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### From student nurse to nurse professional

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# 7 CHAPTER

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The importance of contextual, relational and cognitive factors for novice nurses' emotional state and affective commitment to the profession

A multilevel study

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## ABSTRACT

### **Aim**

This study explored the effects of contextual, relational and cognitive factors derived from novice nurses' work experiences on emotions and affective commitment to the profession.

### **Background**

With an increasing demand for well-trained nurses, it is imperative to investigate what aspects of work experiences most affect their commitment in order to develop effective strategies to improve work conditions, work satisfaction, emotional attachment and affective commitment.

### **Design**

A repeated measures within subjects design.

### **Methods**

From September 2013 – September 2014 eighteen novice nurses described work-related experiences in unstructured diaries and scored their emotional state and affective commitment on a scale. The themes that emerged from the 580 diaries were quantified as contextual, relational and cognitive factors. Contextual factors refer to the complexity of care and existential events; relational factors to experiences with patients, support from colleagues, supervisors and physicians; cognitive factors to nurses' perceived competence.

### **Results**

The multilevel analysis showed that complexity of care, lack of support and lack of competence have a direct negative effect on novice nurses' affective commitment, whereas received support has a positive effect. Confrontations with existential events and experiences with patients had no direct effect on affective commitment. Except for complexity of care, all contextual, relational and cognitive factors were significantly related to negative and positive emotions.

### **Conclusion**

To retain novice nurses in the profession, it is important to provide support and feedback. This enables novice nurses to deal with the complexity of care, and feelings of incompetence, and to develop a professional commitment.

## INTRODUCTION

Over the past decade, the concept of professional commitment and nurse retention has received considerable attention in the nursing literature (Chang, Shyu, Wong, Friesner, Chu & Teng, 2015; Numminen, Leino-Kilpi, Isoaho & Meretoja, 2016; Spence Laschinger, Leiter, Day & Gilin, 2009). The increasing shortage of nurses is a major concern in most Western countries (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Robson & Robson, 2016; Sabanciogullari & Dogan, 2015) and is caused to a large extent by an ageing workforce approaching retirement, and a decreased propensity among young people to choose a nursing career (De Cooman et al., 2008; Hasselhorn, Tackenberg & Müller, 2003). Research on this topic showed that it is a great challenge for hospitals to recruit and retain adequately prepared nurses. Professional commitment is considered as one of the most important factors to retain nurses in their profession (Gould & Fontenla, 2006; Parry, 2008; Teng, Lotus Shyu & Chang, 2007).

Almost three decades ago, the conceptualization of organizational and professional commitment was extensively described by Allen and Meyer (Allen & Meyer, 1990; Meyer & Allen, 1991; Meyer, Allen & Smith, 1993). Based on the identification of various approaches to the conceptualization and measurement of commitment, they proposed a three-component model of organizational commitment as a psychological state. The components in the model reflect (1) a *desire* (affective commitment), (2) a *need* (continuance commitment) and (3) an *obligation* (normative commitment). Affective commitment reflects a sense of belonging, a desire to maintain membership in the organization or the profession. Continuance commitment refers to the need to remain due to the financial consequences of leaving, and normative commitment refers to a moral obligation to stay (Meyer & Allen, 1991). Of the three components of commitment, affective commitment is most related to work experiences, as well as the degree of identification with the organization or the profession. Affective commitment develops as work experiences become more compatible with employees' feelings of competence and their need to feel comfortable in the profession, both physically and emotionally (Allen & Meyer, 1990; Meyer & Allen, 1991). With regard to nursing, previous research showed that nurses who are emotionally attached to the profession have stronger beliefs in the goals and values of the hospital and have higher levels of enjoyment of being a member of it (Nesje, 2017; Ruiller & Van Der Heijden, 2016). Nurses with high affective commitment experience greater work satisfaction and lower levels of work-related stress, are more devoted to their jobs and identify more closely with the profession (Lu, Chang & Wu, 2007; Schmidt, 2007). From the perspective of the profession and the organization, Vellickovic et al. (2014), underlined the essential role of affective commitment as the preferred type of relationship with employees. They found that affective commitment was predicted, inter alia, by positive professional identification and intrinsic job satisfaction.

Nursing not only requires skills and cognitive knowledge, it also requires the ability to cope with high emotional demands (McVicar, 2003; Zheng, Lee & Bloomer, 2016). Emotionally charged work experiences are often related to wellbeing, motivation and commitment (Bacon, 2017; Donoso, Demerouti, Garrosa Hernández, Moreno-Jiménez & Carmona Cobo, 2015). A qualitative study conducted by De Almeida Vicente, Shadvar and Lepage (2016), investigated work-related stressors among paediatric nurses.

The nurses in this study reported that job satisfaction and commitment were highly related to emotionally charged work experiences. Because affective commitment is most strongly related to nurses' work experiences, including their emotional state and their identification with the profession, we have decided to focus on these outcome variables in the current study, i.e. positive and negative emotions and affective commitment to the profession.

### Background

In the Netherlands, as in most Western countries, the number of nurses who consider leaving the profession due to heavy workload and cognitive and physical exhaustion is growing fast ([werkdruk.nl-nl/artikelen/nieuws/2016/46/werknemers-in-zorg-ervaren-hoge-werkdruk/werkdruk](http://werkdruk.nl-nl/artikelen/nieuws/2016/46/werknemers-in-zorg-ervaren-hoge-werkdruk/werkdruk)). The increasing complexity of care and the associated high competence requirements turn out to lead to work stress, discontent and disaffection among nurses. Although loosely defined in the literature, following Guarinoni, Motta, Petricci and Lancia (2014) and based on the daily experiences of nurses (Ten Hoeve, Kunnen, Brouwer & Roodbol, 2017), complexity of care is related to the concepts of difficulty, multifactorial influences, diversity, multiplicity (co-morbidity), uncertainty and high demands on personal competences, skills and knowledge. Recent reports indicate that 50% of nurses working in hospital settings have considered quitting their jobs (FNV/Zorg en Welzijn/Ziekenhuisbarometer, 2016). Keeping well-trained and motivated nurses in the profession is not only a huge challenge but also a dire necessity. With an ageing patient population with high comorbidity and complex care demands, the need for good professionals will only increase. Therefore it is inevitable that well-trained nurses be recruited and retained. This might be achieved by creating a work environment that leads to a high degree of commitment with their profession. Within the literature on professions, professional commitment is not only described as being beneficial for employees, but also for the survival of a profession (Hughes, 1984). Existing knowledge suggests that emotionally charged work experiences have a major influence on novice nurses' commitment and, as a result, their intention to remain in the profession (Gardiner & Sheen, 2016; Thoresen, Kaplan, Barsky, Warren & De Chermont, 2003). Given the aforementioned increasing demand for well-trained and well-prepared nurses, it is imperative to investigate what factors derived from daily and emotional experiences mostly affect their emotional state and affective commitment to the profession. Therefore this study investigates the relationship between contextual, relational and cognitive factors and emotions or commitment. The factors are derived from intensively described work experiences in diaries. As far as we know, no study has examined, on a longitudinal basis, the direct effects of these factors derived from work experiences on emotions and affective commitment among novice nurses. These associations and effects must be elicited to develop effective strategies to improve nurses' working conditions, work satisfaction, emotional attachment and affective commitment. **Figure 1** presents the theoretical framework for this study.

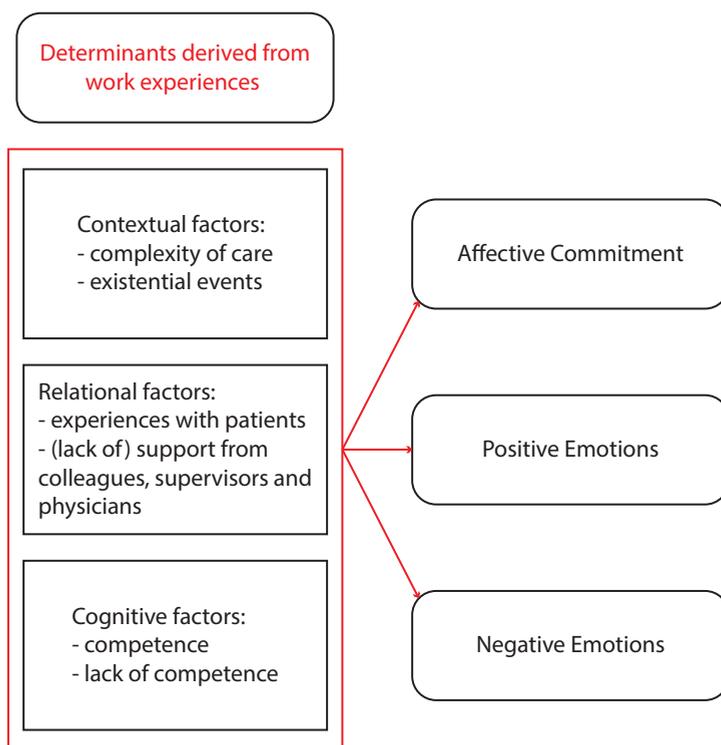


Figure 1 - Hypothesized direct effects of work experiences on affective commitment and emotions

## THE STUDY

### Aim

The aim of the study was to investigate whether contextual, relational and cognitive factors derived from novice nurses' work experiences have a direct effect on positive and negative emotions, and on affective commitment.

### Design

A repeated measures within subjects design was applied. More specifically, a multilevel design with repeated (diary) measurements nested in novice nurses.

### Participants and data collection

A convenience sample of novice nurses working at one University Medical Centre was recruited. The inclusion criteria were a Bachelor's degree in nursing, aged under 30 and with no more than one year's work experience. Participants were recruited in cooperation with the head of nursing at the in-patient departments. The nurses who met the inclusion criteria and were willing to participate ( $n = 18$ ) were invited to a meeting where they were informed in detail about the purpose of the study and the associated workload. Using the Qualtrics package, data were collected from weekly measurements

between September 2013 and September 2014. The nurses were asked to describe in their diaries a work-related experience which was really important to them. After completing the diaries, the nurses completed a short survey measuring emotional state, i.e. whether they felt positive or negative emotions regarding the described experiences, respectively. Affective commitment to the profession was measured with three items, derived from the Repeated Exploration and Commitment Scale in the domain of Education (RECS-E; Van der Gaag & Kunnen, 2013), e.g. 'I stand by my choice for this profession'. The Cronbach's alpha indicated good internal consistency of the scale ( $\alpha = .85$ ). Nurses responded on a scale from 1 ('not at all') to 6 ('very much').

### Procedure

The diaries ( $n = 580$ ) were thoroughly read by three researchers to obtain a contextual understanding of the described experiences. The data were inductively explored using content analysis to identify themes as they 'emerged' from the data. The statements within each theme were read, discussed and compared critically. Subsequently, based on the themes and subthemes identified, the texts were deductively coded using the ATLAS.ti package. Three researchers independently coded the diaries, which were then compared to obtain inter-coder reliability and to avoid obtaining only the subjective judgements and interpretations of one researcher (Pope & Mays, 2008). Where there was disagreement, the 'mismatches' were discussed and codes were renamed, merged or deleted. The themes that emerged from the diaries were relatedness, competence, autonomy, organizational context, existential events, development, goals and fit. Subsequently, the codes were quantified and frequencies were calculated. In the diaries ( $n = 580$ ) a total of 1321 experiences were described and coded. Experiences about relatedness were most frequently described (28%), followed by competence (19%), development (13%), organizational context (11%), existential events (9%), goals (8%), autonomy (8%) and fit (4%). In the current study we derived factors from the themes and explored the direct effects of contextual factors (complexity of care, existential events), relational factors (experiences with patients, support from colleagues, supervisors and physicians) and cognitive factors (competence) on emotions and affective commitment to the profession. These factors are similar to the themes and are derived from the most frequently described experiences in the diaries. The described experiences were both positive and negative and were also coded that way (e.g. presence or lack of competence). [Table 1](#) provides the description of the themes.

Table 1 - Description of subthemes

<i>Identified subtheme</i>	<i>Definition/Description of subtheme</i>
<b>Contextual factors</b>	
Complexity of care	Complexity of care is the perception of the nurse regarding the demands and responsibilities as a consequence of multifactorial influences, e.g. multi-morbidity, more specialized medical treatments and technologies.
Existential events	Existential events or experiences are direct confrontations with the illness, suffering and death of patients.
<b>Relational factors</b>	
Positive experiences with patients	Positive nurse-patient relationships. For example, receiving compliments from their patients regarding their professional activities, having nice conversations with their patients.
Negative experiences with patients	Negative nurse-patient relationships. For example, nurses feel disrespected by their patients, confrontation with aggressive behaviour and sexual harassment.
Support from colleagues, supervisors and physicians	Receiving practical or emotional support from colleagues. For example, receiving support in order to deal with a heavy workload, receiving emotional support with existential experiences, feeling welcome in the team. Feeling supported by supervisors regarding transcending issues, such as atmosphere in the ward, workload or career aspirations. Positive nurse-physician relationships. For example, receiving compliments from a physician, experiencing good cooperation and problem-solving with physicians.
Lack of support from colleagues, supervisors and physicians	Lack of support from colleagues, e.g. disloyal behaviour, bullying, gossip. Not feeling supported by supervisors regarding transcending issues, such as atmosphere in the ward, workload or career aspirations. Negative nurse-physician relationships. For example, nurses feel ignored by physicians who refuse to come, insults, rude and arrogant behaviour.
<b>Cognitive factors</b>	
Competence	Having the feeling that they acted correctly, that they possess the required competences.
Lack of competence	Having the feeling of falling short and lacking the required competences.

### **Ethical considerations**

Approval for the study was obtained from the Ethical Committee Psychology of the University. Oral and written information about the research was provided to the participants, and they signed a consent form. Participants were informed that participation was voluntary and that they could withdraw from the study at any time without consequences.

### **Data analysis**

Because of the hierarchical data structure with two levels, i.e. repeated measurements nested in persons, multilevel analysis was conducted using MIWIN 2.33 (Rasbash, Browne, Healy, Cameron & Charlton, 2015). Thus, the dataset had a two-level structure: weekly measurements (at level 1) nested within individual nurses (at level 2). Random intercept models were estimated with a maximum likelihood (ML) method, centred around the grand mean. By leveraging previous literature, we tested in advance the effect of positive and negative emotions on affective commitment. Subsequently the direct effects of contextual, relational and cognitive factors were tested on the three outcome variables. The models were built stepwise with commitment, positive and negative emotions as outcome variables, respectively. For each outcome variable, the multilevel analysis started with a random intercept-only model (null model) without including predictor variables. The next two models tested the two contextual factors, i.e. complexity of care (model 1) and existential experiences (model 2), respectively. Finally, relational (experiences with patients, support) and cognitive factors (competence) were tested (model 3). The intraclass correlation coefficient represents how much variance is determined by individuals, relative to the total variance. The explained variance at each level was calculated as the ratio of the divided variance of each level compared to the variance of the null model. Whether the nested model fit significantly improved after adding the predictors was tested with a decrease in the deviance (-2 residual log pseudo-likelihood), i.e.  $\chi^2$ -test. The difference in deviance is the value of the test statistic with a  $\chi^2$ -distribution ( $\alpha = .05$ ) and differences in parameters matched the number of degrees of freedom (Hox, 2010; Snijders & Bosker, 2012.).

## **RESULTS**

### **Descriptive statistics**

The participants ( $n = 18$ ) were all female and ranged in age from 21 to 26 years (mean 23.1;  $SD=1.4$ ). They differed with regard to preliminary training (fulltime or dual), clinical experience (0-12 months), and staffing position (staff nurse or float pool nurse). **Table 2** shows all characteristics. The eighteen nurses completed 580 diaries (range per participant 19-50, mean per participant 35). This means 580 measurement points at level 1.

Table 2 - Participant characteristics ( $n = 18$ )

	% (n)	Mean (SD)
Gender female	100 (18)	
Age		23.06 (1.43)
<i>Preliminary education</i>		
Full-time	61 (11)	
Dual	39 (7)	
<i>Clinical experience</i>		
1-12 months	56 (10)	
No experience	44 (8)	
<i>Position</i>		
Staff nurse	44 (8)	
*urology/plastic surgery	11 (2)	
*trauma surgery	11 (2)	
*pediatrics	5 (1)	
*internal medicine	5 (1)	
*surgery	5 (1)	
*ear, nose & throat	5 (1)	
Float pool nurse	56 (10)	
*central pool	40 (4)	
*pool pediatrics	40 (4)	
*pool internal diseases	20 (2)	

N.B. We did not expect clustering at the ward level because the nurses worked on different wards; therefore we ignored the third level.

## Commitment

Table 3 shows the results of the multilevel analysis with commitment as outcome variable. The random intercept model has an intercept of 4.623, indicating the average level of commitment expressed by the average nurse on average over time. The intraclass correlation coefficient (ICC) of this model is 0.44, reflecting that 44% of the variance is at the nurse level compared to the total variance. This means that 44% of the total variance is accounted for by clustering at the nurse level and multilevel analysis is appropriate. In model 1, complexity of care is significantly negatively related to commitment and the model fit improves significantly ( $\chi^2(1) = 4.50, p < .05$ ). In model 2, confrontations with existential events was not related to commitment and the model fit did not significantly improve. In the final model support from colleagues, supervisors and physicians was positively related to commitment, whereas complexity of care, lack of support and perceived lack of competence were negatively related to commitment. Experiences with patients did not affect commitment. Model 3 improved significantly ( $\chi^2(6) = 15.56, p < .05$ ).

Table 3 - Multilevel analysis of the predictors of affective commitment

	Model 0 B (SE)	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
<b>Fixed effects</b>				
Intercept	4.623* (0.121)	4.634* (0.121)	4.632* (0.122)	4.646* (0.123)
<i>Contextual factors</i>				
Complexity of care		-0.270* (0.127)	-0.270* (0.127)	-0.275* (0.126)
Existential events			0.011 (0.066)	0.015 (0.067)
<i>Relational factors</i>				
Positive patient experience				0.031 (0.121)
Negative patient experience				-0.005 (0.086)
Support				0.104* (0.049)
Lack of support				-0.135* (0.066)
<i>Cognitive factors</i>				
Competence				0.019 (0.057)
Lack of competence				-0.206* (0.083)
<b>Variance</b>				
Measurement (level 1)	0.319 (0.019)	0.253 (0.088)	0.316 (0.019)	0.307 (0.018)
Nurses (level 2)	0.253 (0.088)	0.253 (0.019)	0.253 (0.088)	0.254 (0.088)
<b>Model fit</b>				
Deviance statistic (-2*Log-likelihood)	1039.139	1034.638*	1034.612	1019.050*
X2 (df)		4.50*(1)	0.026(1)	15.56*(6)
Number of estimated parameters	3	4	5	11

Note. \* $p \leq .05$  (estimate/SE  $\geq 2.00$ ).

### Positive emotions

Table 4 shows the results of the multilevel analysis with positive emotions as outcome variable. The random intercept-only model has an intercept of 3.525. The ICC of this model is 0.098, which means that 9.8 % of the variance is at the nurse level compared to the total variance. Model 2 compared to model 1 does significantly improve model fit ( $\chi^2(1) = 17.06, p < .05$ ). Confrontation with existential experiences is negatively related to positive emotions. The final model compared to the second model improved significantly again ( $\chi^2(6) = 186.61, p < .05$ ). The final model showed that positive experiences with patients, support from colleagues, supervisors, physicians and perceived competence were positively related with positive emotions. Positive emotions were negatively influenced by confrontation with existential events, negative experiences with patients, lack of support from colleagues, supervisors and physicians, and perceived lack of competence.

### Negative emotions

Table 5 shows the results of the multilevel analysis with negative emotions as outcome variable. The random intercept-only model has an intercept of 3.008. The ICC of this model is 0.035, which means that 3.5 % of the variance is at the nurse level compared to the total variance. The model fit of all the models improved significantly. Complexity of care, confrontation with existential events, negative experiences with patients, perceived lack of support from colleagues, supervisors and physicians, and perceived lack of competence were positively related to negative emotions. This means that these variables can enhance negative emotions. On the other hand, positive experiences with patients, perceived support from colleagues, supervisors and physicians, and perceived competence were negatively related to negative emotions. This means that these variables can decrease the level of negative emotions.

### Model comparisons

Compared to the models on positive and negative emotions, experiences with patients and confrontation with existential events did not contribute to commitment, whereas the experiences with patients have an impact on the level of positive and negative emotions. Complexity of care, lack of support from colleagues, supervisors and physicians, and lack of perceived competence had a negative impact on commitment, but also on negative emotions. It seems that the 'negative' factors (i.e. care complexity, lack of support, perceived lack of competence) had more impact on the level of commitment than the 'positive' factors (positive support). Complexity of care did not have an impact on positive emotions.

Table 4 - Multilevel analysis of the predictors of positive emotions

	<b>Model 0</b> <b>B (SE)</b>	<b>Model 1</b> <b>B (SE)</b>	<b>Model 2</b> <b>B (SE)</b>	<b>Model 3</b> <b>B (SE)</b>
<b>Fixed effects</b>				
Intercept	3.525* (0.136)	3.544* (0.139)	3.664* (0.140)	3.731* (0.113)
<i>Contextual factors</i>				
Complexity of care		-0.440 (0.346)	-0.431 (0.341)	-0.472 (0.292)
Existential events			-0.741* (0.178)	-1.055* (0.155)
<i>Relational factors</i>				
Positive patient experience				1.118* (0.282)
Negative patient experience				-1.572* (0.201)
Support				0.565* (0.115)
Lack of support				-1.453* (0.153)
<i>Cognitive factors</i>				
Competence				0.481* (0.133)
Lack of competence				-0.712* (0.193)
<b>Variance</b>				
Measurement (level 1)	2.409 (0.144)	2.400 (0.143)	2.331 (0.139)	1.704 (0.102)
Nurses (level 2)	0.253 (0.111)	0.262 (0.114)	0.256 (0.111)	0.127 (0.061)
<b>Model fit</b>				
Deviance statistic (-2*Log-likelihood)	2182.199	2180.596*	2163.540	1976.935*
X2 (df)		1.60(1)	17.06*(1)	186.61*(6)
Number of estimated parameters	3	4	5	11

Table 5 - Multilevel analysis of the predictors of negative emotions

	Model 0 B (SE)	Model 1 B (SE)	Model 2 B (SE)	Model 3 B (SE)
<b>Fixed effects</b>				
Intercept	3.008* (0.095)	2.964* (0.098)	2.829* (0.094)	2.708* (0.073)
<i>Contextual factors</i>				
Complexity of care		1.058* (0.336)	1.033* (0.329)	1.073* (0.278)
Existential events			0.854* (0.171)	1.155* (0.146)
<i>Relational factors</i>				
Positive patient experience				-1.339* (0.268)
Negative patient experience				1.411* (0.190)
Support				-0.416* (0.108)
Lack of support				-1.512* (0.147)
<i>Cognitive factors</i>				
Competence				-0.255* (0.125)
Lack of competence				-0.846* (0.181)
<b>Variance</b>				
Measurement (level 1)	2.349 (0.140)	2.304 (0.137)	2.220 (0.132)	1.610 (0.096)
Nurses (level 2)	0.086 (0.054)	0.096 (0.057)	0.070 (0.047)	0.007 (0.019)
<b>Model fit</b>				
Deviance statistic (-2*Log-likelihood)	2154.975	2145.209*	2121.096	1924.539*
X2 (df)		9.77*(1)	24.11*(1)	196.56*(6)
Number of estimated parameters	3	4	5	11

## DISCUSSION

The findings of this study shed light on the impact of contextual, relational and cognitive factors derived from real-life experiences on novice nurses' emotional state and affective commitment to their profession. More specifically, this study explored to what extent within individuals, work commitment and emotions change over time as an effect of contextual, relational and cognitive factors derived from specific work experiences. These work-related experiences are accompanied by positive and negative emotions. The nature of the factors derived from the experiences that were tested in our models started with the organizational context, then focused on the relationships with patients and colleagues, and finally the focus was more and more on nurses' own competences.

With regard to contextual factors, experiences related to complexity of care had a direct negative effect on affective commitment and were positively related to negative emotions. When novice nurses start working in a hospital setting, they undergo a transitional phase from student nurse to being a practising professional. This process of transition is often accompanied by high demands on nurses and they have to deal with shorter patient stays, and more specialized medical treatments and technologies. In their daily practice they are confronted with severely ill and complex patients whose care requires high-level decision-making skills. Complexity of care is the perception of nurses regarding the demands and responsibilities as a consequence of multifactorial influences, such as patients with co-morbidity and multi-problematic status, geriatric syndromes, physical disability and diagnostic instability (Guarinoni et al., 2014). Nowadays, patients who are admitted to hospital often have multiple disorders, or a simple condition with difficult complications. The treatment of special or complex conditions requires a lot of knowledge and makes great demands on the novices' responsibilities as a nurse. Further, unlike more experienced nurses, they cannot rely on routine. The findings of other studies with novice nurses indicated that they are involved in multiple demanding patient situations that put high demands on their critical clinical judgements (Bjerknes & Bjork, 2012; Dyess & O'Sherman, 2009; Wangenstein, Johansson & Nordstrom, 2008). As a consequence, the increasing complexity of care turned out to result in higher work pressure, work stress, job dissatisfaction and decreasing commitment (Bakker, Le Bland & Schaufeli, 2005). In our study, existential experiences such as confrontations with illness, death and suffering were significantly related to emotions but had no direct effect on novice nurses' affective commitment. They were not only related to negative emotions, as could be expected, but also to positive emotions. This could prove that taking care of these patients and the perception that they really made a difference to them had positive implications and gave a boost to their self-confidence. Although this was not explored in this study, it is plausible that novice nurses' benefited from these experiences and that they could learn from them. This is supported by Taubman-Ben Ari and Weintraub (2008) who found a positive correlation between caring for dying patients and a sense of self-esteem and meaning in life. The study by Donoso et al. (2015) also indicated that nurses' early confrontations with death and emotional demands had a positive influence on motivation and wellbeing (positive affect) among nurses.

Relational factors, such as support from colleagues, supervisors and physicians, or the lack of support, was significantly related to both positive and negative emotions, and

to the level of commitment. Perceived positive feedback and support had a significant and positive effect on positive emotions and affective commitment, and were significantly and negatively related to negative emotions, while perceived negative feedback and lack of support were accompanied by negative emotions and were significantly and negatively related to positive emotions and commitment. When an individual nurse perceived more support, her level of commitment increased, indicating that commitment changes are positively related to changes in perceived support over time. These results are in line with previous studies (Chen, Yang, Gao, Liu & De Gieter, 2015; Ruiller & Van der Heijden, 2016), which found that personal workplace support was strongly and positively related to nurses' affective commitment and that interpersonal exchanges in the daily work situation are crucial. The role of organizations and management, and support of and trust among colleagues and supervisors, also proved to improve nurses' work satisfaction and organizational commitment (Hsu, Chiang, Chang, Huang & Chen, 2015; Parker, Giles, Lantry, & McMillan, 2014). If the relationships with colleagues, supervisors and physicians are not based on trust and respect, it can be assumed that novice nurses will develop low levels of work enjoyment and self-confidence. Lack of support and hostility have also been documented as associated with work stress, job dissatisfaction and attrition (MacKusick & Minick, 2010; Young, Stuenkel & Bawel-Brinkley, 2008). Moreover, good relationships with colleagues, supervisors and physicians have been shown to have more influence on novice nurses' affective commitment than relationships with their patients. Although emotionally charged relationships with patients turned out to be important issues that were significantly related to positive and negative emotions, they appeared to have no influence on affective commitment. As nurses, especially in hospital setting, provide care for patients who are suffering from severe and life-threatening illnesses, it is inevitable that nurse-patient relationships are permeated with emotions (Hefferman, Quin Griffin, McNulty & Fitzpatrick, 2010). In contrast with our findings, the results of previous studies indicated that experiences with patients were not only related to emotions, but also to nurses' commitment or intention to leave the profession. The nurses in the study by Santos, Chambel and Castanheira (2015) who perceived that they had a significant impact on their patients' lives and wellbeing, felt more committed to their profession. On the other hand, emotional distress and feelings of hopelessness seemed to reduce affective commitment and increase intentions to leave clinical practice (Mackusick & Minick, 2010).

Regarding cognitive factors, perceived competence and lack of competence, the results showed that novice nurses' experiences related to lack of competence had a significant direct effect on both positive and negative emotions, and on affective commitment, whereas positive experiences with competences were only significantly related to emotions, not to commitment. Feelings of failure and lack of knowledge are likely to undermine work pleasure and self-esteem. Nurses must be competent and need to improve their competences constantly in order to provide the best possible care for their patients. Evidently, the nurses in our study felt that they were significantly lacking the necessary knowledge and skills required to provide good care. This lack of competence among novice nurses is often associated with being ill-prepared for clinical practice, and being unable to link their theoretical knowledge to the real experiences in the clinical setting. This 'theory-practice gap' is widely discussed in the literature (Bjerknes & Bjork 2012; Duchscher & Cowin, 2004; Monaghan, 2015). Not being able to meet professional

expectations is a plausible predictor for high levels of stress (Brown & Edelmann, 2000; Ross & Clifford, 2002). Previous studies showed that perceptions of competence are significantly associated with job satisfaction and professional commitment (Bratt & Felzer, 2011; Numminen, Leino-Kilpi, Isoaho & Meretoja, 2015). It is obvious that novice nurses need to develop their competence by learning from clinical practice and by observing role models and receiving feedback. Informal workplace learning and professional support could help novice nurses to be better prepared for the clinical setting and to deal with complex care situations. Previous studies indicated that feedback, peer-to-peer intervention, being linked to a work supervisor and scheduled evaluation times are indispensable strategies to achieve this (Chang, Wang, Huang & Wang, 2014; Parker et al., 2014). The finding of the study by Takase, Yamamoto, Sato and Niitani (2015) showed that the self-reported competence of less experienced nurses was positively correlated to learning from others. This is in line with other studies that indicated that in order to enable novices to maintain and develop their competences, support from colleagues and supervisors is essential, also to keep them committed to the profession (Clark & Holmes, 2007; Marks-Maran et al., 2013).

### **Strengths and limitations**

The longitudinal design and the number of measurement points ( $n = 580$ ) of real-life described daily experiences are strengths of the current study. The factors investigated in this research are not based on survey scales but emerged from the diaries kept by the novice nurses. Conducting the research in only one hospital and the number of participants ( $n = 18$ ) could be considered limitations.

## **CONCLUSION**

In summary, we can conclude that contextual, relational and cognitive factors derived from work experiences are highly related to novice nurses' affective commitment and emotional state. Negative work experiences, i.e. complexity of care, lack of support and perceived lack of competence, reduced affective commitment more than positive experiences, i.e. presence of support and perceived competence, increased the commitment. The level of commitment suffers the most from lack of support from colleagues, supervisors and physicians, perceived lack of competence and experiences characterized by complexity of care. Interestingly and unexpectedly, experiences with patients, whether or not seriously ill or dying, did not appear to affect commitment, although they were significantly related to both positive and negative emotions. Complexity of care had a negative impact on affective commitment and enhanced negative emotions. The results of our study emphasize the significant importance of support and feedback to enable novice nurses to deal with the complexity of the work environment and to develop professional commitment. Therefore, these aspects are paramount in retaining novice nurses in the profession.

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