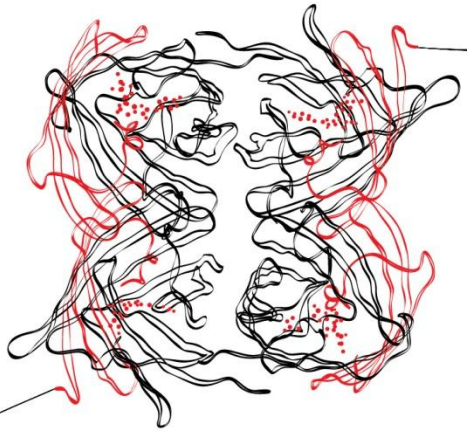
RESEARCHING THE CONTRIBUTION OF SOCIAL SUPPORT AND OCCUPATIONAL SELF-EFFICACY IN WORK-RELATED LEARNING OF NURSES



Masterthesis

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Abstract

Due to an aging population and increasing demands, the working environment for health care institutions changes continuously. Therefore, nurses need to engage in work-related learning in addition to formal learning. The present study aimed to understand the relation between social support of colleagues and supervisors and the participation in WRL activities by nurses**,** mediated by occupational self-efficacy. A survey was used to determine the relationships between the above mentioned factors. From the research it was found that social support of supervisor influences work-related learning activities to a greater extent than social support of colleagues. Social support of the supervisor predicted all learning activities, while social support of the colleagues only predicted social informal learning activities. However, occupational self-efficacy mediated the relationship of social support of colleagues with informal learning activities. This research contributes to evidence of the relation of social support of the supervisor and social support of colleagues with participating in work-related learning activities. It is important to emphasize that in literature, the role of the supervisor is researched many times, while colleagues are less mentioned. This research proved that colleagues also contribute for an important part for WRL. In addition, occupational self-efficacy is involved in this relation.. As a follow-up research, it can be interesting to research if and how awareness of nurses of WRL activities can be stimulated by colleagues. This will add to the knowledge of support of colleagues in the field of WRL and provide guidelines in the practice of stimulating learning.

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Foreword

So, after roughly a year and a half, my master thesis is finalised. It can be said that it was quite a long journey. When I started with my master thesis I did not expect that it would take this long. However, many ways lead to Rome. If you take the wrong way (even though I am convinced there are no wrong way), another way opens up. In various ways, many things can be learned. Because of the long time you are engaged in a subject, it was recommended to find a project and subject you are interested in. I totally agree with this recommendation, for your motivation it is so important to do something that you like. Even though I spent this long time in the world of work-related learning, I still am interesting in this field. Therefore I guess it is something where I want to contribute in when I have a 'real' educational sciences job.

I don't think that I would have come this far without the help of others. So, first of all, I would like to thank Maria Hendriks for guiding me throughout the largest part of the process. I still remember the time when you said that it is sometimes difficult to guide me, because I seemed disoriented. At times, I certainly did feel a bit chaotic, but as the process continued it got better. In the end, your feedback helped me too chose the direction I wanted to go to, but it helped also to learn more about myself in a personal and professional way.
Secondly, I want to thank Tim Hirschler for guiding me at the end of the process. Without your help, I wouldn't be as far to the end of my master thesis as I am now. Even in such a short amount of time you helped me a lot.

Next to my supervisors at the University of Twente, I would like to thank Barbara Schouten and Monique van Kleef of the Flevoziekenhuis for guiding me there. You gave me the trust and freedom to develop this research throughout the process. Also, your enthusiasm was contagious and made me more motivated to finish this research in a way that can help you and the Flevoziekenhuis to engage employees in learning. In addition, next to the research competences, I learned a lot about me personally. With a lot of determination you can achieve as much as you want to, insecurity is not needed very much. In addition, I want to thank Tatjana Bakker and Marga Teunissen for helping me with the distribution of the questionnaire.

And at last, of course I want to thank by family and friends for constantly believing in and trusting me. Your encouragement was very helpful at all times, but especially when I was struggling with something.

Leonie Rijdes
IJsselstein, October 2015.

Introduction

Participation in work-related learning is an important cornerstone to health care. Due to an aging population and increasing demands, the working environment changes continuously. The initial education that nurses receive seems insufficient for adapting to this changing environment (Berings et al., 2007; Dutch Association of Hospitals, 2010). In contrast, work-related learning facilitates employees in adapting to new developed technologies (Bahn, 2006; Berings, 2006; Clarke & Copeland, 2003; Dutch Assocation of Hospitals, 2010), treatment methods and to changing disease patterns (Berings, 2006; Berings, Poell, Simons & van Veldhoven, 2007). Furthermore, continuous learning by nurses is a necessity to dealing with the diversity of patients (Pelzang, 2008) and to retain employability (Billet & Choy, 2013).

Despite the value of work-related learning, nurses seem to perceive formal education as the main type of learning activity and are not always aware of other learning activities. This can be due to their obligation to keep the by law restricted qualifications up-to-date (Ministry of Health, Welfare and Sports, 2014). In addition, nurses experience a shortage of staffing and a sense of high work pressure, which results in a lack of time for engaging in work-related learning (WRL) (Berings, 2006). Therefore, health care institutions are challenged to find ways to assure nurses' engagement in WRL.

WRL occurs through engagement in both formal and informal learning activities (Kyndt & Baert, 2013) which include the challenges of the work itself as well as social interactions with others at the workplace (Eraut, 2004). To emphasize, it was shown that nurses learn mostly from experience and social interaction (Berings et al, 2007; Estabrooks, 2005; Lisman, Natte & Poell, 2007; Poell & van der Krogt, 2013). Previous research has established that work-related learning could increase work performance (Rigotti, Schyns & Mohr, 2008; Taris, 2003), work satisfaction and work commitment (Rigotti et al., 2008; Schyns & Collani, 2002). For instance, Berings, van Veldhoven & Poell (2010) found that autonomy, workload and social support of colleagues and supervisor important as stimulating factors of participation in WRL activities. However, little is still known about stimulating learning activities.

This study took place at the Flevoziekenhuis (a teaching hospital), where nurses should be stimulated to engage in WRL, because it does not take place or is not recognized as such. The hospital developed a vision of learning and development in which both formal and informal learning is emphasized. This vision has to be transmitted to nurses by supervisors to raise awareness about work-related learning. Eraut (2007) found colleagues and supervisors, such as the ward manager and senior nurses, to be the most important for the quality of learning in the direct work environment of nurses. In addition, support of the supervisor and colleagues seems necessary during every day work tasks to raise the quality of their performance.

Since nurses choose learning activities by themselves, individual factors are also important to include. Besides intrinsic motivation (Berings et al. 2010), self-efficacy is also a motivational factor for behaviour (Thoonen, 2011) and has been researched in relation to WRL (Bandura, 1977; van Woerkom, 2003). Self-efficacy influences the choice of activities (Bandura, 1977), this determines how much effort employees put in an activity and for how long (Schunk, 2003).

This study aimed to understand the relation between social support of colleagues and supervisors and the participation in WRL activities by nurses. To explain this relation, the following research question will be addressed: *"To what extent does social support of the supervisor and colleagues influence work-related learning activities of nurses when mediated by occupational self-efficacy?"*

Answers might gain insight into why work conditions have different effects on different WRL activities and how to stimulate participation. Since Berings et al. (2010) already provide insight in the relation of social support and work-related learning activities of nurses, this study will elaborate on their model. This contributes to the field of WRL activities in health care institutions and expands the knowledge of work conditions in relation with WRL activities, especially for the Flevoziekenhuis. Besides the scientific contribution, results of this study also provide practical information for health care institutions on how to motivate nurses to engage in work-related learning activities.

To summarize, the purpose of this research is to investigate the relation of social support of colleagues and supervisors, with WRL activities. In, addition, this contributes to scientific research and provides guidance for stimulating work-related learning activities of nurses.

Theoretical Framework

The following section elaborates on the associated concepts of WRL activities to provide a thorough understanding of the research concepts.

Work-related Learning

Kyndt & Baert (2013) defined work-related learning as '*the engagement in formal and informal learning activities both off and on the job, whereby employees and groups of employees acquire and/or improve competences that change individuals' present and future professional achievements (and eventually also their career) and organisational performance'.* Learning in organisations is important to increase productivity, innovation and competitiveness of the organisation (Ellström, 2001). In addition, learning facilitates employees in maintaining their employability (Billet & Choy, 2013). Other known antecedents of work-related learning are factors such as autonomy (Taris, 2003) support of supervisor and colleagues (Kwakman, 2003), individual factors such as intelligence and personality traits (meta-analysis of Kyndt & Baert, 2013) and organisational factors such as time, money and organisational structure (Poell & van der Krogt, 2012).

Since work-related learning activities are precedents of work-related learning, it is hypothesized that the same antecedents are related with learning activities. Little is known about the antecedents of participating in work-related learning activities. The next section elaborates on work-related learning activities.

A conceptual model (figure 1) is composed of earlier research to show the hypothesized relationships between social support of the supervisor, social support of colleagues and work-related learning activities. The model is based on research of Berings et al. (2010).

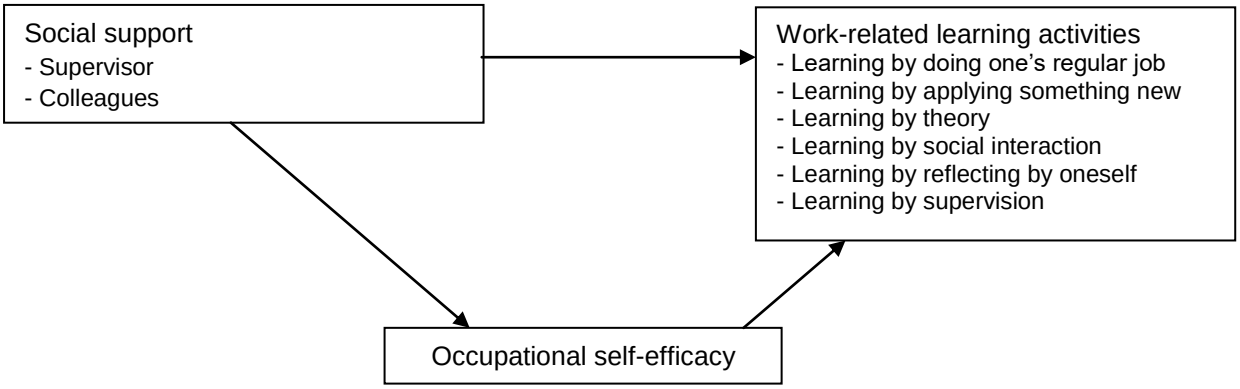


Figure 1. Conceptual model of the relation between social support of supervisor and colleagues with occupational self-efficacy and work-related learning activities.

Work-related Learning Activities

Work-related learning takes place through formal and informal activities (Poell, van Dam & van den Berg, 2004). Learning activities are separate activities that people perform in order to learn or with learning as a side effect (Berings et al., 2007). The distinction is explained by Eraut (2004) through the theory of the intentionality of learning. However, the intentionality of learning lies on a continuum, so a learning activity is not necessary one or another. When a learner engages in a formal learning activity, the learner has the intention of learning something, while learning is a by-product in an informal learning activity (Eraut, 2007).

Table 1 displays the six types of learning activities of nurses. The learning activities are based on interviews with nurses of different wards, which are complemented with expert interviews (Berings et al., 2007). At the workplace, each work-related activity can be seen as a learning activity (Berings, 2005).

Learning by doing one's regular job concerns activities such as learning by doing when taking care of patients, but also by asking for feedback. They also learn by helping others learning; for example by answering colleagues. *Learning by applying something new* in the job concerns activities when broadening tasks (by doing other's people tasks) and by job rotation, when working within a different department. Consulting colleagues and asking for and obtaining feedback are learning activities that

take place through *learning by social interaction*. Also, exchanging knowledge and expertise occurs. *Learning by reflection* concerns prospective reflection (planning), concurrent reflection (by making immediate adjustments) and retrospective reflection (by looking back). Learning by reflection occurs at work, but also at home. In addition, reflection can also occur together with colleagues. *Learning by theory* includes activities such as checking media through books or internet, but also by visiting information meetings such as symposia or congresses. *Learning by supervision* concerns coaching, but also education such as workshops and courses.

Table 1.*Nurses' work-related learning activities of Berings et al. (2007) with examples*

Nurses learning activities	**Examples**
Learning by doing one's regular job	Taking care of patients, watching colleagues
Learning by applying something new in the job	Job rotation
Learning by social interaction of colleagues	Asking for and obtaining feedback
Learning by reflecting by oneself	Planning, looking back, making intermediate /adjustments
Learning by theory	Education, visiting information meetings
Learning by supervision	Direct supervision, coaching

Concerning the intentionality of learning: learning by doing one's regular job, learning by applying something new, learning by social interaction and learning by reflection is situated on the informal side of the continuum, while learning by theory and supervision occurs on the more formal part of the continuum. It is important to emphasize that learning is assumed to be of better quality when employees perform various learning activities, expertise is most likely acquired through a combination (Bolhuis & Simons, 2001).

Factors Influencing Work-related Learning Activities

Research showed diverse antecedents of work-related learning. Since learning is an interaction between the learner and his environment, antecedents can roughly be divided by environmental and individual factors (van Woerkom, 2003). For example, individual factors include factors such as intelligence (Kyndt & Baert, 2013), intrinsic work motivation (Berings et al., 2010) and self-efficacy (Bandura, 1977) . Environmental factors include factors like organisational structure and workplace surroundings (Kyndt & Baert, 2013). Individual factors are important to include, since it is difficult for an another person to direct somebody else's learning. In the end, employees steer their own learning. However, employees need to be aware of the fact that they are learning and how they learn (Berings, 2006). The environmental factors can facilitate this awareness, but also directly influence the participation of learning activities.

As shown in figure 1, social support of the supervisor and social support of colleagues are included as environmental factors within this study. According to Eraut (2007) colleagues and supervisors are the most important factors for the quality of learning in the direct environment of nurses, being directly involved in daily working tasks. Berings et al. (2010) already provided information on the relation of social support with work-related learning activities, but this research tries to strengthen this relationship.

Furthermore, occupational self-efficacy is included as the individual factor. Occupational self-efficacy is barely researched in relation with work-related learning activities in contrast to work-related learning. In addition, self-efficacy is an important motivational factor for work-related learning and learning in general (Thoonen et al., 2011).

These factors are explained with regard to work-related learning activities.

Social support.

Social support refers to the overall levels of social transactions offered by supervisors or colleagues, such as encouragement or providing interaction possibilities (De Jonge, 1995; Doornbos, Simons & Denessen, 2008). Research indicates that behaviour specific to social support of the supervisor differs from behavior of colleagues providing social support. This difference is probably caused by existing hierarchy within an organisation (Doornbos et al., 2008; van der Heijden, 2003). Supervisors have other responsibilities regarding their job than co-workers, which results in a different nature of interaction with their employees. In other words, social support of supervisor and colleagues are comparable since it refers to the total amount of helpful interaction. Nevertheless, measurement should be different because the actual behaviour differs.

The following section elaborates on the different behaviour of supervisors and colleagues regarding social support.

Social support of the supervisor.

Although the roles and responsibilities of the supervisor differ per organisation, social support is an important part of the job. To facilitate employees to engage in learning, a learning climate is essential. (Poel, van Dam & van der Berg, 2004). Effective learning opportunities for nurses should be created during clinical practice (Vanthournout, Noyens, Gijbels & van den Bossche, 2004). A supervisor should assure this learning climate by providing appropriate resources.

Social support of the supervisor includes behaviour such as giving feedback (Doornbos et al., 2008; van der Heijden, 2003), encouraging the employee to learn and to take initiative, talking about work-related ideas but also to give personal attention and discussing career steps (Doornbos et al., 2008).

Results from earlier research showed that support of the supervisor is important for participation in learning (Berings et al., 2010; Doornbos et al., 2008; Eraut, 2004; Evers et al., 2011, Kwakman, 2003). Social support of the supervisor positively relates to the attitude towards learning and the intention to participate in learning activities (Maurer, Weiss, Barbeite, 2003). This indicates that social support stimulates engagement into nurses' work-related learning activities. The findings of Berings et al. (2010) seem to verify this assumption. A direct relation is shown between social support and four learning activities: reflecting by oneself, adding something new, visiting information meetings and social interaction with colleagues. Furthermore, an indirect relation (by intrinsic work motivation) is shown with learning by experience and searching for information.

In short, supervisors are responsible for creating a positive learning climate, where learning and development is common and where employees are stimulated to learn during and outside their everyday job.

Hypothesis 1(a): Social support of the supervisor positively affects work-related learning activities of nurses.

Social support of colleagues.

As opposed to the supervisor, colleagues are an immediate part of the working environment and possess the same job requirements. In addition, employees engage with their colleagues in learning activities, for example by asking feedback. Collaboration is extensive in nursing, which results in more possibilities for receiving feedback. Employees tend to engage more in collaborative and individual learning when these possibilities are available (Doornbos et al. 2008; Kwakman, 2003).

In extension of the learning climate, a good team culture is also invaluable (de Jonge, 1995). Appreciation for each other's work should be shown, while being on good terms seems also a stimulant of work-related learning. Furthermore, giving feedback, sharing knowledge and expertise by discussion and reflection was found of great importance (Doornbos et al., 2008; Zhou & George, 2002). Sharing knowledge and expertise is especially meaningful when performed with skilled colleagues such as senior nurses.

Empirical evidence is found for the relation between support of colleagues and work-related learning. Maurer et al. (2003) found collegial support to positively affect the attitude towards learning and the intention to participate in learning activities. In addition, the findings of Berings et al. (2010) indicated that social support of colleagues had an indirect effect by intrinsic work motivation on the learning activities of nurses.

In short, colleagues are an immediate part of the learning activities of nurses, for which they serve a different role than the supervisor. During their work they learn through sharing knowledge and giving and receiving feedback directly related to the working situation.

Hypothesis 1(b): Social support of colleagues positively affects work-related learning activities of nurses.

Occupational self-efficacy.

Self efficacy is defined as occupational self-efficacy (OSE), because it is domain specific behaviour (Woolfolk, Hughes and Walkup, 2009). Occupational self-efficacy is directed at the job itself, in contrast to a general self-efficacy measure. Schyns & Collani (2002) defined occupational self-efficacy as "*one's belief in one's own ability to perform successfully and effectively in different situations and across different tasks in a job. It refers to the competence that a person feels concerning the ability to fulfill the tasks involved"* (Schyns & von Collani, 2002).Literature about self-efficacy can be used for elaborating on occupational self-efficacy, since the foundation is the same, OSE is only domain specific.

Self-efficacy influences the way an employee interprets a situation or incentive (van Woerkom, 2003). An incentive can be the support of the supervisor. Self-efficacy is related to the extent to which an employee perseveres within a task at work (Bandura, 1977) the choice of tasks and the engagement in learning activities (Thoonen et al. 2011).

Previous research showed that self-efficacy directed at development relates positively to participating in formal and informal work-related learning (Maurer et al., 2003; Maurer & Tarulli, 1994). This is supported by van Woerkom (2003) who found that self-efficacy predicted participation within the learning activities reflection, asking for feedback, learning from mistakes and experimentation.

Self-efficacy can be enhanced by four major sources: performance accomplishments, vicarious experiences, verbal persuasion and emotional arousal (Bandura, 1977; Schyns, 2004). These sources are assumed to be related with the social environment of the employee, because social support can serve as an incentive. Therefore it is expected that social support of colleagues and supervisor relate positively to self-efficacy. Figure 2 shows the mediating model.

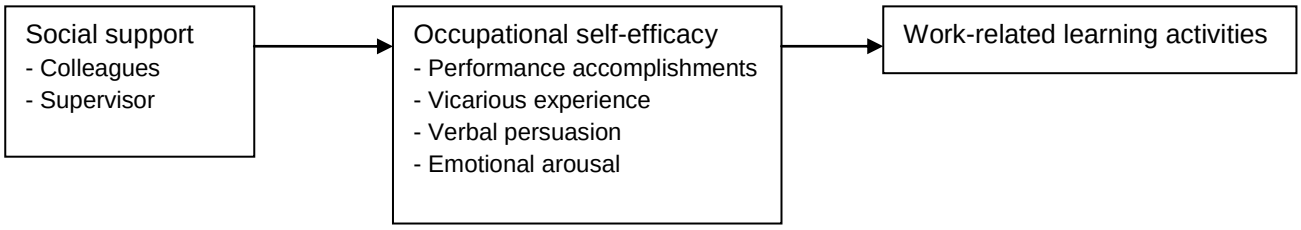


Figure 2. Research model of the mediator occupational self-efficacy.

The source 'performance accomplishments' is based on personal mastery experiences (Bandura, 1977). When an employee successfully performs a WRL activity, such as finishing a job task, it can enhance self-efficacy. In addition, vicarious experience can raise self-efficacy by seeing colleagues perform threatening activities without consequences. This generates expectations of improvement if they persist and intensify their efforts (Bandura, 1977).

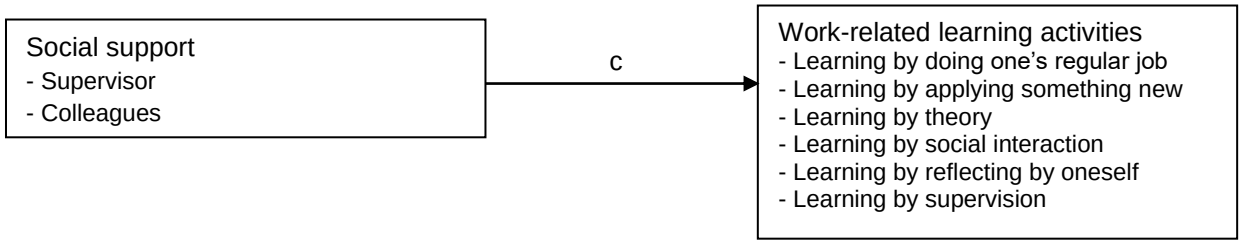
Colleagues usually perceive each other similar regarding abilities and qualifications (Schyns, 2004). Stimulation of verbal persuasion can happen by encouragement of colleagues and supervisors (Schyns, 2004). This should help employees believe that they can cope successfully with a situation, since they possess the capabilities of mastering it. Support and feedback of colleagues and manager can generate higher self-efficacy by reducing the emotional arousal (Bandura, 1977). Stressful situations can elicit emotional arousal which, dependent of the situation, have informative value concerning personal competency or can even motivate the employee to pursue (Bandura, 1977).

Hypothesis 2: Social support of the supervisor (2a) and social support of colleagues (2b) positively affects the occupational self-efficacy of nurses

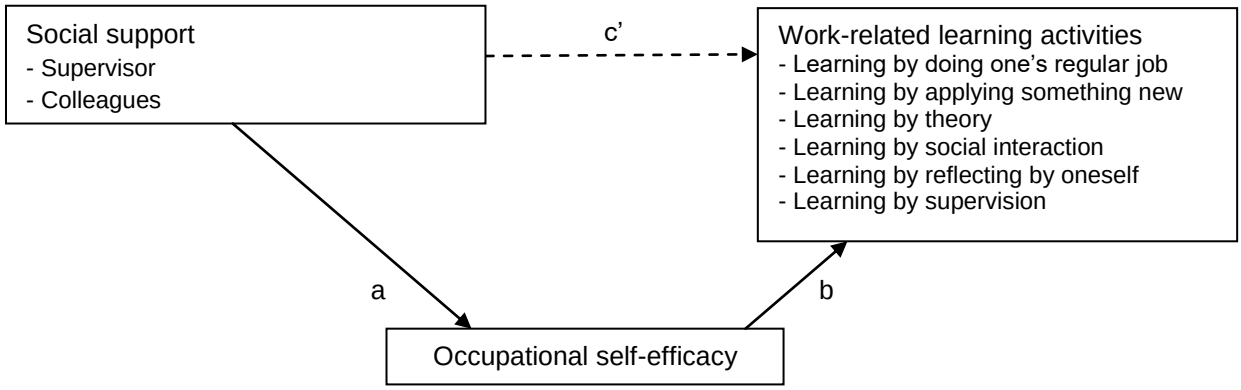
Hypothesis 3: Self-efficacy mediates the relation of social support of the supervisor and colleagues with work-related learning activities.

Research Question and Hypotheses

The research model is shown in figure 3. The model is the foundation of the following research question:
''*To what extent does social support of the supervisor and colleagues influence work-related learning activities of nurses when mediated by occupational self-efficacy?''*



a) Illustration of the direct effect. Social support affects work-related learning activities



b) Illustration of the mediation design. Social support affects work-related learning activities indirectly through occupational self-efficacy

Figure 3. Research models of the relation between social support of supervisor and colleagues with occupational self-efficacy and work-related learning activities.

To answer the research question it is needed to explore the hypotheses that are stated below:

- H_1: Social support of the supervisor (H_{1a}) and social support of colleagues (H_{1b}) influences participating in work-related learning activities (c)
- H_2: Social support of the supervisor (H_{2a}) and social support of colleagues (H_{2b}) has a positive influence on the self-efficacy of nurses (a).
- H_3: Self-efficacy mediates social support of the supervisor (H_{3a}) and influence of social support of colleagues (H_{3b}) on work-related learning activities (c' = c + ab).

Description Of The Organisational Context

This study took place in the Flevoziekenhuis in the city Almere, the Netherlands. The Flevoziekenhuis is a teaching hospital where students follow internships to complete their education for medicine or nursing. To provide the best patient care, the hospital cooperates with several other health care institutions, such as the Academic Medical Centre (AMC) and Zorggroep Almere.

The Flevoziekenhuis is a flat organisation, with the board of directors as top-managers and the wards directly below. The wards consist (depending on the size of the ward) of a manager, team manager and a senior of the care-unit for management tasks and for medical responsibilities. The wards are supported by non-patient care services such as human resources and finances.

The Flevoziekenhuis adapted the concept of Planetree. The main core of this concept is patient-centered care which applies to both patients and their relatives. This is beneficial for the health improvement of the patients (Planetree, 2014; Internal document, 2013). Employees are an important part of Planetree, because competent health care employees are needed to provide optimal care for the patient (Pelzang, 2010). Learning should help employees and eventually organisation to reach optimal care for patients.

The board of directors of the Flevoziekenhuis identify learning and development as a strategic issue. Employees are individually responsible for their own professional development, work and career (Poell & van der Krogt, 2014). Therefore a vision of learning is developed, which focuses on improving the quality of the patient care by learning from and with each other. However, developing a vision does not necessarily mean that employees are able to adapt it. It should be supported by team (managers) and transmitted to the nurses.

The nurses of the Flevoziekenhuis do not seem to participate in work-related learning or it is not recognized as such. So, the hospital needs to gain insight first into, if work-related learning takes place and how WRL takes place. In addition, to stimulate participation in learning activities, insight into the motivational factors is needed. As mentioned before, colleagues and supervisors are important values of the learning culture in the Flevoziekenhuis. Managers bear the responsibility of transmitting the vision for learning and development and should support nurses in their daily practice. On the other hand, colleagues are directly involved in each other's learning activities.

To conclude, the Flevoziekenhuis wanted insight in their nurses learning (activities) and how these learning activities can be stimulated. The hospital identifies their employees as an important value to provide optimal patient care.

Method

The method section explains how a cross-sectional explanatory design was used to investigate the research question and to answer the hypotheses. A cross-sectional design is used when relationships between variables are measured at the same time (Robson, 2002). In addition, an explanatory design tries to identify relationships between aspects of phenomena (Robson, 2002). This study tried to explain the relation between social support with occupational self-efficacy and work-related learning activities.

Respondents

For this study, a sample of approximately 540 registered nurses from the Flevoziekenhuis was selected to participate in the survey. No nurses were excluded based on age, gender, level of education or wards.138 nurses (*N* = 138) completed the survey, however two respondents were deleted from the sample because of a large number of missing values and responding with the same answers. This resulted in a response rate of 25.19 %.

The distribution was insufficient to draw conclusions about gender. There were only 10 males in contrast to 122 females (4 missing values). The educational level varied from MBO (*n* = 42), HBO (*n* = 57) to in-service (*n* = 37). The average age of nurses was *M* = 42.80 years (*SD* = 11.21), with an age range of 22-61 years. In addition, the average years of experience was *M* = 19.47 (*SD* = 11.72) with a range of 0 - 42 years.

Procedures

Before distributing the survey, the research proposal was approved by the Ethics Committee of the University of Twente. The survey contained an informed consent, which informed the participants about e.g. the goal of the survey, a time estimation for completion, but also how anonymity and privacy is dealt with. Also, the survey was tested by employees of the department of Education for grammatical errors and interpretation difficulties for the nurses.

The survey was both a paper and pencil test and an online survey to achieve the highest response from the nurses since online surveys have a low response within the hospital (approximately 10%).

Before distributing both surveys, nurses and (team) managers were notified by e-mail by the department head of Education of the hospital. This e-mail informed them about the research goal and procedures of completing the survey. It was important to inform the (team) managers about the survey, since it was their staff that was questioned. This should have avoided social desirable answers, because the (team) managers were not involved in the distribution of the survey. The surveys were distributed by the department Head of Education of the hospital and an educational consultant, who are appointed to different wards, to increase the response rate. The educational consultants were informed about the research goals to answer questions about the study. After two weeks a reminder was sent to the nurses by e-mail. In addition, nurses were invited individually to increase motivation to complete the survey. The paper and pencil survey was retrieved after three weeks, while the online survey was online for two weeks.

Instrumentation

The survey was based on validated scales of four different survey instruments. All questions are self-report items. The survey is included in appendix A. After the informed consent and introduction the participants were asked to answer four general questions about age, gender, level of education and work experience to control for the relationships between social support, occupational self-efficacy and work-related learning activities. Level of education is found to be an important predictor of participation in formal training (Kyndt & Baert, 2013) and informal learning (Booth, 1991 in Kyndt & Baert, 2013). Also, work experience appears to increase participation within learning activities but also how they approach them (van de Wiel & van den Bossche, 2013).

Independent variables.

Social support of the supervisor.

Social support of the supervisor will be measured by a scale ´managerial support´ of the LWPQ (Learning from Police Work Questionnaire) of Doornbos et al. (2008). Even though this scale originated from a police questionnaire, the questions are a general measure for learning and development at the workplace. The scale is validated by consulting seven HRD experts, in addition with the original target audience. Also an factor analysis was performed by Doornbos et al. (2008).

Social support of the supervisor is measured by eight items and are rated by a 6-item Likert

scale from ‘(1) never to (6) always. An example of an item is: ‘’*My manager gives me feedback on my performance’’.*

Social support of colleagues.

Social support of colleagues will be measured by a scale of ‘co-worker helping and support’ of Zhou & George (2001).

This concept will be measured by four items, which are rated by an 6-item Likert scale from ‘(1) never to (6) always’. An example of an item is: ‘’*My colleagues willingly share their expertise with each other’*.

Occupational self-efficacy.

Occupational self-efficacy was measured by six items of the (Dutch) short version of the Occupational Self-Efficacy Scale (OSEC) (Rigotti, Schyns & Mohr, 2008) which is derived from the original instrument of Schyns & von Collani (2002). The original OSEC consisted of four different scales, which were assumed to represent different aspects of mastery, optimism and self-efficacy expectations (Schyns & von Collani, 2002). To validate the short version of the OSEC, Rigotti et al. (2008) conducted a study in five European Union countries (Germany, Sweden, Belgium, United Kingdom and Spain) which increases the validity of using the instrument in The Netherlands. Berings et al. (2007) used the short version of the OSEC for validating her own survey for measuring nurses’ learning activities.

An example of an item is: ‘*’I can remain calm when facing difficulties in my job, because I can rely on my abilities’’*. The items are rated by a six-point Likert scale from 1 (not at all true) to 6 (completely true).

For all the scales of the independent variables applies that the final score is the average score of the items. A higher score indicates higher social support or occupational self-efficacy.

Dependent variables.

Work-related learning activities of nurses.

To measure the participation of nurses in work-related learning activities the Dutch version On-the-job Learning Style Questionnaire for the Nursing profession (OLSQN) will be used (Berings et al., 2007). This survey is constructed and validated by Berings et al. (2007) in a study among 372 nurses within various hospitals in The Netherlands. The OLSQN consists of 42-items, which consists of seven items that contain nurses’ learning activities with for each item six learning contents of nurses. An example of an item is: ‘’*In the last two years have I improved <u>my technical nursing skills</u> by experiencing relevant job situations. ‘’* The items are rated by a six-point Likert scale from 1 (never) to 6 (always). The final score for a work-related learning acitivity is the average score of seven items. A higher score indicates a higher participation in a learning activity.

Analyses

First, factor analyses and reliability analyses were performed to ensure the validity and reliability of the survey. Separate factor analyses were performed to provide more clearly interpretable factors. The first factor analysis included the independent variables including the questions which measure social support of supervisors, social support of colleagues and self-efficacy (Appendix B). The second was performed with the dependent variables including the questions of the OLSQN for measuring work-related learning activities (Appendix C).

The gathered data was analysed by IBM SPSS statistics 22. Before analysing, , missing data were inserted as missing values and two respondents were deleted from the dataset.

Factor analysis.

Independent variables.

A principal components analysis was performed on 17 items of social support of supervisors, colleagues and self-efficacy with an oblique rotation (direct oblimin). An oblique rotation assumes that all items are related with each other (Field, 2009), which is often the case in social sciences. The Kaiser-Meyer-Olkin measure of overall sampling adequacy was KMO =.88, which verified that a stable factor solution can be found (Field, 2009). Also, Bartlett’s test of sphericity (χ^2 (136) = 1490.82, p = <.0,01), indicated that the correlations between the items were high enough for a factor analysis. An eigenvalue of >1 (Kaiser-normalization) and a critical value of .40 (Stevens, 2002, in Field, 2009) was used for extracting factors. Both scree-plot and the eigenvalues >1 indicated three components,

explaining 69,11 % of the variance. In table 2 are the explained variances shown of the independent variables.

Dependent variables.

The second principal components analysis was performed with an oblique rotation (direct oblimin) on 42 items of the OLSQN (Berings et al., 2007) for measuring work-related learning activities.
The KMO of the second analysis resulted in a KMO =.88, which verified a stable solution. Further, Bartlett's test of sphericity (χ^2 (861) =4304,82, p <.001) was significant. An eigenvalue of >1 (Kaiser-normalization) and a critical value of .40 (Stevens, 2002, in Field, 2009) was used for extracting factors. The analysis resulted in nine components exceeding the eigenvalue of 1, while the scree-plot showed an inflexion after the second component. The nine component solution, as well the two component solution of the scree-plot did not provide clearly interpretable results. The two component solution organised the items in informal and formal learning activities. However, the items which were organised in the 'informal learning' factor seemed to consist of two components, informal learning activities which are performed alone and informal learning activities which are performed with others. This led to performing a factor analysis with three components. The factor analysis with three components seemed to organise the items in formal learning activities, informal learning activities and social informal learning activities (with others). Six items were deleted since they could not be interpreted clearly based on content. In addition, not all the items met the critical value of .40 (Stevens, 2002; in Field, 2009). The deleted items are A2 and A5, which are about executing nursing proceedings while reflecting by yourself and by performing new tasks. Item C5, was about putting intense situations in perspectives by performing new tasks. And at last, items E2, E4 and E5, were about where to find trustworthy information by reflecting by yourself, by experience and by performing new tasks.

The combination of three factors explained a variance of 58.69%.

Social informal learning.

The scale was labeled as social informal learning, since it included 12 items such as 'asking colleagues' and 'reflecting together'.

Formal learning.

The scale was labeled formal learning activities, because it included 12 items such as 'participation in meetings' and 'searching new information'

Informal learning.

The scale was labeled as informal learning activities, because it consists of 12 items such as 'gaining experience' , 'doing new tasks' and 'reflecting by yourself'.

Reliability analysis.

Reliability analyses were performed to assess the reliability of the composed items for each factor.

Table 2. *Reliability measures and variances explained for the independent and dependent variables.*

Scale	**Reliability (in Cronbach's *α*)**	**Variance explained (in %)**
Independent variables		
Social support of the supervisor	.96	42.57
Social support of colleagues	.87	9.03
Self-efficacy	.81	17.56
Total		69.11
Dependent variables		
Social informal learning	.92	43.89
Informal learning	.92	5.80
Formal learning	.94	9.00
Total		58.69

Table 2 shows that all scales are highly reliable (Cronbach's *α* above .70 (Evers, Lucassen, Meijer & Sjitsma, 2009). No items were excluded to raise reliability.
Before performing correlation and multiple regression analysis it is necessary to explore the data.

Exploring Assumptions

Before analysing it is important that the underlying assumptions of the Pearson's correlation and the multiple regressions are met.

The assumption of a normally distributed sampling distribution of Pearson's correlation is generally met. Either the skewness and kurtosis of the variables are between $z = -1.96$ and $z = +1.96$, or the Kolmogorov-Smirnov/Shapiro-Wilk test was non-significant. However, the variable occupational self-efficacy did not meet both criteria of normality for which the variable was log-transformed. Despite the transformation, the log-transformed variable self-efficacy did not yield different results than the not-transformed variable, which led to include the non-transformed variable self-efficacy within the analysis for interpretation reasons.

For both Pearson's correlation and regression analysis it is needed that data are at interval or categorical level, which leads to this assumption to be met. In addition, the control variable education was dummy coded since it included three categories.

The assumptions for a multiple regression are also met.

First, multicollinearity was checked by searching for correlations higher than .90 and by VIF (variance inflation factor) values (Field, 2009). There were no correlations > .90 and the VIF-values were sufficient to determine no perfect multicollinearity. The data was also checked for independent errors by the Durbin-Watson test, which should be around 2. The Durbin-Watson test was also sufficient. Next to this, the assumption of homoscedacity and linearity is met, by checking a regression plot.

Results

This section present the results of the analyses of the data. First, preliminary analyses for the multiple regression were performed, to make sure a regression analysis was appropriate. After the correlation analysis, multiple regression analyses were performed to ensure the expected relationships to perform a mediation analysis.

One-way ANOVA

An one-way ANOVA was used to investigate if the means of work-related learning activities significantly differ when grouped by educational level. Based on the ANOVA, a significant difference exists between the informal learning activities and educational level (F (2,131) = 7.82; p <.001). A post-hoc test using the Bonferroni method showed a difference exists between the educational level in-service with MBO (p <.05) and HBO (p <.05). Since only a difference exists on informal learning activities, it is not necessary to differentiate between educational level in the next analyses.

Table 3. *Means of the work related learning activities spitted by educational level*

	MBO		**HBO**		**In-service**	
	M	*SD*	*M*	*SD*	*M*	*SD*
Social informal	3.76	.88	3.54	.75	3.34	.89
Formal learning	3.61	.91	3.34	1.15	3.16	.99
Informal learning	4.34	.82	4.20	.81	3.65	.82

Correlation Analysis

First, Pearson's bivariate correlation was used to explore the relationships between the variables, while controlling for the variables gender, age, working experience and education level. Table 4 shows the relationships between the independent and the dependent variables with the control variables. The correlations effect sizes are for r ± .10 (small effect), r ± .3 (medium effect) and r ± .5 (large effect) (Cohen, 1988,1992 in Field, 2009).

As can be deduced from Table 4, the expected positive relationships between the independent and the dependent variables emerge. Medium to large positive effects arise between social support of the supervisor and social informal learning (r = .49), informal learning (r =.35) and formal learning (r = .41) (all p <.001). Also, medium to small positive effects were found between social support of colleagues and social informal learning (r =.44, p <.001), informal learning (r =.22, p <.05*)* and formal learning (r = .30, p <.01). In addition, between the hypothesized mediating variable self-efficacy and support of colleagues (r = .47, p <.001), support of the supervisor (r= .27, p <.01), social informal learning (r =.27, p <.01), informal learning (r = .26, p <.01) and formal learning (r = .34, p < .001) medium to large effects were found.

To prevent biased results, control variables were included within the correlation analysis. Age related negatively significant with formal learning activities (r = -.26, p <.01) ,as well as the education level 'in-service' shows a negative medium effect with informal learning activities (r = -.32, p <.001). In contrast, the education level MBO related positively with informal learning activities (r = .20,p < .05). No other effects approached significance.

The results of the correlation analysis provided enough evidence to test the hypotheses H_1 (social support of colleagues and supervisor influences work-related learning activities) and H_2 (social support of colleagues and supervisor affect occupational self-efficacy) by performing a multiple regression analysis. In addition, the correlation matrix showed enough evidence to investigate hypothesis H_3.

Table 4. *Bivariate Pearson correlations between the control variables, independent and dependent variables*

	Mean	*SD*	Gender	Age	Work Experience	MBO	HBO	In-service	Self-efficacy	Support colleagues	Support supervisor	Social informal	Informal	Formal
Gender	1.92	0.02												
Age	42.68	0.99	-.09											
Work experience	19.28	1.03	-.11	.85***										
MBO	.31	0.46	.06	-.17*	-.36***									
HBO	.42	0.50	-.04	-.24**	-.13	-.57***								
In-service	.27	0.45	-.02	.45***	.52***	-.41***	-.52***							
Self-efficacy	5.06	0.49	-.01	-.05	-.09	.12	.02	-.15						
Colleagues	4.23	0.97	-.04	-.13	-.16	.06	.08	-.16	.47***					
Supervisor	3.81	1.23	.10	-.02	.04	.01	.05	-.06	.27**	.45***				
Social informal	3.55	0.84	-.05	-.03	-.04	.17	-.01	-.16	.27**	.44***	.49***			
Informal	4.09	0.86	.11	-.26**	-.26**.	.20*	.10	-.32***	.26**	.22*	.35***	.67***		
Formal	3.38	1.04	-.06	.15	.16	.15	-.03	-.13	.34***	.30**	.41***	.69***	.60***	

Note.
* p = <.05, ** p = <.01, *** p = <.001.

Multiple Regression Analysis

Since the Bivariate Pearson's Correlation provided enough evidence to examine the hypotheses multiple regression analyses were performed. No assumptions were made about the importance of predictors, therefore the variables were entered in the regression analyses by forced entry.

According to the Baron & Kenny (1986) criteria for mediation, three conditions should be met. First, a significant effect should be found between the independent variables and the dependent variable (path c). Secondly, the independent variables should significantly relate to the hypothesized mediating variable (path a). Thirdly, the mediating variable should positively predict the dependent variables (path b). However, according to Preacher & Hayes (2004; 2008), if the c-path is non-significant, mediation can still occur.

As can be seen in table 5, for path c, it was found that social informal learning activities were positively associated with social support of colleagues and social support of the supervisor, which predicted 30.10% of the variance (R^2 = .30, F (2,120) = 25.85, p <.001). Both social support of the supervisor (b = 0.26, t (121) = 4.29, p <.001) and social support of colleagues (b = 0.25, t (121) = 3.29, p = .001) significantly predicted social informal learning activities. These paths explained 31% of the variance in work-related social informal learning activities.

In addition, for formal learning activities it was found that the control variable age (b =0.02, t (119) = 2.045, p <.05) and social support of supervisor (b = 0.28, t (119) = 3.43,p <.001) significantly predicted formal learning. However, social support of colleagues did not significantly predict formal learning. These paths explained 13.70% of the variance in formal learning activities (R^2 = .14, F (1,117) = 8.06, p <.001).

At last, social support of the supervisor (b = 0.25, t (121) = 3.99, p < .001) and the educational level in-service (b = -0.48, t (121) = -2.80, p <.01) significantly predicted informal learning activities. Social support of colleagues and the educational level MBO did not significantly predict informal learning. These paths explained 25.30 % of the variance in informal learning activities (R^2 = .25, F (2,118) = 9.976, p <.001). So for path c, social support of the supervisor significantly predicted all learning activities, while social support of colleagues only significantly predicted social informal learning activities. Even though the criteria of Baron & Kenny are not met for the paths for support of the colleagues for informal and formal learning activities, next analysis can be performed (Preacher & Hayes, 2004; 2008).

Secondly, it was found that only social support of colleagues significantly predicted occupational self-efficacy (b = 0.22, t (118) = 4.78, p < .001), since social support of the supervisor was insignificant (b = 0.04, t (118) =1.11, p = *ns*). Path a explained 23.10 % of the variance in occupational self-efficacy (R^2 = .23, F (2,120) = 17.98, p <.001). The criteria for Baron & Kenny (1986) was only met for social support of colleagues, which is showed in table 5.

Thirdly, the mediating variable should positively predict the dependent variables (path b). This regression analysis is shown in table 6. Occupational self-efficacy only significantly predicted informal learning activities (b = 0.35, t (120) = 2.23, p <.05). This path explained 28.10 % of the variance in informal learning activities (R^2 =.28, F (1,116) = 9.08, p <.001).

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Table 5. *Multiple regression for social support of colleagues and supervisor with occupational self-efficacy.*

Predictor	**Path a**	
	b	*SE*
Support colleagues	.217	.045***
Support supervisor	.040	.036

Note.
* p = <.05, ** p = <.01, *** p = <.001.

Table 6. *Multiple regressions and mediation analysis for social support of colleagues and supervisors, occupational self-efficacy with learning activities.*

Predictor	**Path b**		**Path c**		**Bootstrapping**		
						95% CI	
	b	*SE*	*b*	*SE*	Effect	*LL*	*UL*
Social informal learning activities							
Support colleagues			.247	.075***			
Support supervisor			.255	.059***			
Occupational self-efficacy	.01	.150					
Informal learning activities							
Support colleagues			.076	.080	.076	.019	.158
Support supervisor			.256	.063***			
Occupational self-efficacy	.357	.157**					
Formal learning activities							
Support colleagues			.080	.102			
Support supervisor			.279	.081***			
Occupational self-efficacy	.295	.205					

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit.
* *p* = <.05, ** *p* = <.01, *** *p* = <.001.

Mediation Analysis

Not all criteria of Baron & Kenny (1986) were met. However, to perform the mediation analysis of Preacher & Hayes (2004; 2008) it is not necessary that a significant c-path exists. A significant a and b-path is essential. So as shown in tables 5 and 6, a significant a and b-path exists for social support of colleagues with informal learning activities. Thus, allowing the researcher to perform a mediation analysis for social support of the colleagues with informal learning activities.

The mediation analysis was performed using the bootstrapping method with bias-corrected confidence estimates (MacKinnon, Lockwood & Williams, 2004; Preacher & Hayes, 2004). A 95% confidence interval of the direct effect was obtained with 5000 bootstrap resamples (Preacher & Hayes, 2008). The mediation analysis revealed that occupational self-efficacy mediates the relation of social support of colleagues and informal learning activities (*LL*CI = .019; *UL*CI =.158).

An overview of the significant relations between the work conditions and the work-related learning activities is shown in figure 4. The relations are shown by the standardized β, which allows to compare the results to each other. For example, social support of the supervisor is overall the most important stimulating factor for all learning activities comparing to OSE and social support of colleagues.

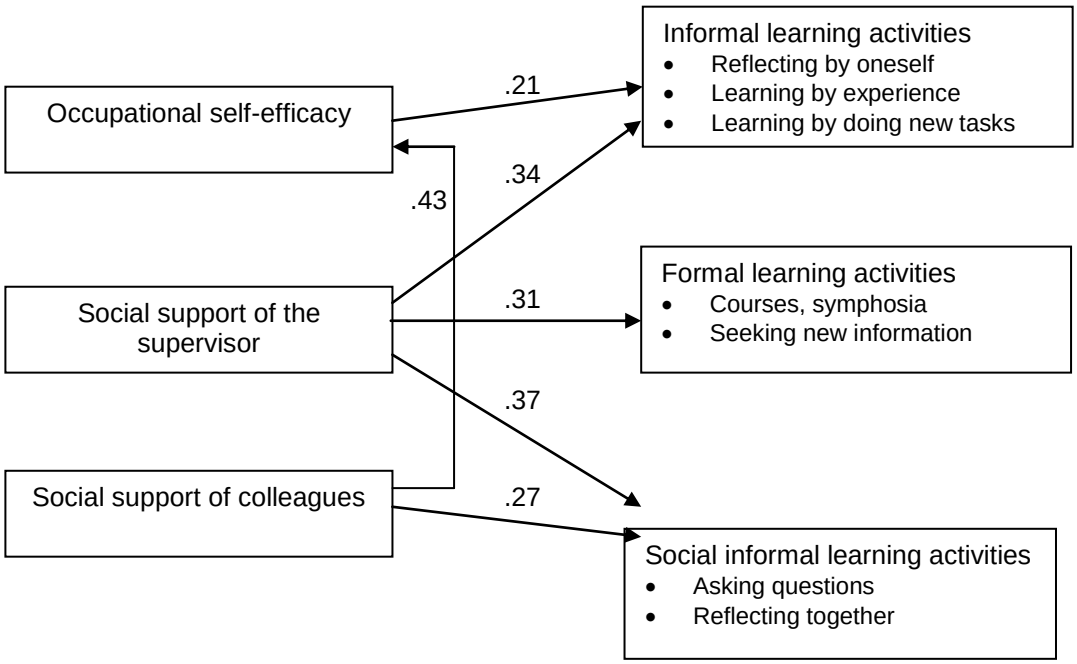

Figure 4. Significant relations between social support of colleagues and supervisor, the mediator occupational self-efficacy and work-related learning activities.
Note. Relations are showed by β's.

Conclusion

The purpose of this research was to understand the relation between social support of colleagues, social support of the supervisor and the participation of nurses in work-related learning activities. Therefore, the following research question is addressed: *''To what extent does social support of the manager and colleagues influence work-related learning activities of nurses?''* Before answering the research question, the hypotheses should be discussed.

Relation of social support of supervisor and colleagues and WRL activities
Hypothesis 1 predicted that social support of the supervisor (1a) and social support of colleagues (1b) positively influences participation in work-related learning activities. Hypothesis 1b is rejected, since social support of the colleagues only predicted social informal learning activities. Furthermore, hypothesis 1a is confirmed, because social support of the supervisor positively predicts all learning activities.

Relation of social support of supervisor and colleagues and occupational self-efficacy
Hypothesis 2 predicted that social support of the supervisor (2a) and social support of colleagues (2b) positively influence occupational self-efficacy of nurses. It can be concluded that hypotheses 2 can partly be confirmed. Hypothesis 2b is confirmed, since social support of colleagues predicted occupational self-efficacy. On the other hand, hypothesis 2a is rejected, as social support of the supervisor did not significantly predict occupational self-efficacy.

Mediated relation of social support, self-efficacy and WRL activities
Hypothesis 3 predicted that self-efficacy mediates the influence of social support of the supervisor (3a) and social support of colleagues (3b)) on work-related learning activities.
Hypothesis 3 is partly confirmed, since self-efficacy only significantly mediated the relation of social support of colleagues with participating in *informal* learning activities. In addition, occupational self-efficacy significantly predicted the participation of nurses in informal learning activities.

Even though the outcomes are not entirely consistent with our expectations, this research provides valuable information. As hypothesized by (van der Heijden, 2009;2011) and found by (Berings et al., 2010, Kwakman, 2003) social support of the supervisor and social support of colleagues positively predict work-related learning activities of nurses. However, social support of colleagues only significantly predicted social informal learning activities. This seems to be due to different behaviour and roles that are expected of colleagues and supervisors (Doornbos et al., 2008; van der Heijden, 2003). In contrast to colleagues, a supervisor has an overall overseeing role when it comes to nurses and their learning and development, while colleagues are directly involved in each other's work and therefore learning activities. In addition, colleagues are more frequently engaged with each other during their daily practice, which can contribute to social learning activities because of their social nature.

Occupational self-efficacy only mediated the relationship of social support of colleagues with informal learning activities, this can be due to the nature of OSE. OSE is a ' belief' and a ' feeling of competence' (Schyns & Collani, 2002), for which it is possibly difficult to be directly influenced by social support of the supervisor since a more hierarchical relation exists between a nurse and a supervisor. In addition, three sources of occupational self-efficacy were assumed to be related with social support of colleagues (vicarious experience, verbal persuasion and emotional arousal), contrarily to social support of the supervisor which was assumed to be related with two sources of OSE (verbal persuasion and emotional arousal). This can be due to both the hierarchical relation of the supervisor and the nature of the relationship between colleagues. Furthermore, colleagues usually perceive each other similar regarding abilities and qualifications (Schyns, 2004).
It is also possible that self-efficacy is more important for informal learning activities, because participating in an informal learning activity is more self-regulated in comparison to social informal learning (directly involved with colleagues) and formal learning activities (more external steered). In addition, OSE significantly predicted informal learning.

To summarize, social support of supervisor influences work-related learning activities to a greater extent than social support of colleagues. Social support of the supervisor significantly predicted all learning activities, while social support of the colleagues only predicted social informal learning activities.

The lower effect of social support of the supervisor on formal learning activities needs to be mentioned. Contrary to the models of (social) informal learning activities, respectively 30% and 31%,

this model explains less variance (14%). The researched variables do not explain all variance in participating in learning activities, also other variables influence this relation. As mentioned before, learning occurs by interaction of the individual with the environment (van Woerkom, 2003). So, other variables in the environment and individual contribute to participating in work-related learning activities. It is possible that factors such as money, time, workload (pressure) and so organisational structure are more essential in participating in courses or symposia (formal learning activities).

Discussion

When drawing conclusions about the research, it is important to keep the strengths and limitations in mind. A strength of this research is the method for analysing mediation. The mediation analysis with bootstrapping of Preacher & Hayes (2004; 2008) is used. This method analyses the effect of the full mediation path, instead of separate paths (a and b) (Baron & Kenny, 1986), which reduces the chance of a type I or type II error (Preacher & Hayes, 2004; 2008). When reducing the chance of errors, it is less likely to wrongly assume or reject hypotheses.

In addition, this research yields practical and theoretical implications. It contributes to the model of Berings et al. (2010) and contributes to the practice by providing guidelines for stimulating participation in learning activities. In the section 'theoretical and practical implications' is elaborated further on this subject.

Furthermore, the conclusions are based on a small research group (N = 138), which leads to a non-generalisable research for nurses of teaching hospitals. However, the research group was very representative for nurses working in the Flevoziekenhuis, so the research is generalisable for the Flevoziekenhuis.

Next to this, the questionnaire was a self-report item questionnaire, which can result in a self-rating bias. The results can also be biased due to social desirability, since questions were about perceived support of others (colleagues and supervisors). To avoid bias from social desirability, it is possible to distribute a questionnaire for colleagues and supervisors on their social support to compare the results. Even though it is important to acknowledge social desirability, questions about social support are about perceived support from the view of the employee. Not about the actual support an employee receives.

Qualitative methods can be used to explore the relationships between perceived support of supervisors and colleagues. A mixed methods design strengthens the research and allows the researcher to deepen the investigation when necessary (Robson, 2003). Nevertheless, the questionnaire was composed of validated and reliable questionnaires (Berings, 2005; Doornbos et al., 2005; Schyns & Collani, 2002; Zhou & George, 2002), which results in trustworthy validated results and are sufficient to answer the research question.

Theoretical and Practical Implications

The results of this research lead to theoretical and practical implications.
This research contributes to the research of Berings et al. (2010), which is specifically about work-related learning activities for nurses. It contributes to evidence of the relationship of social support of the supervisor and social support of colleagues with participating in work-related learning activities. Thereby is the model extended with occupational self-efficacy, which mediates informal learning activities.

OSE also contributes to theoretical knowledge about WRL because it is less researched than self-efficacy throughout literature.

Furthermore, the relation between the work conditions and the WRL activities justify the assumption that work-related learning activities can be stimulated by the same antecedents as work-related learning.

For the Flevoziekenhuis and also for other teaching hospitals can this research provide guidelines for learning and development of nurses., For example, nurses in the Flevoziekenhuis possess a high amount of occupational self-efficacy. The nurses scored a mean of 5.06, which means that the nurses strongly belief in their own ability to perform successfully and effectively. A high amount of self-efficacy is important in persevering in one's job (Bandura, 1977) and in the choice of activities (Thoonen et al., 2011). This contributed especially to the participation in informal learning activities. Therefore it can be assumed that when nurses possess a low amount of OSE, their participation in informal learning activities will be also be low.

In addition ,informal learning occurs the most, while nurses participate the least in formal learning activities. This is notable since nurses were more convinced of them participating in formal learning. So even though nurses experience a high amount of work-pressure and shortage of staffing, work-related learning occurs. Nurses only need to be more aware of WRL activities. Both supervisor

and colleagues should provide guidance in recognizing the learning activities. Since social support should be something that occurs spontaneously, not much is needed to stimulate and assure learning. However, when social support is not present, it affects the participation in learning activities.

As mentioned before, colleagues and supervisors are important for participation in learning activities and so, work-related learning. Colleagues and supervisors fulfil a different role in the practice of nurses. In literature is the role of a supervisor more emphasized than the role of colleagues, while colleagues contribute significantly to informal learning activities. Therefore, it is important that senior nurses or other skilled colleagues are available during practice. Next to the 'master-apprentice' relationships for nursing students, skilled colleagues are necessary for retaining knowledge and knowledge transfer. It is possible for supervisors to share their role of supervising (Eraut, 2007), with the senior nurses to reduce the distance between nurses and supervisors. This can stimulate the participation in WRL activities.

Since awareness of learning (activities) is rarely investigated through literature, but seems to be an important factor of stimulating WRL activities and so work-related learning, it can be valuable to investigate this further. For the participation in learning it is important to know by employees that they are learning and also how they are learning (Berings, 2006). According to Berings (2006) the questionnaire should already contribute in raising this awareness. As a follow-up research, it can be interesting to research if and how colleagues contribute to this awareness. This will extend the theoretical knowledge about the influence of colleagues in the field of work-related learning. But it will also build more empirical evidence for awareness of one's learning activities. In addition, it can contribute to the practice of stimulating work-related learning in the field. Figure 5 shows the hypothesized relation of social support of colleagues with awareness of learning activities.

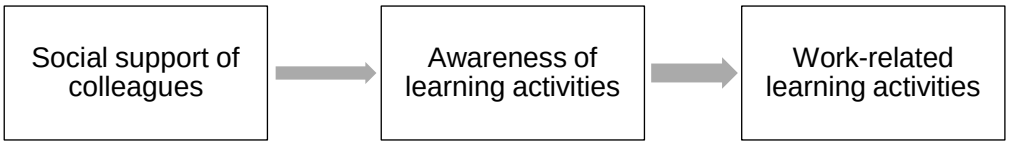

Figure 5. Proposed hypothesized relation between social support and work-related learning activities when mediated by awareness of learning activities.

Furthermore, since the research took place on a small scale, the research could be extended by involving more teaching hospitals. This provides more information which can be generalized to larger group. In addition, a research on a larger scale, can be used to verify the outcomes of this research. Besides, a research including academic hospitals, can provide information about the difference use of social support in relation with work-related learning activities. It can be hypothesized that more learning activities take place or maybe others than in teaching hospitals since academic hospitals provide more difficult cases. Such a large research can also provide more information about why work conditions have different effects on different work-related learning activities. More and more research show the antecedents of work-related learning (activities), but there is still more to know about the 'why'. A mixed method study seems more suitable for answering this question.

References

Bahn, D. (2007). Reasons for post registration learning: impact of the learning experience. *Nurse education today,27,* 715 – 722.

Bandura, A. (1997). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review, 84* (2), 191-215.

Billet,S. & Choy. S (2013). Learning through work: emerging perspectives and new challenges. *Journal of workplace learning, 25* (4), 264 – 276.

Berings, M. G. M. C. (2006). On-the-job learning styles: Conceptualization and instrument development for the nursing profession. Tilburg: Universiteit van Tilburg(dissertation)

Berings, M.G.M.C., Poell, R.F., & Simons, P.R. (2008). Dimensions of on-the-job learning styles. *Applied psychology: an international review, 57* (3), 417-440.

Berings, M.G.M.C., Poell, R.F. Simons, P.R.J. & van Veldhoven, M.J.P.M. (2007). The development and validation of the on-the-job learning styles questionnaire for the nursing profession. *Journal of advanced nursing, 58* (5), 480 – 492.

Berings, M. G. M. C., van Veldhoven, M.J.P.M., & Poell, R. F. (2010). Antecedents of nurses' actual learning activities: The role of psychological work conditions and intrinsic work motivation. In M. van Woerkom & R. F. Poell (Eds.), *Workplace learning: Concepts, measurement, and application* (pp.71-87). London: Routledge.

Bolhuis, S.M., & Simons, P.R. (2001). *Leren en werken*. Alphen a/d Rijn: Samsom.

Clarke, D.J., & Copeland, L. (2003). Developing nursing practice through work-based learning. *Nurse education in practice, 3*, 236 – 244.

Doornbos, A.J., Simons, R., & Denessen, E. (2008). Relations between characteristics of workplace practices and types of informal work-related learning: a survey among Dutch police. *Human resource development quarterly, 19,* 129-151.

Dutch Association of Hospitals. (2013). Zorg loont: brancherapport algemene ziekenhuizen [Care is worthwhile: sector report general hospitals]. Den Haag: SiRm.

Eraut, M. (2004). Informal learning in the workplace. *Studies in continuing education, 26* (2), 247 – 273.

Eraut, M. (2007). Learning from other people in the workplace. *Oxford review of education, 33* (4), 403 – 422.

Estabrooks, C.A. , Rutakumwa, W., O´Leary, K.A., Profetto-McGrath, J., Milner, M., Levers, M., et al. (2005). Sources of practice among nurses. *Qualitative health research, 15* (4), 460 – 476.

Evers. A.. , Lucassen, W., Meijer, R., & Sjitsma, K. (2010). COTAN beoordelingssysteem voor de kwaliteit van tests [COTAN assessment for the quality of tests]. NIP: Amsterdam.

Evers, A.T., Kreijns, K., van der Heijden, B.I.J.M., & Gerrichhauzen, J.T.G. (2011). An organisational and task perspective model aimed at enhancing teachers' professional development and occupational expertise. *Human resource development review, 10* (2)*, 151-179.*

Field, A. (2009). *Discovering statistics using SPSS.* London: Sage publications Ltd.

Jonge, J. de (1995). Job autonomy, well-being and health: a study among Dutch health care workers. Maastricht: Datawyse.

Kwakman, K. (2003). Factors affecting teachers' participation in professional learning activities. *Teaching and teacher education, 19,* 149-170.

Kyndt, E., & Baert, H. (2013). Antecedents of employees' involvement in work-related learning: a systematic review. *Review of educational research, 83* (2), 273-313.

Kyndt, E., Govaerts, N., Dochy, F., & Baert, H. (2011). The learning intention of low-qualified employees: a key for participation in lifelong learning and continuous training. *Vocations and learning, 4,* 211 – 229.

Lisman, A., Natte, M., & Poell, R. (2007). Op zoek naar leerwegtypen van verpleegkundigen, *develop, 2,* 22 – 31.

Maurer, T.J., & Tarulli, B.A. (1994). Investigation of perceived environment, perceived outcome, and person variables in relationship to voluntary development activity by employees. *Journal of applied psychology,79* (1), 3 – 14.

Maurer, T.J, Weiss, E.M., & Barbeite, F.G. (2003). A model of involvement in work-related learning and development activity: the effects of individual, situational, motivational and age variables. *Journal of applied psychology, 88* (4), 707, 724.

Ministry of Health, Welfare and Sports. (2014). The BIG register. Retrieved from https://www.bigregister.nl/en/.

Pelzang, R. (2010). Time to learn: understanding patient-centred care. *British journal of nursing, 19* (14), 912 – 917.

Poell, R.F., van Dam, K.,& van den Berg, P. (2004). Organising learning in work contexts. *Applied psychology: an international review, 4*, 529 – 540.

Poell, R.F. & van der Krogt, F.J. (2014). An empirical typology of hospital nurses' individual learning paths. *Nurse education today,* 428-433.

Pool, I., Poell., R. & ten Cate, O. (2013). Nurses' and managers perceptions of continuing professional development for older and younger nurses: a focus group study. *International journal of nursing studies, 50,* 34 – 43.

Preacher, K.J., & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour research methods, instruments & computers, 36* (4), 717 – 731.

Preacher, K.J., & Hayes, A.F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behaviour research methods, 40* (3), 879 – 891.

Rigotti, T., Schyns, B., & Mohr, G.(2008). A short version of the occupational self-efficacy scale: structural and construct validity across five countries. *Journal of career assessment, 16* (2), 238-255.

Robson, C. (2002). *Real world research.* Malden: Blackwell publishing.

Schunk , D.H. (2003) Self-efficacy for reading and writing: influence of modeling, goal setting and self-evaluation. *Reading and writing quarterly, 19,* 159 – 172

Schyns, B. (2004). The influence of occupational self-efficacy on the relationship of leadership behavior and preparedness for occupational change. *Journal of career development, 30* (1), 247 – 261.

Schyns , B. & von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. *European journal of work and organizational psychology, 11* (2), 219-241.

Taris, T.W., Kompier, M.A.J., De Lange, A.H., Schaufeli, W.B., & Scheurs, P.J.G. (2003). Learning new behaviour patterns: a longitudinal test of Karasek's active learning hypothesis among Dutch teachers. *Work & stress, 17* (1), 1 – 20.

Thoonen, E.E.J., Sleegers, P.J.C., Oort, F.J., Peetsma, T.T.D., & Geijsel, F.P. (2011). *Educational administration quarterly, 47* (3), 496 – 536.

Vanthournout, G., Noyens, D., Gijbels, D., & van den Bossche,P. (2014). The relationship between workplace climate, motivation and learning approaches for knowledge workers. *Vocations and learning ,7* (2), 191-214.

Van de Wiel, M.W.J., & van den Bossche, P. (2013). Deliberate practice in medicine: the motivation to engage in work-related learning and its contribution to expertise. *Vocations and learning, 6,* 135 – 158.

Van der Heijden, B.I.J.M. (2003). Organisational influences upon the development of occupational expertise throughout the career. *International journal of training and development, 7* (3), 142 – 165.

Van Woerkom, M. (2003). *Critical Reflection at Work. Bridging individual and organizational learning.* Dissertation. Enschede: Universiteit Twente.

Woolfolk, A., Hughes, M., & Walkup, V. (2008). *Psychology in education.* Essex: Pearson education limited.

Zhou, J., & George, J.M. (2001). When job dissatisfaction leads to creativity: encouraging the expression of voice. *Academy of management journal, 44* (4), 682 – 696.

Appendix A. Instrument

Informed consent
Beste verpleegkundige,
Hierbij zou ik u graag willen vragen om deel te nemen aan een onderzoek over het werk gerelateerd leren van u als verpleegkundige in het Flevoziekenhuis. Het Flevoziekenhuis vindt het belangrijk dat verpleegkundigen zelfstandig, maar ook van en met elkaar leren om te zorgen voor persoonlijke en professionele ontwikkeling. Het ontwikkelen van medewerkers zorgt er voor dat het Flevoziekenhuis de beste kwaliteit van zorg kan bieden.
De resultaten van het onderzoek geven voor het Flevoziekenhuis inzicht in de behoeften en wensen van verpleegkundigen op het gebied van leren en ontwikkelen en hoe dat het beste ondersteund kan worden. Uw mening is hierbij dus erg belangrijk!
Ik wil u dan ook van harte uitnodigen om onderstaande vragenlijst in te vullen.
Procedure:

- De vragenlijst heeft 59 vragen en duurt ongeveer 15 minuten. Na het invullen van de vragenlijst, kunt u deze terug stoppen in de envelop en deze dicht maken. De envelop kunt u afleveren bij het secretariaat van uw afdeling. Vervolgens wordt de vragenlijst in een roulatie-envelop gestopt en afgehaald door de afdeling Opleidingen.
- Na ontvangst heeft u drie weken om de vragenlijst in te vullen.

Voor het invullen van de vragenlijst is het belangrijk dat u de volgende punten even goed door leest:

- Het invullen van de vragenlijst is geheel vrijwillig en deelname is te allen tijde te beëindigen.
- Het is mogelijk dat de vragenlijst u bekend voor komt, de vragenlijst is samengesteld uit andere bekende vragenlijsten. Dit onderzoek is echter geheel onafhankelijk.
- De gegevens worden anoniem en vertrouwelijk behandeld. Het is op geen manier mogelijk om verdere gegevens te achterhalen. Met het invullen en retourneren verleent u passief toestemming tot gebruik van de ingevulde gegevens.
- De ingevulde gegevens worden alleen gebruikt voor dit onderzoek en worden niet zonder toestemming verleend aan derden.

Voor verdere vragen, klachten en opmerkingen over het onderzoek kunt u zich richten aan:

- Student-onderzoeker:
    - Naam: Leonie Rijdes - E-mail: l.rijdes@student.utwente.nl
- In geval van eventuele klachten over het onderzoek kunt u de secretaris van de Commissie Ethiek van de faculteit Gedragswetenschappen van de Universiteit Twente benaderen:
    - Naam: Commissie Ethiek Faculteit Gedragswetenschappen Universiteit Twente - Adres: Postbus 217 - 7500 AE Enschede - Tel: 053 – 4894591 - E-mail: j.rademaker@utwente.nl).

Ik hoop dat u de vragenlijst invult! Hoe meer verpleegkundigen de vragenlijst invullen, hoe betrouwbaarder de uitkomsten van het onderzoek zijn en des te beter het ziekenhuis de resultaten kan gebruiken om het werk gerelateerd leren te optimaliseren. Ik wil u alvast hartelijk bedanken voor uw deelname.

Met vriendelijke groet,
Leonie Rijdes, Studente Universiteit Twente.

Beste verpleegkundige,

Onderstaand ziet u de vragenlijst.
Deze bestaat uit vijf aparte delen, let u dus goed op de verschillende antwoordmogelijkheden.

Voor het beantwoorden van de vragen:

- Omcirkel per vraag of stelling één antwoord
- Wanneer u de keuze moeilijk vindt tussen antwoorden, kies dan het antwoord dat naar uw mening het beste past.
- Het is van belang dat u alle vragen invult
- Als u kiest voor een antwoord, omcirkel deze: (3)
- Indien u toch een ander antwoord wilt geven, kruis deze dan door en omcirkel een andere: ~~(3)~~ (4)

Op de volgende pagina begint te vragenlijst.

Succes!

Deel 1: inleidende vragen

1.	Geslacht:	Man	Vrouw	
2.	Leeftijd:	.....		
3.	Werkervaring als verpleegkundige (in jaren)	.....		
4.	Hoogst genoten verpleegkundige opleiding:	MBO	HBO	In-service

Deel 2:
Onderstaande vragen gaan over de manieren die u afgelopen twee jaar als verpleegkundige gebruikt om verder ontwikkelt in uw vak. Wanneer u afgelopen twee jaar bent afgestudeerd, dan gaan deze vragen over de periode na uw diplomering.
Voor de verschillende inhoudsgebieden zijn steeds dezelfde vragen gesteld, omdat uw aanpak per gebied kan verschillen.

Vraag	**Antwoordmogelijkheden**					
	Nooit	**Zelden**	**Soms**	**Vaak**	**Meestal**	**Altijd**
A. De afgelopen twee jaar heb ik het uitvoeren van verpleegtechnische handelingen verbeterd door…						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4...het opdoen van ervaringen hierin	1	2	3	4	5	6
5...nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6...op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6

	Nooit	Zelden	Soms	Vaak	Meestal	Altijd
B. De afgelopen twee jaar heb ik mijzelf verder ontwikkeld in de <u>ondersteuning van patiënten en familie</u> door...						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4...het opdoen van ervaringen hierin	1	2	3	4	5	6
5..nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6...op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6
	Nooit	**Zelden**	**Soms**	**Vaak**	**Meestal**	**Altijd**
C. De afgelopen twee jaar heb ik mijzelf verder ontwikkeld in het <u>relativeren van de heftige situaties</u> die ik hier meemaak door…						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4...het opdoen van ervaringen hierin	1	2	3	4	5	6
5...nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6...op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6

	Nooit	Zelden	Soms	Vaak	Meestal	Altijd
D. De afgelopen twee jaar heb ik mijzelf verder ontwikkeld in de <u>planning van de zorg rondom mijn patiënten</u> door..						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4...het opdoen van ervaringen hierin	1	2	3	4	5	6
5...nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6...op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6
	Nooit	**Zelden**	**Soms**	**Vaak**	**Meestal**	**Altijd**
E. De afgelopen twee jaar heb ik meer geleerd over <u>waar betrouwbare informatie te vinden is</u> door..						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4…het opdoen van ervaringen hierin	1	2	3	4	5	6
5...nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6…op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6

	Nooit	Zelden	Soms	Vaak	Meestal	Altijd
F. De afgelopen twee jaar heb ik mijzelf verder ontwikkeld in <u>het nemen van initiatieven</u> in het werk door..						
1...hierover informatieve vragen aan mijn collega's te stellen	1	2	3	4	5	6
2...zelf te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
3...samen met collega's te reflecteren over hoe ik deze handelingen uitvoer	1	2	3	4	5	6
4...het opdoen van ervaringen hierin	1	2	3	4	5	6
5...nieuwe taken op me te nemen waarin ik dit verder kon ontwikkelen	1	2	3	4	5	6
6...op zoek te gaan naar de juiste informatie in boeken, vaktijdschriften op TV of het Internet	1	2	3	4	5	6
7...deelname aan informatieve bijeenkomsten (cursussen, symposia, klinische lessen) of een coaching programma	1	2	3	4	5	6

<u>Deel 3:</u>

De volgende vragen hebben betrekking op uw bedrijfsleider of teamleider en de ondersteuning die hij/zij biedt in uw professionele en persoonlijke ontwikkeling tijdens uw werk.

	Nooit	Zelden	Soms	Vaak	Meestal	Altijd
Mijn bedrijfsleider of teamleider…						
1...interesseert zich in mijn professionele ontwikkeling	1	2	3	4	5	6
2...geeft mij feedback op mijn kennis, vaardigheden en gedrag	1	2	3	4	5	6
3...moedigt mij aan om te leren	1	2	3	4	5	6
4...is geïnteresseerd in mij als persoon	1	2	3	4	5	6
5...heeft gesprekken met mij over mijn carrière	1	2	3	4	5	6
6...geeft mij duidelijkheid in hoe mijn kennis, vaardigheden en gedrag wordt beoordeeld	1	2	3	4	5	6
7...nodigt mij uit tot het delen van werkgerelateerde ideeën	1	2	3	4	5	6

Deel 4:
De volgende vragen hebben betrekking op uw collega's en de ondersteuning die zij bieden in uw professionele en persoonlijke ontwikkeling tijdens uw werk.

	Nooit	**Zelden**	**Soms**	**Vaak**	**Meestal**	**Altijd**
Mijn collega's…						
1...delen vrijwillig hun expertise met elkaar	1	2	3	4	5	6
2...helpen elkaar als een collega achter op raakt met zijn/haar werk	1	2	3	4	5	6
3...moedigen elkaar aan als iemand last heeft van tegenslag	1	2	3	4	5	6
4...proberen te helpen bij het oplossen van meningsverschillen die zijn ontstaan tussen andere collega's	1	2	3	4	5	6

Deel 5:
De volgende vragen gaan over hoe u als verpleegkundige uw competenties inzet tijdens uw werk.

	Helemaal mee oneens	**Mee oneens**	**Een beetje oneens**	**Een beetje eens**	**Mee eens**	**Helemaal mee eens**
1. Ik kan kalm blijven wanneer ik geconfronteerd word met moeilijkheden in mijn werk, omdat ik kan terugvallen op mijn vaardigheden.	1	2	3	4	5	6
2. Wanneer ik geconfronteerd word met een probleem in mijn werk, dan vind ik meestal verschillende oplossingen.	1	2	3	4	5	6
3. Wat er ook gebeurt in mijn werk, ik kan het gewoonlijk wel aan.	1	2	3	4	5	6
4. De ervaringen die ik in het verleden in mijn werk heb opgedaan, hebben me goed voorbereid op mijn beroep in de toekomst.	1	2	3	4	5	6
5. Ik haal de doelstellingen die ik aan mezelf stel in mijn werk.	1	2	3	4	5	6
6. Ik ben voldoende toegerust om de eisen van mijn werk het hoofd te bieden.	1	2	3	4	5	6

Appendix B. Factor analysis of independent variables

	Component		
	1	2	3
Delen van werkgerelateerde ideeen	.90		
Interesse persoonlijke ontwikkeling	.90		
Duidelijkheid beoordeling competenties	.88		
Aanmoedigen van leren	.88		
Geeft feedback	.87		
Geïnteresseerd in persoon	.84		
Carrière gesprekken	.84		
Voldoende toegerust		.79	
Ik kan mijn werk aan		.73	
Vind verschillende oplossingen		.68	
Ervaringen hebben me goed voorbereid op toekomst		.68	
Kalm blijven moeilijkheden		.65	
Ik haal doelstellingen die ik mezelf stel		.65	
Expertise delen			-.81
Helpen elkaar			-.84
Helpen bij meningsverschillen			-.84
Aanmoedigen			-.86

Note. Extraction method: Principal Components Analysis
Rotation method: Oblimin with Kaiser Normalization

Appendix C. Factor analysis of dependent variables

	Component		
	1	2	3
D. Samen reflecteren	.82		
D. Vragen collega's	.74		
B. Vragen collega's	.68		
A. Vragen collega's	.64		
E. Samen reflecteren	.61		
F. Samen reflecteren	.59		
A. Samen reflecteren	.57		
B. Samen reflecteren	.57		
F. Vragen collega's	.51		
E. Vragen collega's	.50		
C. Samen reflecteren	.47		
C. Vragen collega's	.46		
D. Deelname bijeenkomsten		-.88	
C. Deelname bijeenkomsten		-.83	
E. Deelname bijeenkomsten		-.80	
F. Deelname bijeenkomsten		-.80	
D. Nieuwe informatie opzoeken		-.75	
B. Deelname bijeenkomsten		-.75	
C. Nieuwe informatie opzoeken		-.71	
F. Nieuwe informatie opzoeken		-.67	
A. Deelname bijeenkomsten		-.65	
B. Nieuwe informatie opzoeken		-.62	
E. Nieuwe informatie opzoeken		-.52	
A. Nieuwe informatie opzoeken		-.47	
B. Opdoen ervaringen			.81
D. Opdoen ervaringen			.80
F. Opdoen ervaringen			.76
A. Opdoen ervaringen			.66
B. Nieuwe taken opnemen			.65
B. Zelf reflecteren			.63
D. Zelf reflecteren			.62
C. Opdoen ervaringen			.60
C. Zelf reflecteren			.60
F. Zelf reflecteren			.58
F. Nieuwe taken opnemen			.52
D. Nieuwe taken opnemen			.48

Note. Extraction method: Principal components analysis
Rotation method: Oblimin with Kaiser Normalization

Appendix D. Ethical approval form

UNIVERSITEIT TWENTE. Gedragswetenschappen

COMMISSIE ETHIEK (CE) FACULTEIT GEDRAGSWETENSCHAPPEN

AANVRAAGFORMULIER BEOORDELING
VOORGENOMEN ONDERZOEK DOOR CE, VERSIE 2

1. Achtergrond proefpersonen

1. Betreft het een medisch-wetenschappelijk onderzoek?

NB: Medisch-wetenschappelijk onderzoek wordt in deze context gedefinieerd als 'onderzoek dat als doel heeft het beantwoorden van een vraag op het gebied van ziekte en gezondheid (etiologie, pathogenese, verschijnselen/symptomen, diagnose, preventie, uitkomst of behandeling van ziekte), door het op systematische wijze vergaren en bestuderen van gegevens. Het onderzoek beoogt bij te dragen aan medische kennis die ook geldend is voor populaties buiten de directe onderzoekspopulatie.'

Nee

2. Titel

2b. Datum van de aanvraag

29-01-2015

2a. Wat is de titel van het onderzoek (max. 50 tekens)?

LET OP: Als u van het SONA systeem gebruik gaat maken, moet hier dezelfde titel worden vermeld als de titel die in SONA zal worden gebruikt. Deze titel zal ook zichtbaar zijn voor de proefpersonen (bij gebruik SONA).

Werk-gerelateerd leren van verpleegkundigen

3. Contactgegevens onderzoekers/uitvoerders

3a. Voorletters

L.

3b. Achternaam

Rijdes

3c. Vakgroep (indien van toepassing)

0

3d. Studentnummer

1369458

3e. E-mailadres

l.rijdes@student.utwente.nl

3f. Telefoonnummer (tijdens het onderzoek):

0630900190

3g. Indien er meer dan één uitvoerder is, dan graag in het onderstaande invulblok de gegevens (voorletters/achternaam/emailadres/telefoonnummers) van alle uitvoerders van het onderzoek invullen.

–

4. Contactgegevens hoofdonderzoeker/begeleidend docent

LET OP: De eerst verantwoordelijke onderzoeker/begeleidend docent is verantwoordelijk voor de bij deze aanvraag verstrekte gegevens en het onderzoek als geheel en verleent (indien van toepassing) met de aanvraag in dit formulier toestemming aan ANDERE PERSO(O)N(EN) (zie vraag 3) om voornoemde onderzoek met proefpersonen uit te voeren.

Deze eerst verantwoordelijke onderzoeker is een gepromoveerde onderzoeker.

4a. Voorletters

M.A.

4b.

Achter

naam

Hen

driks

4c.

Vakgr

oep

OWK

4d. E-mailadres

m.a.hendriks@utwente.nl

4e. Telefoonnummer tijdens het onderzoek

3835

5. Beoogde begin- en einddatum onderzoek

5a. Wat is de beoogde begindatum van het onderzoek?

12-02-2015

5b. Wat is de beoogde einddatum van het onderzoek?

31-08-2015

6. Doel en vraagstelling onderzoek

Geef een duidelijke en voldoende uitgebreide omschrijving van het onderzoek, waarmee een voldoende ethische beoordeling mogelijk is.

6a. Wat is het doel van het onderzoek?

De relatie verklaren van sociale steun (feedback, aanmoediging) van leidinggevende en collega's op werk-gerelateerde leeractiviteiten van verpleegkundigen. In hoeverre kan sociale steun deze leeractiviteiten stimuleren?

6b. Wat is de vraagstelling van het onderzoek?

In hoeverre hebben sociale steun van de leidinggevende en collega's invloed op de werk-gerelateerde leer activiteiten van verpleegkundigen?

7. Binnen welk kader wordt het onderzoek uitgevoerd?

7. Het onderzoek wordt uitgevoerd in het kader van een studie. Het gaat specifiek om een:

Masterthese

8. Aard van het onderzoek

8. Wat is de aard van het onderzoek?

(Online) survey onderzoek

9. Gebruik Proefpersonen uit SONA

9. Wilt u voor uw onderzoek met proefpersonen gebruik maken van SONA?

Nee

10. Omvang aantal sessies

Probeer een zo goed mogelijke schatting te geven van de benodigde duur van het onderzoek.

LET OP: Het onderzoek moet worden aangevraagd in eenheden van 15 minuten. Proefpersooncredits worden toegekend per standaard eenheid van 15 minuten.

10a. Zal een proefpersoon zijn/haar deelname afronden in één of meerdere sessie(s)?

In één sessie (vragen 10b en 10c zijn niet van toepassing) 10d. Wat is de totale duur van de sessie(s) in minuten?

15 minuten

11. Beoogde aantal proefpersonen, verdeling, inclusie en exclusie criteria

11a. Wat is het beoogde aantal proefpersonen?

540 personen

11b. Wat is de beoogde verdeling man/vrouw onder de proefpersonen?

85 % vrouw, 15 % man

11c. Wat zijn de beoogde inclusiecriteria?

De verpleegkundigen worden alleen gevraagd deel te nemen als ze geregistreerde verpleegkundigen zijn (ze hebben hun diploma). 11d. Wat zijn de beoogde exclusiecriteria?

Alleen de verpleegkundigen in opleiding worden uitgesloten van deelname.

12. Procedure van het onderzoek

12. Wat moet een proefpersoon die aan dit onderzoek deelneemt doen?

Een duidelijke beschrijving van de procedure van het onderzoek (instructies aan de proefpersonen, te meten variabelen, condities, manipulaties, meetinstrumenten) is vereist.

Voorafgaand aan het afnemen van de vragenlijst worden bedrijfsleiders en verpleegkundigen geïnformeerd over de komst van een vragenlijst. (dit is niet het informed consent, maar betreft een e-mail). Dit betreft alvast doel van het onderzoek, tijd, duur et cetera. De vragenlijst wordt vervolgens afgeleverd op de afdelingen waar de vragenlijst ingevuld kan worden. De vragenlijst betreft eerst een informed consent en een formulier waarin staat hoe de vragenlijst ingevuld dient te worden. Vervolgens begint de vragenlijst. Deze bestaat uit 5 delen, het eerste deel betreft inleidende vragen
(geslacht,leeftijd, werkervaring). De overige 4 delen bestaat uit elk een deel per variabele: werk gerelateerde leeractiviteiten (afhankelijke variabele), sociale steun van de leidinggevende, sociale steun van collega's (onafhankelijke variabelen) en self-efficacy op het werk (mediator). Na het invullen van de vragenlijst kan deze afgeleverd worden bij het secretariaat en worden deze opgehaald.

13. **Is een van de onderstaande situaties van toepassing?**

n.v.t.

14. **Mogelijke gevolgen van het onderzoek voor de proefpersonen.**

14a. Kan het onderzoek mogelijk ongemak en/of risico's opleveren voor de proefpersonen?

Nee

14b. Toelichting

Indien Nee: Graag toelichten.
Indien Ja: Leg uit op welke wijze het ongemak en/of de risico's voor de deelnemende proefpersonen gerechtvaardigd worden in het licht van mogelijke opbrengsten van het onderzoek (voor de proefpersonen en/of andere groepen). Leg ook uit welke maatregelen worden getroffen om ongemak en risico's zoveel mogelijk op te vangen of te beperken.

De verpleegkundigen worden niet onderworpen aan experimentele manipulaties of andere mogelijke oorzaken van eventuele ongemakken. Alle vragen in de vragenlijst zijn gebaseerd op gevalideerde vragenlijsten. De vragenlijst wordt vrijwillig ingevuld door de verpleegkundige, tevens is de vragenlijst volledig anoniem, dus er is op geen manier te achterhalen wie de vragenlijst heeft ingevuld. Tevens worden de verpleegkundigen van te voren ingelicht over doel en methode van het onderzoek.

15. Wilsbekwaamheid proefpersonen

Wilsbekwaamheid houdt in dat de proefpersonen beschikken over het individuele vermogen om zelfstandig beslissingen te nemen.

Proefpersonen zijn wilsbekwaam als zij:
•18 jaar of ouder (meerderjarig) zijn, en
•ieder voor zich in staat zijn tot een redelijke beoordeling van het eigen belang ter zake. Volwassenen die daartoe niet in staat zijn, zijn wilsonbekwaam.(zie ook www.ccmo.nl/nl/onderzoek-bijwilsonbekwame-volwassenen)

15a. Zijn de proefpersonen wilsbekwaam?

Ja

16. Leeftijdscategorie

16. In welke leeftijdscategorie vallen de proefpersonen?

☑ Meerderjarig: 18 jaar en ouder (alleen toestemming proefpersoon nodig)

17. Volledige voorlichting vooraf

17a. Worden proefpersonen (en/of ouders/verzorgers) alvorens zij meedoen aan het onderzoek volledig over doel en inhoud van het onderzoek voorgelicht, bijvoorbeeld door middel van een brochure?

Ja

17b. Toelichting

Indien Ja: op welke wijze? Indien Nee: waarom niet?

De voorlichting bestaat uit twee delen: de eerste voorlichting betreft zowel de bedrijfsleiders van de verpleegkundigen als de verpleegkundige zelf. Hier in wordt kenbaar gemaakt dat binnen aanzienlijke tijd er een vragenlijst wordt rondgebracht op de verpleegafdeling. Om duidelijk te maken over wat voor onderzoek dit gaat worden doel en duur en wat het voor het ziekenhuis oplevert beschreven. Tevens betreft de vragenlijst zelf een informed consent formulier, waarin doel, inhoud, duur en risico's zijn opgenomen

17c. Welke informatie ontvangen proefpersonen (en/of ouders/verzorgers) vooraf over het doel en de inhoud van het onderzoek?

Hierbij zou ik u graag willen vragen om deel te nemen aan een onderzoek over het werk gerelateerd leren van u als verpleegkundige in het ziekenhuis. Het ziekenhuis vindt het belangrijk dat verpleegkundigen zelfstandig, maar ook van en met elkaar leren om te zorgen voor persoonlijke en professionele ontwikkeling. Het ontwikkelen van medewerkers zorgt er voor dat het ziekenhuis de beste kwaliteit van zorg kan bieden.
De resultaten van het onderzoek geven voor het ziekenhuis inzicht in de behoeften en wensen van verpleegkundigen op het gebied van leren en ontwikkelen en hoe dat het beste ondersteund kan worden.

18. Informed Consent

18a. Verlenen proefpersonen (en in geval van niet-wilsbekwame proefpersonen: de voogd of ouders/verzorgers) vooraf schriftelijk toestemming voor het onderzoek door middel van een 'Informed Consent' formulier met daarin informatie over doel, aard en duur, risico's en bezwaren?

Het gebruik van een Informed Consent formulier heeft sterk de voorkeur! Een standaard Informed Consent formulier is te vinden op de website van de Commissie Ethiek.

Ja

19. Volledige voorlichting achteraf

19. Op welke manier vindt de debriefing plaats? Kunnen proefpersonen (en/of hun ouders/verzorgers) bijvoorbeeld naderhand nog in contact treden met de onderzoeker over het onderzoek?

Indien Ja: op welke wijze? Indien Nee: waarom niet?

Het is mogelijk om contact te krijgen met de onderzoeker over het onderzoek. Er vindt echter geen debriefing achteraf plaats, omdat het onderzoek geen directe relatie heeft met de verpleegkundige zelf.

20. Afhankelijkheid proefpersonen

20a. Beschrijf de relatie tussen de hoofdonderzoeker/onderzoekers enerzijds en de proefpersonen anderzijds.

Geen relatie

20b. Zijn de proefpersonen, buiten de context van het onderzoek, in een afhankelijke of ondergeschikte positie t.o.v. de onderzoeker?

Nee

20c. Toelichting

Indien Ja: op welke wijze?

-

21. Duidelijkheid t.a.v. terugtrekken

21a. Wordt proefpersonen duidelijk gemaakt dat zij zich te allen tijde zonder verklaring/rechtvaardiging kunnen terugtrekken?

Ja

22. Beloning proefpersonen

LET OP: Alleen voor onderzoek waarbij alleen proefpersoon credits worden gegeven, kan gebruik gemaakt worden maken van het SONA systeem.

22. Welke beloning(en) kunnen proefpersonen ontvangen voor hun deelname aan het onderzoek.

☑ Geen

23. Opslag en verwerking gegevens

23a. Worden gegevens van het onderzoek vertrouwelijk behandeld en anoniem opgeslagen en verwerkt?

Ja

24. Inzage gegevens

24a. Hebben proefpersonen achteraf inzage in hun eigen gegevens?

Nee

24b. Worden de mogelijkheden tot inzage vooraf bekend gemaakt aan de proefpersonen? Op welke wijze?

De gegevens zijn niet te herleiden naar de proefpersonen, dus alleen de resultaten (van de gehele lijst) kunnen beschikbaar worden gesteld op aanvraag.