Nursing-Related Qualities, Personality and Work Satisfaction

Assistant Nurses in a Ten-Year Perspective

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– Assistant Nurses in a Ten-Year Perspective

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List of Papers

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Abstract

The personalities and qualities of nursing personnel are considered to be of great importance for their interactions with patients and may also influence work satisfaction. The aim of the study was to explore the extent to which different personal qualities and personality factors, with a possible effect on motivation, professional conduct, and coping with anxiety, are represented in a group of assistant nurses (in Swedish *undersköterskor*), and how these qualities are related to nursing competence and long-range work satisfaction. A group of 51 female nursing students (mean age 31.8 years) participated in the study. The nursing-related qualities were empathy, sensitivity to non-verbal communication, feelings of discomfort in different nursing situations and work satisfaction. The personality factors were psychogenic needs and defence mechanisms.

Relations between base data were explored in papers I, II and III.

Paper I: No correlation was found between the degree of affective empathy and the sensitivity to non-verbal communication. Affective empathy, i.e. the ability to share other people's feelings, was found to be negatively related to the presence of the identity defence of not recognising a separate identity. Introaggression was found to be related to an enhanced capacity for apprehending non-verbal expressions. Presence of the mechanism of isolation appeared to be related to a lower degree of sensitivity.

Paper II: The degree of affective empathy appeared to be correlated to social needs such as the need for affiliation and the need to help and care for other people. Sensitivity to non-verbal communication was correlated to the non-neurotic dominance factor and to an increased need to help and care for people. A low degree of sensitivity to non-verbal communication was correlated to a strong need for order.

Paper III: Subjects with the defence mechanism of repression experienced a lesser degree of discomfort than the rest of the subjects when seeing patients with an amputated breast or an amputated leg. Subjects with an insecure sex identity experienced a higher degree of discomfort in the same situation. Subjects characterised by the defence mechanism of isolation experienced considerably more discomfort than the others in close contact with different bodily excretions.

At a follow-up two years later, 43 of the subjects were interviewed, work satisfaction was assessed, and nursing competence was appraised. At a follow-up ten years after completion of nursing school, 33 subjects took part in a telephone interview. Work satisfaction was assessed in 23 subjects still working as assistant nurses.

Paper IV: Cluster analysis performed on baseline data resulted in four groups: 'empathic', 'discomfort prone', 'service-minded' and 'dominant'. At the first follow-up, the service-minded had the greatest work satisfaction, with many considered to be 'real jewels'. At the second follow-up eight years later, there appeared to be an overrepresentation of injuries and long-term sick leave in this group, whose members had apparent difficulties in being dominant and asserting own interests. Work satisfaction diminished in all the groups over time. Long-term work satisfaction was positively related to degree of empathy and negatively related to degree of sensitivity to aggressive expressions.

Key words: Nurses, empathy, non-verbal communication, personality, defence mechanisms, work satisfaction, discomfort.

Sammanfattning på svenska

Omvårdnadsrelaterade egenskaper, personlighet och arbetstillfredsställelse – undersköterskor i ett tioårsperspektiv

Utövandet av läkekonsten består till en del av rent medicinsk-tekniska insatser som grundas på vetenskap och beprövad erfarenhet. Dessa insatser äger rum inom ett omvårdnadssammanhang, och här anses den personliga relationen vara ytterst betydelsefull för patientens tillfrisknande.

Patienter och vårdpersonal har specifika roller som ej är jämlika. Rollinnehåll och rollförväntningar har förändrats samtidigt som nya värderingar och rättigheter har uppkommit i samhällsutvecklingen i stort. Patientens rättigheter och eget inflytande på sin vård har i Sverige stärkts undan för undan. Under 1900-talets senare hälft har det också växt fram olika omvårdnadsteorier.

Många omvårdnadsteoretiker har en interaktionistisk inriktning, d v s betonar samspelet mellan å ena sidan sköterskans aktiviteter och förhållningssätt och å andra sidan patientens omvårdnadsbehov. En sköterskas personlighet och egenskaper kan förväntas sätta sin speciella prägel på samspelet med patienten och därigenom påverka omvårdnadens kvalitet. I detta sammanhang har olika omvårdnadsteoretiker pekat på viktiga begrepp. Här kan nämnas empati, perception, jaguppfattning, intresse, lyhördhet - avläsa kroppsspråk, interaktion och kommunikation samt förmåga till distans som visas genom att ge tillbaka vad man uppfattat. Ett professionellt förhållningssätt där man efter situationens krav kan växla mellan närhet och distans är av stor betydelse, liksom förmågan att finna strategier när olika intressen kommer i konflikt med varandra och prioriteringar måste göras.

Undersköterskans yrkesroll har en stark patientorientering. Arbetet fokuseras mycket kring patientens dagliga omvårdnad. Det är också starkt anpassningsinriktat, undersköterskan skall anpassa sig till krav från patienterna, till sjuksköterskor och annan personal och förväntas inte ta egna initiativ. Yrkesidentitet och professionell kompetens lärs in genom praktiskt samspel som äger rum framför allt med patienter men även med sjuksköterskor.

I sköterskors arbete, och då speciellt i omvårdnadsfunktionen, finns många aspekter som är relaterade till personlighet och specifika egenskaper. I denna undersökning har syftet varit att operationalisera olika omvårdnadsrelaterade egenskaper och personlighetsaspekter som bedöms kunna påverka motivation, professionellt förhållningssätt och förmåga att hantera stress och ångest, samt att undersöka i vilken utsträckning dessa egenskaper är representerade hos en grupp undersköterskor.

I undersökningen deltog 51 kvinnliga undersköterskestuderade. De omvårdnadsrelaterade egenskaperna var empati, känslighet för icke-verbal kommunikation, obehagsreaktioner i olika vårdsituationer samt arbetstillfredsställelse. De personlighetsrelaterade aspekter som studerats var den psykogena behovsprofilen och den psykodynamiska försvarsstrukturen.

Det var av intresse att undersöka vilka undersköterskor som visar störst arbetstillfredsställelse på längre sikt samt om undersköterskor som bedöms vara ovanligt duktiga också uppvisar speciella personlighetsdrag eller andra karakteristiska egenskaper. Vid en uppföljning två år senare intervjuades 43 undersköterskor på sina respektive arbetsplatser och arbetstillfredsställelsen mättes. Intervjuer gjordes med avdelningsföreståndaren, alternativt någon annan på arbetsplatsen som väl kände till undersköterskans omvårdnadsförmåga. Vid

en uppföljning 10 år efter utbildningens slut deltog 33 undersköterskor i en telefonintervju. Arbetstillfredsställelsen mättes hos de 22 som fortfarande arbetade som undersköterskor.

Analys av basdata visade inget samband mellan empati och känslighet för ickeverbal kommunikation. Däremot framkom ett positivt samband mellan empati och sociala behov och ett positivt samband mellan känslighet för ickeverbal kommunikation och dominans. Behovet att hjälpa och ta hand om andra visade positivt samband både till empati och känslighet för ickeverbal kommunikation. Behoven av ordning, framgång och självständighet var relaterade till en lägre känslighet för ickeverbal kommunikation.

Försvarsmekanismen introaggression befanns visa samband med ökad känslighet för ickeverbal kommunikation och då speciellt när det gällde uttryck av sorg och liknande negativa undergivna uttryck. Försvarsmekanismen isolering (som är relaterad till tvångsmässighet) visade samband med minskad känslighet för ickeverbal kommunikation. Identitetsförsvar där man inte erkänner en separat identitet, d v s en omogen självdifferentiering, visade samband med en lägre empatisk förmåga.

Högt obehag i vårdsituationer där man konfronteras med olika kroppsutsöndringar visade sig ha samband med förekomsten av försvarsmekanismen isolering. Försvarsmekanismen repression var däremot förknippad med lägre obehag vid åsynen av amputerade patienter medan tecken på en osäker kvinnlig könsidentitet var relaterat till högre obehag i samma situation.

Utifrån en klusteranalys utförd på basdata kunde undersköterskorna delas in i fyra grupper, nämligen "empatiska", "obehagsbenägna", "dominanta" och "service-inriktade".

"Empatiska"
I denna grupp finns individer med en hög grad av affektiv empati, d v s inlevelseförmåga. Här finner man också den högsta känsligheten för icke-verbal kommunikation, avläsningsförmåga av mimik, kroppsspråk och tonfall. Dominansbehovet är starkt. De sociala behoven är uttalade liksom omvårdnadsbehovet. Behovet av stöd är också starkt. Nivån av obehag inför olika vårdsituationer är låg. Försvarsmekanismen introaggression förekommer i högre grad i denna grupp.

"Obehagsbenägna"
Här finner man en medelstark grad av affektiv empati men den lägsta känsligheten för icke-verbal kommunikation. Sällskapsbehov och omvårdnadsbehov är ganska starka. Behov av ordning och reda är stort liksom behov av bekräftelse. I denna grupp finns den högsta obehagsnivån och den gäller speciellt obehag inför kroppsutsöndringar och inför närhet till avlidna patienter. Försvarsmekanismen isolering och identitetsförsvar där man ej uppfattar en separat herofigur är representerade i denna grupp.

"Service-inriktade"
Här är graden av affektiv empati medelstark. Känsligheten för icke-verbal kommunikation är ganska låg. Dominansbehoven är låga, i stället finner man en stark tendens att låta andra personer dominera och stå i centrum för uppmärksamheten. Detta kombineras med ett starkt bekräftelsebehov och ett ganska starkt behov av stöd. I denna grupp finner man den lägsta nivån av

obehag inför olika vårdsituationer. Man finner ingen ökad förekomst av försvarmekanismer.

"Dominanta"
Graden av affektiv empati är låg i denna grupp. Förmågan att uppfatta icke-verbal kommunikation är däremot god. Dominansbehovet är starkt liksom självständighetsbehovet. Omvårdnadsbehovet är lågt liksom sällskapsbehovet och behovet av ordning och reda. Obehagsnivån är hög avseende kroppsutsöndringar men låg avseende närhet till avlidna patienter. Här finner man förekomst av försvarsmekanismen inhibition och identitetsförsvar relaterat till könsidentitet.

Vid första uppföljningen (två år efter utbildningen) visade de service-inriktade högst arbetstillfredsställelse och många i den gruppen ansågs som verkliga pärlor i vården. Vid andra uppföljningen (10 år efter utbildningen) visade det sig att skador och långtidssjukskrivning var överrepresenterade i samma service-inriktade grupp. Undersköterskorna i denna grupp hade påtagliga svårigheter att dominera, stå på sig och försvara sina egna intressen.

Arbetstillfredsställelsen över tid minskade i alla grupperna. Hög arbetstillfredsställelse på lång sikt befanns emellertid vara relaterad till bättre empatisk förmåga och en lägre känslighet för aggressiva icke-verbala uttryck.

Introduction

The practice of medicine consists in part of purely medical-technical contributions, founded upon science and proven experience. Another part is the context of nursing care in which the medical contributions take place. Personal nursing relationships with patients are considered to be of the utmost importance for the patients' recovery to health (Götlind, 1998).

Nursing care takes place in a special environment, often in a hospital setting. This environment leaves its mark on nursing by means of a specific framework and setting. The organisation assigns specific roles to patients as well as staff (Gardell & Gustafsson, 1979; Svenning, 1981; Thunborg, 1999). These roles are not equal. In Sweden, like in many other countries, role content and role expectations have changed simultaneously with the development of new values and rights in society. Views and attitudes regarding nursing care have changed (MFR, 1982). Patients' rights and their ability to influence their treatment have been strengthened by means of laws and regulations (SFS 1982:763; SOSFS 1996:24).

The demand for health care has increased. The proportion of old people is higher than before and the development of medicine makes treatment possible to a greater extent. When society changes, the organisation of public medical care must be reconsidered as well (Qvarsell, 1991). Lately, far-reaching rationalisation in the public sector have lead to impaired conditions for staff as well as patients. There is now less time for the interaction demanded by the nursing relationship. As a consequence there has also been a reduction in the amount of mental energy and attention that nurses can devote to each patient.

The nurse role was for a long time understood as a calling. In the middle of the 20th century, principles of rationalisation, which first developed in the world of industry, gained ground also in hospital settings in the form of a medical-technical approach. Work division and specialisation evolved, which resulted in patients being subjected to a great number of transitory and impersonal contacts. About 1980, ideas of seeing the patient as a whole began to become established. The patient should be in the focus of attention and there was an ambition to minimise the number of contacts related to nursing care (Åberg, 2000). The concept of 'nursing process' was invented and applied. This is a method of problem solving whose purpose is to render nursing care more individualised (Eriksson, 1979). In addition, models of nursing competency were created and applied (Danielson, 1992; Johansson, 1996).

Many nursing care theorists, such as Henderson (1966), point out the importance of meeting a broad array of personal and basic human needs of patients. Other nursing care theorists take an interactionist view, i.e. they stress the interplay between, on the one hand, the nursing needs of the patient and, on the other hand, the nurse's activities and conduct (Egidius & Norberg, 1983; Meleis, 1997). The nursing process has been described by Orlando (1990), for example, as an interaction between the behaviour of the patient and the actions and reactions of the nurse, the latter behaving in a manner aimed at benefitting the patient. Travelbee (1971) emphasises the encounter with the patient being the most important step in nursing.

Other nursing care theorists with an interactionist perspective described by Rooke (1995) are: Paterson & Zderad; Rogers; Leiniger; Watson; and King. Nursing theories and models are implemented to improve nursing care. Watson's theory of human caring has, for example, been found to be an appropriate nursing model to direct palliative care nurses in meeting the

physical, psychosocial and spiritual needs of patients with terminal illnesses, as well as the needs of information and psychosocial needs of the patients' families (McKay et al., 2002). The Watson caring model has also been recommended as a guide to nursing patients with hypertension (Erci et al., 2003). Another signification of caring is that of facing another human being, his/her demands, difficulties and choices. Caring can thus be seen as a lived, moral experience (Åström, 1995), i.e. when an individual is faced with a situation that requires a moral decision and a moral action in response to that situation.

Nurses, as people, are of decisive importance for the quality of care. Their personalities affect the character of nursing relationships and their behaviour involves openness to the needs of others and treating patients as a whole (Bendz, 1995). Practical knowledge here develops through experience, a nurse acquiring the ability to grasp what is essential in nursing care. Some important phenomena for hospice nurses are time, presence, closeness and giving of self (Rasmussen, 1999). The nurses' personal qualities and security are considered to be important factors for their ability to continue caring in this setting. In dementia nursing care (Berg, 2000), there is a mutual dependency between nurses and patients. Relationships here can be based on the nurses' skills and knowledge, '*making* together', i.e. the task they had to perform, or on sharing everyday life as people, '*doing* together', i.e. the relational aspect. Nurses used two main strategies for handling their emotions: seeking support and setting up barriers. Individualised nursing care required the nurses to continuously interpret the patients' situation. This was done through observing the patients' eyes, facial expression, body movements and tensions.

Nurses' personalities and qualities may be expected to leave a special mark on their interrelationships with patients and thereby affect the quality of care. Theorists of nursing care have called attention to some important concepts in

this context (Henderson, 1966; Travelbee, 1971; Orlando, 1990; Peplau, 1991). These concepts are: empathy; interest; self-conception; having a sensitive ear and apprehending body language; interaction; communication; and the ability to maintain a distance, as demonstrated by giving back what was comprehended.

The personality type of oncology nurses, according to the typology defined by Carl Jung, was found to be the type where feeling is introverted and perception is practical, so that helping others is both a responsibility and a pleasure (Bean & Holcombe, 1993). Five models of nursing activities, related to nurses' attitudes to patients, were identified by Liukkonen (1992): 'cassette-like' and 'skilful' nursing care' where the interaction was found to be warm, protective, friendly and humane; or 'rejective', 'routinised' and 'robot-like' nursing care that was mainly task-oriented.

Stress endurance and coping style have turned out to be of great importance for nurses' work satisfaction (Boey, 1999; Healy & McKay, 2000). Coping strategies are various kinds of activities used to diminish the experience of stress. The strategy can be active or passive, problem-oriented or emotion-oriented (Lazarus & Folkman, 1984). Effective coping strategies are also conducive to a professional conduct. What is required is adjustment to the demands of the relationships with patients as well as the demands of the work tasks. In addition to this, a professional conduct comprises the abilities of distance-keeping and reflection, which presuppose mature ego functions. The ability to find strategies to prioritise between conflicting interests, is also considered to be among the special pre-requisites that nurses need (Svärdson, 1999).

In hospital wards there are several staff categories represented and each category has its special work role. The work role of the assistant nurse (*undersköterska* in

Swedish; UK equivalent: 2nd level nurse; US equivalent: technical or vocational nurse) is strongly patient-oriented (Thunborg, 1999). The work is very much focused on the daily care of patients. It also has a strong emphasis on adjustment; assistant nurses have to adapt to demands from patients, demands from nurses in a superior position and demands from other staff, and they are not expected to take initiatives of their own. In a hospital ward it is also necessary to adapt to various rituals, rules and routines. At the same time, it is of great importance for assistant nurses that their competency is valued and respected. Their work is, to a large extent, governed by routines. There may, however, also be room for some 'special little attendance', which often is what gives the work a meaningful aspect. Work identity and professional competency are acquired through practical interplay (Bendz, 1995; Benner et al., 1999). This interplay takes place above all with patients, but with other nurses as well.

Background

The problem domain forming the basis for this thesis was assistant nurses' ability to be emotionally close to patients and at the same time have a professional distance, as well as their tolerance of feelings of discomfort and their stress management. The approach taken may be regarded as an attempt to operationalise the concept of nursing competency. It was also of interest to investigate assistant nurses' work satisfaction in the long term. Another interesting question was to find out whether special personality traits or other nursing-related qualities characterised those assistant nurses who were considered unusually able.

It is recognised that in nursing work, and especially nursing care, there are many aspects that are related to personality and specific qualities. In this thesis, interest has been focused on qualities such as empathy, sensitivity to non-verbal communication and feelings of discomfort in different nursing situations. The

personality-related aspects that have been studied are the profile of psychogenic needs and the psychodynamic structure of defence.

The qualities and personality variables studied are possible to relate to nursing care in different ways. It has also been of interest, however, to map the inter-relations between these qualities and make interpretations on the basis of different theories. The qualities and personality functions of interest are described in more detail below. Before the four individual studies that have been carried out are described, there is a section dealing with factors influencing the nursing competency and work satisfaction of nursing staff.

Empathy

Empathy is a concept that has been defined by popular science in a general way as friendliness, compliance, sympathy, compassion, support, contact, good intentions etc. (Holm, 1985). In theory contexts, empathy has turned out to be a concept which has various meanings and is difficult to capture. There are a great many definitions and they are of great diversity. However, four major significations have crystallised. These significations, which can be placed in a perceptual, cognitive, affective and communicative perspective (Goldstein & Michaels, 1985), comprise:

1. Discerning and identifying the emotional state of another person – the perceptual component.
2. Assuming the perspective of another person – the cognitive component.
3. Experiencing the emotion of the other person – the affective component.
4. Communicating back what you have apprehended by means of empathy – the communicative component.

Other significations of the concept of empathy are predictive empathy, i.e. the ability to predict the self-estimation of another person, and situational empathy,

i.e. the ability to apprehend and respond to another person's feelings in an actual situation. In the analysis of empathy certain concepts are frequent, for example identification, fusion, perception, affective resonance, and projective and introjective mechanisms. These mechanisms are described at some length by Holm (1985). Håkansson (2003) has pointed out four themes that seem to be central to empathy. These constituents are: understanding; emotion; perceived similarity; and concern for the other's well-being. A concept adjacent to empathy is that of a keen or sensitive ear, which implies being alert and conscious, having a sensitive mind that is able to apprehend weak signals, and attending to and respecting other people's needs. Frisdal (2001) has analysed this particular concept in caring settings.

The ability to perceive and understand another person's feelings requires certain intrapsychic qualities. Cognitive and affective aspects are of equal importance (Schafer, 1956). It is necessary for these two aspects to be balanced (Holm, 1987) – an alternation between observation and experiencing. Affective understanding is coupled together with emotionally loaded memories, and the cognitive aspect is a necessary element for creating an appropriate distance to the other person. Cognitive and synthetic ego-functions constitute the foundation for the ability to create distance and perspective, and guarantee a demarcation against the other person and thus a recognition of his/her individuality. In psychoanalytical terms, self–object differentiation must be attained in order for empathic understanding to be possible (Shapiro, 1974). There must be an ability to localise the emotions in another person. Transmission of emotion can also occur on a more automatic level. This is called 'emotional contagion' (Lundqvist, 1993) or 'automatic mimicry' (Sonnby-Borgström, 2002): in this case you do not always know in which person the origin of the emotion is located.

Empathy in nursing contexts

Empathy is regarded as being very significant and important in caring work, since the interpersonal interaction between nurse and patient is considered to be the focus of nursing care (Svärdson, 1999). The nurse's individual qualities are thus of great importance (Chinn & Jacobs, 1983). Empathy is thought to have an effect on the patient's emotions; among other things it may bring a heightened self-esteem. The empathic encounter is considered to have a curative effect in itself (Halldorsdottir, 1996). In addition, the empathic encounter is regarded as a cornerstone of the therapeutic alliance, which is a prerequisite for successful psychotherapeutic treatment (Kohut, 1988). The nurse-patient encounter can be interpreted as being characterised by either mutuality or unilaterality, seemingly leading to feelings of confirmation or disconfirmation of each other (Edberg, 1999). A high quality encounter strengthens the identity of patients as well as of nurses by mutual confirming. Nurses experience in these encounters that their identity as a good nurse has been confirmed.

Sensitivity to non-verbal communication

Sensitivity to non-verbal communication is considered to be included in the perceptual component of empathy. Hypothetically speaking, there might be a connection between the perceptual component and the affective or the cognitive component and their degree of development. In other words, if the perceptual component is well-developed, the person concerned would be likely to possess a well-developed affective or cognitive empathy as well. However, such correlations have not been demonstrated (Hall, 1979). Moreover, the concept of 'non-verbal communication' embraces several different forms of communication, which have only one thing in common: they do not use spoken or written language as a medium for transmitting a message. In this thesis, the concept of 'non-verbal communication' is restricted to mean those messages about different emotions and attitudes that are transmitted by means of facial

movement, body movement and posture, tone of voice, intonation etc. (Ekman, 1972; Hjortsjö, 1970; Bull, 1983; Gårding, 1989).

There are different theoretical approaches when it comes to emotional expressions and their origins. The ethologist approach takes the position that emotional expression depends on phylogenetically inherited predispositions which we have brought with us in the course of evolution – our 'heritage from the ape'. The first proponent of this view was Darwin (1872). He claimed that certain emotions are expressed in the same way in different cultures, and that expressions of emotions are hence innate ways of expression. One opponent of this view was Birdwhistell (1971), who claimed that the meaning of an expression could be understood only within a social context. Smiling, for instance, can be conceived as a sign of correct behaviour as well as of inappropriate conduct, depending on the culture in which it occurs.

Psychologists have, in general, adopted an interactionist perspective. Among others, Ekman (1973) has put forward this perspective, claiming that there are certain expressions that are decoded and interpreted in the same way, independently of the culture in which they occur. According to Ekman, these emotional expressions are those of happiness, sadness, anger, disgust, fear and surprise (Ekman & Friesen, 1975). Tomkins (1995) considers shame to belong in this category as well. However, the expressions are modified by cultural and individual 'display rules', i.e. norms for acceptable ways of emotional expression.

Sensitivity to non-verbal communication and nursing care

In nursing care, immediate understanding of a clinical situation plays an important role (Benner et al., 1999). Clinical 'signals' may consist of movements, postures and tonus, and different patterns can be identified. These

signals are mediated by non-verbal communication. Emotions communicated through non-verbal channels give information about qualitative changes in the condition of the patient; the degree of pain can be mentioned as an example. The interaction between patients and nurses in the process of pain recognition embraces perception, interpretation and validation phases (Blomqvist, 2002). Non-verbal signals also facilitate the understanding of patients with speech difficulties (Happ, 2000). And in the care of patients who are not fully conscious, the nurse is totally dependent on non-verbal communication.

Psychogenic needs

Psychogenic needs are motivating forces which, like physiological needs, seek their satisfaction through different need-fulfilling activities (Murray, 1959). Psychogenic needs may direct a person's choice of occupation. They may also influence personal conduct. Needs of importance here are the needs for confirmation of self, for autonomy, for dominance and for order and tidiness and the need to care for and help other people.

Psychogenic needs in nursing care

Optimally, the needs of the nursing staff and the needs of the patients are inter-related and complementary to each other. However, certain psychogenic needs may bring negative consequences to the caregiver–patient relationship. Holm (1995) mentions, for example, the need for control, the need to be capable and efficient, the need to be seen, noticed and confirmed, and the need to be loved. Different work roles and work identities in the domain of nursing care make totally different demands: some occupations demand autonomy, others adaptation to other people (Thunborg, 1999).

Reactions of discomfort

Feelings of disgust are, together with feelings of anger, happiness, sadness, shame etc., included among the inherited and universal reactions and emotions that people can have (Tomkins, 1995). For someone working in a nursing profession, there are many occurrences that provoke feelings of disgust and repugnance. Nurses have, for example, reported strong feelings of mental strain in situations connected with dressing of ulcerous cancer wounds or being too close to the patient (Pålsson et al., 1995). Emotions that may be evoked by 'body work', i.e. disgust, contempt or aversion, influence the social relations between patients and staff (van Dongen, 2001). Despite this, there are few studies in this area. One explanation can be that feelings of repugnance and disgust are associated with shame and that this brings about a resistance to the study of these phenomena (Miller, 1997). Other types of feelings of discomfort have been studied in relation to personality traits, such as dealing with physical pain, monotony and discomfort facing other people's judgement (Pettersson & Sköld, 1972).

Psychodynamic strategies of defence and coping strategies

Psychodynamic strategies of defence are used to treat anxiety on a pre-conscious level. These defence mechanisms may be more or less mature and developed (Sjöbäck, 1984). When it comes to the defence of the identity, there are also different defence mechanisms, of varying degrees of maturity. Such defence mechanisms are sometimes included among the coping mechanisms, even though they operate on a pre-conscious level. On a conscious level, too, coping mechanisms are used; this notion includes all activities that are used to control, diminish or prevent the experience of stress (Lazarus & Folkman, 1984). The strategy may be problem-oriented or emotion-oriented and it can be passive or active.

Defence strategies in nursing care

Different kinds of defence against anxiety in the realm of nursing care have been described. These strategies and ways of conduct exist on different levels. They are to be found on the organisational level, on the individual level and on the intrapsychic level (Jern, 1998; Näslund, 1998; Stiwne, 1998). Besides warding off anxiety they may have side-effects that are not well adapted to the purpose of good nursing care. On the organisational level, i.e. in the hospital unit, rigid routines can provide protection against a high anxiety level (Moxnes, 1981). Other examples of such mechanisms are uniforms that create a distance and, on the individual level, raising the working tempo to make a deeper contact impossible. Detachment, e.g. seldom attending to the patient, and intrapsychic mechanisms such as denial and intellectualisation, are other examples (Balint, 1978; Feldman, 1977; Leigh & Reiser, 1980). Anxiety defence often brings with it negative consequences for the patient, but defence mechanisms may also have a beneficial effect. By means of a certain amount of denial, a patient may be endowed with a brighter view of the future and thereby become more committed to rehabilitating measures. Intellectualisation is indispensable in every medical assessment and treatment.

Professional competency in nursing staff

Nursing staff ought to be sympathetic and sensitive to a range of communicative signals and, at the same time, to have a high threshold of tolerance for situations provoking physical discomfort. It is also necessary to be able to tolerate the patient's expressions of difficult emotions such as anxiety and pain. In other words: a nurse must keep her heart warm and her head cold. Nursing competency of some quality requires a professional conduct and good coping strategies.

‘Professional conduct’ is a concept of many dimensions (Strömberg, 1997). It embraces the demands of the relationship as well as the demands of the work and, in addition, the ability of distanced reflection. Holm (1995) elucidates two demands upon a professional conduct. The first amounts to accepting that the relationship with the patient is not equal and mutual. A professional conduct is deemed to include the ability to interpret patients’ needs – needs that are expressed more or less clearly. This demands physical as well as mental presence. A prerequisite here is mastery of the technical aspects of the work. With such mastery the nurse does not have to focus on her own acting and can instead devote her full attention to the patient. Second, a professional conduct involves the ability to be empathic and to establish contact with the patient emotionally, but also to maintain an emotional distance when this is called for. For example, the patient’s anxiety should not lead to anxiety in the nursing staff. Being able to shift as called for between closeness and an objective attitude towards the patient requires well-developed ego functions and good coping strategies. Good coping strategies are also demanded when confronting other types of stress- and anxiety-provoking situations in nursing contexts (Bailey & Clarke, 1989). Nursing care demands a calm mind, complete presence and full attention to the current patient, but nursing situations may cause feelings of discomfort to a varying extent.

Specific stress-provoking situations can have different significations for different caregivers. The anxiety that young children or young people may provoke, for example, can lead to individually differing strategies of defence, such as that of detachment, which can disfavour the patient (Krener, 1987). In many nursing situations, patience is called for – but may be subjected to a severe test.

A nurse's opportunities to influence her work situation determine to a considerable extent how vulnerable she is to stress. The nurse's own conception of the situation, i.e. where she places the 'locus of control', also plays an important role here. People with an internal locus of control tend to feel that they themselves can influence the course of events that affect them, whereas people with an external locus of control believe that forces beyond their control largely govern the things that happen to them (Riipinen, 1997).

Work satisfaction in nursing staff

One factor that has been studied in this context is the degree of control over work tasks, i.e. the locus of control. A higher degree of personal control over the situation has been associated with fewer stress reactions. A relatively new concept is that of 'stress hardiness' (Pollock & Duffy, 1990). This concept includes control over the situation, commitment and an experience of challenge. It has proved to be very useful when analysing stress coping in nursing professions (Hutchings, 1997). In stress research, individual qualities have frequently been studied. However, the conditions and demands of the work environment have often been neglected (Low, 1999). These conditions are mostly beyond the influence of the individual person, but they may be radically transformed when resources are reduced.

Aims

The general purpose of this thesis was to explore the extent to which different personal qualities and personality factors, with a possible effect on motivation, professional conduct, and coping with anxiety, are represented in a group of assistant nurses (in Swedish *undersköterskor),* and how these qualities are related to nursing competence and long-range work satisfaction. The personality factors were psychogenic needs, anxiety defences and identity

defences. The nursing related qualities were empathy, sensitivity to non-verbal communication, feeling of discomfort in different nursing situations and work satisfaction. Another aim was to explore relations between base data.

Method

Subjects

The subjects were 51 female nursing school students, qualifying as assistant nurses, ANs. The period of training was two years including work practice and prepared students to assist patients with personal hygiene and feeding, wound care, certain injections, blood samples etc. At the time of initial testing the students were 22-49 years of age (m=31,8, s.d.=7,6).

Instruments

Cesarec Marke Personality Scale (CMPS; Cesarec & Marke, 1973)

This is a personality questionnaire consisting of 165 'Yes' or 'No' questions and concerned with the needs the individual experiences. There are 15 questions for each of 11 different need variables. The need variables represent psychogenic needs and are based on Murray's theory of personality (Murray, 1959). They comprise:

- 'need achievement (ACH)' - need to accomplish something difficult and to rival others;
- 'need affiliation (AFF)' - contact seeking, need of social relations and friendship;
- 'need aggression (AGG)' - impulsive aggressiveness, irritability;
- 'need autonomy (AUT)' - need to be independent and unattached;
- 'need defence of status (DST)' - need to defend one's status, ego weakness;

- ‘need dominance (DOM)’ - need to dominate and direct others;
- ‘need exhibition (EXH)’ - need to be in the centre, to get attention;
- ‘guilt feelings (GUI)’ - superego conflicts;
- ‘need nurturance (NUR)’ - need to help, nurse or take care of others;
- ‘need order (ORD)’ - need for order, cleanliness, planning;
- ‘need succourance (SUC)’ - need to be helped, consoled, cared for.

The split half reliability of the scale has been found to be 0,75 and retest reliability 0,82. This scale has been used frequently in Sweden, e.g. studying psychosocial factors and cardiac disease in women (Hällström et al., 1986) and changes in adolescent personalities (Berg et el., 2000).

Job Descriptive Index (JDI; Smith et al., 1969)

This is a questionnaire with various subscales. The subscale measuring work satisfaction was used here. The JDI also contains subscales measuring satisfaction with superiors, fellow-workers, wages and possibilities for promotion. The work satisfaction scale consists of 15 items, and is descriptive and evaluative. Those who answer the questions are assumed to be influenced by their attitudes toward their work, even when reporting on seemingly objective aspects of their work. The authors of the questionnaire found an internal consistency reliability for the test of 0,73. Validity was determined on the basis of agreement with interview ratings, where a correlation of 0,68 was found. The questionnaire has been administered in a study of the psychosocial work environment in a Swedish hospital (Eppler & Nelander, 1984).

Profile of Non-verbal Sensitivity (PONS; Rosenthal et al., 1979).

This test makes use of a 45-minute videotape and measures the ability to decode another person’s body movements, facial expressions and emotions as expressed by the person’s intonations. Each item consists of a 2-second sequence in which one sees the face, the body (trunk) or the figure (face + trunk) of a person. Some

such scenes are accompanied by speech, whereas others are not. When a voice is heard, it is masked in two different ways. One way is by use of the 'random-sliced' technique, in which the audiotape has been cut randomly into small pieces and reassembled. The other technique for masking the voice is by cutting off high frequencies, making it 'content filtered'. Sometimes there is only speech, without any accompanying visual scene. The subject has to make a choice between two alternative emotional responses, such as between 'expressing gratitude' and 'nagging a child'. The results are displayed in the form of a profile consisting of measures of ability to decode facial expressions, body expressions (trunk) and whole-figure expressions (face + trunk); measures of decoding when only the audio channel or video channel is available; and measures of decoding the two different forms of speech-masking. Measures of decoding in terms of emotional content are also obtained. The emotional content is classified into four categories: positive dominant, such as 'expressing motherly love'; positive submissive, such as 'helping a customer'; negative dominant, such as 'threatening someone'; and negative submissive, such as 'asking forgiveness'. An internal consistency reliability for the test of 0,92 and a retest reliability of 0,69 were found by the authors. At the time the test was constructed, there was no single external criterion against which the PONS test could be validated, as the concept of 'non-verbal sensitivity' had not previously been explored. The validity of the test was determined on the basis of correspondence between what was intended to be portrayed in the different scenes and different raters' assessments of it. In Sweden, the test has been administered to students and teachers of occupational therapy (Svidén, 1993). No difference was found between sensitivity to non-verbal clues and level of theoretical knowledge or clinical experience at group level.

Questionnaire Measure of Emotional Empathy (QMEE; Mehrabian & Epstein, 1972)

This is a questionnaire consisting of 33 items. Each item is responded to by marking on a nine-step Likert scale, ranging from 'very strong disagreement' to 'very strong agreement', at –4 and +4 respectively. The instrument is a measure of emotional empathy, signifying 'extreme emotional responsiveness, a tendency to be moved by others' positive or negative emotional experiences'. Mehrabian and Epstein divide the QMEE into seven interrelated sub-scales, which they label as 'Susceptibility to Emotional Contagion, Appreciation of the Feelings of Unfamiliar and Distant Others, Extreme Emotional Responsiveness, Tendency to Be Moved by Others' Positive Emotional Experiences, Tendency to Be Moved by Others' Negative Emotional Experiences, Sympathetic Tendency and Willingness to Be in Contact with Others Who Have Problems' (Chlopan et al., 1985). Internal consistency reliability was determined on the basis that every item had to have a significant correlation with the total test score at the .01 level. The items had to have an insignificant correlation with a measure of social desirability. Validity was tested in relating empathy to aggressive behaviour where empathic subjects aggressed less. Empathy was also found to be significantly related to helping behaviour (Mehrabian & Epstein, 1972).

Scale of Discomfort Experienced in Different Nursing Situations (Sand, 1996).

The items of this scale are gathered from different practical nursing situations, such as help with feeding; help with personal hygiene (bathing, intimate toilet needs); help in getting clean in cases of incontinence; and helping a patient who is sick and vomiting. Another set of items concerns visual impressions, such as seeing patients who have had a leg or a breast amputated; seeing blood; and shrouding a deceased patient. Each item is represented by a line 100 millimetres

in length, the two extremes being designated as ‘no discomfort at all’ and ‘very disagreeable’, at 0 and 100 mm respectively. The subject is asked to put a cross on the line corresponding to the degree of discomfort experienced in each situation.

Modified Defence Mechanism Test (DMTm; Andersson & Hallborg, 1986). The original DMT, Defence Mechanism Test, developed by Kragh (1969; 1985), makes use of percept-genetic techniques to examine how a perception comes into existence and develops from early diffuse and global phases of perception up to correct perception. A picture is shown in a tachistoscope (a dark box with a peep-hole) in a series of exposures. The first exposure is very short, for 10 msecs. The exposure time increases in the course of the trials in a logarithmic succession, the final exposure time being 2 seconds. The subjects’ task is to report their observations and make a drawing of what they have seen. In the picture, there is a central ‘hero’ figure (H) and a threatening ‘secondary’ figure (S). The subject describes the motive verbally and makes a simple drawing. Interpretations are made of the transformations of the motive. These are considered as indicative of psychoanalytic mechanisms of defence that have been active in the process of perception. In Andersson’s (Andersson & Hallborg, 1986) version of the test (i.e. DMTm, used here), there is both a female and male ‘secondary’ figure. Although administration of the test is comparable in most respects to Kragh’s procedure, his interpretation of the results differs. Ego defences, as well as identity defences, are included. Ego defences may be mobilised by an unconscious fantasy about something threatening and are related to the instrumental part of the personality. Identity defences may be mobilised by an experience of a threatened self-image and are connected with the relational part of the personality. The following are examples of interpretations in accordance with Andersson’s model :

Ego defences:

Repression

S and/or H is seen as stiffened, lifeless, disguised, as an animal or as a specified object.

Inhibition

S is seen on at least five successive exposures as stiffened, lifeless, or disguised, or a specified object or as a framed, empty or lightish area.

Introaggression

H is seen as damaged, miserable, unhappy, exposed, or the like.

Isolation

There is a marked addition of a barrier between H and S, or S is reported as being a framed or empty area.

Defences of identity:

Not recognising H's separate identity

H is seen as doubled or multifold.

Not recognising H's sex

H's sex is changed from being correct to incorrect.

For a summary of the instruments, see App I.

Procedure

I. Initial testing took place when subjects were students at a nursing school, and was conducted during school hours. PONS, QMEE, CMPS, JDI and the Discomfort Scale were administered as group tests, whereas DMTm was administered individually.

II. Two years later semi-structured interviews were carried out at the different units where the assistant nurses, 'ANs', were working. They also answered a questionnaire on work satisfaction (JDI). A total of 43 ANs took part in this follow-up. The drop out was 16 %, in most of the cases the AN had moved away and the address was unknown, in a few cases because of lack of interest.
For each of the ANs a semi-structured interview was carried out with the head nurse who was their manager or with some other person well acquainted with their work. Interviews aimed at determining how well they were managing their practical nursing tasks, apprehending and meeting patients' needs, and their relationships with patients. For interview questions see App II.

III. Long-term follow-up was carried out finally about 10 years after completion of nursing training. There were 37 people who could be located (73 %), 33 of whom participated in a telephone interview. Questions were asked of those who still were working as ANs concerning their place of work and how they were getting on at work. There were 26 who were still working as ANs, and 23 of these answered a questionnaire on work satisfaction (JDI).

Statistics

Paper I

The relationship between QMEE (empathy) and PONS total score (sensitivity to non-verbal communication) was calculated using a Pearson correlation (*r*). Group comparisons regarding degree of empathy and different aspects of non-verbal sensitivity were made with a t-test for independent samples. Presence of a specific defence mechanism (see App. II) characterised one of the groups but not the other .

A χ^2 - test was used in order to test the significance of the number of significant relationships found.

Paper II

Pearson correlation (r) was used to explore:
Possible relationships between empathy (QMEE), different channels of non-verbal sensitivity (PONS) and psychogenic needs (CMPS);
Possible relationships between psychogenic needs and the different emotional qualities in the PONS test;
Possible relationships between need factors on the CMPS and empathy and PONS total score.

Factor analysis, principal components method (Grimm & Yarnold, 1995), was used to explore possible dimensions in regard to different aspects of empathy and different psychogenic needs. The varimax unrotated solution yielded five factors.

A χ^2-test was used in order to test the significance of the number of significant relationships found.

Paper III

Factor analysis, principal components method, was used to explore possible dimensions of discomfort in nursing situations. In order to obtain a simple structure, a varimax orthogonal rotation was performed, which resulted in five factors.

The Wilcoxon-Mann-Whitney test (Siegel & Castellan, 1988) was used to make group comparisons regarding the degree of discomfort. Presence of a specific defence mechanism characterised one of the groups (See App. II) but not the other. The Wilcoxon-Mann-Whitney test is a non-parametric alternative to the parametric t-test that can be used to test whether two independent groups have been drawn from the same population when the measurement is weaker than interval scaling.

A χ^2-test was used in order to test the significance of the number of significant relationships found.

Paper IV

A cluster analysis, using the K-means method (SPSS Base 10.0), was carried out on a variety of baseline data to identify relatively homogenous groups of cases based on selected characteristics. In order to give the baseline data equal weight, z-score transformations (m = 0; s.d. = 1) were performed. The analysis, which was based on seven prominent variables (Sand, 1993; Sand, 1994; Sand 1996), resulted in four clusters of roughly equal size (N = 12, 11, 16 and 12).

The variables used were: affective empathy; the psychogenic need of ‘need dominance’; the psychogenic need of ‘need nurturance’; the ability to apprehend facial expressions; the ability to apprehend negative submissive emotional

expressions; the degree of discomfort associated with bodily excretions; and the degree of discomfort associated with closeness to dead persons. These variables represent each of the baseline tests and are considered to be of special interest for nursing professions.

K-means Cluster Analysis, as indicated above, attempts to identify relatively homogeneous groups of cases based on selected characteristics, using an algorithm that can handle a large number of cases. However, the algorithm requires you to specify the number of clusters. You can also obtain analyses of variance F statistics. While these statistics are opportunistic (the procedure actually tries to form groups that do differ from each other), the relative magnitude of the statistics provides information about each variable's contribution to the separation of the groups.

On the basis of this division into clusters, ANOVAs was performed to investigate how the clusters relate to the remaining variables (See App. III). No significant differences between the clusters were found in terms of age ($F = 1.383$; $p = 0.260$) or years spent in nursing prior to formal nursing training ($F = 0.314$; $p = 0.815$).

At Follow-up I, a t-test was used to explore possible differences in work satisfaction between people in different clusters. A χ^2-test was used to find out if the number of 'real jewels' differed among the clusters.

At Follow-up II, a t-test was used to investigate work satisfaction at Follow-up I in comparison with work satisfaction at Follow-up II.

Pearson correlation (r) was used to investigate the relations between baseline data and work satisfaction at Follow-up I and II.

Summary of the research papers

Main features of Paper I

The aim of this study was to explore the ways in which perceptual strategies of defence are related to the affective component of empathy on the one hand and sensitivity to non-verbal communication on the other hand, as well as to explore the relations between the affective and perceptual components of empathy.

Method

Affective empathy was appraised by means of the QMEE questionnaire (Merhrabian & Epstein, 1972) and sensitivity to non-verbal communication was measured using the PONS (Rosenthal et al., 1979), video version and group administration. Defence mechanisms were studied using the DMTm (Andersson & Hallborg, 1986), individual administration.

Findings and discussion

One finding was that there is no correlation at all between the degree of affective empathy and the sensitivity to non-verbal communication. The perceptual and affective dimensions of empathy seem to be totally independent of each other.

Affective empathy, i.e. the ability to share other people's feelings, was found to be negatively related to the presence of the identity defence of not recognising a separate identity. One possible interpretation here is that true affective empathy (as distinguished from emotional contagion, which is a primitive form of affective communication) is possible only in individuals who have attained a mature self-differentiation and identity development.

Different aspects of sensitivity to non-verbal communication appeared to be related to different defence mechanisms. Introaggression (akin to introjection) was found to be related to an enhanced capacity for apprehending non-verbal expressions, especially negative submissive expressions such as sorrow. Presence of the mechanism of isolation appeared to be related to a lower degree of sensitivity, especially when the emotional tone was mediated to the auditory sense by means of voice prosody. Presence of anxiety or warding-off strategies of defence also appeared to be related to a lower degree of sensitivity.

Main features of Paper II

The aim of this study was to explore how different psychogenic needs are related to affective empathy (the ability to share other people's feelings) and sensitivity to non-verbal communication (the ability to apprehend emotional expressions that are communicated by facial expressions, body language and prosody). The psychogenic needs that were studied constitute a wide spectrum of motivational factors and personality traits. Using a questionnaire technique, it is possible to study psychogenic needs that serve as motivational forces on a conscious level.

Method

Empathy was appraised by means of the QMEE questionnaire (Mehrabian & Epstein, 1972) and sensitivity to non-verbal communication was measured using the PONS (Rosenthal et al., 1979), video version and group administration. Psychogenic needs were measured using the CMPS questionnaire (Cesarec & Marke, 1973).

Findings and discussion

The degree of affective empathy appeared to be correlated to social needs such as the need for affiliation and the need to help and care for other people. Empathy was also correlated to the need to be helped and cared for oneself. Empathy was thus correlated to active as well as passive social needs.

Sensitivity to non-verbal communication turned out to be correlated, above all, to the non-neurotic dominance factor but also to an increased need to help and care for people. A low degree of sensitivity to non-verbal communication appeared to be correlated to a strong need for order and to have a connection with a need for achievement and a need for autonomy.

Main features of Paper III

The aim of this study was to explore a possible relation between experienced feelings of discomfort in certain nursing situations and different psychodynamic defence mechanisms. Defence strategies are supposed to influence the interpretation and understanding of reality. They may also serve as identity defences whose function is to keep the self-image intact during interpersonal confrontations. Both aspects are of interest in nursing care, where practical work tasks are performed within a relationship with the patient.

Method

Defence mechanisms were explored using DMTm (Andersson & Hallborg, 1986), individual administration. Feelings of discomfort in different nursing situations were appraised by letting the subjects, who all had practical experience as nurse's aides (*sjukvårdsbiträden* in Swedish), estimate their degree of discomfort in a number of different situations by placing marks on 100 mm long lines (Sand, 1966).

Findings and discussion

The group of subjects with the defence mechanism of repression experienced a lesser degree of discomfort than the rest of the subjects when seeing patients with an amputated breast or an amputated leg. The group with an insecure sex identity experienced a higher degree of discomfort in the same situation. The group characterised by the defence mechanism of isolation experienced considerably more discomfort than the others in close contact with different bodily excretions (faeces, urine, coughing of phlegm etc.). Subjects characterised, in the DMTm test, by the identity defence where the hero-figure is not seen as a separate individual evidenced a (non-significant) tendency to feel more discomfort than others in the presence of a deceased patient. By contrast, subjects with the identity defence where the secondary figure's special identity is not apprehended experienced less discomfort in the same situation.

Main features of Paper IV

The aim of this study was to explore different personalities and nursing-related qualities in a group of assistant nurses. The interesting question was whether different groups of nurses would turn out to differ in nursing competency and work satisfaction. It was also of interest to investigate work satisfaction in a long-term perspective.

Method

The initial testing took place when the subjects, who all had prior work experience as nurse's aides (*sjukvårdsbiträden*), were studying at a nursing school in order to become assistant nurses (*undersköterskor*). At that time, measures of different personal and nursing-related qualities were obtained. These qualities were empathy (QMEE), sensitivity to non-verbal communication (PONS), psychogenic needs (CMPS), psychodynamic defence mechanisms

(DMTm), feelings of discomfort in different nursing situations (Discomfort Scale) and work satisfaction (JDI) during prior work in nursing care. DMTm was performed individually; the other tests and questionnaires were administered in a group setting. Two years later there was a follow-up at each nurse's place of work. At that time an assessment of nursing competence was made by interviewing the head nurse or some other person who was well acquainted with the assistant nurses at work. The assistant nurse herself also participated in an interview, and a questionnaire measure of work satisfaction was obtained (JDI). A long-term follow-up was carried out about ten years after completion of nursing school. The nurses then participated in a telephone interview and again answered the questionnaire on work satisfaction (JDI) by mail.

Findings and discussion

Cluster analysis identified four groups of similar individuals, namely: the 'empathic' group, the 'discomfort-prone' group, the 'service-minded' group and the 'dominant' group.

The individuals in the '*empathic*' group are characterised by a high degree of affective empathy. The highest degree of sensitivity to non-verbal communication (perceptual discrimination) is also found in this group. There is a strong need for dominance and also a need for support. Both social needs and the need for nurturance are pronounced. There is a low degree of discomfort in different nursing situations. The defence mechanism of introaggression is frequently found in this group.

In the '*discomfort-prone*' group, there is a moderate degree of affective empathy. Sensitivity to non-verbal communication is the lowest of all in this group. The need for dominance is rather weak, while the need for affiliation and

the need for nurturance are fairly strong. Both the need for order and the need for affirmation are strong. The highest level of discomfort is found in this group, particularly discomfort related to bodily excretions and closeness to deceased patients. The defence mechanism of isolation and the identity defence of not recognising a separate identity (i.e. the hero figure's) are represented in this group.

The individuals in the '*service-minded*' group are characterised by a moderate degree of affective empathy, whereas sensitivity to non-verbal communication is rather low and dominance needs are weak. In contrast, there is a strong tendency to let other people be central and dominant. This is combined with a strong need for affirmation. The degree of discomfort experienced in different nursing situations is lowest in this group. No particular defence mechanism is characteristic of this group.

In the '*dominant*' group there is a low degree of affective empathy, whereas the ability to apprehend non-verbal communication is good. The need for dominance is strong, as is the need for autonomy. In contrast, the need for nurturance, the need for order and the social needs are all weak. The level of discomfort connected with bodily excretions is high but that relating to closeness to deceased patients is low. It is within this group that the identity defence related to sex identity and the defence mechanism of inhibition are found to some extent.

At the two-year follow-up, the highest measure of work satisfaction was found in the 'service-minded' group. In this group there was also a relatively large number of nurses judged to have a high nursing competence – the 'real jewels'.

At the ten-year follow-up, work satisfaction was strikingly lower in all four groups. Among the 'service-minded', there was an over-representation of work-related injuries or long-term sick leaves for other reasons.

Some qualities were associated with long-term work satisfaction. Among those nurses who remained in the profession after ten years, the degree of work satisfaction was positively correlated with empathy and negatively correlated with sensitivity to negative dominant expressions. Other qualities of importance for work satisfaction were a weak need for aggression (perhaps an aspect of patience?) and few feelings of discomfort when confronted with dirt or bodily excretions.

Methodological considerations

A wide variety of different methods has been employed in the study – an approach termed 'triangulation' (Patton, 1990) –, data from objective tests, questionnaires and interviews all being included. Findings concerned with the same or similar phenomena but obtained using different types of methods can support each other and provide a firmer basis for drawing conclusions. As the sources of errors are different for different methods, this approach helps to avoid situations where one specific source of error becomes too dominant.

By means of a questionnaire technique it is possible to gather information concerning individuals' conscious views about themselves. Results are given quantitatively. The disadvantage of this method is that people are not always honest or may have biased self-conceptions.

Objective tests give quantitative measures of actual performances and abilities but the results may vary according to the tested person's alertness and motivation to comply with instructions. The information obtained from objective

tests and questionnaires may be considered to reflect a superficial personality level.

Projective tests are considered to describe deeper levels of personality. Projective tests need interpretation, which results in category data. Interviews may constitute rich sources of information. The information obtained may, however, be biased. Interview data are qualitative and may be difficult to classify and process but give a deeper and richer understanding of complex phenomena.

Nursing competence is obviously a many-sided concept, one that is difficult to operationalise and measure. Patients themselves may also be better equipped to evaluate nursing competence. However, such an approach was judged to involve too many practical problems, hence obtaining the well-informed evaluative help of a person in the assistant nurse's immediate vicinity was decided upon. Work satisfaction can be regarded as an indirect measure of how well people function in their job.

All assistant nurses in the study were probably well motivated in their work, since they all had prior experience of nursing care and had elected then to go on to further education. The group studied is thus highly biased, which might imply a narrow range of variation and weaker statistical relationships. The moderate number of subjects in the studies may have caused Type II errors, i.e. failure to detect a true difference.

Four different constellations of personality have been identified among the studied assistant nurses. The outcome of a cluster analysis is, however, entirely dependent upon the dimensions that are selected. Thus other personal qualities

than those considered here may also be of importance. The drop out cases may have biased the results at Follow up I and II.

The longitudinal approach has turned out to be very valuable, as there have been different outcomes at separate points of time. Furthermore, this study is one of very few longitudinal studies in the realm of work satisfaction, personality factors and vulnerability. In longitudinal studies, however, there is often a high drop out rate. This circumstance may lead to less confidence in the findings made – the drop-out may be selective, and the variability in the remaining group may thus be diminished. The drop-out rates among the studied assistant nurses are, however, of moderate size: 16 % at Follow-up I and 27 % at Follow-up II. The drop-out cases at Follow-up I differed from the rest by having significantly stronger needs for achievement and autonomy. The assistant nurses remaining at Follow-up II differed from the rest by having a significantly higher tendency to guilt feelings and a stronger need for consolation and being cared for.

Summing-up of findings and discussion

In this thesis, an attempt is made to relate different combinations of several qualities to work satisfaction and conduct in a nursing profession. Cluster analysis performed on baseline data resulted in four groups: empathic, discomfort prone, service-minded and dominant. At first follow-up, the service-minded had the greatest work satisfaction, with many considered to be ‘real jewels’. At second follow-up eight years later, there appeared to be an overrepresentation of injuries and long-term sick leave in this group, whose members had apparent difficulties in being dominant and asserting own interests. Work satisfaction diminished in all the groups over time. Long-term work satisfaction was found, however, to be related to degree of empathy and a low degree of sensitivity to expressions of aggression.

Nursing care and direct contact with the patient constitute only part of the assistant nurse's work tasks. It is also necessary for her to master other types of task in order to accomplish her work well. There are certain niches of nursing work where communicational contact with patients is very limited or non-existent, e.g. in an operating theatre. In such contexts, there are probably other constellations of qualities that are more relevant to meet the demands of the work tasks. In this thesis, however, nursing care has been in focus. An attempt has been made to study the assistant nurses' personalities and nursing-related qualities, keeping in mind lines of thought in nursing-care theories as well as everyday work in the hospital ward.

In the context of nursing-care theories, the quality of empathy has received special attention. In research about stress, there has been much focus on coping strategies and stress hardiness. Other qualities of importance for qualified professional nursing care have not been elucidated to the same extent.

A significant aspect is what motivates someone to enter a nursing profession and to stay on. One motivating factor among others is psychogenic needs seeking fulfilment by means of different need-satisfying activities. Different aspects of the work content may function as rewards, depending on the need equipment characterising the individual person. Examples of rewarding content in a nursing-care profession frequently mentioned by the subjects interviewed in this investigation are: many opportunities for human contact; opportunities to acquire new knowledge and receive intellectual stimulation; a great deal of variety; personal confirmation from seeing results; and the satisfaction of being able to help a person. If the nursing work continuously rewards the caregiver by satisfying different psychogenic needs, then some of the essential requirements for long-term work satisfaction are met.

In studied group as a whole, a positive correlation was found between strong social needs and a strong empathic ability to share other people's feelings. A low degree of empathy appeared to be related to the identity defence of not recognising a separate self. It is not until the ego has achieved separate representations of the self and of 'the other' – or, according to psychoanalytic theory, the 'object' –, that the feelings and needs of the other person can be apprehended and careful consideration can be shown (Igra, 1983).

Alongside the empathic ability to share other people's feelings, sensitivity to non-verbal communication is an important component of social intercourse. No correlation at all was found between the degree of affective empathy and the sensitivity to non-verbal communication. The perceptual and affective dimensions of empathy seem to be totally independent of each other.

Non-verbal expressions of emotion are apprehended on diverse levels of consciousness, as distinct emotional signals or as vague expressions causing feeble presentiments. Non-verbal signals emanating from facial expressions or body language are often more reliable than verbal statements. Authentic feelings tend to 'leak' even when the person is intending to communicate something else (Ekman & Friesen, 1969; Ekman et al., 1988). A nurse who easily apprehends non-verbal signals will quickly comprehend patients' general condition of health and will consequently be better able to take adequate measures. In addition, non-verbal signals play an important role in social contexts. These signals seem to be of special importance when hierarchies of dominance are established (Parra, 1993). In the group of assistant nurses studied, dominance needs appeared to be correlated to the degree of sensitivity to non-verbal communication. When it comes to submissive expressions, e.g. of sorrow, mediated by the tone of voice, it turned out that those using the anxiety defence of introaggression had a higher

sensitivity and those who used repression or isolation a lower sensitivity to non-verbal signals.

Those having a nursing profession are confronted daily with sickness, diseases and injuries of various kinds, and many situations may provoke feelings of discomfort (Pålsson et al.,1995; van Dongen, 2001). Feelings of disgust and aversion may arise when the nurse confronts bodily excretions and physical abnormalities. These feelings are among the basic emotions that people can have (Plutchik, 1980; Tomkins, 1970) and they have a close connection with another fundamental emotion, namely shame (Miller, 1997). Uncleanness, mutilated bodies, patients' inability to take care of personal hygiene etc. are matters that evoke shame. Even interest in the scientific study of these matters may not be totally accepted socially. Few studies have been made in this area. In the group studied here, it turned out that the anxiety defence of repression warded off discomfort when seeing amputated patients. The anxiety defence of isolation was associated with a high degree of discomfort when confronting different bodily excretions. The identity defence of not recognising a separate self, a defence mechanism that indicates an immature self identity, was associated with a higher, although not significant, extent of discomfort in the presence of a deceased patient. Earlier it was found that hospice nurses were significantly more assertive, imaginative, forthright, free-thinking and independent than their colleges in traditional settings (Amenta, 1984), qualities which may indicate presence of a secure self identity.

The assistant nurses studied represent a broad array of personality factors and nursing-related qualities. On the basis of the qualities that have been explored here, four different constellations have appeared. These constellations each represent a different conduct vis-à-vis patients and the vocational role. They turn out to be more or less appropriate for achievement of work satisfaction or

adaptation to the work role. The findings are different at different points in time. In the short term, there are clear differences between the groups regarding work satisfaction and also regarding their adaptation to the work role. In the long term, work satisfaction decreases in all groups and significant differences can no longer be observed. On the other hand, in the long run differences in reported state of health come forth.

In the short term, the highest degree of work satisfaction and, at the same time, the best appraisals were found in the group characterised by a low degree of discomfort in different nursing situations. The persons in this group are, however, not so good at interpreting non-verbal signals and their degree of empathy is of medium strength. They let other people be dominating and, at the same time, they have a need for confirmation. This group has been named 'service-minded'. In this group, a large number of those described as 'real jewels' are to be found. The work identity of the assistant nurse has a prominent mark of adaptation (Thunborg, 1999); the assistant nurse is not expected to take many initiatives of her own. This group thus seems to be well suited to the demands of the work role. In the long run, however, the assistant nurses in this group have met with various kinds of physical injury and diseases that have led to long-term sick leave, different degrees of sickness pension or transfer to other posts. Having a need for confirmation combined with difficulties to be dominating and to assert one's own interests seems to be a risk factor in the long term. These assistant nurses are much valued when working, but being unable to set limits to other people's wishes they fare badly themselves. A weak need for dominance may be a personality trait co-occurring with a coping style of either avoiding the stress situation or passively sustaining it, instead of actively facing and taking command over it. Earlier research has shown that this coping style is correlated to a higher degree of susceptibility to stress (Simoni & Paterson, 1997).

A different constellation of qualities characterises the ‘dominant’ group. These assistant nurses have a strong need for dominance – i.e. non-neurotic dominance, which means a wish to be in command and take the role of leader. Besides the need for dominance there is a need for autonomy, and, combined with these needs, there is a pronounced sensitivity to non-verbal communication. On the other hand, empathy, social needs and the need to care for and help other people are all weak. Work satisfaction in the short term is rather low. In the long term, work satisfaction is not higher here than in the service-minded group but the state of health seems to be better. Some persons in this group have left for another job and others have entered into further education. In this group there are not all that many of the ‘real jewels’. Most likely, dominant personality traits are not compatible with a work role involving strong demands of adaptation. The lower degree of empathy and the weak need for nurturance may also imply a poorer likelihood to function well in a nursing profession.

A third constellation of qualities characterises the group called ‘discomfort-prone’. Some of the individuals in this group could not be located at the first follow-up. A few worked in an operation theatre or met only patients who were sedated. The lowest degree of work satisfaction in the short term is found here. The highest level of discomfort is also found in this group, particularly discomfort related to bodily excretions and closeness to deceased patients. The need for order and the need for affirmation are strong, and both the need for affiliation and the need for nurturance are fairly strong. In this group, sensitivity to non-verbal communication is not very well developed. The defence mechanism of isolation is represented here, and this points to the presence of compulsory personality traits. The identity defence of not recognising the hero’s separate identity is also represented here. This indicates that the ‘discomfort-prone’ group includes individuals who have not reached a mature identity

development where self–object differentiation is completed. When this is the case, there is no distance and perspective regarding 'the other', in this case the patient. A genuine empathic understanding becomes difficult. If a person does not possess a capacity of inner distance, then it is plausible that feelings of discomfort become pronounced when confronting bodily excretions or deceased patients. Close contacts with patients may give rise to anxiety and discomfort that are not totally balanced by a positive emotional reward.

The constellation of qualities distinguishing the 'empathic' group is the one that best corresponds to the qualities seen as important in nursing-theory contexts. This group is characterised by interest in social contacts, the ability to share other people's feelings, the ability to interpret non-verbal signals and a strong need to help people. The degree of feelings of discomfort is low. Despite this, not all that many of the assistant nurses in this group receive the best appraisals. In the long term, however, they seem to manage well. Previous research has shown, too, that nursing staff who do not become 'burned-out' tend to be characterised by a high degree of empathy and that nursing work tends to satisfy these nurses' social needs (Åström, 1990). In this group there is also evidence of a relatively high degree of dominance needs. Certain parallels can be drawn between empathy and dominance on the one hand and the concept of hardiness or stress resistance on the other hand. The concept of hardiness comprises the elements of control, challenge and commitment (Pollock & Duffy, 1990). Hardier nurses turned out to have fewer health problems related to stress at the place of work (van Servellen et al., 1994).

In the group as a whole, some qualities seemingly turn out to favour work satisfaction in the long run. Empathy – the ability to share other people's feelings – is one of these qualities. The degree of empathy turns out to be correlated with different social needs (Sand, 1994). The satisfaction of social

needs is a rewarding component of nursing care. In the interviews, one positive aspect of the profession often mentioned was ‘contacts with people’. When the reason for working in a nursing profession is based on social needs, there are continuous rewards. The ability to be empathic is a quality that promotes work satisfaction in the long run, as the reward content of the work does not diminish over time.

Work satisfaction seems also to be facilitated if the need for aggression is weak. A weak need for aggression, i.e. a tendency not to be easily irritated or not to react easily with anger, is very likely synonymous with the quality called ‘patience’. In the interviews with the assistant nurses, patience is often mentioned as one of the most important qualities to have when working in a nursing profession. Those who do not have it experience this to be a shortcoming.

A certain insensitivity when it comes to apprehending non-verbal expression of negative dominant emotions, i.e. angry and aggressive expressions, also seems to facilitate work satisfaction in the long term. A relation between weak sensitivity to negative dominant expressions and presence of the defence mechanism of denial was also found in the group studied (Sand, 1993). A capacity to deny other people’s aggression seems to be favourable to work satisfaction in nursing care.

Work satisfaction is, in the long run, lower in those who have more feelings of discomfort when coming in contact with different bodily excretions. Experiencing feelings of discomfort related to close contacts with patients is a stress factor to which not much attention has been paid in stress-related research. This aspect of nursing has not been very much illuminated in nursing theory either. The subject has, however, been treated to a certain extent in studies of

conduct and defence mechanisms in the care of seriously ill patients. Feelings of discomfort among the staff resulted in either a physical or a mental distancing. One consequence of both strategies was that the patients' needs for nursing care were not completely met (Enckell et al., 1975; Krener, 1987). Among the assistant nurses studied for this thesis, a relation was found between a strong tendency towards feelings of discomfort and a compulsive defence strategy. This strategy does not seem adaptive, as it was related to a low degree of work satisfaction in the long term.

Those using an identity defence connected with an insecure sex identity experienced a higher degree of feelings of discomfort when close to amputated patients. In this situation, those using the defence strategy of repression react with a lower degree of discomfort (Sand, 1996). Absence of an insecure sex identity thus appeared to be related to a weaker tendency towards feelings of discomfort when close to amputated or mutilated patients. This may facilitate work satisfaction in the long term. The nursing profession has traditionally been seen as a female one. It is reasonable that those female nurses who do not have an insecure sex identity will more easily adapt to the work role.

The concept of 'professional conduct' embraces, among other things, empathic ability; an ability to interpret needs that are more or less explicitly expressed; and an ability to shift, when called for, between emotional closeness and objective distance. Emotional closeness demands physical proximity and so does the performance of practical nursing tasks. Nurses characterised by having an ability to share other people's feelings and being sensitive to non-verbal communication should be in a good position to develop a professional conduct. If the tendency to react with feelings of discomfort is weak, this facilitates the physical proximity which is so indispensable in nursing care and a prerequisite for apprehending non-verbal signals and creating emotional closeness. If needs

for aggression are weak, i.e. patience is great, there is every prospect for this closeness to continue over time. Mature psychological defence mechanisms and a mature identity are necessary for flexible shifting between emotional closeness and distance. An ability to take command and dominate is also very probably a factor of importance in the context of professional conduct.

The work role of the assistant nurse has a decided mark of adaptation, i.e. initiatives of her own are not expected to a great degree. If anything, the nurse is supposed to adapt to other people's will. Those of the assistant nurses studied who received the best appraisals did not in fact possess those qualities that favour a professional conduct. Instead, the most highly estimated assistant nurses were those who were very service-minded and willing to attend, and who had a tendency to let other people dominate. In this group there are also strong needs for affirmation. The reward content of the work consists in affirmation and appreciation when serving people. The ability to take command and to set limits is, however, weak among these 'real jewels of nursing care' and they have difficulties in asserting their own interests. In the long run, this group seems to have met with health problems to a high degree. Nursing managers ought to have a sensitive ear for these people, as their problems often are not noticed until they get injured or ill. The 'discomfort prone' people may be more comfortable working at units with less demand of close physical contact with patients.

Concluding remarks

Four different constellations of personality have been identified among the studied assistant nurses: 'empathic'; 'discomfort-prone'; 'service-minded'; and 'dominant'. The outcome of a cluster analysis is, however,

entirely dependent upon the dimensions that are selected. Thus other personal qualities than those considered here may also be of importance. The drop out cases may have biased the results at Follow up I and II. Nevertheless, results indicate that the most appreciated assistant nurses, the service-minded 'real pearls', also are the most vulnerable.

The dramatic decrease in work satisfaction in all groups during the 1990s may be considered an alarm signal in times of reduction of resources within health care. Medical knowledge has increased and there has been a development of new values and rights in society. Views and attitudes regarding nursing care have changed. Nevertheless, old traditions and hierarchical structures characterise hospital settings in a high degree. The traditional work role of the assistant nurse may not be well adapted to nursing care of the present day. It may helpful for managers in caring settings to pay attention to the different constellations of personality found among nursing staff. It may also be of advantage in clinical supervision to consider different patterns of confirming the identity as a good nurse.

Assistant nurses' personality and nursing-related qualities need to be further explored at an individual level. Work motivation, work satisfaction, nursing work's rewards and difficulties, different means of identity confirmation, and ways of coping with stress and anxiety, are all phenomena related to personality. A proper method to study these dimensions is the undertaking of deep interviews. These interviews can be rich sources of information. In times of reorganising resources in the domain of nursing care such information is indispensable.

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APPENDIX I

Survey of instruments.

Instrument	**Variable**	**Dimension**
QMEE Questionnaire Measure of Emotional Empathy		**Affective empathy**
PONS Profile of Non-verbal Sensitivity		**Sensitivity to non-verbal communication**
	TONE	Expressions mediated by the voice only
	FACE	Facial expressions
	BODY	Bodily expressions
	FULL FIGURE	Expressions from body and face
	VIDEO	Expressions mediated by visual signals only
	PSUB	Positive submissive expressions
	PDOM	Positive dominant expression
	NSUB	Negative submissive expressions
	NDOM	Negative dominant expressions
CMPS Cesarec Marke Personality Scale		**Psychogenic needs**
	ACH	Need achievement
	AFF	Need affiliation
	AGG	Need aggression
	AUT	Need autonomy
	DST	Need defence of status
	DOM	Need dominance
	EXH	Need exhibition
	GUI	Guilt feelings
	NUR	Need nurturance
	ORD	Need order
	SUC	Need succourance
Discomfort scale Scale of Discomfort Experienced in Nursing Situations		**Feelings of discomfort in nursing situations**
	DIRTY	Bodily excretions
		Amputated patients
	DEAD	Deceased patients
DMTm Modified Defence Mechanism Test		**Defence mechanisms**
	Ego defences	Repression Isolation Introaggression Inhibition
	Identity defences	Not recognising hero's individual identity Not recognising hero's sex
JDI Job Descriptive Index		**Work satisfaction**

APPENDIX II

Number of defence signs (DMTm)

Identity Anxiety	5	Isolation 2	4	Hero identity	7
Anxiety	5	Isolation 3	12	Hero's sex	5
Denial 10	29	Introaggression	30	S's identity	4
Repression	23	Inhibition	5	Hero older	8

Appraisal interview with the head nurse or other person well-acquainted with the assistant nurse (AN) at work:

For how long time have you been in the department?

For how long time have you and the AN been working together?

How does the AN behave towards the patients?

Is the AN able to apprehend the needs of the patients?

How is the AN's skill assisting and taking care of patients?

What are the AN's qualities that are positive in nursing care?

What are the AN's qualities that are negative in nursing care?

What do the patients think of the AN?

Other comments.

APPENDIX III

Cluster means and ANOVAs of the variables

	Means in the different clusters				ANOVA	
VARIABLE	Empathic	Discomfort-prone	Service-minded	Dominant	F	Sig.
	N=12	N=11	N=16	N=12		
QMEE	80,4	60,9	58,1	51,4	6,213	p=0,001
PONS total	171,2	156,9	160,6	169,3	6,715	p=0,001
TONE	24,5	21,8	23,9	24,4	2,699	p=0,056
FACE	51,1	46,2	47,1	50,4	10,889	p=0,000
BODY	45,2	41,5	43,1	44,5	2,288	p=0,091
FULL FIGURE	50,58	47,4	46,6	50	3,82	p=0,016
VIDEO	49	44	44,1	48	7,776	p=0,000
PSUB	40,8	39	37,9	39	1,366	p=0,265
PDOM	36,5	33,5	34,1	37,8	3,454	p=0,024
NSUB	44,1	37,1	42,6	42,8	11,658	p=0,000
NDOM	49,8	46,7	46,1	49,8	5,286	p=0,003
CMPS						
ACH	4,9	4,5	3,1	5,3	3,638	p=0,019
AFF	7,2	6,1	5,4	4,5	4,85	p=0,005
AGG	6,2	5	4,1	5,7	3,816	p=0,016
DST	4,5	5,8	5,6	4,2	2,694	p=0,057
GUI	4,8	5,6	5,3	4,7	0,814	p=0,493
DOM	5,75	4,2	3,3	6,6	27,599	p=0,000
EXH	5,3	3,5	2,5	4,75	10,179	p=0,000
AUT	3,8	3,6	2,6	4,9	3,506	p=0,022
NUR	7,1	5,8	4,4	4,5	8,052	p=0,000
ORD	5,6	6,7	5,7	5,1	2,721	p=0,055
SUC	6,7	5,9	6,17	3,75	5,684	p=0,002
DISCOMFORT						
Total score	219	338	202	316	2,288	p=0,091
DIRTY	90,9	167,5	92,7	156,25	2,926	p=0,043
Amputated	29,9	48,7	25,7	43,9	0,893	p=0,452
DEAD	36,5	59,2	30,9	30,4	2,651	p=0,060

Number of individuals with defence signs in the different clusters

DMTm	Empathic	Discomfort-prone	Service-minded	Dominant	Total Number
Repression	4/12	6/11	9/16	4/12	23
Isolation	2/12	6/11	1/16	2/12	11
Introaggression	10/12	4/11	8/16	8/12	30
Inhibition	1/12	0	1/16	3/12	5
Hero identity	1/12	4/11	1/16	1/12	7
Hero's sex	0	1/11	1/16	3/12	5

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Relations between Sensitivity to non-verbal Communication, Empathy and Mechanisms of Defence

An exploratory Study

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Abstract
The study constitutes an investigation of the relations between the ability to apprehend nonverbal communication according to the PONS-test (facial expressions, expressions of the body and figure, emotional content in voice expressions), affective responsiveness (QMEE-scale) and defence mechanisms (DMTm). The subjects were 51 students at a nursing school, aged 22–49 (m=31.8). Results showed a relationship between the defence strategy of introaggression and better performance in the PONS-test. Warding-off strategies such as denial, repression and isolation were related to a poorer performace in the PONS-test. Persons with a fusion strategy turned out to possess a poorer affective responsiveness on the QMEE-scale.

Introduction

The concept of 'non-verbal communication' embraces several different forms of communication, all of which have one thing in common: they do not use spoken or written language as a medium for transmitting a message. In this study, the concept of 'non-verbal communication' has been restricted to those messages about different emotions and attitudes which are transmitted from a sending (encoding) person to a receiving (decoding) person by means of facial movement, body movement, tone of voice, intonation etc. (Ekman, 1973; Hjortsjö, 1969; Bull, 1983; Gårding, 1989 etc.)

The ethologist approach takes the position that emotional expressions depend on phylogenetically inherited predispositions which we have brought with us in the course of evolution, our 'heritage from the ape'. The first protagonist of this view was Darwin (1872). He claimed that certain emotions are expressed in the same way in different cultures, and that expressions of emotions are hence innate ways of expression.

One opponent of this view was Birdwhistell, who claimed that the meaning of an expression can only be understood within a social context (Birdwhistell, 1971). Smiling, for instance, can be conceived as a sign of correct behavior as well as of inappropriate conduct, depending on the culture in which it is expressed.

Psychologists have, in general, adopted an interactionist perspective. Among others, Ekman (Ekman, 1973) has put forward this perspective, claiming that there are certain universal expressions which are decoded and interpreted in the same way, independently of the culture in which they occur. According to Ekman, these emotional expressions are the expressions of happiness, sadness, anger, disgust, fear and surprise. Ekman formulated a neuro-cultural model of emotional expression, presenting the idea of the existence of two determinants, one pertaining to universal expressions and the other to cultural differences (Ekman, 1972). He also distinguishes between cultural 'display rules', that is norms for emotional expressions that are valid in a specific culture, and individual 'display rules' which are special for a certain person (Ekman, 1977).

Earlier investigations of the ability to perceive non-verbal cues have to a great extent relied on still pictures. Today, the PONS-test — Profile Of Nonverbal Sensitivity (Rosenthal et al., 1979) — is also available. This test shows short film sequences with or without accompanying speech (see further description under Method). Results from investigations with this test support the interactionist model, i.e. the contention that innate emotional expressions interact with culturally determined display rules. The test was constructed in the USA, and results from all over the world regarding the ability to perceive non-verbal signals correlate with the cultural distance to the USA. Previous results from investigations with the PONS-test have demonstrated that accuracy increases between ages 8 and 25; the performance then starts to level off

somewhere between 20 and 30 years of age, after which older adults perform less well than younger adults. There is a tendency for women to perform relatively better on the video channel and for men to perform relatively better on the audio channel (Rosenthal et al., 1979).

What is the relation between an ability to perceive non-verbal communication and empathic capacity? Empathy is a concept with miscellaneous meanings; but out of a pile of definitions, four significations have crystallized. These significations, which can be put into a perceptual, cognitive, affective and communication perspective (Goldstein & Michaels, 1985) comprise:

1. Discrimination of the emotional state of another person, the perceptual component.
2. Assuming the perspective of another person, the cognitive component.
3. Experiencing the emotion of the other person, the affective component.
4. Communicating back what you have apprehended by means of empathy.

Empathy literature involving psychotherapy draws attention to this 'communicative component of empathy' (Rogers, 1975).

According to this perspective, sensitivity to non-verbal communication is included in the perceptual component of empathy. Hypothetically speaking there might be a connection between the different components of empathy and their degree of development — if, in other words the perceptual component is well developed, the person concerned should possess a well-developed affective or cognitive empathy, too. Such correlations have not been demonstrated (Hall, 1979).

The non-verbal signals emitted by facial expressions, postures of the body, prosody etc. vary greatly in terms of distinctiveness; we may therefore suppose that they are perceived at different levels of consciousness, ranging from a completely conscious experience to a diffuse experience on a more subconscious level. Before a signal has reached the level of consciousness, it can be distorted in different ways due to the influence of different mechanisms of defense (Kragh & Smith, 1970). These phenomena can be studied by means of several methods, among them the so-called percept-genetic techniques. Here, the primary object of study is the way in which a threatening stimulus influences perceptual development up to the conscious level. One example of such a

technique is the DMT, Defence Mechanism Test (Kragh, 1969). The same technique, but with a different mode of interpretation — the DMTm — is used by Andersson (Andersson & Hallborg, 1986).

Investigating the relationships between defense reactions and ability to decode facial displays of affect, it has been found that late correct identification of the secondary in the DMT is positively related to errors in the decoding of anger in video-recorded facial displays. There was also an indication of a positive relationship between the tendency to perceive strong affective expressions in the video test and the interpretation of the herofigure as negative or hurt in the DMT (Bengtsson, 1991).

Ego defenses are considered to be coping strategies designed to deal with conflicts over particular emotions, so that each basic emotion has an ego defense available (Plutchik, 1980). In a study exploring relations between DMT and a test measuring affective reactions to hypothetical situations, HST, there was a negative relation between aggressive reactions and seeing the secondary as neutral instead of angry or aggressive, seeing hero's or secondary's faces as whitened or empty of structure or referring the existence of the secondary to hero's imagination (Persson, 1993).

Aim of the present study

The aim of this study is to explore the ways in which perceptual strategies of defense are related to the affective component of empathy (capacity to share another´s emotional experience) on the one hand and to the perceptual component of empathy, non-verbal sensitivity (i.e. the ability to apprehend and interpret different emotions expressed by means of facial expressions, gestures, postures of the body and intonation) on the other hand, as well as to explore the relations between the affective and perceptual components of empathy.

Method

Subjects

The subjects were 51 female students at a nursing school. Tests were conducted during school hours. PONS and QMEE were administered as group tests, whereas DMTm was administered individually. After the individual testing, the

subjects received a small fee. They were 22–49 years of age (m=31.8, s.d.=7.6).

Instruments

PONS, Profile of Nonverbal Sensitivity (Rosenthal et al., 1979). The test consists of a 45-minute video tape and measures the ability to decode another person´s body movements, facial expressions and emotions expressed by intonation. Every item consists of a 2-second sequence where you see the face, the body (trunk) or the figure (face + trunk). Some scenes are accompanied by speech, others are not. The voice has been masked in two different ways. One way of masking is the 'random-sliced' technique, where the audio tape has been cut into small pieces, reordered randomly and reassembled. The other technique for masking the voice is by cutting off high frequencies, making it 'content filtered'. Sometimes there is only speech, without an accompanying visual scene. The subjects are required to make a choice between two alternative emotional expressions, e.g. between 'expressing gratitude' and 'nagging a child'. The result is given in the form of a profile which contains measures of the ability to decode facial expressions, body expressions (trunk) and expressions of the figure (face + trunk); measures of decoding when only the audio or only the video channel is available; and measures of decoding the two different forms of speech masking. Measures of decoding depending on emotional content are obtained too. The emotional content is classified into four groups: Positive dominant, for example 'expressing motherly love', positive submissive, such as 'helping a customer', negative dominant, for instance 'threatening someone' and negative submissive, for example 'asking forgiveness'. Regarding test reliability, an internal consistency reliability of 0.92 and a retest reliability of 0.69 have been found by the authors. The test validity is founded on correspondence between what was intended to be portrayed in the different scenes and different raters´ opinions of it. At the time of construction, there was no single external criterion to validate the PONS against, as the concept of 'non-verbal sensitivity' had not been explored before. In Sweden the test has been administered to students of occupational therapy and teachers in occupational therapy (Svidén, 1993).

QMEE, the Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972), consists of 33 items. Each item is replied to by means of a marking on a a nine-grade Likert scale. The scale varies from 'very strong disagreement' to 'very strong agreement'. The instrument is a measure of emotional empathy, which in this case signifies, for example 'Extreme emotional responsiveness, tendency to be moved by others´ positive or negative emotional experiences'. Mehrabian and Epstein divide the QMEE into seven interrelated subscales. They label these 'Susceptibility to Emotional Contagion, Appreciation of the Feelings of Unfamiliar and Distant Others, Extreme Emotional Responsiveness, Tendency to Be Moved by Others´ Positive Emotional Experiences, Tendency to Be Moved by Others´ Negative Emotional Experiences, Sympathetic Tendency and Willingness to Be in Contact with Others Who Have Problems' (Chlopan et al., 1985).

DMTm. Ulf Kragh has developed the DMT, Defence Mechanism Test (Kragh, 1969). By means of percept-genetic techniques, it is possible to study how a perception comes into existence and develops. The object of investigation is the sequence of development from early diffuse and global phases up to a correct perception. A picture is shown in a tachistoscope in a series of exposures. The first exposure time is very short, 10 ms. Exposure time increases in a logarithmical succession. The final exposure time is 2 s. The task of the subject is to report his/her observations and make a drawing of what he/she has seen. On the picture, there is a central 'hero' figure (H) and a threatening 'secondary' figure (S). Interpretations are made of the transformations of the motive which the subject expresses. The transformations are considered as indications of the fact that psychoanalytic mechanisms of defense have been active in the process of perception. Andersson (Andersson & Hallborg, 1986) uses percept-genetic diagnostics of defenses which he connects with a general developmental and personality model of psychology. He names his scoring scheme DMTm. The administration of the test is comparable to Kragh´s procedure, but the interpretation is not identical. Examples of interpretations in Andersson´s model are as follows:

Anxiety
A patent and explicitly stated dark marking is found in the area outside H and S.

Denial
S is missing or not interpreted for at least seven successive exposures, counted from the first exposure.

Ego defenses:
Repression
S and/or H is stiffened, lifeless, disguised, an animal or a specified object.
Inhibition
S is stiffened, lifeless, disguised, a specified object or a framed, empty or lightish area for at least five successive phases.
Introaggression
H is damaged, miserable, unhappy, exposed etc.
Isolation
Marked addition of a barrier between H and S, or S as a framed, empty area.

Defenses of identity:
Reversal of H as a separate identity
H is doubled or multifold.
Reversal of threatening situation
S is positive, or H and S have a positive relation ('reaction formation').
Reversal of H´s sex
H´s sex is changed from the correct into the incorrect one.
Reversal of S´s special identity
S is a person who is younger than H and neither unsympathetic nor threatening.

Results

PONS–QMEE

A possible relation between the perceptual and the affective components of empathy should have been reflected in a correlation between the results obtained with the PONS test and with the QMEE scale. However, the correlations are close to zero (for example, between the total scores according to the PONS test and the QMEE scale, $r=0.02$), in other words there is no statistical correlation between sensitivity to non-verbal communication and a tendency to be moved by other persons´ feelings. Therefore, these two components of empathy can be considered to be independent of each other.

QMEE–DMTm

Subjects with identity defense I:1 (which stands for reversal of separate H identity, or not admitting that H is a separate entity) are found to evince a lower value in the QMEE at a group level ($t=2.60$, $p<0.05$). In this study, those who are characterized by the relevant strategy have greater difficulty in entering into other persons´ feelings.

PONS–DMTm

Anxiety

Subjects with the anxiety sign A 3 (where H — as a person or a face — is changed into something dissolved, diffuse, lightish, greyish etc., or is definitely blurred without actually disappearing; 'identity anxiety') have greater difficulty in decoding facial expression ($t=2.11$, $p<0.05$).

Subjects with the anxiety sign A 6 (patent and explicitly stated dark marking in the area outside H, S and attribute) have greater difficulty in interpreting scenes where only the video channel is used ($t=2.08$, $p<0.05$).

Denial

No statistically significant differences were found to exist between subjects with and without the defense strategy of denial, if denial was interpreted strictly

according to the manual. But if we infer a concept of denial — we might call it 'Denial 10' — where S is missing or not interpreted for at least ten exposures in succession from the first exposure, the group with this defense strategy is seen to experience greater difficulty when it comes to decoding facial expressions ($t=2.01$, $p<0.05$). The members of this group also find it harder to perceive emotional expressions on the basis of the figure (trunk + face) ($t=2.45$, $p<0.05$); and they have greater difficulty in perceiving emotional expressions by means of the video channel ($t=2.12$, $p<0.05$). With regard to the different qualities of emotion, the group with Denial 10 has greater difficulty in perceiving positive submissive ($t=2.39$, $p<0.05$) and negative dominant expressions ($t=2.56$, $p<0.05$).

Defenses of the ego (defenses against affect):

Repression

It was found that the group of subjects with the repression sign Re 6 (S is a specified object) experiences greater difficulty when it comes to perceiving facial expressions ($t=2.06$, $p<0.05$). The members of this group also have greater difficulty in perceiving negative submissive emotional expressions ($t=2.58$, $p<0.05$).

Isolation

For the group of subjects with the isolation sign Is 2 (S is an object which, in the main, has a contour or constitutes a framed empty area), perceiving emotional expressions by means of the tone channel was found to be more difficult ($t=2.86$, $p<0.01$). These subjects also have greater difficulty in perceiving negative submissive expressions ($t=3.78$, $p<0.001$).

Introaggression

For subjects who are using the strategy of introaggression (i.e. perceive H as damaged, miserable, unhappy, exposed etc., as one who directs aggression, criticism etc. against him-/herself, or is involved in chaos or in a destructive situation), it is easier to perceive emotional expressions by means of the tone channel ($t=2.29$, $p<0.05$). They find it easier to perceive negative submissive

expressions of emotion ($t=2.15$, $p<0.05$).

Inhibition

For subjects who use the strategy of inhibition (where S is stiffened, lifeless, disguised or a specified object for at least five successive exposures), it is easier to perceive facial expressions ($t=2.43$, $p<0.05$).

Defenses of identity (denial by reversal)

III:1 (reversal of or not recognizing H´s sex; H´s sex is changed from the correct into the incorrect one).

For subjects with this strategy, it is easier to perceive positive dominant expressions of emotion ($t=2.30$, $p<0.05$).

IV:6 (reversal of or not recognizing S´s special identity; S is younger than H and is neither unsympathetic nor threatening).

Subjects with this strategy have greater difficulty in perceiving emotional expressions emitted by the full figure ($t=2.38$, $p<0.05$). It is more difficult for them to perceive emotional expressions by means of the video channel ($t=2.62$, $p<0.05$).

IV:8 (reversal of, or not recognizing, S´s special identity. H is an older person, 35 years old or more, for at least 12 successive exposures).

Subjects with this strategy have greater difficulty in perceiving facial expressions ($t=2.2$, $p<0.05$).

Tables 1 and 2 contain an overview of statistically significant results and some tendencies. Table 1 shows results referring to defenses in relation to different channels in the PONS test and to the QMEE scale. Table 2 shows results referring to defenses in relation to the emotional dimensions of the expressions in the PONS test.

Several significant results have been found in relation to the facial channel. No significant result has been found in relation to emotions expressed by the body channel. Regarding different emotional qualities, the greatest number of

significances was found to pertain to the negative submissive emotional expressions, such as sorrow.

TABLE 1

Results with different PONS channels and with the QMEE scale in relation to defense strategy in the DMTm.

	PONS				QMEE
	Face	Figure	Video	Tone	
+	Inhibition *			Introaggr *	
−	Anxiety *		Anxiety *		Hero not separate *
	Denial *	Denial *	Denial *		
	Repression *			Repression *	
				Isolation **	
	Hero older *	S younger *	S younger *		

TABLE 2

Results with the PONS regarding different emotional qualities in relation to defense strategy in the DMTm.

	PONS			
	Pos Sub	Pos Dom	Neg Dom	Neg Sub
+		Sex identity *		Introaggr *
−	Denial *		Denial *	Repression *
				Isolation ***

\+ means a better result for the group with the sign in question
− means a poorer result

* signifies statistical significance on the 0.05 level
** signifies statistical significance on the 0.01 level
*** signifies statistical significance on the 0.001 level

Discussion

Earlier comparisons between results from different countries as regards the PONS test have shown that the ability to perceive non-verbal signals correlates with the cultural distance from the USA, where the test was constructed. In this study, it turned out that the mean value for the total PONS score (m=164.34, s.d.=10.60) with reference to Scanian nurses is below that of the standardization group of the test (m=170.05, s.d.=12.39), but near the mean for psychiatric hospital staff from Ireland (m=165.14). By way of a comparison, it might be mentioned that Swedish teachers of English have reached a mean value of m=176.50 (Rosenthal et al., 1979) and Swedish teachers of occupational therapy a mean of m=174.00 with s.d.=4.76 (Svidén, 1993). The cultural distance to the USA (where the test was constructed) influences the mean values of the results of the present study.

But just as Ekman distinguishes between cultural and individual display rules (Ekman, 1977), it is possible to distinguish between culturally dependent and individually dependent ability to perceive non-verbal communication. In spite of the fact that the subjects form a relatively homogenous group (female student nurses with prior nursing experience), statistically significant results have been demonstrated. However, these findings did not result from a test of a hypothesis, what we have here is a preliminary explorative study, mapping out a field of research. Out of 250 calculated t–values 20 reached statistical significance, $p<0.05$, two-tailed, which is more than would be expected by chance, $\chi 2(1) = 4.74$, $p<0.05$, two-tailed.

In conclusion, it can be stated that in the presence of anxiety or warding-off strategies of defense (isolation, repression, denial) there has been found to be less ability to perceive emotional expressions; conversely, that the ability is greater in the presence of strategies such as inhibition and introaggression.

In the presence of the isolation strategy, which signifies that emotion is separated from its ideational content (Sjöbäck, 1984), highly significant difficulties have been found to exist when it comes to perceiving emotional content by means of the tone channel (voice expressions). Here, we may perhaps draw a parallel between apprehending the word content in a message

but not the accompanying feeling, and apprehending the mere contour of a figure without the content. In the presence of the warding-off and distorting repression strategy, the results are poorer, above all in regard to perceiving emotional content by means of facial expressions. In the presence of the denial strategy — a warding-off defense which is directed outwards, suppressing facts or events which could awake discomfort (Sjöbäck, 1984) — the results for the video channel are poorer, and the strategy in question could be compared with a perceptual suppression.

In psychoanalytic theory, introaggression is connected with introjection which is, in turn supposed to be a defense against object loss (Fenichel, 1946). Being able to perceive non-verbal communication better seems to harmonize with the signification of introjection, which is to 'take in' and assimilate the object. Persons with the introaggression strategy, which is also related to depression (Fenichel, 1946), are better at perceiving expressions of sorrow and sad submission, whereas the strategies of repression and isolation ward off precisely these emotional expressions. Denial, on the other hand, wards off expressions of threat, criticism and disapproval (negative dominant expressions) and some positive expressions, too.

The relation which has been found to exist between defense strategies and affective responsiveness according to QMEE demonstrates that the group where fusion is present — i.e., whose members fail to recognize the hero figure in DMTm as a separate entity — has a weaker emotional responsiveness in the QMEE. This is in line with the conception that a genuine empathic reaction can only be experienced when the ego is entirely differentiated from objects in the environment. Previous emotional influence exerted by the emotions of others can be explained as 'emotional contagion' where it is not possible to localize the origin of the emotion (Goldstein & Michaels, 1985).

The results from this explorative study indicate that certain relations exist between the type of defense strategy on the one hand and the ability to apprehend the non-verbal expressions of other people on the other. An individual variation conditioned by defense can be traced within the studied group.

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II

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PSYCHOLOGICAL RESEARCH BULLETIN

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Relations between Psychogenic Needs, Empathy and Sensitivity to Non-verbal Communication

An Explorative Study

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Abstract
The study constitutes an investigation of the relation between psychogenic needs (CMPS-scale), the ability to apprehend non-verbal communication according to the PONS-test (facial expressions, expressions of the body and figure, emotional content in voice expressions) and affective responsiveness (QMEE-scale). The subjects were 51 students at a nursing school, aged 22–49 (m=31.8). Results showed a relationship between the psychogenic need factor of dominance and better performance in the PONS-test. Affective responsiveness on the QMEE-scale was related to the psychogenic need factor of passive dependence and also to the factor of helpful and caring sociability. The psychogenic need to help other people was related to sensitivity to non-verbal communication as well as to affective responsiveness. It was found by means of factor analysis that the ability to apprehend emotional expressions of the voice (the tone channel) and the ability to apprehend emotional expressions of the face and the figure (the video channel) were related to different structures of motivation.

Introduction

Psychogenic needs, a concept created by Murray, signify forces which organize, among other things, perception and action for the purpose of transforming an unsatisfying situation. Psychogenic needs manifest themselves by leading a person to attend to and respond to significant determinants in the environment (Murray, 1938). The psychogenic needs are motivational factors for human behaviour; this behaviour can be expressed by overt motor activity or by covert fantasies. The psychogenic needs are called secondary needs, the

primary needs beeing the viscerogenic needs of the physical body (Hall & Lindzey, 1957).

Psychogenic needs can exist at different levels of consciousness; certain needs that are not socially accepted may be repressed and subjected to reinterpretations and distortions. By means of questionnaire technique it is possible to capture the way a person experiences himself/herself and in this manner get an idea of which psychogenic needs constitute his/her motivational factors on a conscious level (Cesarec & Marke, 1968).

Is there any relation between on the one hand the forces which drive us: our psychological factors of motivation and, on the other hand, the ability to interpret other people´s tone of voice, facial expressions and body movement, (i.e. sensitivity to non-verbal communication), or the ability to experience other people´s emotions?

Sensitivity to non-verbal communication and ability to experience other people´s emotions represent two different aspects of empathy: the perceptual component and the affective component. Still other components are: the cognitive component — ability to assume the perspective of another person — and the communicative component — ability to communicate back what one has apprehended by means of empathy. These four components can be put into a perceptual, cognitive, affective and communicative perspective (Goldstein & Michaels, 1985). Different investigations have not demonstrated any correlation between different components of empathy (Hall, 1979; Sand, 1993).

Sensitivity to non-verbal communication, that is ability to decode messages transmitted by facial expressions, body movement and postures, tone of voice etc., has been studied in different contexts (Bull, 1983; Hjortsjö,1969; Gårding, 1989). One representative for this research is Ekman, who proposed a neuro-cultural model (Ekman, 1972), claiming that certain emotional expressions are universal (happiness, sadness, anger, disgust, fear and surprise). But all expressions are subjected to cultural modification, depending on what display rules are valid in a certain culture (Ekman, 1973). Earlier research concerning sensitivity to non-verbal communication relied on still pictures, but today the PONS-test is available (Rosenthal et al., 1979). This test consists of short film sequences and measures the ability to interpret facial expressions, body

movement and tone of voice as mediated by moving pictures (see further description under Method).

An earlier investigation demonstrated that those who have a better ability to apprehend non-verbal communication according to PONS, are more socially mature and are more self confident according to the personality scale CPI, California Psychological Inventory. A positive correlation has also been found between physicians´ PONS total result and the subscale 'Nurturance' (helping and taking care of other people) on the personality inventory PRF, Personality Research Form (Rosenthal et al., 1979).

Highly empathic persons according to the QMEE-scale (the Questionnaire Measure of Emotional Empathy) were found to be more arousable and to have a tendency to external control on Rotter´s Internal-External Scale. The QMEE-scale was also found to be related to social interest according to Crandall´s Social Interest Scale (Chlopan et al., 1985).

Aim

The aim of this study is to investigate how the strength of different psychogenic needs is related, on the one hand to the affective component of empathy (ability to share other persons´emotions) and on the other hand to the perceptual component of empathy, the non-verbal sensitivity (the ability to apprehend emotional expressions by means of facial expressons, body movement and postures, and tone of voice).

Method

Subjects

The subjects were 51 female students at a nursing school. Tests were conducted during school hours, administered as group tests. The students were 22–49 years of age (m=31.8, s.d.=7.6).

Instruments

PONS, Profile of Nonverbal Sensitivity (Rosenthal et al., 1979). The test consists of a 45-minute video tape and measures the ability to decode another person´s body movements, facial expressions and emotions expressed by intonation. Every item consists of a 2-second sequence where you see the face,

the body (trunk) or the figure (face + trunk). Some scenes are accompanied by speech, others are not. The voice has been masked in two different ways. One way of masking is the 'random-sliced' technique, where the audio tape has been cut into small pieces, reordered randomly and reassembled. The other technique for masking the voice is by cutting off high frequencies, making it 'content filtered'. Sometimes there is only speech, without an accompanying visual scene. The subjects are required to make a choice between two alternative emotional expressions, e.g. between 'expressing gratitude' and 'nagging a child'. The result is given in the form of a profile which contains measures of the ability to decode facial expressions, body expressions (trunk) and expressions of the figure (face + trunk); measures of decoding when only the audio or only the video channel is available; and measures of decoding the two different forms of speech masking. Measures of decoding depending on emotional content are obtained too. The emotional content is classified into four groups: Positive dominant, for example 'expressing motherly love', positive submissive, such as 'helping a customer', negative dominant, for instance 'threatening someone' and negative submissive, for example 'asking forgiveness'. Regarding test reliability, an internal consistency reliability of 0.92 and a retest reliability of 0.69 have been found by the authors. The test validity is founded on correspondence between what was intended to be portrayed in the different scenes and different raters´ opinions of it. At the time of construction, there was no single external criterion to validate the PONS against, as the concept of 'non-verbal sensitivity' had not been explored before. In Sweden the test has been administered to students of occupational therapy and teachers in occupational therapy (Svidén, 1993).

QMEE, the Questionnaire Measure of Emotional Empathy (Mehrabian & Epstein, 1972), consists of 33 items. Each item is replied to by means of a marking on a a nine-grade Likert scale. The scale varies from 'very strong disagreement' to 'very strong agreement'. The instrument is a measure of emotional empathy, which in this case signifies, for example 'Extreme emotional responsiveness, tendency to be moved by others´ positive or negative emotional experiences'. Mehrabian and Epstein divide the QMEE into seven interrelated subscales. They label these 'Susceptibility to Emotional Contagion, Appreciation of the Feelings of Unfamiliar and Distant Others, Extreme Emotional Responsiveness, Tendency to Be Moved by Others´ Positive Emotional Experiences, Tendency to Be Moved by Others´ Negative Emotional Experiences, Sympathetic Tendency and Willingness to Be in Contact with Others Who Have Problems' (Chlopan et al., 1985).

CMPS, the Cesarec Marke Personality Scale (Cesarec & Marke, 1973). CMPS is a questionnaire consisting of 165 yes/no questions. There are 15 questions for each of 11 need variables. There is also a scale measuring the tendency to answer 'yes' to the questions. The need variables measured, that is, the psychogenic needs, are based on Murray´s theory of personality and are as follows: 'need achievement (ACH)' — need to accomplish something difficult and to rival others; 'need affiliation (AFF)' — contact seeking, need of social

relations and friendship; 'need aggression (AGG)' — impulsive aggressiveness, irritability; 'need autonomy (AUT)' — need to be independent and unattached; 'need defence of status (DST)' — need to defend his/her status, ego weakness; 'need dominance (DOM)' — need to dominate and direct others; 'need exhibition (EXH)' — need to expose oneself, to be in the centre, to get attention; 'guilt feelings (GUI)' — superego conflicts; 'need nurturance (NUR)' — need to help, nurse and take care of others; 'need order (ORD)' — need for order, cleanliness, planning; 'need succourance (SUC)' — need to be helped, nursed, consoled, cared for. By means of factor analysis, five indices have been extracted: index I — neurotic self-assertion (neuroticism with ego weakness, guilt feelings and need of self assertion); index II — dominance (dominance, self-confidence and a strong need to be in the centre of attention); index III — aggressive non-conformity (aspiration to independence of rules and directions and also of other people, with elements of aggressiveness and exhibitionism); index IV — passive dependence (submissive seeking for help, lack of independence and a dependent relation to other people); index V — sociability (helpful and caring sociability).

Split half reliability was measured to 0.75 and retest reliability to 0.82.

The instrument is frequently used. It has been used for example when investigating the relation between the experience of parents´ behaviour and people´s own psychogenic needs (Jacobsson et al., 1980) and when investigating the relation between psychogenic needs and psychiatric symptoms in young women (Holmlund, 1992).

Results

In order to examine possible relations between psychogenic needs on the one hand, and empathy and sensitivity to non-verbal perception on the other hand, calculations of correlation have been performed and are displayed in table 1. The channel 'Tone' stands for expressions mediated by the voice only, 'Face' signifies facial expressions, 'Body' stands for expressions from the trunk only, 'Figure' denotes expressions from the full figure and 'Video' indicates that the expressions are transmitted by the visual channel without voice accompaniment.

TABLE 1. *Pearson correlations between psychogenic needs (CMPS) and empathy (QMEE) and non-verbal sensitivity (different PONS channels), respectively.*

		QMEE	PONS PONStotal	Tone	Face	Body	Figure	Video
CMPS	ACH	-.058	.267 *	.183	.267 *	.263 *	.127	.252 *
	AFF	.562 ***	.003	-.013	.004	-.056	.089	.14
	AGG	.196	.29 *	.278 *	.298 *	.084	.266 *	.273 *
	DST	.143	-.177	.125	-.217	-.096	-.286 *	-.271 *
	GUI	-.119	.082	.18	-.006	.027	.073	.082
	DOM	.047	.362 **	.172	462 ***	.155	.329 **	.377 **
	EXH	.205	.332 **	.089	.409 **	.169	.344 **	.344 **
	AUT	-.182	.055	-.167	.263 *	-.045	.086	-.019
	NUR	.278 *	.242 *	.044	.116	.198	.342 **	.344 **
	ORD	.11	-.234 *	-.26 *	-.213	-.126	-.143	-.017
	SUC	.564 ***	-.049	-.036	-.081	.028	-.062	-.015

Note: * signifies statistical significance on the 0.05 level
** signifies statistical significance on the 0.01 level
*** signifies statistical significance on the 0.001 level

Empathy according to QMEE (ability to share other persons´ emotions) is related to the need of affiliation (AFF), to the need to help other people (NUR and to the need to be helped (SUC).

Sensitivity to non-verbal communication is positively related to the need to achieve (ACH), the need for aggression (AGG), the need to be in the centre of attention (EXH), the need to help other people (NUR) and to some extent to the need for autonomy (AUT). The sensitivity to non-verbal communication is negatively related to the need to defend one´s status (DST) and to the need for order and cleanliness (ORD). There are more correlations pertaining to the video channel than to the tone channel. There are also more correlations pertaining to the ability to apprehend facial expressions and expressions in the full figure than to expressions in the trunk only. In the latter case there is only one significant correlation.

Only one psychogenic need is related both to empathy and to sensitivity to non-verbal communication and that is the need to help other people (NUR).

In order to examine how psychogenic needs are related to the ability to distinguish different emotional qualities in non-verbal communication, calculations of correlation have been performed and are displayed in table 2. The emotional expressions are classified along two dimensions: positive – negative and dominant – submissive expressions.

TABLE 2. *Pearson correlations between psychogenic needs (CMPS) and different emotional qualities in the PONS test.*

		PONS			
		Pos Sub	Pos Dom	Neg Sub	Neg Dom
CMPS	ACH	.048	.238 *	.212	.264 *
	AFF	.047	-.029	.03	-.039
	AGG	.148	.255 *	.042	.376 **
	DST	-.11	-.213	-.04	-.124
	GUI	.127	.043	-.059	.116
	DOM	.188	.349 **	.121	.359 **
	EXH	.026	.282 *	.207	.439 ***
	AUT	-.149	.116	.105	.09
	NUR	.26 *	.052	.071	.312 *
	ORD	-.104	-.139	-.198	-.229
	SUC	-.004	-.1	.013	-.04

Note: * signifies statistical significance on the 0.05 level
** signifies statistical significance on the 0.01 level
*** signifies statistical significance on the 0.001 level

Regarding the ability to apprehend non-verbal communication with respect to different emotional qualities there are most relationships between the dominant expressions, positive as well as negative ones, and the psychogenic needs. The strongest correlations are found with the psychogenic needs of aggression (AGG), dominance (DOM) and exhibition (EXH) relating to negative dominant expressions. These are for example, expressions of threat, criticism and strong dislike.

Correlations between, on the one hand, the need factors of CMPS (index I–V) and on the other hand empathy and sensitivity to non-verbal communication (in this case the total result at the PONS test), are displayed in table 3.

TABLE 3. *Pearson correlations between need factors on the CMPS scale and empathy (QMEE) and sensitivity to non-verbal communication (PONS), respectively.*

	QMEE	PONStotal
Index I	-.022	.139
Index II	.116	.353 **
Index III	-.019	.224
Index IV	.474 ***	-.136
Index V	.234 *	-.1

Index I . Neurotic self-assertion
Index II : Dominance
Index III: Aggressive non-conformity
Index IV: Passive dependence
Index V : Sociability

Note: * signifies statistical significance on the 0.05 level
** signifies statistical significance on the 0.01 level
*** signifies statistical significance on the 0.001 level

Regarding the need factors there is a relation between index II (dominance) and greater sensitivity to non-verbal communication. Index IV (passive dependence) is related to empathy, and so, also, is index V (helpful and caring sociability) though this relation is weaker.

In order to further penetrate how psychogenic needs and different channels for non-verbal communication can be grouped together, a factor analysis has been performed according to the Principal Components method. The results can be seen in table 4.

TABLE 4. *Factor analysis (Principal Components method) of empathy (QMEE), psychogenic needs (CMPS) and different channels with the PONS test.*

Unrotated Factor Matrix

		Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Communality
	QMEE	-.059	.757	-.134	-.219	.308	.737
CMPS	ACH	.56	.134	.3	.553	.063	.731
	AFF	-.156	.84	-.192	.145	.056	.791
	AGG	.588	.183	.426	-.172	.388	.741
	DST	-.413	.256	.634	.128	.277	.731
	GUI	-.022	.103	.809	.272	-.119	.754
	DOM	.817	.003	-.146	.227	-.012	.741
	EXH	.746	.325	-.244	.127	.205	.78
	AUT	.556	-.327	-.092	.028	.545	.722
	NUR	.256	.615	-.193	.211	-.161	.552
	ORD	-.419	.294	-.144	.631	-.255	.746
	SUC	-.458	.665	.021	-.37	.155	.813
PONS	Tone	.309	.187	.504	-.362	-.361	.646
	Face	.668	.155	.046	-.24	-.263	.599
	Figure	.563	.26	-.02	-.218	-.495	.677

Five factors have been extracted. Factor 1 is close to index I in CMPS, non-neurotic dominance. This factor comprises the need to dominate (DOM), the need to be in the centre of attention (EXH) and the ability to apprehend non-verbal communication by means of facial expressions and expressions from the full figure. Factor 2 is a social factor, where the high loadings are located to empathy (QMEE), the need for affiliation (AFF), the need to help other people (NUR) and the need to be helped oneself (SUC). Factor 3 has high loadings in tendency to guilt feelings (GUI), ego weakness (DST) and ability to apprehend emotional expressions from the voice. Factor 4 has a positive loading in the need for order (ORD) and the need for achievement (ACH), but a negative loading in the ability to apprehend non-verbal communication. Finally, factor 5 demonstrates the strongest positive loading in the need for autonomy (AUT), and the strongest negative loading in the ability to apprehend expressions from the full figure.

Discussion

The results in this study are tentative; further confirmation is necessary.[1] But in the main they tend to demonstrate that sensitivity to non-verbal communication and affective responsiveness — the ability to share the emotional experience of another person — are associated with different psychogenic needs, i.e. with differing factors of motivation.

It seems that the sensitivity to non-verbal communication is above all related to needs of dominance and of being in the centre of attention. Regarding the emotional quality of the interpreted scenes, it was found that it is the dominant expressions that are related to the dominance need. This holds for both positive and negative dominant expressions, but the relation is stronger for the negative ones such as expressions of threat, criticism and strong dislike. These expressions are likely to contain elements of an angry face.

The establishment of relative dominance is a part of human group behaviour, and this functions by mechanisms of non-verbal communication. The angry face is the principal non-verbal signal of dominance assertion (Parra, 1993), and in

[1] Out of 176 calculated correlations 49 reached statistical significance of $p<0.05$, which is more than would be expected by chance ($\chi 2= 193.31$; $p<0.001$, two-tailed).

this study it seems to be the case that dominant persons are especially sensitive to this signal, a signal which for them ought to be a significant determinant in the environment.

Dominant individuals, leaders, dominate a group by taking the initiative and having an ability to create interesting acitivities. They have also a greater fund of social strategies toward their companions. This is found in groups characterized by the 'hedonic mode', where different defence systems are deactivized. In the 'hedonic mode' information from the environment is more easily taken in and fine discriminations are made possible (Chance, 1984). The dominance scale in the CMPS contains items measuring enterprise, influence on others, asserting one´s rights etc. There are no items concerning desire for power or desire to suppress others. The scale, therefore, is likely to measure a 'hedonic' need of dominance, which is related to a state of mind in which non-verbal signals are more easily captured. A finding mentioned earlier is that those who are better at apprehending non-verbal communication are more socially mature and have more self confidence (Rosenthal et al., 1979), which also may indicate a relaxed 'hedonic' disposition.

Negative relations were found between ability to apprehend non-verbal communication and the need 'Defence of status' (ego weakness) and also the need for order and cleanliness. It seems that it is more difficult for persons characterized by these needs to capture non-verbal signals.

Affective responsiveness, the ability to share other people´s emotional experience, is in this study related to different psychogenic needs concerning a wish for a close and personal contact with others. Both the need to help others and the need to be helped oneself are included in these contact needs, which is also obvious from the factor analysis (factor 2). This is in line with the relations found earlier between the QMEE-scale and social interest, and also with the finding that nursing staff with high empathic ability regard 'a close contact with the patient' to be the most stimulating thing at work (Åström, 1990). In this study the need index 'Passive dependence' has most weight.

The need to help other people (NUR), is related to the perceptual form of empathy, the sensitivity to non-verbal communication, as well as to affective empathy, the ability to share other people´s emotional experience. Maybe we

can here find a link between these two components of empathy, i.e. that people characterized by different types of empathy have in common the need to help and care for others.

In the factor analysis it was found that the tone and the video channels for apprehending non-verbal communication correspond to different psychogenic needs, i.e. to different motivation structures. A better result on the tone channel and a tendency to guilt feelings are related to the same factor. A tendency to guilt feelings has also turned out to be related to depressive symptoms in young women (Holmlund, 1992). As a comparison an earlier finding can be mentioned, where the defence mechanism of introaggression, usually associated with depression, turned out to be related to a better result on the tone channel (Sand, 1993). In factor 4 it can be seen that a poorer result on the tone channel is linked to the need for order, and this can be compared with the finding that the defence mechanism of isolation, usually associated with a need for order, also turned out to be related to a poorer ability on the tone channel (Sand, 1993).

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PSYCHOLOGICAL RESEARCH BULLETIN

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Relations between Mechanisms of Defence and Feelings of Discomfort in Different Nursing Situations

An Exploratory Study

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Abstract

The study constitutes an investigation of the relation between psychodynamic defence mechanisms according to DMTm and the experience of discomfort and disagreeable feelings in situations that are common in hospital care. The subjects were 51 students at a nursing school, aged 22–49 (m=31.8). Results showed a relationship between the defence strategy of isolation and a greater degree of discomfort when confronted with bodily excretions. The defence strategy of repression was related to a smaller degree of discomfort when seeing a patient with an amputated leg or breast. Persons with uncertain sex identity experienced more discomfort in the same situation. Persons with the identity defence of not recognizing the subsidiary's special identity experienced less discomfort in the situation of shrouding a deceased patient.

Introduction

One of the corner stones in nursing care is the ability to perceive and respond to the different needs of the patient. These needs of caring have been described by different nursing theorists, and first of all by Virginia Henderson (Egidius & Norberg, 1983). Some of the components described by Henderson are basic needs for food, hygiene and for relieving oneself, other components are different social and religious needs.

Alertness to the feelings and the needs of the persons cared for is one of the greatest assets in truly caring nursing work (Forslund, 1976). The ability to recognize and meet basic physiological needs requires proximity, closeness and

attention. But proximity to sick and suffering patients is also trying. Patients may be mutilated in different ways, for example a leg or a breast may have been amputated, and this may provoke anxiety about injury to one´s own body and anxiety about meeting with mutilation oneself. Nursing personnel also often get into very close contact with bodily secretions, for instance urine and excrement. Outside the nursing situation these things arouse disgust, feelings of shame and repudiation, but in the nursing situation one is expected to handle these things in such a way that the patient is not offended or loses self-esteem. On other occasions the closeness to a naked patient having a bath or being helped with personal hygiene may arouse sexual impulses that are not appropriate. Another situation that may cause anxiety is when a deceased patient is being shrouded. The proximity to the dead person may cause anxiety by directing the thoughts to one´s own death or to the death of a member of the family.

How do you manage to be close to the patient and be sensitive to his/her needs and at the same time cope with the feelings of discomfort that the closeness carries with it? Emotional experiences depend on an interplay between individual factors and situational or environmental circumstances (Törestad, 1990). In an unpleasant situation different persons respond with different coping-mechanisms, i.e. all the activities aiming at controlling, reducing or preventing the experience of emotional stress (Lazarus & Folkman, 1984); similarly, different situations also evoke different attitudes and ways of behaving in the same person. Of importance for the chosen strategy is the individual´s intrepretation of the situation. Coping can be problem-oriented or emotion-oriented, passive or active (Lazarus & Folkman, 1984). Advocates of the psychodynamic school have stressed the importance of unconscious defence mechanisms. Ego defences are considered to be coping strategies designed to deal with conflicts over particular emotions, so that each basic emotion has an ego defence available (Plutchik, 1980).

Unconscious defence mechanisms have been studied in accordance with the model 'danger situation — signal affect — defence' and, among other methods, the percept-genetic technique has been used. By means of this technique it is possible to study how perception successively develops with increasing exposure times when the picture contains a threat. The DMT-test is an example

of how to use this technique.

Westerlund (1991) has made an overview of studies relating to external criteria which may be considered to validate the interpretations in this test. It turned out, for example, that the defence mechanism of repression is associated with conflicts about sexual impulses, and the defence mechanism of isolation with conflicts about aggresson and guilt. Psychoanalytic mechanisms of defence might thus be able to influence the way different individuals perceive different unpleasant situations.

Different kinds of defences against anxiety in the hospital environment have been described. These are mechanisms and ways of acting that ward off anxiety, but these mechanisms may also have some undesired secondary effects when it comes to the contact with patients and the appraisal of their needs. Examples of such mechanisms are uniforms, which create distance, and a high work tempo, hindering deeper contact. Detachment, denial and intellectualisation are other examples (Balint, 1978; Feldman, 1977; Leigh & Reiser, 1980).

One example of a negative influence of defence mechanisms on nursing care was found among staff working with patients suffering from chronic uremia (chronic dialysis patients). The staff detached themselves and withdrew from contact (Enkell et al., 1975). Another example of staff dysfunction is described in a study about so-called 'inappropriate' psychiatric consultation. Mutilated and mute patients appeared to arouse fear of aggression in their caregivers, who in turn rejected them, seeing them as violent, and became illogical in their management. The staff could also become too passive when faced with publicly displayed sexual behaviour (Kucharski et al., 1976). Examining how the diagnosis of AIDS influenced the hospital care of an infant, support was found for the assumption that the staff´s need to deny their fear of AIDS caused them to distance themselves emotionally from the child and thus minimize the symptoms. A consequence was that the patient´s nursing needs, for example medication against pain and discomfort, were not totally satisfied (Krener, 1987).

Aim

The aim of the present study is to explore a possible relation between

experienced discomfort and unpleasant feelings in different situations encountered in caring for the sick and different psychodynamic defence mechanisms. These mechanisms of defence can be manifestations of an instrumental strategy for understanding reality, and then they are called ego defences. They may also be expressions of the relational part of the personality and are then called identity defences, i.e. defences whose function is to keep the self intact during interpersonal confrontations (Andersson, 1991). Both of these aspects are of immediate interest in nursing care where practical tasks are performed in a relation with the patient.

Method

Subjects

The subjects were 51 female students at a nursing school. They were 22–49 years of age (m=31.8, s.d.=7.6).

Instruments

Scale of experienced discomfort in different nursing situations

The items on this scale are gathered from different practical nursing situations. Examples of such nursing situations are help with feeding, help with personal hygiene (bath, intimate toilet), help in getting clean in case of incontinence, helping a patient who is sick and vomiting. Another group of items concerns visual impressions, for example seeing patients who have had a leg or a breast amputated, or seeing blood. One item concerns shrouding a deceased patient, a situation that is considered disagreeable by many people. Each item is represented by a line, 100 millimeters in length, where the extremes are designated 'no discomfort at all' and 'very disagreeable'. The subject is asked to put a cross on the line corresponding to the experienced degree of discomfort in each situation.

DMTm. The DMT, Defence Mechanism Test, was developed by Ulf Kragh (Kragh, 1969). By means of percept-genetic techniques, it is possible to study how a perception comes into existence and develops. The object of investigation is the sequence of development from early diffuse and global phases up to a correct perception. A picture is shown in a tachistoscope in a series of exposures. The first exposure time is very short, 10 ms. Exposure time increases in a logarithmical succession. The final exposure time is 2 s. The task of the subject is to report his/her observations and make a drawing of what he/she has seen. On the picture, there is a central 'hero' figure (H) and a threatening 'secondary' figure (S). Interpretations are made of the transformations of the motif which the subject expresses. The transformations are considered as indications of the fact that psychoanalytic mechanisms of defence have been active in the process of perception.

Andersson (Andersson & Hallborg, 1986) uses percept-genetic diagnostics of defences which is connected with a general developmental and personality model of psychology that embraces the instrumental as well as the relational side of the personality. He names his test model DMTm. The administration of the test is comparable to Kragh´s procedure, except that there is a subsidiary of the same sex as the hero figure as well as of the opposite sex. The interpretation, however, is not identical. Examples of interpretations in Andersson´s model are as follows:

Anxiety
A patent and explicitly stated dark marking is found in the area outside H and S.

Denial
S is missing or not interpreted for at least seven successive exposures, counted from the first exposure.

Ego defences:
Repression
S and/or H is stiffened, lifeless, disguised, an animal or a specified object.
Inhibition
S is stiffened, lifeless, disguised, a specified object or a framed, empty or lightish area for at least five successive phases.
Introaggression
H is damaged, miserable, unhappy, exposed etc.
Isolation
Marked addition of a barrier between H and S, or S as a framed, empty area.

Defences of identity:
Reversal of H as a separate identity
H is doubled or multifold.
Reversal of threatening situation
S is positive, or H and S have a positive relation ('reaction formation').
Reversal of H´s sex
H´s sex is changed from the correct into the incorrect one.
Reversal of S´s special identity
S is a person who is younger than H and neither unsympathetic nor threatening.

Procedure
Tests were conducted during school hours. The 'Scale of experienced discomfort in different nursing situations' was administered as group test, whereas DMTm was administered individually. After the individual testing, the subjects received a small fee.

Results

A factor analysis (Principal components) of the items in the Scale of Discomfort

was performed. The result is demonstrated in table 1. The different items follow the order on the form.

TABLE 1. *Factor analysis (method of Principal Components) of the items on the Discomfort Scale.*

	Orthogonal Transformation Solution–Varimax					Communality Summary	
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	SMC	Final Estimate
Bathing pat.	.153	.013	.856	.093	.09	.495	.773
Vomiting	.043	.72	.044	.287	.092	.557	.613
Intimate toal m	.258	-.003	489	.6	.265	.617	.736
Intimate toal f	.321	.279	.343	.723	.004	.752	.821
Shrouding pat	.054	.125	.138	.101	.926	.293	.905
Upper toilet	-.083	.241	.012	.841	.056	.65	.775
Seeing wounds	.525	.271	-.201	.587	.092	.735	.744
Feeding pat	.697	.04	.051	.308	-.168	.52	.612
Leg amput.	.851	.169	.094	.056	.058	.667	.768
Faeces	.156	.822	.116	.068	-.014	.597	.719
Breast amput.	.803	.064	.19	-.076	.225	.619	.741
Blood	.431	-.063	-.36	.513	405	.552	.747
Phlegm	.141	.836	-.245	.02	.134	.598	.797
Urine	-.034	.636	.248	.51	-.077	.638	.733

To some degree all items elicit discomfort. Five factors could be extracted. Factor 1 had the highest loadings on items regarding the discomfort experienced on seeing a patient with an amputated leg or breast. Factor 2 had the highest loadings on items indicating discomfort when confronted with bodily secretions i.e. uncleanness and dirt. Factor 3 has a high loading on 'bathing a patient' (physical contact and exposure to nakedness), factor 4 has high loadings on items regarding help with personal hygiene (discomfort in the face of helplessness?) and factor 5, finally has a high loading regarding the situation of shrouding a deceased patient, which may indicate anxiety when confronted with the dead and also death anxiety as thoughts of one´s own death can be provoked in this situation.

SCALE OF DISCOMFORT–DMTm

To make a comparison between the degree of discomfort in groups with different defence signs the Wilcoxon–Mann–Whitney´s non-parametric test was used (Siegel, 1988).

Defences of the ego

Repression

It was found that the group of subjects with the repression sign Re 6 (S is a specified object) experiences less discomfort when seeing patients with an amputated leg or breast ($z=-2.12$, $p<0.05$).

Isolation

For the group of subjects with the isolation sign Is 2 (S is an object which, in the main, has a contour or constitutes a framed empty area) contact with bodily excretions (faeces, urine, vomiting, coughing up of phlegm) was clearly more disgusting ($z=2.51$, $p<0.01$).

Defences of identity (denial by reversal)

I:1 (reversal of separate H identity, or not admitting that H is a separate entity). No statistically significant results are found here, but it may be of some interest to note a tendency to unpleasant feelings when bathing a patient ($z=1.34$, non-significant) and when taking care of a deceased patient ($z=1.67$, non-significant).

III:1 (reversal of or not recognizing H´s sex; H´s sex is changed from the correct into the incorrect one).
Subjects with this strategy experienced more discomfort seeing patients with an amputated leg or breast ($z=2.14$, $p<0.05$).

IV:6 (reversal of or not recognizing S´s special identity; S is younger than H and is neither unsympathetic nor threatening).
Subjects with this strategy experience less discomfort when taking care of a deceased patient ($z=-2.19$, $p<0.05$)

Table 2 contains an overview of the results.

TABLE 2. *Summary of the relationship between the Discomfort Scale and defence strategies.*

	Bodily damage Amputated patient	Uncleanness Bodily excretions	Intimacy Bathing	Death Deceased patient
More discomfort	Sex identity *	Isolation **	(Hero not separate)	(Hero not separate)
Less discomfort	Repression*			S younger *

Note: * signifies statistical significance on the 0.05 level
** signifies statistical significance on the 0.01 level

Discussion

The results of this explorative study[1] indicate that psychodynamic defence mechanisms may be associated with very strong feelings of discomfort and unpleasantness and also with a lesser degree of such feelings in different nursing situations. Experienced discomfort can on the interpersonal level increase the physical distance to the patient and thereby make the accomplishment of different nursing tasks more difficult. The distance to the patient can also be on the intrapersonal level. In this case the psychodynamic defence mechanisms may have the function of increasing the psychological distance to the patient. Such psychological detachment may facilitate the management of different practical nursing tasks and thus it has a coping function. But at the same time psychological distancing influences the sensitivity to the needs of the patient in a negative way. A skilled caregiver must be able to tolerate feelings of discomfort without distancing him/herself from the patient.

The strong unpleasant feelings when facing bodily excretions, experienced by persons with the defence mechanism of isolation may be an underlying source of motivation of the need for order and cleanliness that is found in persons with symptoms of compulsion (which also is related to isolation). The compulsive character is associated with reaction formations directed against diverse types of

[1] Out of 60 calculated t-values 4 (6.67%) reached statistical significance of $p<0.05$, which does not differ from what would be expected by chance. But as the findings might be expected from a theoretical point of view, they are psychologically interesting.

aggressive impulses, for example soiling (Sjöbäck, 1984). According to psychoanalytic theory compulsive neurotics defend themselves against their own anal sadistic impulses (Fenichel, 1946).

The defence mechanism of repression functions in such a way that the person does not become conscious of inner impulses. In this study repression seems to manifest itself by making the sight of mutilated bodies not arouse strong feelings of unpleasantness. On the other hand, mutilation arouses greater discomfort in those who have an identity defence where sex identification is uncertain. This can be compared with the finding that an androgynous group of women had a higher number of defences when viewing a so called castration picture (Bäckström, 1994). A secure sex identity seems to diminish anxiety reactions in situations where castration anxiety can be provoked. The subjects in the present study were all females, and for a woman with an unsecure sex identity the thought of losing a breast or a leg might be more threatening as these parts of the body may serve as sex attributes.

The degree of discomfort experienced when taking care of a deceased patient was the least in those having an identity defence that denies the generation barrier. The identity defences can be regarded as responses to an interpersonal situation which one does not want to know the truth about. In the test situation an older person has been experienced as a younger one, which is supposed to indicate an overvaluation of the self in relation to the other (Andersson, 1991). The fact (in the nursing situation) that the other is dead is thus not so threatening. This identity defence has also been shown to be connected with a passive emotional coping strategy, a strategy where the emotions are adapted to suit the situation (Claesson & Olsson, 1995).

A statistically non-significant tendency to experience greater discomfort in the same situation as above (taking care of a deceased patient) appears with the identity defence that signifies ambivalence to the demand to develop a separate identity. This can be compared with a study where 'coping with death' had a positive relation with capacity for intimate contact, self-regard and capacity for self-acceptance (Robbins, 1991), i.e. that for persons with a mature identity it is easier to handle the problem of death.

The results of this study indicate that certain combinations of intraindividual

and interpersonal situations are unfortunate from the point of view of good nursing. Individuals using isolation experience greater difficulties when they have to be in close contact with bodily excretions. Persons with an uncertain sex identity experience greater difficulties treating amputated patients and for persons who have not developed a separate identity, proximity to death and nakedness may be more difficult than for others.

It should be of great interest to study how persons with different defences actually behave in different nursing situations and how patients experience being cared by them. Another aspect to study is what motives are strong enough to make the caregiver overcome the experienced discomfort and continue working.

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IV

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Nurses' personalities, nursing-related qualities and work satisfaction: a 10-year perspective

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Summary

• The personalities and qualities of nursing personnel are considered to be of great importance for their interactions and nursing relationships with patients and may also influence work satisfaction.

• The aim of the study was to explore the extent to which different personal qualities and personality factors, with a possible effect on motivation, professional conduct and coping with stress and anxiety, are represented in a group of assistant nurses (second level nurses), and how these qualities are related to nursing competence and long-range work satisfaction.

• A group of 51 female nursing students (mean age 31.8 years) participated in the study.

• The nursing-related qualities were empathy, sensitivity to non-verbal communication, feelings of discomfort in different nursing situations and work satisfaction. The personality factors were psychogenic needs and defence mechanisms.

• At a follow-up 2 years later, 43 nurses were interviewed, work satisfaction was assessed and nursing competence was appraised. At a follow-up 10 years after completion of nursing school, 33 of the nurses took part in a telephone interview. Work satisfaction was assessed in 23 of those who were still working as nurses.

• Cluster analysis performed on baseline data resulted in four groups: empathic, discomfort prone, service-minded and dominant. At the first follow-up, the service-minded had the greatest work satisfaction, with many considered to be 'real jewels'. At the second follow-up 8 years later, there appeared to be an overrepresentation of injuries and long-term sick leave in this group, whose members had apparent difficulties in being dominant and asserting own interests. Work satisfaction diminished in all the groups over time. Long-term work satisfaction was found, however, to be related to degree of empathy and a low degree of sensitivity to aggressiveness.

Keywords: discomfort, empathy, non-verbal communication, nurses, personality, work satisfaction.

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Background

The aim of the study reported here was to explore the extent to which different personal qualities and personality factors, with a possible effect on motivation, professional conduct and coping with stress and anxiety, were represented in a group of assistant nurses (ANs) (in the UK corresponding to second level nurses), and how these qualities were related to nursing competence and to long-range work satisfaction.

Many nursing care theorists, such as Henderson (1966), point out the importance of meeting a broad array of personal and basic human needs of patients (Meleis, 1997). Others, like Peplau (1991), take an interactionist perspective. The nursing process has been described by Orlando (1990), for example, as an interaction between the behaviour of the patient and the actions and reactions of the nurse, the latter behaving in a manner aimed at benefiting the patient.

Travelbee (1971) emphasizes the encounter with the patient being the most important step in nursing. Nurses, as people, are of decisive importance for the quality of care. Their personalities affect the character of nursing relationships and their behaviour involves openness to the needs of others and treating patients as a whole (Bendz, 1995). Practical knowledge here develops through experience, a nurse acquiring the ability to grasp what is essential in nursing care.

Alongside experience, a nurse's personality, the qualities possessed as a person and reaction patterns leave a mark on the nursing relationship. Understanding of what is communicated, in both a verbal and a non-verbal way (Bull, 1983), and how matters of anxiety are handed are examples of this. Nursing personnel are expected to handle their own, as well as patients' anxieties and to be reassuring and create a sense of security that neutralizes patients' worries. Patients may arouse feelings of anger and despair as well as fear and shame (Kucharski & Groves, 1977).

The depth of contact and the proximity to patients found in the nursing encounter, provide opportunities for making important observations and the possibility for empathic feelings to develop (Holm, 1985) at the same time as nurses come close to suffering and possibly to death. Various body secretions and the sight of injured parts of the body can provoke feelings of discomfort. Physical dislike and disgust are included among the reactions and emotions people can have. These are considered to reflect inherited dispositions, which, likewise, can involve expressions of happiness, surprise, anger (Eibl-Eibesfeldt, 1973; Ekman & Friesen, 1975) or shame (Tomkins, 1995).

The personalities of nursing personnel are of great importance in determining how well they manage in working with a sense of patients' well-being, while also maintaining their own well-being. Factors related to personality here are motivation, professional conduct and susceptibility to stress.

Nurses have different motives for their choice of profession. Needs of dominance and confirmation may play a part, as may service-mindedness and a willingness to help and provide care. Work motivation is related to external and internal rewards of the work (Vroom, 1995). Examples of rewards of nursing work are communication socially, intellectual stimulation, feeling useful and appreciated.

Professional conduct in nursing is a concept with many components (Strömberg, 1997). It involves establishing and maintaining a positive relationship with patients, skill in performing practical aspects of the work, capacity for reflection and maintaining a certain objectivity towards patients, and ability to interpret the patients' needs, regardless of whether they are able to express them or not. Professional conduct involves the ability to be empathic and establish contact with patients emotionally, and also to maintain emotional distance when this is called for. The anxiety of patients, for example, should not lead to anxiety on the part of nursing personnel. Being able to shift appropriately between closeness and an objective attitude towards patients requires well-developed ego functions.

Coping strategies are activities employed in controlling, diminishing or precluding the experiencing of emotional stress (Lazarus & Folkman, 1984). Such strategies can be passive or active in character. Good coping strategies are needed to face different situations in caring for the sick that can provoke anxiety and stress (Bailey & Clarke, 1989). Nursing requires calmness of mind, being completely present in the situation and devoting complete attention to patients. At the same time, nursing care can cause feelings of discomfort. The anxiety that children or young persons who are sick can provoke, for example, can lead to individually differing strategies of defence, such as detachment, which can affect patients negatively (Krener, 1987).

The possibilities that nurses have to change their work situation determine, to a considerable extent, how vulnerable they are to stress (Simoni & Paterson, 1997). Nurses' own conceptions of the situation, i.e. where they place the 'locus of control', also plays an important role here. People with an internal 'locus of control' tend to feel that they themselves can influence the course of events that affect them, whereas those with an external 'locus of control'

believe that forces beyond their control largely govern the things that happen to them (Riipinen, 1997).

Aim

The aim of the present study was to explore the extent to which such personality factors as psychogenic needs, anxiety defence and identity defences, and personal qualities such as affective empathy, sensitivity to non-verbal communication and the degree of physical discomfort experienced in different nursing situations, are related to nursing competence and to satisfaction with nursing work, in both a short- and long-term perspective. To this end, a longitudinal study of a group of women in nursing training and who continued as practising nurses was carried out. Testing and assessment was carried out at three different points in time. The personality factors and personal qualities studied are all considered to have a possible effect on motivation, professional conduct and coping with stress.

Method

SUBJECTS

The subjects were 51 female nursing school students, qualifying as ANs. The period of training was 2 years including work practice and prepared students to assist patients with personal hygiene and feeding, wound care, certain injections, blood samples, etc. At the time of initial testing the students were 22–49 years of age (mean = 31.8, SD = 7.6).

INSTRUMENTS

Cesarec marke personality scale (CMPS)

This is a personality questionnaire consisting of 165 'Yes' or 'No' questions and concerned with the needs the individual experiences (Cesarec & Marke, 1973). There are 15 questions for each of 11 different need variables. The need variables represent psychogenic needs and are based on Murray's theory of personality (Murray, 1959). They comprise:

1 'need achievement (ACH)' – need to accomplish something difficult and to rival others;
2 'need affiliation (AFF)' – contact seeking, need of social relations and friendship;
3 'need aggression (AGG)' – impulsive aggressiveness, irritability;
4 'need autonomy (AUT)' – need to be independent and unattached;
5 'need defence of status (DST)' – need to defend one's status, ego weakness;
6 'need dominance (DOM)' – need to dominate and direct others;
7 'need exhibition (EXH)' – need to be in the centre, to get attention;
8 'guilt feelings (GUI)' – superego conflicts;
9 'need nurturance (NUR)' – need to help, nurse or take care of others;
10 'need order (ORD)' – need for order, cleanliness, planning;
11 'need succourance (SUC)' – need to be helped, consoled, cared for.

The split half reliability of the scale has been found to be 0.75 and retest reliability 0.82. This scale has been used frequently in Sweden, e.g. studying psychosocial factors and cardiac disease in women (Hällström *et al.*, 1986).

Job descriptive index (JDI)

This is a questionnaire with various subscales (Smith *et al.*, 1969). The subscale measuring work satisfaction was used here. The JDI also contains subscales measuring satisfaction with superiors, fellow-workers, wages and possibilities for promotion. The work satisfaction scale consists of 15 items, and is descriptive and evaluative. The authors of the questionnaire found an internal consistency reliability for the test of 0.73. Validity was determined on the basis of agreement with interview ratings, where a correlation of 0.68 was found. The questionnaire has been administered in a study of the psychosocial work environment in a Swedish hospital (Eppler & Nelander, 1984).

Profile of non-verbal sensitivity (PONS)

This test makes use of a 45-minute videotape and measures the ability to decode another person's body movements, facial expressions and emotions as expressed by the person's intonations (Rosenthal *et al.*, 1979). Each item consists of a 2-second sequence in which one sees the face, the body (trunk) or the figure (face + trunk) of a person. Some such scenes are accompanied by speech, whereas others are not. When a voice is heard, it is masked in two different ways. One way is by use of the 'random-sliced' technique, in which the audiotape has been cut randomly into small pieces and reassembled. The other technique for masking the voice is by cutting off high frequencies, making it 'content filtered'. Sometimes there is only speech, without any accompanying visual scene. The subject has to make a choice between two alternative

emotional responses, such as between 'expressing gratitude' and 'nagging a child'. The results are displayed in the form of a profile consisting of measures of ability to decode facial expressions, body expressions (trunk) and whole-figure expressions (face + trunk); measures of decoding when only the audio channel or video channel is available; and measures of decoding the two different forms of speech-masking. Measures of decoding in terms of emotional content are also obtained. The emotional content is classified into four categories: positive dominant, such as 'expressing motherly love'; positive submissive, such as 'helping a customer'; negative dominant, such as 'threatening someone'; and negative submissive, such as 'asking forgiveness'. An internal consistency reliability for the test of 0.92 and a retest reliability of 0.69 were found by the authors. At the time the test was constructed, there was no single external criterion against which the PONS test could be validated, as the concept of 'non-verbal sensitivity' had not previously been explored. The validity of the test was determined on the basis of correspondence between what was intended to be portrayed in the different scenes and different raters' assessments of it. In Sweden, the test has been administered to students and teachers of occupational therapy (Svidén, 1993). No difference was found between sensitivity to non-verbal clues and level of theoretical knowledge or clinical experience at group level.

Questionnaire measure of emotional empathy (QMEE)

This is a questionnaire consisting of 33 items (Mehrabian & Epstein, 1972). Each item is responded to by marking on a nine-step Likert scale, ranging from 'very strong disagreement' to 'very strong agreement', at −4 and +4, respectively. The instrument is a measure of emotional empathy, signifying 'extreme emotional responsiveness, a tendency to be moved by others' positive or negative emotional experiences'. Mehrabian and Epstein divide the QMEE into seven interrelated subscales, which they label as 'Susceptibility to Emotional Contagion, Appreciation of the Feelings of Unfamiliar and Distant Others, Extreme Emotional Responsiveness, Tendency to Be Moved by Others' Positive Emotional Experiences, Tendency to Be Moved by Others' Negative Emotional Experiences, Sympathetic Tendency and Willingness to Be in Contact with Others Who Have Problems' (Chlopan *et al.*, 1985). Internal consistency reliability was determined on the basis that every item had to have a significant correlation with the total test score at the 0.01 level. The items had to have an insignificant correlation with a measure of social desirability. Validity was tested in relating empathy to aggressive behaviour where empathic subjects aggressed less. Empathy was also found to be significantly related to helping behaviour (Mehrabian & Epstein, 1972).

Scale of discomfort experienced in different nursing situations

The items of this scale are gathered from different practical nursing situations, such as help with feeding; help with personal hygiene (bathing, intimate toilet needs); help in getting clean in cases of incontinence; and helping a patient who is sick and vomiting (Sand, 1996). Another set of items concerns visual impressions, such as seeing patients who have had a leg or a breast amputated; seeing blood; and shrouding a deceased patient. Each item is represented by a line 100 mm in length, the two extremes being designated as 'no discomfort at all' and 'very disagreeable', at 0 and 100 mm, respectively. The subject is asked to put a cross on the line corresponding to the degree of discomfort experienced in each situation.

Modified defence mechanism test (DMTm)

The original DMT, developed by Kragh (1985), makes use of percept-genetic techniques to examine how a perception comes into existence and develops from early diffuse and global phases of perception up to correct perception (Andersson & Hallborg, 1986). A picture is shown in a tachistoscope (a dark box with a peep-hole) in a series of exposures. The first exposure is very short, for 10 mseconds. The exposure time increases in the course of the trials in a logarithmic succession, the final exposure time being 2 seconds. The subjects' task is to report their observations and make a drawing of what they have seen. In the picture, there is a central 'hero' figure (H) and a threatening 'secondary' figure (S). The subject describes the motive verbally and makes a simple drawing. Interpretations are made of the transformations of the motive. These are considered as indicative of psychoanalytic mechanisms of defence that have been active in the process of perception. In Andersson's (Andersson & Hallborg, 1986) version of the test (i.e. DMTm, used here), there is both a female and male 'secondary' figure. Although administration of the test is comparable in most respects with Kragh's procedure, his interpretation of the results differs. Ego defences, as well as identity defences, are included. Ego defences may be mobilized by an unconscious fantasy about something threatening and are related to the instrumental part of the personality. Identity

defences may be mobilized by an experience of a threatened self-image and are connected with the relational part of the personality. The following are examples of interpretations in accordance with Andersson's model (see Table 1). For a summary of the instruments, see Table 2.

Table 1 Interpretations of defence mechanisms in the DMTm

Ego defences	
Repression	S and/or H is seen as stiffened, lifeless, as an animal or as a specified object
Inhibition	S is seen on at least five successive exposures as stiffened, lifeless or a specified object or as a framed or empty area
Introaggression	H is seen as damaged, miserable, unhappy or similar
Isolation	There is a marked addition of a barrier between H and S, or S is reported as being a framed or empty area
Defences of identity	
Not recognizing H's separate identity	H is seen as doubled or multifold
Not recognizing H's sex	H's sex is changed from being correct to incorrect

Table 2 Survey of instruments

Instrument	Variable	Dimension
QMEE (Questionnaire Measure of Emotional Empathy)		Affective empathy
PONS (Profile of Non-verbal Sensitivity)		Sensitivity to non-verbal communication
	TONE	Expressions mediated by the voice only
	FACE	Facial expressions
	BODY	Bodily expressions
	FULL FIGURE	Expressions from body and face
	VIDEO	Expressions mediated by visual signals only
	PSUB	Positive submissive expressions
	PDOM	Positive dominant expression
	NSUB	Negative submissive expressions
	NDOM	Negative dominant expressions
CMPS (Cesarec Marke Personality Scale)		Psychogenic needs
	ACH	Need achievement
	AFF	Need affiliation
	AGG	Need aggression
	AUT	Need autonomy
	DST	Need defence of status
	DOM	Need dominance
	EXH	Need exhibition
	GUI	Guilt feelings
	NUR	Need nurturance
	ORD	Need order
	SUC	Need succourance
Scale of Discomfort		Nursing situations
Experienced in Nursing	DIRTY	Bodily excretions
Situations	AMP	Amputated patients
	DEAD	Deceased patients
DMTm (Modified Defence Mechanism Test)		Defence mechanisms
	Ego defences	Repression
		Isolation
		Introaggression
		Inhibition
	Identity defences	Not recognizing hero's individual identity
		Not recognizing hero's sex
JDI (Job Descriptive Index)		Work satisfaction

Procedure

1 Initial testing took place when subjects were students at a nursing school, and was conducted during school hours. PONS, QMEE, CMPS, JDI and the Discomfort Scale were administered as group tests, whereas DMTm was administered individually.
2 Two years later interviews were carried out at the different units where the ANs were working. They also answered a questionnaire on work satisfaction (JDI). A total of 43 ANs took part in this follow-up. The drop-out was 16%, in most of the cases the AN had moved away and the address was unknown, in a few cases because of lack of interest. For each of the ANs a semistructured interview was carried out with the head nurse who was their manager or with some other person well acquainted with their work. Interviews aimed at determining how well they were managing their practical nursing tasks and their relationships with patients. For interview questions see Fig. 1.
3 Long-term follow-up was carried out finally about 10 years after completion of nursing training. There were 37 people who could be located (73%), 33 of whom participated in a telephone interview. Questions were asked of those who still were working as ANs concerning their place of work and how they were getting on at work. There were 26 who were still working as ANs, and 23 of these answered a questionnaire on work satisfaction (JDI).

Results

A cluster analysis, using the K-mean method (SPSS Base 10.0, 1999), was carried out on a variety of baseline data to identify relatively homogenous groups of cases based on selected characteristics. In order to give baseline data equal weight, z-score transformations (mean = 0; SD = 1) were performed. The analysis, which was based on seven prominent variables (Sand, 1993, 1994, 1996), resulted in four clusters of roughly equal size (n = 12, 11, 16 and 12).

The variables employed were affective empathy (QMEE); from the CMPS, the psychogenic needs of 'need dominance' (DOM) and 'need nurturance' (NUR); from the PONS, the ability to apprehend facial expressions (FACE) and the ability to apprehend negative submissive emotional expressions (NSUB); and from the Discomfort Scale, the degree of discomfort associated with bodily excretions (DIRTY) and with closeness to dead persons (DEAD) (see Tables 3 and 4). The analysis was limited to these variables in order to avoid clusters containing very few people.

On the basis of this division into clusters, an ANOVA was performed to investigate how the clusters relate to the remaining variables. No significant differences between the clusters were found in terms of age (F = 1.383; P = 0.260), or years spent in nursing prior to formal nursing training (F = 0.314; P = 0.815).

The different clusters are described as follows.

Appraisal interview with the head nurse or other person well-acquainted with the assistant nurse (AN) at work:

For how long time have you been in the department?
For how long time have you and the AN been working together?
How does the AN behave towards the patients?
Is the AN able to apprehend the needs of the patients?
How is the AN's skill assisting and taking care of patients?
What are the AN's qualities that are positive in nursing care?
What are the AN's qualities that are negative in nursing care?
What do the patients think of the AN?
Other comments.

Figure 1 Interview questions at 2-year follow-up.

Table 3 Final cluster centres using the K-mean method

Z-score (mean = 0; SD = 1)	Cluster 1	Cluster 2	Cluster 3	Cluster 4
QMEE	0.90276	−0.07428	−0.21372	−0.54971
DOM	0.54440	−0.39700	−0.91886	1.04466
NUR	0.90290	0.24276	−0.51028	−0.44505
FACE	0.76311	−0.74786	−0.47638	0.55760
NSUB	0.60695	−1.19395	0.19375	0.22917
DIRTY	−0.36528	0.49665	−0.34534	0.37047
DEAD	−0.05675	0.70217	−0.24496	−0.26029

Table 4 ANOVA of the central variables included in the K-mean cluster analysis

Z-score (mean = 0; SD = 1)	Cluster		Error			
	Mean square	d.f.	Mean square	d.f.	F	Sig.
QMEE	4.732	3	0.762	47	6.213	0.001
DOM	10.632	3	0.385	47	27.599	0.000
NUR	5.658	3	0.703	47	8.052	0.000
FACE	6.834	3	0.628	47	10.889	0.000
NSUB	7.111	3	0.610	47	11.658	0.000
DIRTY	2.623	3	0.896	47	2.926	0.043
DEAD	2.412	3	0.910	47	2.651	0.060

CLUSTER 1 ('EMPATHIC')

The individuals in this cluster are characterized as having a high degree of affective empathy (ability to be moved by other people's feelings). The highest degree of sensitivity to non-verbal communication (perceptual discrimination) is also found in this group. There is a rather strong need of dominance and also a need of support. In addition, both social needs and the need for nurturance are pronounced. There is a low degree of discomfort in different nursing situations. The defence mechanism of introaggression, a tendency to direct aggressive impulses towards oneself, is found to a greater extent in this group than in any of the others.

CLUSTER 2 ('DISCOMFORT PRONE')

In this cluster there is a moderate degree of affective empathy, but the degree of sensitivity to non-verbal communication is the lowest of all in this group. Need for order and for affirmation are strong, and needs for affiliation and nurturance are fairly strong. The highest level of discomfort is found in this group, particularly related to bodily excretions and closeness to deceased patients. The defence mechanism of isolation and not recognizing H's separate identity are represented in this group.

CLUSTER 3 ('SERVICE MINDED')

In this group there is a moderate degree of affective empathy, whereas dominance needs are weak and sensitivity to non-verbal communication is rather low. In contrast, there is a strong tendency to let other people be central and dominant. This is combined with a strong need for affirmation, and a fairly strong need for support. The degree of discomfort experienced in different nursing situations is lowest in this group. No special defence mechanism is characteristic of this group.

CLUSTER 4 ('DOMINANT')

Degree of affective empathy in this group is low, whereas ability to apprehend non-verbal communication is good. Need for dominance is strong, as is that for autonomy. In contrast, needs for nurturance, order and social needs are all weak. The level of discomfort connected with body excretions is high but that relating to closeness to deceased patients is low. It is in this group that the identity defence relating to sexual identity and the defence mechanism of inhibition are found.

Follow-up I (about 2 years after the completion of nursing school)

WORK SATISFACTION

Measures of work satisfaction (JDI) for each of the four clusters are shown in Table 5. The 'service-minded' group had the highest measure (mean = 38.75). The difference in work satisfaction between 'discomfort-prone' (mean = 34.9) and 'service-minded' is significant at the 0.05 level ($t = 2.142$; $P = 0.044$).

APPRAISALS OF NURSING COMPETENCE

At the follow-up at the AN's place of work, the head nurse (or some other person there equally well-acquainted with the nurse) was interviewed. The intention was to focus on the ability to comprehend and interpret patients' needs, and to put this understanding of patients into practice. On the basis of the interviews, two groups of nurses were distinguished: those who were 'basically capable' and those who were 'real jewels'. For 77% of the cases the two groupings were identical when classification was performed separately by the author and an associate. The remaining ANs were classified by consensus, following discussion. Several were not classified because they were working primarily in operating theatres or met only sleeping patients, or had entered further education and no longer worked as ANs. The groupings in the different clusters are shown in Table 6. Cluster 3 (service minded)

Table 5 Satisfaction with nursing work (JDI) 2 years after completion of nursing school in groups of differing characteristics

	Cluster 1 Empathic	Cluster 2 Discomfort prone	Cluster 3 Service-minded	Cluster 4 Dominant
Number	10	7	16	10
JDI	Mean = 37.9 SD = 2.73	Mean = 34.9 SD = 4.34	Mean = 38.75 SD = 3.87	Mean = 35.2 SD = 5.57
$F = 2.304$				
$P = 0.092$				

Table 6 Appraisal of nurses in the different clusters, 2 years after completion of nursing school

	Cluster 1 Empathic	Cluster 2 Discomfort prone	Cluster 3 Service-minded	Cluster 4 Dominant
Able	7	3	4	6
Real jewels	3	1	9	2

differs significantly from the other clusters. A greater number of 'real jewels' were found in this group than in any other ($\chi^2 = 4.53$, d.f. = 1; $P < 0.05$).

Follow-up II (about 10 years after the completion of nursing school)

WORK SITUATION

Table 7 presents the results regarding work situation. The number of ANs remaining at the second follow-up as compared with those taking part in the first follow-up is shown in parentheses. The figures in Table 7 are based on information obtained from ANs themselves in telephone interviews.

The results showed that many were still working in the same clinic. A disquietingly large number in cluster 3, 'service-minded', had suffered work-related injuries such as arm or back injury, or had been on long-term sick leave for other reasons like high blood pressure or joint problems. It is remarkable that in the same cluster there was an overrepresentation of ANs described as 'real jewels'. The ANs in this group are thus highly vulnerable.

WORK SATISFACTION

Compared with the first follow-up, a lower work satisfaction was reflected both in interviews and in questionnaires (see Tables 8 and 9). A significant decrease in work satisfaction (JDI m1 = 36.19; JDI m2 = 31.90) was noted ($t = 3.85$; $P < 0.001$).

To explore the qualities associated with good long-term vocational adaptation, a series of Pearson correlations was carried out between the results of the various tests given to participants while they were studying at nursing school and the measures of work satisfaction obtained at the first and second follow-up (see Table 10). At the first follow-up, those who had higher work satisfaction were characterized by having a low degree of discomfort confronting bodily excretions; not easily being angered; and not being particularly sensitive to negative dominant expressions. Those who remained in the profession at second follow-up, and were characterized by having a high degree of

Table 8 Work satisfaction (JDI) in those who were still working as assistant nurses after 10 years

	Cluster 1 Empathic	Cluster 2 Discomfort prone	Cluster 3 Service-minded	Cluster 4 Dominant
Number	7	4	8	4
JDI	Mean = 33.6 SD = 5.3	Mean = 33.3 SD = 4.3	Mean = 31.25 SD = 5.0	Mean = 31.25 SD = 2.6
$F = 0.301$				
$P = 0.824$				

Table 9 Work satisfaction (JDI) 2 and 10 years after completion of nursing school

Number	JDI after 2 years	JDI after 10 years	m1 − m2	t-Value	significance
21	m1 = 36.19	m2 = 31.90	4.29	3.85	$P < 0.001$

Table 10 Pearson correlations (r) between test when studying at nursing school and work satisfaction (JDI) about 2 and 10 years later. *$P < 0.05$, †$P < 0.01$

	Empathy	Need aggression	Sensitivity to negative dominant expressions	Discomfort in case of body excretions
JDI after 2 years $n = 43$	−0.059	0.429†	−0.379*	−0.406†
JDI after 10 years $n = 23$	0.462*	−0.003	−0.450*	−0.001

Table 7 Place of work about 10 years after completion of nursing school (self-report)

	Cluster 1 Empathic (9/10)	Cluster 2 Discomfort prone (7/7)	Cluster 3 Service-minded (13/16)	Cluster 4 Dominant (8/10)
Still at the same clinic	7	4	9	4
Working at some other clinic	1	1		
Registered Nurse, occupational therapist or home care assistant			3	2
Other type of work	1	2	1	2
Injured or long-term sick-leave or part-time pension or having changed work because of injury or illness	1	1	7	

affective empathy and not being particularly sensitive to negative dominant expressions, reported higher work satisfaction.

The ANs reported in the interviews that work satisfaction was influenced by factors such as high workload and monotony of tasks to be performed.

Discussion

Cluster analysis performed on baseline data resulted in four groups: empathic, discomfort prone, service-minded and dominant. At first follow-up, the service-minded had the greatest work satisfaction, with many considered to be 'real jewels'. At second follow-up 8 years later, there appeared to be an overrepresentation of injuries and long-term sick leave in this group, whose members had apparent difficulties in being dominant and asserting own interests. Work satisfaction diminished in all the groups over time. Long-term work satisfaction was found, however, to be related to degree of empathy and a low degree of sensitivity to expressions of aggression.

Nursing competence is obviously a many-sided concept, one that is difficult to operationalize and measure. Patients themselves may also be better equipped to evaluate nursing competence. However, such an approach was judged to involve too many practical problems, hence obtaining the well-informed evaluative help of a person in the AN's immediate vicinity was decided upon. Work satisfaction can be regarded as an indirect measure of how well people function in their job.

All ANs in the study were probably well motivated in their work, as they all had prior experience of nursing care and had elected then to go on to further education. The group studied is thus highly biased, which might imply a narrow range of variation and weaker statistical relationships.

Theoretically, nurses in the 'empathic' group are characterized by qualities that are highly valued in nursing relationships, i.e. a high degree of empathy and sensitivity to non-verbal communication, combined with few feelings of discomfort. They seem driven by a need to care for others and by social needs generally. At the same time, they have the power to assert their own interests and give evidence of possessing certain dominance. Members of this group also had few reported health problems in the long run. The profile of characteristics they possess seems to be one that facilitates their professional conduct.

Nevertheless, it is not this group that is most highly valued at their place of work. Instead, it is members of the 'service-minded' group – the 'real jewels' – who get the best appraisals. There is little feeling of discomfort in this group. The ability of its members to assert themselves to defend their own interests is, however, not particularly strong. This was also reported in interviews. It is indeed alarming that so many of its members appeared to have experienced injuries or illness by the time of the second follow-up. Those in this group are thus highly vulnerable, which their superiors and administrators ought to bear in mind.

Feelings of discomfort in various nursing situations may lead to defence reactions that are not well adapted from a nursing point of view (Enckell *et al.*, 1975). In the 'discomfort prone' group, the defence mechanism of isolation (related to compulsion) and identity defence of not recognizing a separate identity (related to immature self development) were represented. These defence mechanisms did not seem to be efficient in reducing discomfort connected with nursing. Other defence mechanisms may have a positive impact on nursing care. Repression, for example, has been related to fewer feelings of discomfort at the sight of amputated limbs (Sand, 1996). This mechanism was represented in each of the four groups. Introaggression, i.e tendency to direct aggressive impulses towards oneself, has been related to enhanced sensitivity to non-verbal sensitivity (Sand, 1993). In the 'empathic' group, the defence mechanism of introaggression was found to a greater extent.

There were certain characteristics that appeared to be related to work satisfaction in the long run. Ability to share other people's feelings and low sensitivity to expressions of aggression (perhaps an example of stress endurance) is another quality that appears favourable. Previous research has shown that nursing staff members who do not become 'burned-out' tend to be characterized by a high degree of empathy and that nursing work tends to satisfy their social needs (Åström, 1990). A high degree of self-esteem and sense of control over their work situation is also important (Boey, 1999). In the present study, a parallel can be drawn with the dominant group that seems to manage stress well, even if their degree of work satisfaction is somewhat lower. It may be that dominant nurses employ active coping strategies and thus have an internal 'locus of control'.

Another stress-related concept is that of hardiness or stress resistance (Pollock & Duffy, 1990). Hardiness comprises the elements of control, challenge and commitment. The concept is of clear relevance to stress management in nursing (Hutchings, 1997). In the present study, certain parallels can be drawn with the characteristics of the empathic group, which has a high degree of commitment, as well as a certain degree of dominance. The results indicate that it is important to have the ability to assert

one's interests and to set limits when the workload becomes difficult, so as to be able to maintain one's health. Previous research has shown that the capacity to take control of one's life characterizes hardier nurses and those with fewer health problems (van Servellen *et al.*, 1994).

The concept of hardiness has been criticized for focusing on individual problems and solutions rather than on the social factors that affect health status and well-being (Low, 1999). A general decrease in work satisfaction occurred between the first and second follow-up. In the telephone interviews there was a high degree of unanimity regarding the increase in workload. In many units there was also greater task monotony due to a narrowing of the speciality. Work satisfaction decreased dramatically during the period of the study, the 1990s. This may probably be attributable to environmental factors that have changed for the worse, as this was a period of marked reduction of resources within health care.

Conclusion

Four different constellations of personality have been identified among the ANs studied. The outcome of a cluster analysis is, however, entirely dependent upon the dimensions that are selected. Thus other personal qualities than those considered here may also be of importance. The drop-out cases may have biased the results at follow up I and II. Nevertheless, results indicate that the most appreciated ANs, the service-minded 'real pearls', are also the most vulnerable and have difficulties in asserting their own interests. Nursing managers need to have a sensitive ear for these people, as their problems often are not noticed until they get injured or ill. The 'discomfort prone' people may be more comfortable working in units with less demand for close physical contact with patients. The dramatic decrease in work satisfaction during the 1990s may be considered an alarm signal in times of reduction of resources within health care.

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