chronic staffing shortages. The Conservation of Resources (COR) model (Hobfoll, 1989) applied to a hospital environment suggests that nurses will tend to withdraw from a work context that depletes their physical and psychological resources. When nurses are understaffed and work in a unit or ward that is highly stressful, depersonalisation will constitute a form of mental withdrawal aimed at preserving one's limited resources. One can infer from the foregoing that the effect of emotional exhaustion on depersonalisation can be altered by the use of absence. By physically distancing oneself from the work context, a nurse may reduce the detrimental effect of emotional exhaustion and recompose oneself. Absence in such cases acts as a buffer that minimises the need to psychologically distance oneself from others. By providing oneself an opportunity to replenish, a nurse may be able to maintain an adequate level of individualised care thus experiencing a sense of accomplishment at work in spite of a difficult work context. Similarly, disruption to the circadian rhythm caused by shift work rotation may drive a nurse to seek replenishment through absence while feeling exhausted. Nurses working on rotating shifts have to work with different supervisors and groups of nurses that operate differently. The physical and mental exhaustion that might result from such conditions can lead to depersonalisation and diminished personal accomplishment.

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We present here a conceptual model in which emotional exhaustion predicts depersonalisation and diminished personal accomplishment (Lee and Ashforth, 1993; 1996). We suggest absence as a buffer that alters the effect of emotional exhaustion by reducing the strength of its impact (Parker and Kulik, 1995; Tourigny et al., 2010a). We propose that shift work rotation, the stressfulness of the unit, and the degree of understaffing will exacerbate the effect of emotional exhaustion (von Treuer et al., 2014) unless absence is used as a coping mechanism aimed at replenishing one's physical and mental health. Figure 1 illustrates the model guiding the study.

Figure 1 Empirical model of burnout and its moderators



As can be seen in the model shown in Figure 1 emotional exhaustion is key to the aetiology of burnout as it provokes depersonalisation and diminished personal accomplishment (Lee and Ashforth, 1993, 1996). Although this relationship is well established in the empirical literature, we believe that it would strengthen our reliance on burnout theory if we validate it empirically among our sample of Argentinean nurses. Therefore, we propose:

Hypothesis 1: Emotional exhaustion has a positive effect on depersonalisation and diminished personal accomplishment.

2.1 Absence

Coping mechanisms lessen the detrimental effect of emotional exhaustion. Without an adequate coping mechanism, the chronic nature of burnout can lead to dysfunctional work adjustment such as tempering one's performance so as to strictly adhere to basic minimum requirements (Cropanzano et al., 2003; Wright and Cropanzano, 1998). Absence is simply time off from work. We know that volitional absence can buffer the effect of emotional exhaustion and prevent the onset of a depressive disorder (Tourigny

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et al., 2010a). However, its role in the mental health literature remains controversial. Absence has been conceived as a counterproductive and costly withdrawal behaviour (Parker and Kulik, 1995; Sagie et al., 2002). This is in line with organisation-centric management theories. Others consider it a preventive mechanism buffering burnout (Hackett and Bycio, 1996; Johns, 2002; Tourigny et al., 2010a). The role of absence as a buffer of burnout is consistent with the COR model (Hobfoll, 1989), which argues that people will protect their psychological and physical resources by deploying preventive mechanisms to arrest their depletion. The veracity of these theoretical frameworks varies with the samples under investigation. The literature on nurses seems to support the latter interpretation (e.g., Hackett and Bycio, 1996). As a result, we do not view absence as a counterproductive withdrawal behaviour but rather as a recuperative coping mechanism that can restore one's mental health. In the context of Argentina, nurses who do have to provide for a family do so with limited resources. As specified above, public hospitals do not get enough financial resources from the government and cannot offer competitive salaries to nurses. As a consequence, nurses are better off working overtime and longer shifts when the needs arise. Consequently, nurses who use absence do so when absolutely necessary or when their circumstances call for it. Therefore, we propose:

Hypothesis 2: The effect of emotional exhaustion on depersonalisation and diminished personal accomplishment is moderated by absence such that high absence will weaken the effect and low absence will strengthen it.

2.2 Contextual factors

We argued earlier with some theoretical justification that absence can buffer burnout. We now extend that argument by suggesting that absence actually influences burnout differentially, and that the sources of such difference lie in the context (Hackman, 2003; Johns, 2001, 2002, 2006). Consequently, we focus on contextual factors that can exacerbate symptoms of burnout and, in so doing, contain or augment the potential buffering effect of absence. We focus on three organisational factors that characterise the work of hospital nurses: shiftwork rotation, stressful work unit, and understaffing, all of which are considered relevant to mental health (Baba and Jamal, 1991; Blau and Lunz, 1999; Jamal and Baba, 1992, 1997). More importantly, we depart from the popular practice of looking at these context factors one by one. We believe that these factors acquire potency in combination. Consequently, we test two models that bundle specific contextual factors. In the first, we explore how absence buffers burnout in the context of rotating shifts. In the second, we analyse absence as a buffer in the context of understaffing. We also want to know how these models play out under varying stress levels in the units. Therefore, we test each model in the most and least stressful hospital units or wards.

2.2.1 Shiftwork rotation

Shiftwork rotation is a common practice in health care where nurses rotate their working shifts through the day, evening and night to provide round the clock care for patients. Rotating shift is known to affect cortisol profile, sleep quality, fatigue, attention level, decision making, moods, communication, and performance (Harrison and Horne, 2000;

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Niu, 2011). In addition, nurses working at night feel burdened by the added responsibility that comes with diminution in night-shift supervision (Powell, 2012). Shift work is also detrimental to the mental health of aging nurses (Clendon and Walker, 2013; Saksvik-Lehouillier et al., 2013). In their research on hospital nurses, von Treuer et al. (2014) found that organisational climate varied across different shifts and that such changes were actually responsible for different health outcomes. Long-term sickness absences among rotating shift workers were also associated with high depressive symptoms (Nakata et al., 2004). Research further reveals that shiftwork rotation increases job stress when workers are experiencing role stressors (Tourigny et al., 2010b). Thus, in comparison to fixed day shift, shiftwork rotation is expected to heighten the effect of emotional exhaustion on depersonalisation and diminished personal accomplishment. Therefore, we propose:

Hypothesis 3: Shiftwork rotation moderates the effect of emotional exhaustion on depersonalisation and diminished personal accomplishment such that its effect will be stronger for nurses working on rotating shifts.

We further propose that shiftwork rotation provides a context where volitional absence can attenuate the detrimental effect of emotional exhaustion on depersonalisation and diminished personal accomplishment by providing time away from work to recuperate and maintain an adequate level of performance. Essentially, when emotional exhaustion begins to interfere with other aspects of the burnout syndrome due to the stress inherent in shift work, taking time off from work would actually minimise that interference. Therefore, we propose:

Hypothesis 4: Shiftwork rotation and absence simultaneously moderate the effect of emotional exhaustion on depersonalisation and diminished personal accomplishment such that high absence in the context of rotating shifts will buffer the effect of emotional exhaustion.

2.2.2 Stressful work unit

The work unit must also be taken into account in order to explain the role of absence in the context of shiftwork rotation. In other words, we suggest that the buffering effect of absence in the context of shiftwork rotation may also be contingent upon the nature of the work demands. Therefore, we explore the buffering effect of absence among nurses working on rotating and fixed shifts in different units. We have separated the units into two categories: the least and most stressful units based on the perceived stress experienced by nurses working in a particular unit or ward. We argue that while shiftwork rotation is of itself demanding, its impact gets exacerbated when the unit or ward in which nurses work is itself very stressful. The point to note is that absence influences the onset of burnout differently among those who work shifts in stressful units. We are of the view that nurses who work on rotating shifts in the most stressful work units are most likely to benefit from absence. As such, absence has a buffering effect when the two contexts are simultaneously present. Therefore, we propose:

Hypothesis 5: The buffering effect of absence in the context of shiftwork rotation is stronger in the most stressful units.

2.2.3 Understaffing

Understaffing occurs when a hospital unit has perennially more patients and more work than the staff complement assigned to that unit. Hospitals often have to deal with suboptimal conditions such as being understaffed in some work units or particular wards. Nurses who are assigned to understaffed units tend to be overextended as they must respond to more job demands and adapt to heavy, variable, and unpredictable workloads.

When units are understaffed over long periods of time for administrative reasons, such as budgetary restrictions, such understaffing can contribute to elevated symptoms of burnout among nurses. Staffing levels in nursing are known to impact the quality of patient care and outcomes such as nurse turnover (Borda and Norman, 1997; Farquharson et al., 2012; Tervo-Heikkinen et al., 2009). We expect that nurses who are commonly assigned to understaffed units will experience more symptoms of burnout in general. Therefore, we propose:

Hypothesis 6: Understaffing moderates the effect of emotional exhaustion on depersonalisation and diminished personal accomplishment such that the effect will be stronger in understaffed units.

Nurses who work in understaffed units can most likely benefit from absence as a recuperative mechanism. However, the use of absence in understaffed units can create more staffing issues and nurses may feel reluctant to impose additional burdens on others when they decide to be absent (Farquharson et al., 2012). As a result, such understaffing has the potential to hold back absence. Therefore, we propose:

Hypothesis 7: Nurses in understaffed units will be less likely to absent themselves from work.

However, absence can help prevent the escalation of symptoms of burnout in a context where nurses tend to be overextended and overworked. Therefore, despite the constraint associated with understaffing, absence remains a potential coping mechanism that a nurse can deploy so as to get some respite. Thus, we propose:

Hypothesis 8: Understaffing and absence interact with emotional exhaustion in predicting depersonalisation and diminished personal accomplishment. High absence in highly understaffed units will buffer the effect of emotional exhaustion, thereby lowering its effect.

Finally, the worst case scenario consists of working understaffed in the most stressful units. In such a context, we offer absence as a critical coping mechanism that can significantly attenuate the detrimental effect of emotional exhaustion. Therefore, we propose:

Hypothesis 9: The buffering effect of absence in the context of understaffing will be stronger in the most stressful units.

Our primary intuition in posing these hypotheses together is to underscore the bundling effect of these contextual factors as experienced by hospital nurses in Argentina. What we want to show is that absence as a coping mechanism will be differentially effective under different contextual combinations.

3 Methods

3.1 Sample

We contacted 615 Argentinean nurses from eight urban public general hospitals located in Olavarria (150 nurses), Azul (65 nurses), Rauch (35 nurses), Laprida (35 nurses), Necochea (155 nurses), Tandil (100 nurses), Balcarce (45 nurses), and Ayacucho (30 nurses). The response rate was 50% for all hospitals except for Olavarria where it reached 70%. After removing incomplete questionnaires we obtained a total of 304 usable questionnaires. In terms of size, the hospitals had between 90 and 170 beds. All public hospitals are financed by government.

This study is part of a larger international study among nurses (Baba et al., 2013). The survey instrument has been translated from English to Spanish and then, back-translated to English. The original and back-translated versions were compared to ensure the accuracy of meaning (Brislin, 1980).

Each hospital used its own delivery system to distribute the surveys. Completed questionnaires were mailed directly to the researchers in a pre-addressed stamped envelope. Neither name nor employee identification numbers were included in the surveys to ensure full confidentiality of respondents. The sample is composed of 254 females and 50 males. The average age of nurses is 41.89 years. In terms of shifts worked, 135 participants were on fixed shifts and 169 on rotating shifts. While surveyed, 41 participants reported working in units that were not at all understaffed, 123 in units that were slightly understaffed, 97 in units that were moderately understaffed (enough to affect the amount of work, but not the quality of care), and 30 in units that were severely understaffed (enough to affect both the amount of work and quality of care). Based on the reported amount of stress experienced in the units, it was assessed that 131 nurses worked in units that were not stressful while 171 worked in very stressful units. The least stressful units were medical, surgical, ambulatory, chronic, convalescence, ICU/CCU, gerontology, and floating teams. The most stressful units were obstetrics, psychiatry, emergency, operating, and recovery room. It was determined that there were no significant differences in terms of general working conditions across these public hospitals.

3.1.1 Measures

The Maslach Burnout Inventory (Maslach and Jackson, 1986) was used to measure the three dimensions of burnout using a 5-point frequency scale ranging from 1 (a few times a year) to 5 (every day). A sample item for emotional exhaustion is: "I feel emotionally drained from my work." A sample item for depersonalisation is: "I do not really care what happens to those I deal with at work." A sample item for diminished personal accomplishment is: "I have accomplished many worthwhile things in this job" (reverse scored). Mean frequency scores were computed for each dimension of job burnout. A high mean frequency indicates more frequent symptoms.

Absence was measured by asking participants to report the total number of days they were absent during the previous year, not counting vacations or holidays. Self-reported measures of days of absence tend to match institutional records and to offer an adequate assessment of absence duration (Johns, 1994). These measures are quite common in the literature (Baba, 1990). Participants were asked to indicate whether they worked on fixed or rotating shifts. Shift work was coded 1 for fixed and 2 for rotating.

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Understaffing was measured by asking participants to report the extent to which the unit was understaffed over the last six months using a scale ranging from 1 (not at all) to 4 (severely). In order to analyse the least and most understaffed units, we used a code of 1 for the units that were not or slightly understaffed and a code of 2 for the units that were moderately to severely understaffed. Control variables included age, and gender, which was coded 1 (female) and 2 (male).

Job stress was measured with all 13 items from Parker and Decotiis (1983) using a 5-point scale ranging from strongly disagree (1) to strongly agree (5). A sample item is "Sometimes when I think about my job I get a tight feeling in my chest." A high score on the scale indicates high job stress. Reliability coefficient is .85. The mean and standard deviation were 3.03 and .88 respectively. We took an empirical approach to the categorisation of least and most stressful units as described below.

One-way ANOVA was used to determine whether there were significant differences across work units based on the extent of stress reported by nurses. The between groups variance revealed that there was more variance across units than within units as indicated by F-test (2.43; $p < .01$). Units were grouped based on their respective mean in relation to the grand mean. Units that were above the grand mean were the most stressful. Units experiencing stress levels below the grand mean were coded 1 for the least stressful and those experiencing stress levels above the grand mean were coded 2 for the most stressful. We take this approach to capture the dynamics by which individual level experiences inform unit level categorisation (Minbaeva, 2016).

4 Analysis and results

We are grounding this study at the individual level of analysis as our research model and predictive hypotheses deal with cognitive and behavioural responses and our variances are observed at the individual level (Minbaeva, 2016). We first analyse the validity and reliability of the dimensions of burnout. Then, we test the hypotheses and illustrate the findings.

An exploratory factor analysis with varimax rotation was used to assess the construct validity of the dimensions of burnout. We constrained the analysis to three factors. Kaiser-Meyer-Olkin measure of sampling adequacy of .88 indicates that the data are suitable for factor analysis. Moreover, Bartlett's test of sphericity is significant ($X^2 = 2753.33$, $df = 231$; $p < .01$). The first factor, emotional exhaustion has an eigenvalue of 6.75 and explains 30.68% of the variance. The second factor, diminished personal accomplishment has an eigenvalue of 3.51 and explains 15.96% of the variance. The third factor, depersonalisation has an eigenvalue of 1.32 and explains 6.01% of the variance. All factor loadings are exclusive to their respective factor. Emotional exhaustion is composed of nine items, diminished personal accomplishment of eight items, and depersonalisation of five items. Factor loadings range from .46 to .75 for emotional exhaustion, from .65 to .80 for diminished personal accomplishment, and from .43 to .71 for depersonalisation. Reliability coefficients are .88, .87 and .68 for emotional exhaustion, diminished personal accomplishment and depersonalisation, respectively.

Descriptive statistics and correlations are presented in Tables 1 and 2. For the whole sample, as presented in Table 1, results indicate that emotional exhaustion is positively related to diminished personal accomplishment and depersonalisation, thereby offering support for hypothesis 1. Nurses who work on fixed shifts report more emotional exhaustion and depersonalisation, and are most likely to work in understaffed units. For

the most stressful work units, all three dimensions of burnout are positively and significantly inter-related as presented in Table 2. Results indicate that older nurses in the most stressful work units tend not to work on rotating shifts. Finally, in understaffed units, nurses report higher emotional exhaustion and more diminished personal accomplishment.

Table 1 Descriptive statistics and correlations for the study variables

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>Age</i>	<i>Gender</i>	<i>Abs</i>	<i>Shift</i>	<i>Unit</i>	<i>SWU</i>	<i>EE</i>	<i>DPA</i>	<i>DPZ</i>
Age	41.89	9.93									
Gender	1.16	0.37	.14**								
Absence	11.71	17.51	-.02	-.12							
Shift	1.56	0.50	.23**	.09	-.01						
Unit	2.40	0.86	-.07	.08	.20*	.00					
SWU	1.83	0.37	.15*	.02	-.09	.27**	-.01				
EE	2.50	1.05	.11	.05	.01	.21**	.27**	.20**	(.88)		
DPA	2.07	0.94	.06	.06	-.08	-.03	.19**	.09	.28**	(.87)	
DPZ	2.14	0.95	.05	.12*	-.02	-.15*	.16**	.20**	.50**	.43**	(.68)

Note: Absence is number of days of absence, Unit corresponds to understaffed units, SWU means stressful wards or work units, EE is emotional exhaustion, DPA is diminished personal accomplishment, and DPZ is depersonalisation. Reliabilities are on the diagonal. *N*=140 to 304. 140 nurses reported their absences.

Table 2 Descriptive Statistics and correlations for the study variables in the least and most stressful wards or units

<i>Variables</i>	<i>M</i>	<i>SD</i>	<i>Age</i>	<i>G</i>	<i>Abs</i>	<i>Shift</i>	<i>Unit</i>	<i>EE</i>	<i>DPA</i>	<i>DPZ</i>
Age ⁽¹⁾	43.08	9.75								
Gender ⁽¹⁾	1.17	.36	-.19*							
Abs ⁽¹⁾	10.35	22.37	.04	-.16						
Shift ⁽¹⁾	1.44	.46	-.22**	.20**	-.14					
Unit ⁽¹⁾	2.39	.83	-.09	.12	-.15	.14				
EE ⁽¹⁾	2.68	.99	.10	-.05	.06	.00	.19*	(.87)		
DPA ⁽¹⁾	2.14	.81	-.10	.03	.01	.05	.19*	.21**	(.90)	
DPZ ⁽¹⁾	2.30	.83	-.02	.06	.04	-.01	.15	.52**	.46**	(.68)
Age ⁽²⁾	40.18	9.75								
Gender ⁽²⁾	1.15	.36	-.10							
Abs ⁽²⁾	13.59	22.37	-.06	-.11						
Shift ⁽²⁾	1.71	.46	-.16	-.06	.06					
Unit ⁽²⁾	2.41	.83	-.02	.02	-.26**	-.23				
EE ⁽²⁾	2.26	.99	.05	.20**	.01	-.42	.42**	(.87)		
DPA ⁽²⁾	1.97	.81	-.05	-.11	-.17	-.10	.21**	.36**	(.80)	
DPZ ⁽²⁾	1.92	.83	.07	.21**	-.05	-.24**	.20**	.40**	.33**	(.63)

Note: (1) Correlations for the most stressful units; (2) Correlations for the least stressful units. Reliability coefficients are presented on the diagonals. G=Gender; Abs=Absence; Unit=Understaffed units.

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Hierarchical moderated regression analysis was employed to test the hypotheses (Anderson, 1986). We performed a 2-way and 3-way interaction analysis for emotional exhaustion, absence, and shift work for the overall sample and then separately, in the least and most stressful units. We then repeated the 2-way and 3-way interaction analysis for emotional exhaustion, absence, and understaffed unit for the overall sample and then again separately, among the least and most stressful units. To do so, we used a split file based on the work units. Illustrations of interaction effects use a median split for absence to include all cases.

As presented in Table 3, absence had no moderating effect on emotional exhaustion, thereby refuting hypothesis 2. The results further indicate that for the overall sample, shift work moderates the effect of emotional exhaustion such that nurses who work on rotating shifts report more diminished personal accomplishment and more depersonalisation as emotional exhaustion increases, thereby supporting hypothesis 3. The interaction effects were significant for both diminished personal accomplishment and depersonalisation. Moreover, absence and shift work interact in predicting diminished personal accomplishment such that nurses who work on fixed shifts and have been absent experience more diminished personal accomplishment whereas nurses who work on rotating shifts and have been absent experience it less, thereby offering support for hypothesis 4.

Table 3 Hierarchical moderated regression analysis for shift work

Independent variables	<i>DPA</i>			<i>DPZ</i>		
	<i>b</i>	SE	β	<i>b</i>	SE	β
Age	-.01	.01	-.09	.01	.01	.13
Gender	-.04	.22	-.01	.33	.22	.13
Absence	-.01	.01	-.09	-.00	.00	-.02
Shift	-.03	.17	-.02	-.05	.15	-.03
EE	.33	.08	.35**	.47	.07	.49**
EE X Abs	-.01	.01	-.40	-.00	.01	-.15
EE X Shift	.31	.15	.61*	.51	.14	1.00**
Shift X Abs	-.02	.01	.66*	-.01	.01	-.24
EE X Abs X Shift	.00	.01	.31	-.01	.01	-.58
ΔR^2 Step 1	.01			.03		
ΔR^2 Step 2	.12**			.24**		
ΔR^2 Step 3	.06*			.07**		
ΔR^2 Step 4	.00			.00		

Note: A total of 140 nurses reported absences.

Results for the least and most stressful units are presented in Tables 4 and 5.

Table 4 Hierarchical moderated regression analysis for shift work in the least stressful units

Independent variables	DPA			DPZ		
	b	SE	β	b	SE	β
Age	-.02	.01	-.26*	.01	.01	.11
Gender	.19	.21	.12	.42	.26	.21
Absence	-.01	.00	-.19	-.00	.01	-.02
Shift	-.10	.19	-.07	-.52	.26	-.29*
EE	.33	.10	.45**	.17	.13	.18
EE X Abs	-.01	.01	-.50	-.01	.01	-.41
EE X Shift	.13	.19	.29	.57	.25	.99*
Shift X Abs	.00	.01	.27	.01	.02	-.74
EE X Abs X Shift	.03	.01	4.19*	-.00	.02	-.33
ΔR^2 Step 1	.08*			.05		
ΔR^2 Step 2	24**			.14*		
ΔR^2 Step 3	.03			.10*		
ΔR^2 Step 4	.05*			.00		

Note A total of 59 nurses reported absences.

Table 5 Hierarchical moderated regression analysis for shift work in the most stressful units

Independent variables	DPA			DPZ		
	B	SE	β	b	SE	β
Age	-.01	.01	-.05	.02	.01	.14
Gender	-.16	.36	-.05	.31	.33	.11
Absence	.00	.01	-.00	.00	.01	.04
Shift	.13	.26	.06	.14	.21	.07
EE	.26	.12	.25*	.53	.10	.53**
EE X Abs	-.00	.01	-.14	.00	.01	.10
EE X Shift	.40	.24	.80	.54	.19	1.13**
Shift X Abs	-.05	.02	-.79*	-.03	.02	-.44
EE X Abs X Shift	-.00	.02	-.13	-.00	.02	-.25
ΔR^2 Step 1	.00			.02		
ΔR^2 Step 2	.06*			.29**		
ΔR^2 Step 3	.10*			.08**		
ΔR^2 Step 4	.00			.00		

Note: A total of 81 nurses reported absences.

Here we look at the buffering effect of absence in the context of both the stressfulness of different units and shift work. Results reveal that when we analyse the effect of absence and shift work on emotional exhaustion in the least stressful units, we obtain a significant 3-way interaction for diminished personal accomplishment. We have used figures to depict all significant interactions for visual effect.

As illustrated in Figure 2, there is a positive relationship between emotional exhaustion and diminished personal accomplishment for nurses who are in the low absence group and a negative relationship for nurses who are in the high absence group.

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This occurs for nurses working on fixed shifts in the least stressful work units, thereby refuting hypothesis 5. Figure 3 presents the results for rotating shifts where there is a positive relationship for both groups.

Figure 2 Moderating effect of absence for fixed shifts in the least stressful units

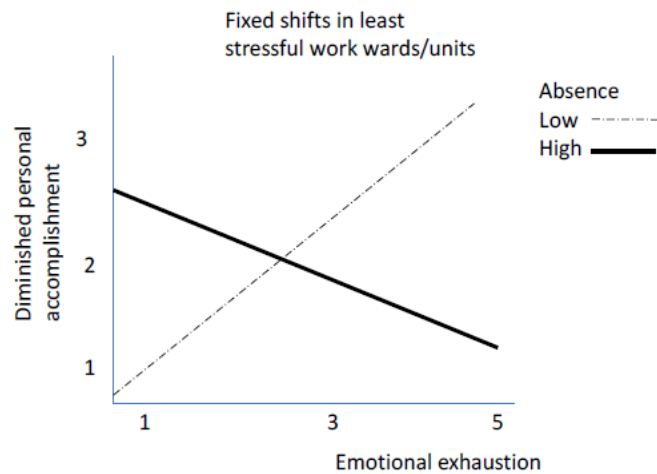
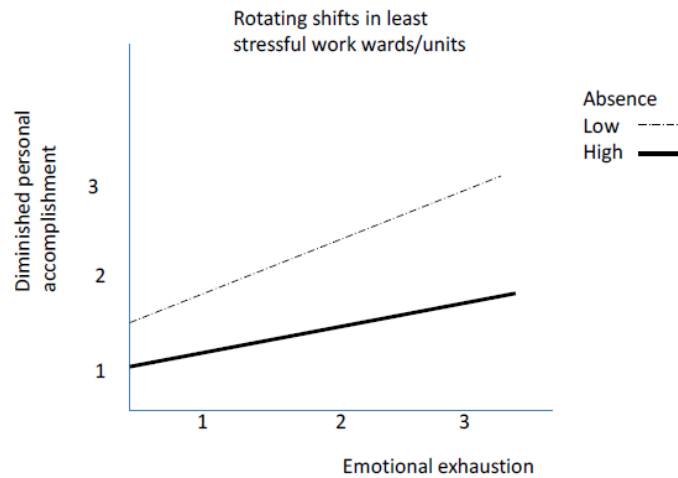


Figure 3 Moderating effect of absence for rotating shifts in the least stressful units



However, the slope is much steeper in the case of nurses who report low absence. Therefore, there is support for the buffering effect of absence particularly among nurses who work fixed shifts. These results apply only in the least stressful units. The findings are actually opposed to our predicted hypothesis that absence would buffer in the context of rotating shifts in the most stressful units. There was no buffering effect for depersonalisation. In the most stressful units, absence did not buffer the effect of emotional exhaustion regardless of shift work. Thus, in brief, absence shows a strong buffering effect on the relationship between emotional exhaustion and diminished

personal accomplishment for nurses working on fixed shifts, but only in the least stressful units. As presented in Table 6, results did not reveal a moderating effect of understaffing on the relationship between emotional exhaustion and its outcomes. Therefore, hypothesis 6 is not supported. Results also indicate that nurses working in understaffed units tend to use less absence, thus corroborating hypothesis 7.

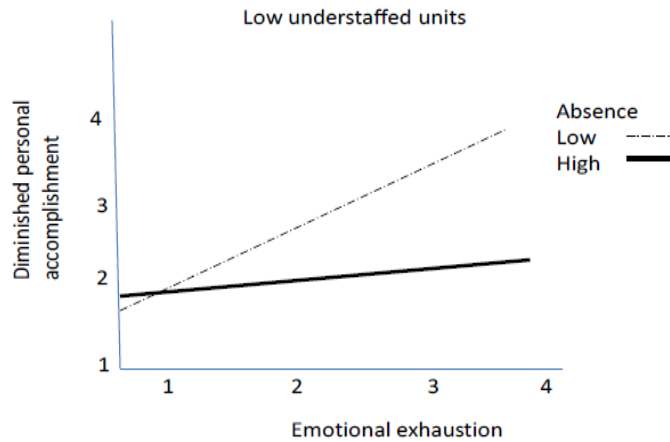
Table 6 Hierarchical moderated regression for understaffed units

Independent variables	DPA			DPZ		
	B	SE	β	b	SE	β
Age	-.01	.01	-.09	.01	.01	.13
Gender	-.04	.22	-.01	.33	.22	.13
Absence	-.00	.01	-.08	-.00	.00	-.01
Understaffed units	.07	.10	.06	.04	.09	.03
EE	.31	.08	.33**	.47	.08	.49**
EE X Abs	-.01	.01	-.32	-.00	.01	-.16
EE X Units	.04	.09	.17	-.02	.09	-.07
Units X Abs	-.00	.01	-.07	-.01	.01	-.18
EE X Abs X Units	-.01	.01	-1.18*	-.02	.02	-1.48**
ΔR^2 Step 1	.01			.03		
ΔR^2 Step 2	.13**			.24**		
ΔR^2 Step 3	.02			.01		
ΔR^2 Step 4	.03*			.04**		

Note: A total of 140 nurses reported absences.

We analysed the moderating effect of absence in the context of understaffing. As presented in Table 6, results reveal significant 3-way interaction terms for both diminished personal accomplishment and depersonalisation. As presented in Figure 4, there is a buffering effect of absence for diminished personal accomplishment in low understaffed units as illustrated by an almost invariant relationship for the high absence group and a positive relationship for the low absence group.

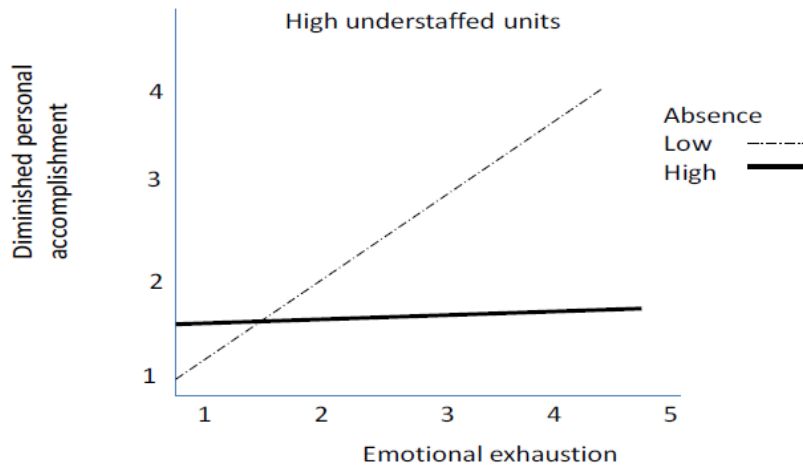
Figure 4 Low understaffed units for diminished personal accomplishment



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However, the buffering effect is stronger in the highly understaffed units as presented in Figure 5.

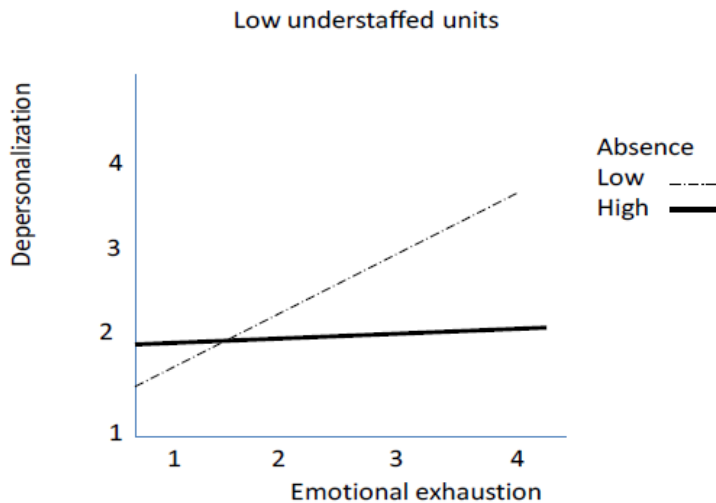
Figure 5 High understaffed units for diminished personal accomplishment



There is an invariant relationship for the high absence group, which presents very low levels of diminished personal accomplishment regardless of the extent of emotional exhaustion. On the other hand, there is a strong and steep positive relationship for nurses who report low absence in comparison. Thus, it can be concluded that absence has a buffering effect and that such effect is stronger in the highly understaffed units for diminished personal accomplishment, thereby offering support for hypothesis 8.

For depersonalisation, results indicate that absence has a buffering effect in the low understaffed units.

Figure 6 Absence in the context of low understaffed units



As illustrated in Figure 6, there is an invariant relationship for the high absence group and a positive relationship for the low absence group. However, as illustrated in Figure 7, we observe a reverse buffering effect in the highly understaffed units such that there is a positive relationship for both groups and that nurses who report high absence also exhibit more depersonalisation as emotional exhaustion increases in comparison.

Thus, when nurses use absence in highly understaffed units we obtain a steep positive relationship between emotional exhaustion and depersonalisation. In conclusion, the buffering effect of absence applies in the case of depersonalisation only in units that are not understaffed. In understaffed units, there is a reverse buffering effect. Therefore, hypothesis 8 is not supported for depersonalisation.

When we analyse the moderating effect of understaffed units in the context of the least stressful units, we do not observe any moderating effect. Results are presented in Table 7.

However, when we analyse such moderating effect in the context of the most stressful units, we obtain a significant 3-way interaction for depersonalisation. Results are presented in Table 8.

As illustrated in Figure 8, there is a positive relationship between emotional exhaustion and depersonalisation for both low and high absence groups for the units that are not understaffed. Moreover, the relationship is stronger for the high absence group than for the low absence group. Figure 9 presents the results for the highly understaffed units that are also the most stressful. Results indicate a buffering effect of absence in such conditions. While there is no relationship for the high absence group, there is a strong positive relationship between emotional exhaustion and depersonalisation for the low absence group. These findings indicate that absence acts as a buffer only in understaffed and most stressful units, thereby offering support for hypothesis 9.

Table 7 Hierarchical regression analysis for understaffed units in the least stressful units

Independent variables	<i>DPA</i>			<i>DPZ</i>		
	b	SE	β	b	SE	β
Age	-.02	.01	-.26*	.01	.01	.11
Gender	.19	.21	.12	.42	.26	.21
Absence	-.01	.00	-.23	-.00	.01	-.04
Understaffed units	-.09	.12	-.11	.28	.14	.30*
EE	.39	.10	.53**	-.02	.17	-.02
EE X Abs	-.01	.01	-.64	-.01	.01	-.73
EE X Units	-.07	.10	-.40	-.04	.14	-.16
Units X Abs	-.00	.01	-.11	.01	.01	.70
EE X Abs X Units	-.01	.01	-1.98	-.01	.01	-1.25
ΔR^2 Step 1	.08			.05		
ΔR^2 Step 2	24**			.08*		
ΔR^2 Step 3	.03			.07		
ΔR^2 Step 4	.03			.01		

Note: A total of 59 nurses reported absences.

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Table 8 Hierarchical moderated regression for understaffed units in the most stressful units

Independent variables	<i>DPA</i>			<i>DPZ</i>		
	b	SE	β	b	SE	B
Age	-.01	.01	-.05	.02	.01	.14
Gender	-.16	.36	-.05	.31	.33	.11
Absence	.00	.01	.01	.00	.01	.04
Understaffed units	.14	.14	.11	.09	.12	.08
EE	.24	.12	.23*	.52	.10	.53**
EE X Abs	-.01	.01	-.29	-.00	.01	-.04
EE X Units	.14	.14	.49	.01	.12	.05
Units X Abs	-.00	.01	-.12	-.02	.01	-.49*
EE X Abs X Units	-.01	.01	-.87	-.02	.01	-1.36*
ΔR^2 Step 1	.00			.02		
ΔR^2 Step 2	.07*			.29**		
ΔR^2 Step 3	.03			.05*		
ΔR^2 Step 4	.02			.04*		

Note: A total of 81 nurses reported absences.

Figure 8 Absence in the context of the most stressful units not understaffed

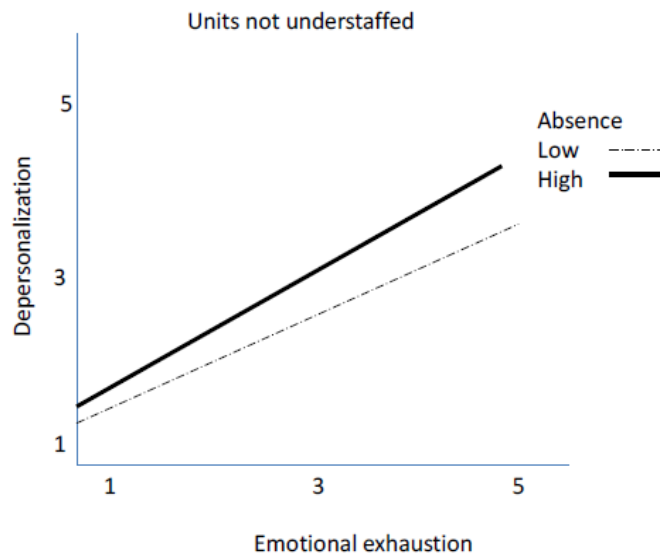
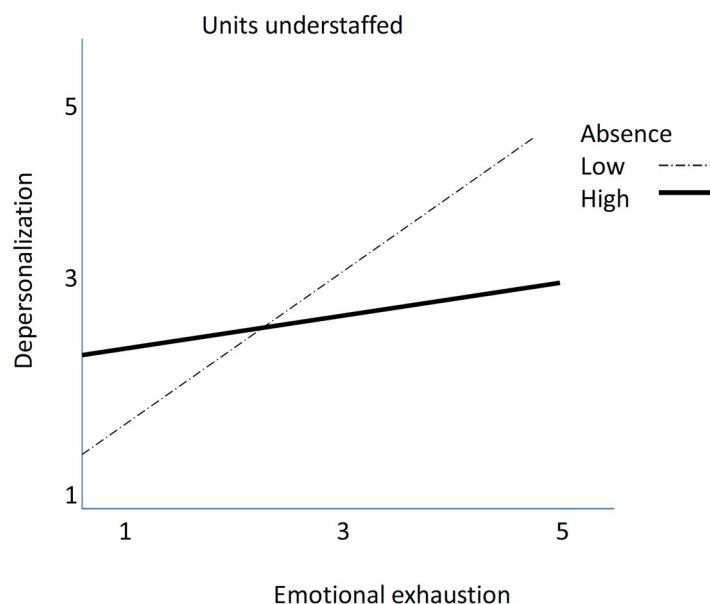


Figure 9 Absence in the context of the most stressful units understaffed



6 Discussion

This study highlights the importance of bundling contextual variables for a more comprehensive grasp of the buffering effect of absence on burnout. It is only through such analysis that we can fully grasp the circumstances under which nurses can benefit from absence leveraging it as a coping mechanism. We have located the focus of our study at the individual level as the hypothesised relationships involve cognitive and behavioural responses from individual participants and most of the variance is observed at the individual level (Minbaeva, 2016).

We learned that in fixed day shifts absence has a buffering effect on the relationship between emotional exhaustion and diminished personal accomplishment only in the least stressful units. Thus, it seems that absence has more relevance for nurses working on day shifts although such effect is not corroborated for nurses working in the most stressful units. It appears that for nurses working in the most stressful units, absence might not be an option. Such finding can be explained by the fact that day shift nurses in the least stressful work units have more flexibility and consequently use absence as a mechanism to mitigate their emotional exhaustion. In the public hospitals in Argentina, nurses who have seniority in the system have some flexibility in the choice of work schedule and work units. Many end up in less stressful wards doing day shifts. That said, given their seniority in the system, they also have more responsibility and system-wide obligations. Consequently, maintaining a certain level of accomplishment is of high value to them. Thus, nurses who work day shifts in the least stressful units use volitional absence at their convenience to prevent their exhaustion getting in the way of their personal accomplishment.

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Another important finding is that absence had a buffering effect in understaffed units such that nurses who did not use absence as a coping mechanism experienced higher levels of diminished personal accomplishment. Such buffering effect was stronger in the highly understaffed units. Thus, absence served as an effective coping mechanism for overextended nurses. However, we observed a reverse buffering effect for absence when it came to depersonalisation in understaffed units. Absence played the role of psychological withdrawal exacerbating the psychological disconnect manifested by depersonalisation. Interestingly, absence can help to maintain a satisfactory level of personal accomplishment, while at the same time it can feed into the need to dissociate oneself from patients and co-workers. As mentioned above, nurses may attach importance to their work accomplishments. Thus, absenting oneself from work might be a means to prevent lower job performance. Understaffing is the discriminating variable here. It is endemic in most of the hospitals we have included in this study. Where understaffing was not a concern, absence continued to buffer the relationship between emotional exhaustion and depersonalisation.

Burnout theory outlines the aetiology of burnout clearly enough (Maslach et al., 2001). The empirical question it leads to is how to manage burnout. In this study, we have narrowed it down to burnout among nurses in the public sector hospitals in Argentina. The burnout literature identifies a variety of theoretically relevant factors for its eventual management. We can reduce role conflict and role ambiguity through job design; we can mitigate role overload through staffing and competence based allocation of responsibilities; we can increase the training period and training intensity to enhance nursing competence; we can invest in health care infrastructure and improve the nurse/patient ratio; we can train nurses and nursing administrators in stress management, and institute stress management practices; we can reassign stressed out and burnt out nurses to other parts of the health care system and so on.

Our interest here is to factor in the findings of this study toward a better understanding of burnout and its management in the Argentinian context. Recent studies of nurses in Argentina emphasise the prominent role that absence plays in their work lives (Aspiazu, 2017; Ferraro, 2016; Velasquez, 2011). For a majority of Argentinian nurses, absence appears to be the mechanism of choice in managing their work lives. This is further abetted by moonlighting which in and of itself is triggered by low salaries and chronic understaffing of units. Nurses moonlight to improve their financial status; hospitals hire them because their units are understaffed. This appears to be the reality on the ground in Argentina (Aspiazu, 2017).

While long term solutions addressing nursing shortages and ushering in cultural changes empowering nursing work are certainly something to be looked into, our focus is on the role of absence in the work lives of Argentinian nurses - how, when and where it is deployed in the work context, and how effective is it in managing burnout. Our primary intuition is theoretical. It suggests that in managing burnout, mechanisms such as absence are optimal when they are part of a bundle instead of being a distinct standalone feature. Our secondary intuition is empirical. We believe that bundles optimise differently in different contexts. The macro-environment for nursing in Argentina is marked by nursing shortage, deficient infrastructure, poor working conditions, inadequate training, low salaries, widespread moonlighting, dissatisfaction and pervasive absenteeism (Aspiazu, 2017; Ferraro, 2016; Velasquez, 2011). Therefore, the bundles for Argentina focus on absence, stress levels, and staffing for a nuanced understanding of their burnout episode. It may well be different in another context and in another sector.

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Our point is that the variables themselves are portable across situations but they work in different combinations in different situations.

This study has limitations. First, it is a cross-sectional study with single source data. Second, the small sample size prevents us from generalising the results beyond the scope of the present study. However, the measures employed had strong psychometric properties. Moreover, the contextual factors were factual with limited subjective assessment. Therefore, this study adds value to the field of health care management. It demonstrates that absence is a complex behaviour that takes on different meanings depending on the contextual factors that prompt it. It shows that absence can be restorative and used as a coping mechanism by nurses who experience symptoms of burnout. It adds to our understanding of how nurses adjust to aversive working conditions so as to prevent the depletion of their physical and psychological resources and to maintain an adequate level of accomplishment without experiencing feelings of cynicism. Simply put, nurses who used absence were better off in general.

In rounding out our observations, our study shows that although nurses tend to shy away from absenting themselves in understaffed units, absence has indeed been a mitigating factor on burnout especially in stressful work units. Despite the fact that our findings are confined to Argentina, they give rise to speculations about the role of context in the experience of burnout and eventually to more enlightened management of both burnout and absence. Our message is that context influences outcomes in a bundle. Therefore, we call for a new optic in treating context – not one by one but as a potent bundle – and a more effective way of interpreting context theory.

We argue that how one experiences burnout cannot be fully captured unless we pay more attention to the context in which specific organisational behaviour such as absence is enacted. We believe that heterogeneity of the context can and should indeed be embedded within the theory adding richness to the interpretation (Minbaeva, 2016). We also extend Minbaeva's (2016) observation in re-conceptualising the meaning of context. We show empirical evidence that context manifests itself optimally in combination and speculate that it varies across institutions and cultures. We offer that future research should integrate contextual factors in the study of burnout paying attention to the behaviour of nurses in various cultural and institutional contexts. That is the first step. Such integration at the level of the institution should be sensitive to the level of the institutional/industry cluster, and also to the level of culture, both national and cross-national. That is what would complete the capture of contextual heterogeneity in its entirety (Minbaeva, 2016). That said, one needs to have sufficient variance in context - whether it is at the cultural level, institutional level or at the ward level - to capture its empirical significance. While we have captured the variance across substantive contextual variables at the ward level, we were not able to differentiate across institutional levels in this study. In order to capture contextual heterogeneity across cultures, we need to broaden the scope of the study much further. We recommend future studies to offer hypotheses that would juxtapose heterogeneity at the level of the cultural context and similarity at the level of the phenomenon simultaneously.

The role of absence as an effective restorative coping mechanism was highlighted in this study. Although our observations were confined to Argentina, we believe that absence policies should take into consideration that volitional absences may actually benefit the nurse, the patient, and the hospital when it comes to job performance. Future research should investigate whether short-term volitional absences that buffer burnout may actually prevent long-term sickness absences among nurses. This is of particular

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relevance in countries in which the budgets allocated to public hospitals are directly impacted by economic decline and political instability.

We hope that this work stimulates future research on context and its role in organisational behaviour and human resources management in health care.

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