

Exploring nursing staffs communication in stressful and non-stressful situations

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Aim To explore the factors that characterise the work environment, focusing on communication among nurses in stressful and non-stressful situations.

Background Nursing is often described as a stressful occupation. Implementation of change may be an additional stress factor.

Methods Nurses and assistant nurses completed a questionnaire from two different perspectives, 'communication in non-stressful situations' and 'communication under stress'. The Systematising Person-Group Relations method was used to gather and analyse the data.

Results When the two perspectives, 'communication in non-stressful situations' and 'communication under stress', were compared, there were significant differences in 8 of the 12 factors. The stressful situations were characterised by low values in task orientation, caring, criticism, loyalty, acceptance, engagement and empathy; only the factor creativity had higher scores.

Conclusion The stressful situations were characterised by creative and spontaneous behaviour, not by task orientation and engagement, indicating a potential patient safety risk.

Implications for nurse management There is a need to help health-care workers develop more mature analytical and task-oriented behaviours related to both independent work and collaboration in stressful situations. Nursing leadership and organisation must focus on healthy work environments to promote engaged communication in stressful situations, ultimately increasing patient safety.

Keywords: communication, interaction, nursing, stressful situations, work environment

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Introduction

By its nature, the nursing profession is generally described as particularly stressful (Demerouti *et al.* 2000, Hamaideh & Ammouri 2011, Sundin *et al.*

2011). This appears to be especially problematic if nurses are detached and withdrawn from their co-workers, not able to communicate sufficiently in challenging situations. Furthermore, these nurses may be at risk of becoming even more isolated (Sundin *et al.* 2011).

Co-workers are often described as important sources of social support due to their understanding of work-related stressors and situations in nursing practice (Ray & Miller 1994, Halbesleben & Buckley 2004). Hence, they may act as valuable resources in both stressful and non-stressful situations (Sundin *et al.* 2011). A variety of stressors relating to the organisation of work as well as to the interaction with patients and their relatives may be evident. Working in a complex system where multiple parts interact with each other makes nurses more vulnerable to stress and emotional exhaustion (Hamaideh & Ammouri 2011, Sundin *et al.* 2011). An earlier study has found that providing access to educational programmes, not only in clinical areas, but in teamwork, communication, family interactions and stress management will reduce nurses' job stressors in different clinical areas. Additionally, knowing different stressors may help nurse managers and hospital administrators to adopt strategies that help manage job stressors effectively. Examples of these strategies are scheduling, reduced workload and improved work environment (Hamaideh & Ammouri 2011). In another study an association between generic as well as occupational-specific job demands and emotional exhaustion was found, and an association between poor co-worker support and depersonalisation was suggested (Sundin *et al.* 2011). Implementations of changes may be stressors in health-care organisations, and the change process must for that reason be facilitated so that the implementation of change can be successful (André 2012).

Overview of the literature

Earlier research has shown that work climate is associated with empowerment, and that a positive social working environment plays an important role in reducing employee burnout (Leiter *et al.* 2011). In managing the cultural diversity exhibited in health care for active fit and synergy, the issues of power and legitimacy may be important (Hunt *et al.* 2012). Factors in an organisation and work environment such as work pressure, work load, role ambiguity and relationships are primary predictors of stress and burnout among social and health-care workers (Collins 2008, Bogaert *et al.* 2013, Chen *et al.* 2014). Earlier findings have shown that nurses and assistant nurses experience work-related injuries that are attributed to the stressful nature of their jobs (Podsakoff *et al.* 2007). Workplace empowerment and nurse satisfaction have been found to be related to higher-quality care and reduced patient risk (Purdy *et al.* 2010). Both working conditions and employee empowerment have been demonstrated to

affect job satisfaction (Kostiwa & Meeks 2009, Temkin-Greener *et al.* 2009, Flynn *et al.* 2010). Participation, good communication, conflict resolution and empowerment have been associated with resident outcomes in nursing homes (Temkin-Greener *et al.* 2010). Together, these studies show that organisational culture is an important factor related to patient risk, mortality and quality of care. Organisational support for nursing has been found to be a key factor in improving the quality of patient care (Aiken *et al.* 2011, 2013). How health-care professionals perceive their work culture is therefore important, not only to avoid burnout and increase job satisfaction but also to ensure the quality of patient care (Aiken *et al.* 2013).

Healthy work environment and group interaction

A healthy work environment (HWE) can improve patient outcomes and nurse turnover rates, creating a culture of retention. Fostering healthy work environments is a major challenge facing nurse leaders today (Blake *et al.* 2013). In addition, many studies have demonstrated a relationship between the work environment and medical errors (Flynn *et al.* 2010, Kramer *et al.* 2011). Communication and collaboration have been associated with nurses' attachment to their organisation and improved nurse retention (Townsend-Gervis *et al.* 2014, Nicotera *et al.* 2015). For nurses, working in a hospital with a good work environment is associated with a significantly lower likelihood of experiencing burnout, job dissatisfaction and an intention to leave (Aiken *et al.* 2011).

Implementation of new practice

This study was conducted in connection with the implementation of nursing diagnoses in the electronic patient record. To reach the goal of optimal quality of life for patients in hospitals, it is important to strengthen and develop nursing documentation (Urquhart *et al.* 2009, Paans *et al.* 2010, 2011). However, the implementation of new practices and technology can be challenging (André 2012). Earlier findings have shown that computer technology can influence communication (André *et al.* 2009). It has also been demonstrated that facilitation of changes in health care, including the behaviour and intentions of health-care workers, is an important part of the implementation of new technology (André *et al.* 2008). Both behaviour and intentions are influenced by several factors, such as attitudes, norms and motivation and are well described (Strobe 2008). Influencing values and norms

is generally difficult, whereas motivation and attitudes are more susceptible to influence and may also be influenced by the health-care worker's present life situation (André *et al.* 2008). These factors are important in developing a dynamic work environment that can cope with challenges such as changes and the implementation of new procedures or technology (Andre *et al.* 2013). Implementation of change can lead to stress (Andre *et al.* 2013).

Investigations of the work environment are important in obtaining a successful implementation of change and facilitating the change process, especially when nursing in general is perceived as stressful. Based on this background information, we explored the following research question:

What are the differences in communication between non-stressful and stressful situations among nurses and assistant nurses in a hospital?

Method

This study was conducted during 2013 to obtain knowledge about the work environment, with special focus on communication and interaction among health-care personnel in a hospital. The study was conducted in collaboration between a university hospital and a university college (Frigstad *et al.* 2015).

Study design

This paper reports a project that was a cross-sectional, correlation study by design. One of the basic assumptions in this study was that predominant behaviour is an artifact of the typical work environment in the department. We were interested in comparing the results for two different perspectives, 'communication in non-stressful situations' and 'communication under stress'. Communication is an expression of the work environment as the health-care professionals perceive it. Because this study was conducted around the same period with the implementation of nursing diagnoses in the electronic patient record, and the implementation of change is known to be a stressor (André *et al.* 2008, André 2012), communication in a stressful situation was of particular interest in our study. The stressful and non-stressful situations were self-defined by the participants.

Data collection

The questionnaires were distributed and filled in at seminars presenting nursing theories, the nursing work

Table 1
Demographic data

Sex	
Female	68 (97.14%)
Male	2 (2.86%)
Age	
20–29 years	25 (35.71%)
30–39 years	21 (30%)
40–49 years	10 (14.29%)
50–59 years	11 (15.71%)
≥ 60 years	3 (4.29%)
Job title	
Nurse	62 (88.6%)
Nursing assistant	6 (8.6%)
Other	2 (2.9%)
Manager	
Yes	3 (2.9%)
No	67 (95.71%)

process and the use of nursing diagnoses. All the health-care personnel participating in the seminars completed the questionnaire. Only health-care personnel working more than half-time participated in the study (Table 1).

Instrument

The Systematising Person-Group Relations (SPGR) Instrument (Sjøvold 2002, 2004, Sjøvold *et al.* 2005) was used for the data collection and analysis. The SPGR method shares much in common with the Semantic Differential scaling technique developed by Osgood (1957) as a method of measuring the meaning of an object to an individual. The two objects rated in this study were how respondents perceive communication in their work environment during non-stressful and in stress-filled situations.

Each of the 24 items (shown in Table 2) were rated according to whether the behaviour described occurred (i) never or seldom (1 point), (ii) sometimes (2 points), or (iii) often or always (3 points) from the two different perspectives. In SPGR, the organisational environment is described by the organisation's predominant behaviour. Each of the 24 SPGR items describe organisation behaviours along three dimensions labelled as Control and Nurture (C-N), Opposition and Dependence (O-D) and Withdrawal and Synergy (W-S), and each dimension has two factors applied (Table 2). The SPGR instrument is a balance model, which means that if there is an abundance of something, for example, loyalty and acceptance, there is less of the opposite, criticism and assertiveness.

The 'control' dimension is the main emphasis when analytical, task-oriented or autocratic behaviour dominates as opposed to the 'nurture' dimension, concentrating behaviour of care, empathy, or spontaneity.

Table 2

Communication in non-stressful situations vs communication under stress

Factor	Code	Typical behaviour	Non-stress (SD)	Stress (SD)
Ruling	C1	Controlling, autocratic, attentive to rules procedures	4.87 (2.31)	2.62 (2.17)
Task orientation	C2	Analytical, task-oriented, conforming	6.37 (2.20)	5.36 (2.36)*
Caring	N1	Taking care of others, attentive to relations	8.09 (1.69)	5.80 (2.67)**
Creativity	N2	Creative, spontaneous	1.97 (1.79)	2.87 (2.10)**
Criticism	O1	Critical, opposing	3.02 (1.83)	2.23 (1.69)**
Assertiveness	O2	Assertive, self-sufficient	3.37 (2.05)	3.04 (2.14)
Loyalty	D1	Obedient, conforming	7.67 (1.45)	6.17 (2.35)**
Acceptance	D2	Passive, accepting	7.89 (1.62)	6.24 (2.43)**
Resignation	W1	Sad appearance, showing lack of self-confidence	1.56 (2.04)	1.75 (2.04)
Self-sacrifice	W2	Passive, reluctant to contribute	1.85 (1.88)	1.65 (2.07)
Engagement	S1	Engaged, inviting others to contribute	8.12 (1.65)	6.51 (2.50)**
Empathy	S2	Showing empathy and interest in others	7.86 (1.83)	5.73 (2.59)**

* $P < 0.05$, ** $P < 0.01$ ($n = 70$).

The SPGR model has three dimensions labelled C-N (Control–Nurture), O-D (Opposition–Dependence) and W-S (Withdrawal–Synergy). Description of typical behaviour for each pole of these dimensions are given below. Each of the poles consists of two factors (e.g. C = C1 and C2). Each factor includes two items resulting in 24 items in the SPGR questionnaire.

C, Control: Refer to rules and procedures, keeps to the task. Stiff body language.

N, Nurture: Show empathy and care. Active eye contact and open body language.

D, Dependence: Passive, appears dutiful and loyal. Neutral and open, but submissive body language.

O, Opposition: Self-centred, appears principled, detail-oriented and conflict provoking. Closed body language, may look aggressive.

W, Withdrawal: Self-pitying, complaining and appears discouraged. Passive body language looks disheartened.

S, Synergy: Committed, makes constructive contribution to cooperative efforts. Shows interest in others. Inviting eye contact, energetic body-language.

The ‘opposition’ dimension is in focus when critical, assertive, or self-sufficient behaviour dominates as the ‘dependence’ dimension accentuates domination of passive and obedient behaviour. ‘Synergy’ and ‘withdrawal’ constitute the remaining two factors; the ‘Synergy’ dimension describe engagement and constructive goal-orientated behaviour as opposed to the ‘withdrawal’ dimension characterising restriction from contribution and a commitment to an initial role as the dominant behaviour (Sjøvold *et al.* 2005).

The validity and reliability of the SPGR model has been confirmed in previous studies (Koenigs *et al.* 2002, 2005). Internal consistency (Cronbach’s alpha) has been in the range 0.80–0.92. For this particular sample, the range was 0.72–0.78. The theoretical foundation for SPGR and psychometrics have been elaborated in the work of Sjøvold *et al.* (2005), Sjøvold (2007). A further discussion of the technical issues posed by the SPGR methodology can be found in the SPGR manual (Sjøvold 2002).

Statistical data analysis

Based on the SPGR results, we conducted two-tailed Student’s *t*-tests to determine if differences between the two perspectives were significant. The data were analysed using the Statistical Package for Social Sciences (SPSS Inc., Chicago, IL, USA) version 21.0 for Windows.

Results

Subjects

In 2013, the university hospital involved in the study had 993 beds and 59016 hospitalisations. The department where the study was conducted consisted of four units and a total of 41 beds. Of the 101 nurses and assistant nurses working in the department, 69% ($n = 70$) completed and returned the questionnaire. The sample consisted of nurses (88.6%, $n = 62$), assistant nurses (8.6%, $n = 6$) and two other providers (2.9%, $n = 2$); there were 68 females and 2 males. The mean age was 30 years. Among nurses, the mean age was 28 years, and among assistant nurses, the mean age was 50 years.

The findings related to the two different perspectives, ‘communication in non-stressful situations’ and ‘communication under stress’, are presented in Table 2. When the two perspectives were compared, statistically significant differences were found in 8 of the 12 factors. Seven of the factors were different at a $P < 0.01$ level, and one was significant at a $P < 0.05$ level. Standard deviations (SD) of non-stressful situations were $SD = 1.86$ and standard deviations (SD) of the stressful situations are $SD = 2.26$.

The results revealed that nurses and assistant nurses working at the department described the stressful situation as characterised by significantly lower mean

values on the following factors: task orientation (C2, mean 5.36 *vs.* C2 non-stress mean 6.37, $P < 0.05$), caring (N1, mean 5.80 *vs.* N1 non-stress 8.09, $P < 0.001$), criticism (O1, mean 2.23 *vs.* O1 non-stress mean 3.02, $P < 0.001$), loyalty (D1, mean 6.17 *vs.* D1 non-stress mean 7.67, $P < 0.001$), acceptance (D2, mean 6.24 *vs.* D2 non-stress mean 7.89, $P < 0.001$), engagement (S1, mean 6.51 *vs.* S1 non-stress mean 8.12, $P < 0.001$) and empathy (S2, mean 6.51 *vs.* S2 non-stress mean 8.12, $P < 0.001$). Furthermore, the factor creativity had higher mean scores during times of stress (N2, mean 2.87) than during non-stressful situations (N2, mean 1.97, $P < 0.001$). Significantly lower mean scores ($P < 0.05$) were found for analytical, task-oriented, conforming behaviour (C2, mean 5.36) in communication under stress compared with communication in non-stressful situations (C2, mean 6.37, $P < 0.05$). Behaviours characterised by taking care of others, attentive to relations (N1, mean 5.80), engagement, inviting others to contribute (S1, mean 6.51), and showing empathy and interest in others (S2, mean 5.73) also had significantly lower mean scores ($P < 0.01$) in communication under stress compared with communication in non-stressful situations (N1, mean 8.09; S1, mean 8.12; S2, mean 7.86). All of these factors are important in developing a dynamic work environment that can cope with challenges such as change and the implementation of new procedures or technology (Andre *et al.* 2013). Critical, opposing (O1, mean 2.23 *vs.* O1 non-stress mean 3.02, $P < 0.01$), obedient, conforming (D1, mean 6.17) and passive, accepting (D2, mean 6.24) behaviours also had significantly lower mean scores ($P < 0.01$) during communication under stress, compared with communication in non-stressful situations (O1, mean 3.02; D1, mean 7.67; D2, mean 7.89). These factors may promote behaviour characterised by opposition and dependence.

The one factor with significantly higher mean scores ($P < 0.01$) in communication under stress was creativity (N2, mean 2.87), compared with non-stressful situations (N2, mean 1.97). It appears that the work environment in the department was characterised largely by the influence of ruling (C1, mean 4.87), task orientation (C2, mean 6.37), caring (N1, mean 8.09), criticism (O1, mean 3.02), loyalty (D1, mean 7.67), acceptance (D2, mean 7.89), engagement (S1, mean 8.12) and empathy (S2, mean 7.86), and least by resignation (W1, mean 1.56). Task orientation (C2), caring (N1), engagement (S1) and empathy (S2) can be characterised as positive qualities in the work environ-

ment as long as they do not contribute to an imbalance related to the other factors, whereas resignation (W1) represents a more negative quality in the work environment.

Discussion

The focus of this study was on how nurses and assistant nurses perceive their communications as related to two different perspectives: communication in stressful and non-stressful situations.

Generally, the findings demonstrated that the department under study was well balanced between being task-oriented and human-oriented. Health-care personnel working in the department described their working environment as characterised by high values on both of the two synergy factors where engagement and constructive goal-orientated behaviour dominate. The results demonstrate that communication between providers was significantly different in stressful and non-stressful situations regarding task orientation (C2), caring (N1), creativity (N2), criticism (O1), loyalty (D1), acceptance (D2), engagement (S1) and empathy (S2). These results indicate that the work environment was perceived differently during stressful situations and can influence how these situations are resolved.

Characterisations of the work environment

Earlier studies have found that nurses working in a hospital with a better work environment are at lower risk of experiencing burnout, job dissatisfaction and the intention to leave (Aiken *et al.* 2011). A focus on the positive qualities in the work environment will therefore be important and will influence the quality of care, nurse productivity and job satisfaction (Blake *et al.* 2013). Other factors, such as autonomy for professionals, help to improve the connections among health services and play a role in improving professional satisfaction (Santos *et al.* 2013). In this study, we did not investigate autonomy, but we did include the synergy dimension, which is important in organisations for developing a higher level of maturity. This is a case in which both independent work and collaborations that promote engagement and constructive goal-oriented behaviour can be an indicator of autonomy (Sjøvold 2006). The findings of this study revealed higher levels in both synergy dimensions (S1, engagement and S2, empathy) in communication in non-stressful situations compared with communication under stress.

Differences between the two perspectives, 'communication in non-stressful situations' and 'communication under stress'

The results of this study demonstrate that nurses' and assistant nurses' communications are different under stressful and non-stressful situations. When we compared respondents' scores from the two perspectives (i.e. stressful and non-stressful situations), such factors as engagement (S1), empathy (S2), task orientation (C2) and loyalty (D1) were scored lower in communication under stress, whereas creativity (N2) was significantly higher. This can indicate that the stressful situations are characterised more by spontaneous and non-compliant independent problem solving, rather than a task orientation and inviting others. When stressful situations occur, it is possible to assume that there is a need for collaboration and working together to solve the problem, but the findings from this study indicate that, in stressful situations, the respondents perceived this differently. They seemed *less* concerned with working together and having a task-oriented behaviour. Collaboration has been associated with attachment to organisation (Aiken *et al.* 2011, 2013). An earlier study has suggested that education programmes in teamwork, communication and stress management are helpful and reduce nurses' job stressors in different clinical areas (Hamaideh & Ammouri 2011). In addition, many studies have demonstrated a relationship between the work environment and medical errors (Flynn *et al.* 2010, Kramer *et al.* 2011). Low scores on work-culture qualities are associated with an increased risk of medical errors (Aiken *et al.* 2013). This also seemed to be the case in our study, and was associated with how providers described their communication in stressful situations. It is possible to assume that stressful situations are unpredictable and uncontrollable, and that they pose a complex challenge to health-care providers, requiring different types of problem-solving methods. Aspects of the organisation of the work environment such as work pressure, work load, role ambiguity and relationships are the primary predictors of stress (Bogaert *et al.* 2013, Chen *et al.* 2014). Earlier findings have shown that nurses experience work-related injuries that are attributed to the stressful nature of their jobs (Podsakoff *et al.* 2007). One can therefore assume that stress often occurs in hospital departments and that nurses experience and must deal with stress frequently.

Leadership and a healthy work environment

The authors who first used the term 'healthy work environment' (HWE) defined it as 'a work setting in which policies, procedures and systems are designed so that employees are able to meet organisational objectives and achieve personal satisfaction in their work environment' (Disch *et al.* 2001, Disch 2002). Embedded in nursing leadership is setting the standard of practice and tone of the environment. The leading strategy in an organisation that also contributes to patient safety is the support that nurse leaders provide to their staff. Nursing leadership and administration can promote a healthier work environment and, as shown by empirical research (Sermeus *et al.* 2011), such efforts impact nurse recruitment and retention as well as patient outcomes. So both nursing leadership and governance may have an influence on the work environment for nurses, and seem connected to positive work environment values such as autonomy, collaboration and satisfaction (Santos *et al.* 2013). A positive work environment is essential for the retention of nurses; the themes identified by nurses for the purpose of retention include a desire for autonomy, empowerment and decision-making opportunities in the environments in which they work (Mays *et al.* 2011).

Limitations of the present study

The study was performed in a field in which communication during stressful and non-stressful situations has not been described previously. The present findings can give an indication as to the direction that research ought to follow in subsequent studies. This study was conducted in Norway on a Norwegian population of employees. In Norway, work conditions are usually favourable for workers; thus, the results of this research cannot be generalisable to other contexts without taking that into consideration.

Implications for nursing management

Working in a hospital can challenge nurses and other health-care personnel in terms of coping with stressful situations (Hamaideh & Ammouri 2011). The results show that the respondents perceive these situations as challenging and that in dealing with these situations, they withdraw from collaboration. When creative and spontaneous behaviour dominates in stressful situations, the nurses are not able to use their skills and knowledge obtained from previous similar situations

in nursing practice. The lack of analytical, task-oriented, engaged behaviour and of inviting others to contribute can prevent nurses from following best practices/evidence-based practice and/or research based knowledge and drawing on the experience of others and using problem-solving processes in these stressful situations. Since limited co-worker support and depersonalisation were found to be associated with job demands and emotional exhaustion, stressful situations are likely to be addressed without necessary cooperation and without using earlier knowledge from problem-solving processes in nursing (Sundin *et al.* 2011). Nurse managers and hospital administrators must use strategies that help nurses to manage job stressors effectively in teamwork, communication and stress management, to better manage stressful situations and improve the work environment (Hamaideh & Ammouri 2011). Nursing leadership and organisations must focus on a healthy work environment to promote engaged communication in stressful situations and thereby increase patient safety (Sermeus *et al.* 2011, Blake *et al.* 2013).

Conclusion

The results from this study show that communication in stressful situations was characterised by spontaneous and creative behaviour. Both organisation and nursing leadership must promote a more analytical and task-oriented behaviour, with a focus on collaboration for nurses in stressful situations. Elements such as empowerment and autonomy from a HWE can be useful in obtaining this. Embedded in nursing leadership is the setting of the standard of practice and tone of the environment. Although knowledge about HWEs has been available, it is clear that managers of nursing services must focus more on this area. The implementation of changes will play a larger role in the everyday life of nurses in the future, and by placing a stronger focus on the working environment and HWEs in nursing services, management may be more able to meet these challenges.

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Ethical approval

Participation in this study was voluntary for the informants, and they could withdraw from the study at

any time. They were informed about the aim and purpose of the study. All the collected data were anonymous. The department management sanctioned the study. When applying for approval from the Research Council of Norway, this study was assessed as a quality assessment project of the actual hospital and was therefore ethically reviewed and sanctioned by the hospital's ethics protection authority.

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