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Personality Factors and Professionally-Relevant Behaviour in Practicing Nurses

Speciality - theoretical medicine

SUMMARY OF THE DOCTORAL THESIS

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ABBREVIATIONS USED IN THE WORK

Approx. - approximately

Coping – stress coping strategies

EI – emotional intelligence

EIC – emotional intelligence competence

EU – European Union

LC – locus of control

CM – the Cabinet of Ministers

E.g. – ex gratia (for example)

PRB – professionally relevant behaviour

WHO – World Health Organization

LSC –locus of subjective control

SCS – stress coping strategies

WCS – ways of coping stress

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INTRODUCTION

Topicality of the Theme

Nowadays, ensuring functioning of sustainable healthcare system and the professional competence of healthcare professionals are becoming more and more vital issues; seeing "professional competence" as employees' cognitive, technical, integrative, interpersonal and emotional skills. "Professional competence" is a notion which is related to the development, changeability and environmental contexts. The quality of healthcare is determined by relationship among healthcare personnel, care recipient and administrative institutions (Bļodniece, 2000). The main goal of its provision is the best possible results in public healthcare. In Latvia, there have not been carried out studies in personality factors of healthcare professionals although they have a considerable influence upon interpersonal communication, which is one of quality constituents. On the other side, problems in communication with patients negatively influence the employees' ability to work (Buiķe, Baķe, 2008).

Nurses constitute the major part of healthcare personnel; the standard of nurse's profession defines common skills in the field and specific professional skills which constitute in nurse's professional behaviour. However, there have not been identified parameters significant for professional behaviour in healthcare industry. Professionally relevant behaviour is the activity of an employee's, as an individual's, activity where it is possible to distinguish activities or conduct and reactions, it is characterized by such parameters as job motivation, creativity, job involvement, job satisfaction, e.t. c. Patients have a right to receive qualitative health care, which comprises several aspects. Besides effective treatment and application of medical

diagnostic technologies in healthcare, the personality and professionally relevant behaviour (PRB) of healthcare employees are essential. The relation of these parameters with personality factors emerge in researches. It is essential not only to evaluate person's professional suitability, but also to deal with the issues related to the choice of those people to work in healthcare in long-term. Finding solutions to these issues is related to both more careful professionally-psychological selections of entrants and work with healthcare employees. It is essential not only to prepare well educated professionals, but also to take care of human resources' maintenance in the healthcare job market, to pay attention to their professional suitability and personality resources which would facilitate high job performance results in future. High level of knowledge alone does not guarantee required attitude or behaviour at work. High level of professional knowledge does not guarantee employers competitiveness, professional competence, quality of professional performance, and appropriate, justified use of resources.

The given study examines such personality factors which develop during a person's lifetime, they are influenced by the process of socialization, life experience, environmental conditions. They are the factors which may change or it is possible to alter them thus developing particular qualities. These factors include: ways of coping stress, emotional intelligence, the locus of subjective control. Stress coping strategies are they ways of reducing internal anxiety and discomfort which have been acquired and applied by a person depending on particular personal quality (Folkman, Lazarus, 1988). Bar – On emotional intelligence is as a set of non-cognitive abilities and competences, which affects a person's ability to succeed and to cope with the environmental demands and pressure (Bar – On, 1999).The locus of control is an individual's subjective awareness of the conditions (internal and external) which determine

his/her behaviour; there can be distinguished internal and external locus of control (Reņģe, 2000).

In Latvia, the provision of human resources in the healthcare has decreased since 2008. In 2008, among the Baltic States, Latvia had the lowest number of nurses (534) per 100 000 inhabitants (640 in Estonia and 711in Lithuania). It is alarming that in 2010, only 55% of newly-graduated doctors and 16% of newly-graduated nurses started to work at medical institutions in Latvia, while 4% of doctors and 3% of nurses left their jobs in the industry (Keris, 2011).

The healthcare workforce migration to other European countries has become a major problem in recent years. During the years 2000-2003 3-8 nurses yearly, in 2004 -27, in 2005- 52 and in 2006 -65 nurses left Latvia. The majority of nurses chose the United Kingdom, Ireland, the USA, Italy and Norway as their destination countries (Karaškevica, 2010). This tendency is still present, in the conversations with studious nurses future plans are often associated with seeking employment outside Latvia. 39,6% of nurses, 36,6% of midwives and 28,3% of physician assistants do not work in health care system. A considerable number of them finish their medical studies and start working in other fields (Karaškevica, 2010). Every highly professional employee is essential for the field of healthcare and it is of crucial importance to maintain these human resources in long-term. The internal and external migration of medical professionals has been observed more frequently. Its causes may be related to both the conditions related to work environment and personality factors.

In Latvia, there are no precise data about medical professionals who have left Latvia, although a certain view of the process can be obtained by becoming acquainted with the number of applications to issue the documents of professional qualification for recognition abroad (Keris, 2011). In comparison

to the year 2008, when they were requested by 42 nurses, in 2009 there were 333 such applications and in 2010 - 445.

In order to address these issues it is essential to identify the personality factors of healthcare professionals and professionally relevant behaviour.

In recent years, the conducted studies clearly reveal the relationship of broad range of professionally relevant behaviour with personality factors (Hough and Schneider, 1996; Salgado, 1997; Furnham, 1999). The present study examines the significance of nurses' professionally relevant behaviour and the following personality factors: stress management strategies (Coping), locus of control (LC) and emotional intelligence (EI), as they are essential for professionally relevant behaviour.

Aim of the Work

- To identify the parameters of professionally relevant behaviour, to investigate personality factors and their relationship in practicing nurses.

- To examine the differences in professionally relevant behaviour and personality factors in practicing nurses with different education, age and length of nursing experience.

Objectives of the Work

In order to achieve the aim of the study the following **objectives** were established**:**

1. To identify the stress coping strategies and ways of coping stress in nurses.
2. To identify the indicators of emotional intelligence.

3. To determine the locus of subjective control among practicing nurses.
4. To determine whether there exist statistically significant correlations among personality factors.
5. To determine the presence of statistically significant differences in ways of coping stress, emotional intelligence and the locus of subjective control in practicing nurses with different age, length of work experience and education.
6. To identify the most significant parameters of professionally relevant behaviour among practicing nurses.
7. To identify the presence of statistically significant differences in the professionally relevant behaviour in relation to age, duration of work experience, and education.

Hypotheses of the Work
1. There exists a relationship among ways of coping stress, emotional intelligence and locus of subjective control in practicing nurses.
2. There exist statistically significant differences among ways of coping stress, emotional intelligence and locus of subjective control in practicing nurses with different length of nursing experience, education and age.
3. There exist significant parameters of professionally relevant behaviour with statistically significant differences in nurses with different length of nursing experience, education and age.

Scientific Novelty of the Work
Scientific novelty of the doctoral thesis:

- the obtained results will give possibility to understand the personal aspect of professional profile for practicing nurses, which play a vital role in creation of successful interpersonal communication as well as one of the components of qualitative healthcare;
- the results of identified personality factors can be successfully employed to increase the recruitment efficiency in healthcare industry which would promote the implementation of the national programme "Development of Human Resources in Health Care 2006 -2015";
- the acquired data provide important information that can be used to develop entrants' professional suitability instrument which would increase the efficiency of selection of candidates in medical and healthcare study programmes;
- nurse's work involves physical and psycho-emotional overload, there is a high risk of burnout syndrome development, the influence of work-related environmental risk factors on the health of nurses, work quality and ability to work has also increased, thus the information on the application of ways of stress coping among nurses may be beneficiary for understanding and developing preventive measures.

Structure and volume of the work

The doctoral thesis consists of an abstract, list of the abbreviations used in the work, introduction, literature review, the practical part with the research methodology and the results of the study as well as the discussion, conclusions, list of publications and theses on the theme of the work, list of references and appendices. The doctoral thesis contains 21 tables and one figure, 146 references to literature sources. The volume of the work, excluding appendices, is 111 pages, the appendices include six pages.

1   WORK METHODOLOGY

1.1   Sample of the Study

The study sample consists of 484 nurses from health care institutions in various regions of Latvia in the age range from 21 to 66 years, the average age in the sample is 42 years, and the average duration of nursing service is 20 years. The study sample was selected using simple random sampling, and it constitutes approximately 5% of total nurse population. The survey was carried out in a two month period, using one form of address.

In order to determine the factors which characterize the personality and statistically significant differences in professionally relevant behavior in the sample, respondents' empirical data were classified according to the following characteristics: age, work experience and education. In the distribution of the respondents within the characteristic groups, the factors influencing them were taken into account**.** The intervals of age distribution are associated with the peculiarities of personality development at different ages, education is also a significant factor in personality development and the processes of socialization, as well as in the processes of cognitive and emotional development. Duration of work experience not only reflects the length of experience, but also has an impact upon stress tolerance, professionalism, communication processes in the work environment, etc.

1.2   Research Instruments

In order to achieve the aim of the study and to prove the research hypotheses, quantitative research methods were used applying several research instruments: the survey of socio-demographic characteristics, a questionnaire to determine the significance of professionally-relevant behavioural parameters,

Bar-On Emotional Intelligence Test, the test of subjective control (J. Bazhins, J. Golinkina and A. Etkinds, G.Rotter's test modification) and R.S. Lazarus and S. Folkman's Ways of Coping Questionnaire.

The survey of socio-demographic indicators consists of 9 questions. They include the questions about respondents' age, nursing experience, educational attainment, profession, place of work (its profile, the number of work places, workload, the characteristics of work schedule).

The questionnaire to determine the significance of professionally-relevant behavioural parameters was designed in order to identify significant professionally relevant behavioural parameters in healthcare professionals. It consists of 26 behavioural parameters which are rated by the respondents according to their significance in healthcare work. The responses were rated according to Likert's scale (1- insignificant; 2 - of little significance; 3 - moderately significant; 4 - of great significance). The mean values of each behavioural parameter were calculated.

Bar - On Emotional Quotient Inventory (EQ-i) (R.Bar-On, 1999). In Latvia, this survey has been adapted by A.Gaitniece-Putāne and M. Raščevska. The survey consists of 5 competences (Intrapersonal, Interpersonal, Adaptability, Stress Management and General Mood) and 15 scales. Each of the five competences has a corresponding scale:

Intrapersonal competence – the scales of emotional self-awareness, assertiveness, self-regard, self-actualization, independence;

Interpersonal competence – the scales of empathy, interpersonal relationship, social responsibility;

Adaptability competence – the scales of problem-solving, flexibility, reality testing;

Stress management competence – the scales of stress tolerance, impulse control;

General mood competence – the scales of happiness and optimism scale.

The survey consists of 133 statements, which are rated according to a 5-point Likert's scale. The options are: "never or hardly ever" (1 point), "rarely" (2 points), "sometimes" (3 points), "often" (4 points) and "very often or always" (5 points).

During processing of the results, a part of the answers were recoded. The mean value of each scale and each competence as well as the total emotional intelligence score of the sample were calculated. The value of the total emotional intelligence depends on the number of points which are obtained by the subjects when responding to the statements; the higher the scores are, the higher are the indicators of emotional intelligence.

The test of subjective control (LSC) (Bazhin, Golinkina, J. and Etkins, A., 1993; Reņģe, 1999, G. Rotter's test modification) comprises 44 statements, which are rated „agree" or „disagree"(„yes" or „no") by respondents. The obtained response scores were summed up, and the total number of scores was calculated. Depending on the total number of scores, the locus of control characteristic to a respondent is determined. High scores (>33 points) are indicative of the internal locus of control, moderate number of scores (25-32 points) indicate to an average level locus of control and the person him/herself is to decide which - internal or external locus of control characterizes his/her personality more accurately; low scores (<24) indicate the external locus of control (Reņģe, 2000; Auziņa,, 2008).

Ways of Coping Questionnaire

The present study made use of R.S.Lazarus and S.Folkman's The Ways of Coping Scale (Folkman & Lazarus, 1998). The instrument consists of eight scales, detailed description of which is given in Table No 1.1. Each of the scales determine way of coping, which has been applied to an individual's life experience as it had been identified by each of the respondents.

Table No 1.1.

Eight Sub-scales of *Ways of Coping Questionnaire*

Way of coping (subscale)	Description of subscales
Confrontive coping	Characterizes aggressive efforts to modify the situation and implies some degree of hostility and risk-taking. Example: to display anger towards the person who causes stress (Cronbach's alfa =.70)
Distancing	Characterizes cognitive efforts to distance oneself and to minimize the importance of the situation. Example: Act as if the stressor would not have appeared (Cronbach's alfa =.61)
Self-controlling	Characterizes a person's efforts to regulate his/her feelings and actions. Example: trying not to share their feelings with anyone. (Cronbach's alfa =.70)
Seeking social support	Characterizes efforts to seek informational support, tangible (material) support, and emotional support. Example: speaking with a person who can provide more information on the specific situation. (Cronbach's alfa =.76)
Accepting responsibility	The awareness of person's own the role in the problem situation with efforts to avert unpleasant consequences. Example: Being self-critical. (Cronbach's alfa =.66)
Escape/avoidance	Characterizes longing thinking and efforts to escape or avoid problems. Example: to sleep longer than it is customary to a person. (Cronbach's alfa =.72)
Planful problem-solving	Characterizes well-considered problem-focused efforts to alter the situation, has an analytic approach to solving the problem. Example: when analysing the situation to reach a positive outcome and makes a great effort to achieve the desired result. (Cronbach's alfa =.68)

End of the Table

Positive reappraisal	Characterizes effort to create positive meaning by focusing on personal growth. It also has a religious dimension. Example: thinking about things which are important in one's personal life. (Cronbach's alfa =.79)

(Source; Folkman S, Lazarus R., 1998).

The test consists of 66 statements about possible actions which describe individual's behaviour and feelings in a stressful situation. The respondents are asked to assess whether, and how often they apply a particular way of coping. In order to obtain the results, there were included 50 basic statements, and the remaining part had a role of buffer statements. The responses are arranged in Likert format from 0 to 3, where 0 - do not use, 1 – sometimes use, 2 – use frequently enough 3 – use very often. The responses to individual items form the distribution across eight scales (coping strategies) and this allows to find out respondent's coping strategy (orientation). The mean values of all scales (ways of coping) and the mean values of coping strategies were calculated. The division of scales and the descriptive statements are the following -

Problem-oriented coping is characterized by the following ways of coping:

- Confrontive coping.
- Planful problem-solving.
- Seeking social support.

Emotion-oriented coping is characterized by the following ways of coping:

- Distancing.
- Self-controlling.
- Accepting responsibility.
- Escape or avoidance.

- Positive reappraisal.

1.3 Methods of Data Processing and Analysis

The data processing was performed using the SPSS 18.0 programme. The data analysis was carried out using Spearman's correlation, Student's t-test, mono-factorial dispersion analysis, LSD Post Hoc test.

2 Results

2.1 Data of the Sample

The participants of the study were 484 nurses working in healthcare institutions in different regions of Latvia. The participants were selected through random sampling.

For the purpose of data analysis, the respondents were divided into three age groups with the following mean ages: in 21-35 years old group - 30 years, age group 36-51years - 43 years and the age group 52-76 years - 57 years; according to the length of nursing experience (less than 10 years, 21-30 years, more than 30 years) and the educational attainment (secondary professional and higher education).

2.2 Descriptive Statistics Indicators for Personality Factors

Ways of Coping

Descriptive statistics indicators indicate that the mean values of coping strategies in the sample are similar – problem-oriented coping is 1.47 with SD 0.35 and emotion-oriented coping is 1.45 with SD 0.30 (min= 0; max= 3). The mean values of ways of coping in the sample and their dynamics for different age groups are shown in table No 2.1.

**Mean values for Ways of Coping in The Sample and Dynamics in
Different Age Groups** (n=Number of Respondents)

Ways of coping	Sample Indicators (n 484)		Age group 21-35 years (n 139)		Age group 36-51 years (n 258)		Age group 52-76 years (87)	
	M	SD	M	SD	M	SD	M	SD
Confrontive coping	1,15	0,42	1,23	0.40	1,12	0,43	1,12	0,39
Planful problem-solving	1,70	0,47	1,70	0.48	1,67	0,47	1,77	0,46
Distancing	1,29	0,45	1,30	0.41	1,24	0,47	1,41	0,39
Self-controlling	1,64	0,44	1,65	0,45	1,63	0,43	1,68	0,43
Escape or avoidance	1,18	0,43	1,23	0,44	1,15	0,45	1,16	0,37
Accepting responsibility	1,61	0,48	1,59	0,44	1,60	0,49	1,74	0,51
Positive reappraisal	1,64	0,42	1,61	0,44	1,64	0,40	1,69	0,45

Assessing the data obtained from the whole study sample regarding coping scales it could be noted that the mean values of the scales lie within 1. 47 - 1. 70 interval. The following scales have the highest values: planful problem-solving (M=1.70, SD=0.47), self-controlling and positive reappraisal (M=1.64, SD=0.44), accepting responsibility (M=1.61, SD=0.48) and seeking social support (M=1.58, SD=0.48); while the lowest values can be seen in two scales – confrontive coping (M=1.15, SD=0.42) and escape/avoidance (M=1.18, SD=0.43).

Assessment of the data regarding ways of coping in the age group 21-35 years indicates that the mean values of coping scales lie within M=1.23 - M=1.70 interval. They are higher in the following scales - planful problem-

solving (M=1.70, SD=0.48), self-controlling (M=1.65, SD=0.45), seeking social support and positive reappraisal (M=1.61, SD=0.44) as well as accepting responsibility (M=1.59, SD=0.44). The lowest values are displayed in two scales – escape/avoidance (M=1.23, SD=0.44) and confrontive coping (M=1.23, SD=0.40).

The mean values of coping scales for the age group 36-51 years are similar to the values in the age group 21-35 years. Both the highest values and the lowest statistical indicators are characteristic to equivalent scales. The highest values- planful problem-solving (M=1.67, SD=0.47), positive reappraisal (M=1.64, SD=0.40), self-controlling (M=1.63, SD=0.43), accepting responsibility (M=1.60, SD=0.49) and seeking social support (M=1.57, SD=0.49). The least frequently used ways of coping in this age group are confrontive coping (M=1.12, SD=0.43) and escape/avoidance (M=1.16, SD=0.37). Comparing the obtained results with the youngest respondents' age group (21-35 years), it is possible to note the following trends: firstly - there are present previously more frequently applied ways of coping although their mean values decrease; secondly - the most considerable difference in values can be observed in the scale of confrontive coping, the scale of escape/avoidance and the scale of distancing, which may indicate that these ways of coping in this age group are less commonly used than in the youngest age group.

The highest and the lowest in the age group of the oldest respondents (52-76 years) repeatedly show similar scales in ways of coping. It should be noted, that, in this age group, there are the highest values in the scales which predominate in younger age groups, particularly this relates to two scales - planful problem-solving (M=1.77, SD=0.46) and accepting responsibility (M=1.74, SD=0.51), which may indicate that these ways of coping are more frequently used as the age increases; this assumption could be also attributed

to the scale of distancing, where the values in this age group are the highest (M=1.41, SD=0.39).

The Values of Emotional Intelligence and Subjective Locus of Control

Mean statistical values of personality factors of emotional intelligence (15 scales of Emotional Intelligence 5 competences and the total score) and the locus of subjective control (internal and external locus of control and the total score) were established in the sample. The acquired data are shown in the table No 2.2.

Table No. 2.2.

Descriptive Statistics Indicators of Personality Factors, Locus of Subjective Control (SLC) and Emotional Intelligence (EI)

Personality Factor	**N**	**Mean**	**SD**
EI scales:			
Emotional self-awareness	476	3,43	0,47
Assertiveness	479	3,28	0,53
Self-regard	476	3,58	0,67
Self-actualization	476	3,83	0,57
Independence	477	3,17	0,55
Empathy	475	3,60	0,49
Interpersonal relationship	478	3,53	0,47
Social responsibility	475	3,73	0,46
Problem-solving	476	3,64	0,45
Flexibility	479	3,07	0,49
Reality testing	479	3,60	0,45
Stress tolerance	475	3,35	0,58

End of the Table

Personality Factor	N	Mean	SD
EI scales:			
Impulse control	475	3,56	0,64
Happiness	477	3,39	0,53
Optimism	478	3,71	0,60
EI competences:			
Intrapersonal	468	3,47	0,42
Interpersonal	472	3,62	0,40
Adaptability	474	3,44	0,34
Stress management	471	3,46	0,49
General mood	476	3,55	0,48
EI total score	455	3,51	0,33
Total score of LSC	484	26,05	5,32
Internalaa locus of control	60	34,70	1,67
Externallocus of control	193	20,97	3,21

The findings suggest, that mean values of all emotional competences are relatively high, as they lie within 3.07- 3.83 interval (min= 1; max=5). The following EI scales have the highest mean scores - Self-actualisation (M= 3.83, SD=0.57), Social responsibility (M=3.73, SD=0.46) and optimism (M= 3.71, SD=0.60), while the following scales display the lowest scores: Flexibility (M= 3.07, SD=0.49) and Independence (M= 3.17, SD=0.55). Assessment of EI competence scores show that the interpersonal competence has the highest scores (M=3.62, SD=0.40).

The assessed data of the scores for the locus of subjective control suggest that in the sample there is a prevalence of nurses with the external locus of control (193), which constitutes 40% , while there are only 60 respondents or 12% of the sample with internal locus, the neutral locus of subjective control is inherent to the rest of the respondents 231 (48%).

In order to identify which parameters of emotional intelligence are more characteristic to the nurses' sample, percentage sum of the responses „often" and „very often or always" was calculated. These scores are shown in the Figure No 2.1.
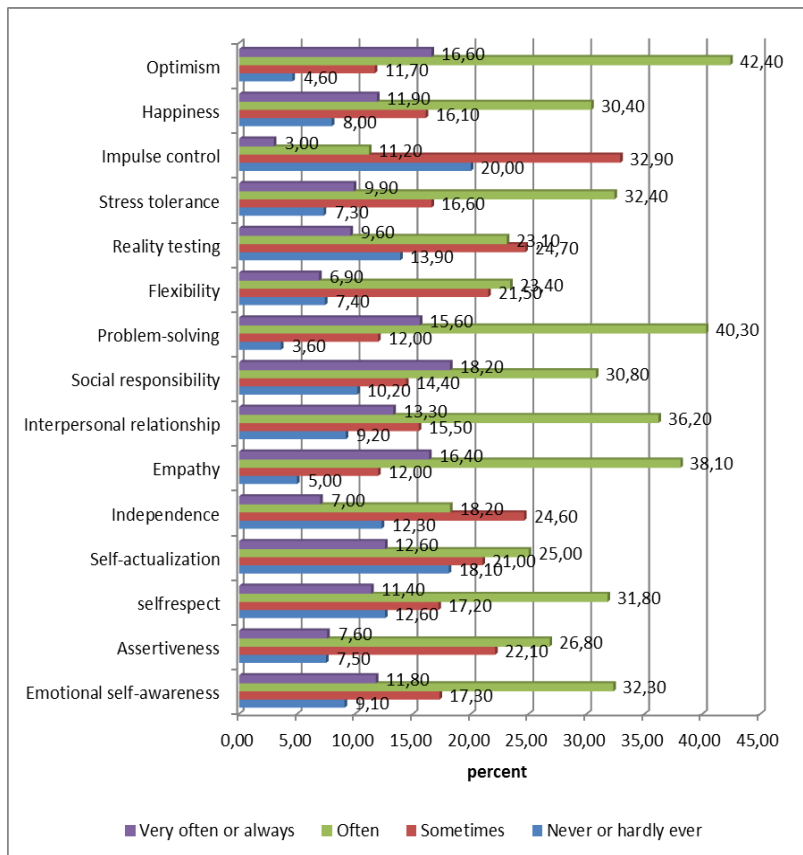

Figure No 2.1. The Distribution Histogram of the Parameter Responses (Subscales) for Emotional Intelligence

The obtained statistical data suggest, that the following parameters of EI are characteristic to the respondents of the sample to a greater extent: – optimism, problem solving, social responsibility and the importance of

interpersonal relationship, as they are mentioned by 49% to 59% of the nurses while the following parameters: independence (25.20%), flexibility (30.30%) and reality testing (32.70%) are less significant.

2.3 Results on Statistically Significant Reciprocal Differences in Personality Factors for Different Nursing Experience, Education and Age

In order to carry out the data processing concerning reciprocal significant differences in personality factors, mono-factorial dispersion analysis of the differences in demographic groups has been performed. To draw the conclusions on statistically significant differences in the results of personality factors across age groups, groups with different nursing experience and education, their mean values were compared using Post-hoc test (LSD). The obtained results of the dispersion analysis indicate between which parameters in particular and between which groups of respondents there exist statistically significant differences.

Differences Between Age Groups

The obtained statistical data show that there is a statistically significant difference between age groups in the emotion-oriented coping strategy $F_{(2;481)}=2.12$, $p<0.05$; in three ways of coping - confrontive coping $F_{(2;481)}=3.43$, $p<0.05$, distancing $F_{(2;481)}=5.19$, $p<0.05$ and accepting responsibility $F_{(2;481)}=3.56$, $p<0.05$, as well as the stress coping competence of emotional intelligence $F_{(2;468)}=2.09$, $p<0.05$. There are more considerable differences in way of coping – distancing.

Assessing obtained results, it was found out (Tab. No.2.3.) that there are present statistically significant differences in personality factors among the age groups. They exist in the application of emotion-oriented stress coping strategy (between the age groups 36-51 years and 52-76 years), where older

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nurses more commonly use emotion-oriented stress coping strategy; in ways of coping stress: use of confronting coping (between the age groups 21-35 years and 36-51 years) which suggests that younger nurses use this way of coping more often; use of distancing coping (between the age group 36-51 year and 52-76 years) which are indicative that older nurses apply it more frequently, use of accepting responsibility (between the age groups 52-76 years and 21-35 years and 52-76 years) thus suggesting that use of this way of coping increases with the age; as well as in use of the stress coping competence of emotional intelligence (between 21-35 years and 36-51 year age groups), which is more developed in older nurses. Among other personality factors: in problem-oriented coping strategy, for such ways of coping as planful problem-solving, seeking social support, self-controlling, escape/avoidance, and positive reappraisal there were not observed statistically significant differences in the locus of subjective control and intrapersonal, adaptability and general mood competences of emotional intelligence.

Table No 2.3.

Comparison of Statistically Significant Differences in Personality Factors by Age Groups

Personality factor	**Age group interval**	**Age group interval**	**Mean Difference**	**Std. Error**	**Sig.**
Coping strategies:					
Emotion-oriented coping strategies	36-51	52-76	-0,76[*]	0,03	0,04
Ways of coping:					
Confrontive coping	21-35	36-51	0,11[*]	0,04	0,01
Distancing	36-51	52-76	-0,17[*]	0,05	0,01

End of the Table

Personality factor	Age group interval	Age group interval	Mean Difference	Std. Error	Sig.
Accepting responsibility	21-35	52-76	-0,14*	0,07	0,03
	36-51	52-76	-0,16*	0,06	0,01
Competences of emotional intelligence:					
Competence of stress management	21-35	36-51	-0,10*	0,05	0,04

*. p< 0.05

Differences in Personality Factors in the Respondent Groups with Different Length of Nursing Experience

The obtained data indicates that there exists statistically significant differences in respondents with different length of nursing experience regarding use of both coping strategies - problem-oriented coping $F(3;478)=20.68$, $p<0.05$ and emotion-oriented coping $F(3;478)=10.75$, $p<0.05$; they also exist in the following ways of coping- confrontive coping $F(3;478)=30.10$, $p<0.05$, seeking social support $F(3;477)=10.96$, $p<0.05$, accepting responsibility $F(3;478)=10.99$, $p<0.05$ and escape/avoidance $F(3;477)=30.98$, $p<0.05$.

The results reflected in Table No 2.4. indicate that there are statistically significant differences in use of both coping strategies (problem-oriented and emotion-oriented) among the groups of respondents with the length of nursing experience less than 10 years and 21-30 years, which show that the nurses whose job experience in the field is less than 10 years , in general, use these strategies more frequently; application of such ways of coping as confrontive coping (among the groups with the nursing experience less than 10 years and 11-20years, 21-30 years) and younger nurses apply this way of coping more frequently; seeking social support (among the groups with

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the nursing experience less than 10 years and 11-20 years, 21-30 years), where younger nurses use this way of coping more often; distancing (among the groups with the nursing experience more than 30 years and 11-20 years, 21-30 years), where nurses with longer work experience apply this way of coping more frequently; accepting responsibility (between the groups with the nursing experience 21-30 years and more than 30 years) is also more applied among the nurses whose work experience is longer, and escape/avoidance (among the groups with nursing experience 21-30 years and less than 10 years, 11-20 years, as well as between less than 10 years and more than 30 years), which is more characteristic to the nurses with the shortest work experience.

Table No 2.4.

Comparison of Statistically Significant Differences in Personality Factors among the Respondent Groups with Different Length of Nursing Experience

Personality factor	Interval of nursing experience	Interval of nursing experience	Mean Difference	Std. Error	Sig.
Coping strategies:					
Problem-oriented coping	Less than 10	21-30	0,12*	0,44	0,01
Emotion-oriented coping	Less than 10	21-30	0,08*	0,04	0,04
Ways of coping:					
Confrontive coping	Less than 10	21-30	0,15*	0,05	0,01
Seeking social support	Less than 10	11-20	0,13*	0,06	0,03
	Less than 10	21-30	0,12*	0,06	0,04
Distancing	11-20	More than 30	-0,14*	0,06	0,02
	21-30	More than 30	-0,14*	0,06	0,03
Accepting responsibility	21-30	More than 30	-0,17*	0,07	0,02

End of the Table

Personality factor	Interval of nursing experience	Interval of nursing experience	Mean Difference	Std. Error	Sig.
Escape/avoidance	Less than 10	21-30	0,17*	0,05	0,01
	Less than 10	More than 30	0,14*	0,06	0,02
	11-20	21-30	0,12*	0,05	0,03

*. p< 0.05

The indicators of emotional intelligence and the indicators of locus of subjective control in the sample do not display statistically significant differences with other personality factors. The research data does not reveal any statistically significant differences in personality factors in respondents with different educational attainments.

2.4 Results on Relationship of Personality Factors

In order to find out relationship of personality factors Spearman's correlation coefficients were calculated. These correlation coefficients are shown it the table No. 2.5.

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Spearman's correlation coefficients of personality factors

	Problem-oriented coping	Emotion-oriented coping	Confrontive coping	Planful problem solving	Seeking social support	Distancing	Selfcontrolling	Accepting responsibility
Emotion-oriented coping	0.67**							
Confrontive coping	0.74**	0.58**						
Planful problem solving	0.72**	0.53**	0.37**					
Seeking social support	0.79**	0.43**	0.38**	0,41**				
Distancing	0.35**	0.65**	0.38**	0,31**	0,17**			
Selfcontrolling	0.51**	0.75**	0.44**	0,42**	0,31**	0,40**		
Accepting responsibility	0.45**	0.61**	0.26**	0,35**	0,33**	0,22**	0,35**	
Escape	0.55**	0.73**	0.61**	0,27**	0,37**	0,35**	0,47**	0,39**
Positive reappraisal	0.41**	0.57**	0.22**	0,47**	0,27**	0,31**	0,26**	0,39**
Locus of control	-0.13**	-0.17**	-0,24**	0,02	-0,05	-0,15**	-0,10*	-0,05

	Problem-oriented coping	Emotion-oriented coping	Confrontive coping	Planful problem solving	Seeking social support	Distancing	Selfcontrolling	Accepting responsibility
Intrapersonal competence	0.13**	-0.03	-0,00	0,29**	0,05	0,02	0,05	-0,19**
Interpersonal competence	0,03	-0.03	-0,12*	0,12**	0,08	-0,12*	0,04	-0,03
Adaptability competence	-0.10*	-0,19**	-0,19**	0,14**	-0,10*	-0,11*	-0,08	-0,23**
Stress management competence	-0.11*	-0,13**	-0,17**	0,14**	-0,16**	-0,02	-0,05	-0,16**
General mood competence	0.13**	0,03	0,01	0,28**	0,07	0,07	0,02	-0,10*
Total emotional competence	0,02	-0,09*	-0,11*	0,27**	-0,4	-0,03	-0,02	-0,18**

*p<0.05; ** p<0.01

End of the Table

	Escape	Positive reappraisal	Locus of control	Intrapersonal competence	Interpersonal competence	Adaptability competence	Stress management competence	General mood competence
Positive reappraisal	0,18**							
Locus of control	-0,30**	0,08						
Intrapersonal competence	-0,19**	0,07	0,16**					
Interpersonal competence	-0,18**	0,06	0,22**	0,43**				
Adaptability competence	-0,36**	0,07	0,30**	0,63**	0,50**			
Stress management competence	-0,29**	0,09*	0,18**	0,48**	0,30**	0,68**		
General mood competence	-0,13**	0,14**	0,19**	0,74**	0,52**	061**	0,48**	
Total emotional competence	-0,29**	0,13**	0,25**	0,82**	0,66**	0,85**	0,76**	0,85**

The acquired data indicate that there is a statistically significant relationship among *the problem-oriented strategy* and the locus of subjective control (r = -0.13**; p<0.01), the intrapersonal and general mood competences of emotional intelligence (r = 0.13**; p<0.01). The *emotion-oriented coping strategy* also has a statistically significant relationship with the locus of subjective control (r = -0.17**; p<0.01) and adaptability (r = -0.19**; p<0.01) as well as stress management (r = -0.13**; p<0.01) competences of emotional intelligence. When assessing the intercorrelations of ways of coping with other personality factors, it is possible to note that interrelations are the most characteristic to the way of coping - escape/avoidance, there are statistically significant correlations with all other personality factors.

It has the most significant negative correlation with the adaptability competence of emotional intelligence (r = -0.36**; p<0.01), stress management competence (r = -0.29**; p<0.01), total emotional intelligence (r = -0.29**; p<0.01) and the locus of subjective control (r = -0.30**; p<0.01). The way of coping - accepting responsibility has a negative intercorrelation with several competences of emotional intelligence: it is the most significant with the adaptability competence (r = -0.23**; p<0.01), with intrapersonal competence (r = -0.19**; p<0.01) and the stress management competence (r = -0.16**; p<0.01). Planful problem-solving, as a way of coping, has a statistically significant correlation with the total emotional intelligence (r = 0.27*; p<0.01) and with all competences, besides that, it has the closest relationship with intrapersonal competence (r = 0.29**; p<0.01) and general mood competence (r = 0.28**; p<0.01). The way of coping – confrontive coping statistically significantly correlates with two competences of emotional intelligence – adaptability competence (r = -0.19**; p<0.01) and stress management competence (r = -0.17**; p<0.01), however, this parameter has the closest correlation with the locus of subjective control (r = -0.24**; p<0.01). Way of

coping –seeking social support correlates with the stress management competence of emotional intelligence (r = -0.16**; p<0.01), and distancing only with the locus of subjective control (r = -0.15**; p<0.01); positive reappraisal correlates with the indicator of total emotional intelligence (r = 0.13**; p<0.01) and general mood competence (r =0.14**; p<0.01).

Assessing the correlation of the *locus of subjective control* with other personality factors, it can be noted that there is a significant correlation with all other parameters of personality characteristics (ways of coping and emotional intelligence). It is possible to observe the closest relationship of the locus of subjective control with the adaptability competence of emotional intelligence (r = 0.33**; p<0.01), with the indicator of total emotional intelligence (r = 0.27**; p<0.01), and two ways of coping – escape/avoidance (r = -0.28**; p<0.01), confrontive coping (r = -0.23**; p<.0.01).

In order to assess the existence of statistically significant differences between the ways of coping and the locus of subjective control types in the sample, t-Student criterion was calculated, its value shows that almost no significant differences cannot be observed, except for three ways of coping - escape/avoidance (t-Student criterion 4.08, Sig. 0,00), and distancing (t-Student criterion 2.20, Sig. 0.029).

Total indicator of emotional intelligence statistically significantly correlates with the above mentioned locus of subjective control and five ways of coping   (confrontive coping, planful problem-solving, accepting responsibility, escape/avoidance and positive reappraisal), there are apparent the most significant correlations for escape (r = -0.29**; p<0.01) and planful problem-solving (r = 0.27**; p<0.01). Correlations of emotional intelligence competences with ways of coping and the locus of subjective control have been described previously.

2.5 Significance Indicators for Professionally Relevant Behaviour

The descriptive statistics indicators of sample's professionally relevant behaviour were calculated, and they are presented in the Table 2.7

Table No 2.7.

Statistical Indicators of professionally Relevant Behaviour

Parameter of professionally relevant behaviour	N	M	SD
Ability to cooperate	484	3,92	0,32
Appropriate behaviour in a certain situation	484	3,88	0,38
Ability to concentrate	484	3,85	0,39
Ability to apply the theoretical knowledge	484	3,83	0,41
Ability to improve and develop the practical skills	484	3,80	0,44
Emotional stability	483	3,80	0,48
Ability to solve conflicts constructively	484	3,77	0,48
Compliance with work ethics	484	3,77	0,48
Ability to take decisions and implement them	484	3,76	0,49
Job satisfaction	484	3,76	0,49
Ability to achieve the aim	484	3,73	0,53
Ability to acknowledge one's own fault and to make concessions if necessary	484	3,73	0,53
Professional and life experience	484	3,72	0,51
Responsibility	484	3,72	0,55
Sincerity, frankness, trustworthiness	484	3,70	0,53

End of the Table

Parameter of professionally relevant behaviour	N	M	SD
The ability to accept anything new	484	3,69	0,57
Motivation	483	3,68	0,54
Ability to be objectively critical of oneself	484	3,64	0,57
Tolerance	484	3,62	0,56
Active communication	484	3,60	0,57
Empathy	484	3,56	0,63
The tendency to reflect on one's own activities	484	3,55	0,59
Ability to be objectively critical of others	483	3,52	0,62
Creative approach to work	483	3,51	0,63
Optimism	484	3,48	0,64

The obtained data show that mean values of all professionally relevant parameters are rather similar as they are in the range of 3.51 to 3.92 (min = 1, max = 4), which may indicate that all these parameters are considered as essential by health care professionals. Three leading parameters include the ability to cooperate, appropriate behaviour in certain situation and ability to concentrate. During the study, the mean values of the parameters were compared over the groups of nursing experience duration. Table No 2.8. represents three parameters with the highest and three with the lowest values for healthcare professionals with different duration of nursing experience.

Dynamics in Highest and Lowest Mean Values of Professionally Relevant Behaviour Parameters for Respondents with Different Duration of Nursing Experience

Interval of nursing experience	Parameter of professionally relevant behaviour		N	M	SD
	Highest mean values	Lowest mean values			
Less than 10 years	Ability to cooperate		128	3,94	0,24
	Appropriate behaviour in certain situation		128	3,89	0,34
	Job satisfaction		128	3,88	0,40
		Creative approach to work	128	3,42	0,60
		Ability to be objectively critical of others	128	3,49	0,64
		Optimism	128	3,51	0,59
11-20 years	Ability to cooperate		147	3,90	0,32
	Ability to concentrate		147	3,88	0,34
	Appropriate behaviour in certain situation		147	3,87	0,44
		Optimism	147	3,44	0,62
		Tendency to reflect on one's own activities	147	3,50	0,61
		Creative approach to work	147	3,53	0,60
21-30 years	Ability to cooperate		126	3,91	0,34
	Appropriate behaviour in certain situation		126	3,88	0,37

End of the Table

Interval of nursing experience	Parameter of professionally relevant behaviour		N	M	SD
	Highest mean values	Lowest mean values			
	Ability to concentrate		126	3,82	0,43
		Ability to be objectively critical of others	126	3,42	0,67
		Optimism	126	3,46	0,65
		Empathy	126	3,49	0,67
More than 30 years	Ability to cooperate		81	3,93	0,38
	Ability to apply the theoretical knowledge		81	3,91	0,32
	Appropriate behaviour in certain situation		81	3,88	0,37
		Optimism	81	3,54	0,71
		Creative approach to work	81	3,58	0,74
		Empathy	81	3,65	0,57

In the group of younger nurses (with job experience less than 10 years), the leading PRB parameters include the ability to cooperate, Appropriate behaviour in certain situation and job satisfaction. The first two parameters are considered to be significant, regardless of work experience, which may suggest that the ability to cooperate and appropriate behaviour in a given situation are the most important PRB parameters of healthcare professionals. While the less experienced nurses mention job satisfaction as the third most important parameter, the ability to concentrate becomes the third most important one with the increase in work experience, and, for the nurses with the work experience more than 30 years it is the ability to apply their theoretical knowledge.

Optimism is mentioned as less significant PRB factor in all groups, the nurses with less work experience also identify   creative approach to work, but the nurses with more experience - empathy.

Comparison of Statistically Significant Differences in parameters of Professionally Relevant Behaviour Across Age Groups

Parameter of professionally relevant behaviour	Age group interval	Age group interval	Mean Difference	Std. Error	Sig.
Ability to solve conflicts constructively	21-35	36-51	-0,16*	0,05	0,01
	21-35	52-76	-0,15*	0,06	0,02
Professional and life experience	21-35	36-51	-0,12*	0,05	0,01
	21-35	52-76	-0,15*	0,07	0,04
Ability to be objectively critical of others	52-76	21-35	0,22*	0,08	0,01
	52-76	36-51	0,19*	0,08	0,01
Compliance with work ethics	21-35	52-76	-0,15*	0,07	0,02
Tendency to reflect on one's own activities	36-51	52-76	-0,16*	0,07	0,03
Job satisfaction	21-35	36-51	0,12*	0,05	0,02

*. $p < 0.05$

In order to calculate the differences among demographic groups mono-factorial dispersion analysis was performed. To draw conclusions about statistically significant differences in PRB parameter results by age groups, their mean values were compared using a post-hoc test (LSD) and the results of dispersion analysis indicate (Tab. No. 2.9.) that there exist statistically significant differences by age groups in six PRB parameters.

The data show that the greatest differences exist in PRB parameter "ability to be objectively critical of others" (in the age groups 52 -76 years and

21-30years ; 36-51 years), they indicate that the significance of behavioural parameter increases with the age of nurses; the parameter „ability to constructively deal with conflicts" is statistically significantly different in younger nurses (20-35 years) and older, besides that the significance of this parameter increases with the age, this trend is also characteristic to the parameter „professional and life experience".

The PRB parameters which have statistically significant differences in respondents with different work experience were identified and the groups among which these differences exist were established in a similar way.

The acquired data indicate that statistically significant differences in health care professionals with different work experience were found in eight parameters (Tab. No 2.10.). The most distinct differences can be observed in the following PRB parameters: the ability to be objectively critical of the other $F (3; 477) = 4.23$, $p<0.05$, and job satisfaction $F (3; 478) = 4.18$, $p<0.05$.

Table No. 2.10.

Comparison of Statistically Significant Differences in the Parameters of Professionally Relevant Behaviour in Groups with Different Length of Nursing Experience

Parametres of professionally relevant behaviour	Range of work experience	Range of work experience	Mean Differ ence	Std. Error	Sig.
Ability to apply theoretical knowledge	21-30	More than 30	-0,13[*]	0,06	0,03
Ability to constructively deal with conflicts	Less than 10	11-20	-0,13[*]	0,06	0,02
	Less than 10	More than 30	-0,14[*]	0,07	0,04

End of the Table

Parametres of professionally relevant behaviour	Range of work experience	Range of work experience	Mean Differ ence	Std. Error	Sig.
Ability to achieve the aim	Less than 10	11-20	0,13*	0,06	0,04
	Less than 10	21-30	0,14*	0,07	0,04
Ability to be objectively critical of others	More than 30	Less than 10	0,23*	0,09	0,01
	More than 30	11-20	0,19*	0,09	0,02
	More than 30	21-30	0,30*	0,09	0,01
Compliance with work ethics	More than 30	Līdz 10	0,14*	0,07	0,04
	More than 30	11-20	0,18*	0,07	0,01
Tendency to reflect on their actions	11-20	More than 30	-0,17*	0,08	0,04
Tolerance	More than 30	21-30	0,17*	0,08	0,04
Job satisfaction	Less than 10	11-20	0,15*	0,06	0,01
	Less than 10	21-30	0,12*	0,06	0,01

*. $p < 0.05$

The most expressed statistically significant differences are found in the PRB parameter "the ability to be objectively critical of others", this parameter is significant for the nurses within the range group whose job experience is over 30 years compared to nurses with less work experience which could be indicative of increase in the importance of this parameter with the increase in the work experience. The data of the parameter "job satisfaction" reveal statistically significant differences between the younger nurse group (the length of service less than 10) and the nurses, whose length of service is longer (11-20 years and 21-30 years). This indicates that this parameter is more important for the nurse group with shorter nursing experience, and as the work experience increases, the significance of this

parameter decreases. A similar trend also remains in the factor "compliance with the work ethics", where there were   found statistically significant differences between the nurses with work experience less than 10 years, and nurses, whose work experience is more than 30 years.

Statistically significant differences in professionally relevant behaviour among the respondents with different educational attainment have not been revealed by the obtained results

3   Discussion

In order to prove the research hypothesis, that there exists a relationship between ways of coping, emotional intelligence and the locus of subjective control in healthcare professionals, the descriptive statistics indicators of these personality factors were obtained, their analysis was carried out and the interrelation of the personality factors was found by calculating Spearman's correlation coefficient.

Personality Factors

The results of coping in the sample show that the emotion-oriented and problem-oriented coping strategies are employed equally, as there are minimal differences in their mean values. The prevailing ways of coping stress in the sample, after assessment of the indicators in the scales, are planful problem solving (characterizes problem-oriented coping strategy), self-controlling and positive reappraisal (characterizes emotion-oriented coping strategy), which may indicate that these ways of coping are used by the sample more frequently. Similar results were obtained (Healy & McKay, 2010) in the study where the leading coping strategies among nurses were identical to the results of the given study, where planful problem solving was the most frequently used WCS. Chang (Chang 2007), in his study of hospital nurses in Australia and new Zealand, also has pointed out that planful problem solving is the most common

coping strategy which is followed by self-controlling and seeking social support. The goal of self-controlling is to regulate emotions and behaviour while seeking social support is characterized by thriving for information, real (tangible) and emotional support (Folkmann & Lazarus 1988). The acquired data correspond to the results which were obtained in the study on coping stress in Australian nurses when it was discovered that the applied ways of coping are seeking support, self controlling and positive reappraisal (Lim, Bogossian, Ahern, 2010). The tendency which was revealed by the study concerning frequent use of positive reappraisal among nurses is consistent with the earlier studies by Folkman, Lazarus, Pimly and Novachek in which it was concluded that there are coping differences in gender cross-section - women are more likely to use positive reappraisal (Parker, Endler, 1992).

The following ways of coping are less characteristic to the sample: confronting coping and escape/avoidance. Taking into account the above mentioned data, it is possible to conclude that the nurses more frequently apply analytical approach to coping, make deliberate efforts to change the problem, to control their feelings, behaviour and to generate positive results focusing on their personal growth. Besides that, efforts to avoid the problem, showing a certain level of hostility and risk-taking are less frequently used.

The obtained indicators of emotional intelligence suggest that the mean indicators of emotional competence are relatively high, as their range is 3.07 to 3.83 (min = 1, max = 5), which indicates that these competencies are characteristic to the nurses in the sample. However, the interpersonal competence displays higher rates, which denotes that the nurses in the sample can be characterized by well developed ability to communicate, collaborate and to get on with people. The assessed scale indicators show that self-actualization, social responsibility and optimism are characteristic to greater extent, and such factors as flexibility and independence are developed to

smaller extent. In assessing the scale indicators, it is apparent that self-actualization, social responsibility and optimism are more characteristic to the nurses, while flexibility and independence are less developed. Characterizing the emotional intelligence of the sample, it can be noted that the following capabilities are typical of nurses: the ability to recognize their needs, to be aware of their wishes, to feel satisfied with themselves and to put their abilities in to practice (self-actualization), the ability to present oneself as an active, able to cooperate and a constructive member of a particular social group, who is ready to act for the benefit of the group, respecting the rules of society (social responsibility), the ability to discern the good in life and maintain a positive attitude even in failures (optimism). There can be distinguished the following characteristic qualities should be mentioned ability to modify their feelings, thoughts and actions according to changing situations and circumstances, inconsistency of their views, the difficulty to admit impropriety of own decision (flexibility), the ability to act autonomously, without help and support of others, to rely on themselves, their abilities and skills, to prevent emotions from interfering with their behaviour (independence) (Auziņa R., 2008) .

The obtained data regarding the locus of subjective control point out that external and (40%) and average locus of control (48%) predominate in the respondents of the sample. Thus, the nurses, as externalists, can be better characterized by a subjective feeling of dependence on other people, on the external circumstances, on fortune; in communication, they are more submissive, the sense of dependence is more expressed, they align their actions and views with the beliefs and actions of people around them, hence conformity is more typical of them, they are easier to become emotionally agitated and they display a higher sense of anxiety, possibly with more distinctively expressed neuroticism. The locus of control, general self-efficacy,

neuroticism and personal value are the factors which affect job satisfaction which is one of the parameters characterizing professionally relevant behaviour (Judge, Locke, Kluger, 1998). The correlation of this set of personal qualities with job satisfaction is 0.37.

Studies in 60-ties showed that the internalists and externalists work effectively in various different situations. Externalists expect a very specific and detailed instructions, they will try to fulfil them very accurately with a high sense of duty, they prefer order and certainty, they prefer a manager with an authoritarian management style, because, in this case, they do not have to assume responsibility for their actions (Reņģe, 2000). So-called taught helplessness when people need someone to guide them, someone who constantly says what and how to do, and at the same time need for someone who cares about them are typical of externalists. A human as an autonomous individual is helpless. This could be attributed to the life experiences of these people in authoritarian regime (Reņģe, 2000). This assumption may be also relevant to the nurses of the study sample, whose life experiences is also part of life in authoritarian regime in Latvia.

In carrying out the analysis of correlation between the personalities factors there were identified a number of statistically significant relationships of these factors. Spearman's correlation coefficient was calculated and its indicators for all personality factors were analysed. They indicate that with an increase in the problem-oriented stress coping strategies (SCS), locus of control (LC) rates decrease and EI interpersonal and general mood parameters increase. This may mean that the more nurses personality is characterized by external LC, the more problem-oriented SCS is used to overcome the stress and they have better-developed ability to recognize their feelings, the ability to feel positive in everything what is accomplished in one's life (intrapersonal competence); the ability to enjoy life, maintain a positive perspective and

generally feel happy with themselves and their lives (general mood) (Auziņa, 2008). These abilities are essential for nurse's practice, since a person endowed with these capabilities could possibly build a successful communication in work with the patient, his/her relatives and colleagues, thereby promoting receiving of qualitative care in general.

In relation to emotion-oriented SCS, a significant negative correlation has also been observed, which suggests that with the increase in the application of this strategy, EI adaptability and stress management competence parameters decrease. This indicates that the more nurses use the emotion-oriented SCS, the less their personality is characterized by ability to be flexible, realistic, to act effectively in problem situations and to competently find solutions (adaptability competence) and they are less prone to impulse control and able to tolerate stress (Auziņa, 2008).

Assessing the correlation indicators of ways of coping stress (WCS), there have been observed a statistically significant correlation among all ways of coping stress (WCS), except for "self controlling". It must be noted that the most significant correlation is present for WCS, "escape/avoidance", which statistically significantly correlates with all other personality factors. The closest negative correlation for this way is identified with EI adaptability ($r = -0.36^{**}$; $p<0.01$) and stress management ($r = -0.29^{**}$; $p<0.01$)competences, total score of EI ($r = -0.29^{**}$; $p<0.01$) and the locus of subjective control ($r = -0.30^{**}$; $p<0.01$). These results indicate that more nurses use the "escape / avoidance" as WCS, the lower their EI is, the less inherent are the abilities to be flexible, realistic, efficiently deal with problems and solve them; impulse control and stress tolerance are less-developed; the more nurse's personality is characterized by the external LC, the more she uses "escape/avoidance" to overcome stress WCS "accepting responsibility", as the most significant, display negative inter EI competences: adaptability ($r = -0.23^{**}$; $p<0.01$),

intrapersonal ($r = -0.19^{**}$; $p<0.01$) and stress management ($r = -0.16^{**}$; $p<0.01$). These data suggest that this way of coping stress is less expressed in the nurses, who have more developed exactly these competencies. "Planful problem-solving" has a statistically significant with the total score of EI ($r = 0.27^*$; $p<0.01$), which indicates that the nurses with this WCS higher also have higher EI parameter. "Planful problem-solving" has the closest relation with intrapersonal competence ($r = 0.29^{**}$; $p<0.01$) and general mood competence ($r = 0.28^{**}$; $p<0.01$), which may mean that the more developed these competence are in nurse, the more for coping stress they use "planful problem-solving". "Confrontive coping" has the closest negative correlation with LC ($r = -0.24^{**}$; $p<0.01$), which indicates that the more characteristic for nurses' personality external LC is, the more frequently they use "confrontive coping". The more characteristic this WCS is, the less developed adaptability ($r = -0.19^{**}$; $p<0.01$) and stress management competences ($r = -0.17^{**}$; $p<0.01$) are. The correlation coefficient of WCS "seeking social support" ($r = -0.16^{**}$; $p<0.01$) indicates that it is more applied by the nurses whose EI stress management competence is developed to a lesser extent, which may be natural. Besides that the more external LC is characteristic to a nurse, the more frequently she uses "distancing" ($r = -0.15^{**}$; $p<0.01$) as her WCS. The intercorelation indicators of "positive reappraisal" denote that the more frequently nurses apply this WCS the higher their general mood competence ($r =0.14^{**}$; $p<0.01$) and their total EI ($r = 0.13^{**}$; $p<0.01$) are.

CL indicators show statistically significant correlations with both ways of coping stress and emotional intelligence. It correlates positively the closets with the adaptability competence of EI ($r = 0.33^{**}$; $p<0.01$) and the total EI indicator ($r = 0.27^{**}$; $p<0.01$), which indicates that the more common is internal LC to nurse's personality, the more developed is her adaptability competence and the higher her total EI is. There can also be observed the

correlation of CL with two ways of coping stress – "escape/avoidance" (r = -0.28**; p<0.01), "confrontive coping" (r = -0.23**; p<0.01), which is indicates that the more characteristic internal LC to nurse's personality is the less common is the use of these two ways of coping stress.

In order to prove the research hypothesis that there exist statistically significant differences among the ways of coping stress, emotional intelligence and the locus of subjective control in healthcare professionals with different duration of nursing experience, education and age the mean values of personality factors were compared using Post-hoc test (LSD) and dispersion analysis was performed in order to determine exactly among which parameters and which respondent groups there exist statistically significant differences.

The total sample data indicates that the most frequently   used way of coping is "planful problem-solving" (M=1,70, SD=0,47), which characterizes problem-oriented WCS, which can be evaluated as positive parameters of the sample, as, according to the research data (Chang 2006), mental health indicators are higher in those nurses who apply problem-oriented stress coping strategy. Rodhem and Bell's (Rodham & Bell 2002) several-year research results, in their turn, provide evidence that the nurses who had chosen problem-oriented coping were able to successfully resist and effectively overcome stress and displayed higher job satisfaction. However, there are two high mean scores for the WCS which characterize emotion-oriented WCS - "self-controlling" and "positive reappraisal" (M=1,64, SD=0,44). That it could be possible to assume that the nurses employ both SCS. Nurses tendency to use emotion-oriented stress coping strategy is associated with their psychological competences, the corresponding to the nurse's role self-image, professionally significant behaviour and personality traits (Shirey, 2006).

Analysing WCS mean scores over age groups, it is possible to draw a conclusion , that the spectrum of the WCS remains the same in the sample,

although younger nurses make use of one more significant WCS - „seeking social support", which may be connected with the feeling of insecurity, lack of life and work experience in comparison to older nurses. Chang (Chang 2007) also stresses out the significance of seeking social support as it was one of the most frequently used WCS among Australian nurses. According to his views, the patient care should be carried out evaluating social support as stress coping strategy. Social support is equally significant to the nurses 'perception of stress, where it serves as a "buffer". In case of lack of social support, nurses can experience stress to greater extent. Effectiveness of social support as one of the strategies is ambiguous, because in some studies it is more classified as problem-oriented coping strategy (Tully, 2004). With the reference to Folkman & Lazarus (1980), seeking social support may be considered as either problem-oriented or stress-oriented coping strategy depending on the situation. Significance of social support has also been revealed in other studies, where nurses expressed the necessity of greater support from direct manager and organization (Judkins &Ingram, 2002).

Statistically Significant Differences in Personality Factors

Use of dispersion analysis and Post-hoc test (LSD) provided a possibility to find out among which respondent groups and in which personality factors there exist statistically significant differences. Analysing the differences in personality factors across age groups, it can be stated that younger nurses (21-35 years) have statistically significant differences in such WCS as „confrontive coping" (with the 36-51 years old nurses) and „accepting responsibility" (with 52-76 years old nurses), noting that these ways are less characteristic to younger nurses. Younger nurses, in comparison to the nurses who are 36-51 years old, have statistically significant differences in EI stress management competence, which is less developed in younger

nurses. The nurses within the age interval 36-51 years display statistically significant differences with older nurses (52-76 years); emotion-oriented WCS are more frequently applied as the age increases and such WCS as "distancing" and "assuming responsibility" are used. The studies discovered that the indicators of mental health are higher in the nurses who use "distancing" more frequently (Chang, 2007). However, the study results on burnout syndrome among nurses show that there exists a positive correlation in its development with emotion-oriented stress coping, and it is negative with problem-oriented coping. There were not observed any statistically significant age-group differences in other personality factors.

Analysing the differences in personality factors among the nurses with different length of nursing experience, their indicator are assessed in four groups of work experience duration and the obtained data show that there exist statistically significant differences only in relation to coping stress. They can be observed in both SCS and five WCS – "confrontive coping", "seeking social support", "distancing", "accepting responsibility" and "escape/avoidance". Comparing the results for the nurses with the least work experience (less than 10 years) and the nurses whose work experience is 11-20 years, it is possible to state that the nurses with work experience less than 10 years, more frequently use problem-oriented SCS and WCS as "confrontive coping", "seeking social support" and "escape/avoidance". Nurses with the work experience 11-20 years statistically significantly differ from the nurses with longer work experience in two WCSs – "distancing" (from nurses whose work experience is more than 30 years) and "escape/avoidance" (from nurses with the work experience is 21-30 years), where the nurses with longer work experience use these ways more frequently. The nurses with the work experience 21-30 years have statistically significant differences with the nurses whose work experience is more than 30

years; the latter most frequently use "distancing" and "escape/avoidance", which may mean that their stress tolerance is lower (Rodham & Bell, 2002).

Statistically significant differences in personality factors among the respondents with different education have not been detected in the study, therefore it is possible to assumed that the education does not significantly affect these personality factors.

In order to prove the study hypothesis that there exist statistically significant differences in the significance of professional relevant behaviour in healthcare professionals with different length of work experience, education and age, the identification of these parameters was carried out applying dispersion analysis and post-hoc test (LSD) to determine between which groups of respondents and in which parameters of professionally relevant behaviour, statistically significant differences can be observed.

Parameters of Professionally Relevant Behaviour

The obtained descriptive statistics indicators of professionally relevant behaviour (PRB) indicate that all 26 parameters are significant for healthcare professionals, however ten leading parametres are: ability to cooperate, appropriate behaviour in a given situation, ability to concentrate, ability to apply their theoretical knowledge, ability to improve and develop their practical skills, emotional stability, ability to constructively deal with conflicts, compliance with work ethics, ability to take decisions and implement them as well as job satisfaction. Assessing three highest mean parameters of PRB for the respondents with different length of work experience, it must be marked that the following parameters are the most notable: "ability to cooperate" and "appropriate behaviour in a given situation" (regardless of the length of work experience); less experienced nurses mention "job satisfaction" as the third most essential parameter; for more experienced nurses, "ability to concentrate" is the third most important parameter and for nurses with work

experience more than 30 years, it is "ability to apply their theoretical knowledge". It is worth paying attention to the fact that, among PRB parameters with the lowest mean scores there are such parameters as "creative approach to work" and "empathy", which indicates that the nurses assign them less importance than to other parameters. It is essential to note that emotional intellect which comprises, for example, empathy and control over emotions can play an important role in regulation of aggressive impulses and creation of effective interpersonal relationships. This is confirmed by the results of the study carried out by D.Santesso, D.Reker, L. Schmidt and S. Segalowitz on relationship of low parameters of emotional intellect with high indicators of aggressiveness (Santesso, Reker, Schmidt & Segalowitz, 2006).

The results of dispersion analysis and post-hoc test (LSD) reveal that there are statistically significant age related differences (in six PRB parameters: "the ability to constructively deal with conflicts", "professional and life experience", "ability to be objectively critical of others", "compliance with work ethics", "tendency to reflect on one's actions", and "job satisfaction". In respect of the nurses within the age group 21-35years, there is a statistically significant difference with older nurses in five PRB parameters: the significance of such parameters as " ability to constructively deal with conflicts", "professional and life experience", "compliance with work ethics" (the nurses aged 52 -76) increase with age; "job satisfaction" is more essential for nurses in the age group 21-35 years than to 36-51 years old nurses, the importance of "ability to be objectively critical of others" increases with age (the nurses in the age ranges 36-51 years and 52-76 years). Older nurses (52-76 years) assign more importance to "tendency to reflect on one's actions" if compared to the nurses who are 36-51 years old.

Statistically significant differences were found in eight PRB parameters in relation to the length of nursing experience: "ability to apply their

theoretical knowledge", "ability to constructively deal with conflicts", "ability to achieve the aims", "ability to be critically objective of others", "compliance with work ethics", "tendency to reflect on their actions", "tolerance" and "job satisfaction".

The most significant differences are noted for two parameters: „ability to be objectively critical of others", importance of which increases with gaining more work experience, and opposite tendency is observed for the second parameter – "job satisfaction", significance of which decreases with gaining more work experience. Nurses with the work experience more than 30 years differs from the others in attaching more importance to "tolerance" (in comparison to nurses whose work experience is 21-30 years), "tendency to reflect on their actions" (in comparison to the nurses with work experience is 11-20 years), "compliance with work ethics" (in comparison to nurses with the work experience is less than 10 years or 11-20 years), "ability to constructively deal with conflicts" (in comparison to nurses with the work experience is less than 10 years or 11-20 years), „ability to apply their theoretical knowledge" (in comparison to nurses whose work experience is 21-30 years). This, to some extent, may be connected with large life and work experience, personality development acquired knowledge and skills. Nurses with the least nursing experience (less than 10 years) attach greater importance to the factor "ability to achieve the aim" (in comparison to the nurses whose work experience is 11-20 years and 21-30 years), which is understandable because they are at the very beginning of their professional development.

In relation to education, the obtained results do not present statistically significant differences in these parameters.

CONCLUSIONS

Summarizing the results of the study, the following conclusions can be drawn:

1. The nurses equally frequently employ problem- and emotion-oriented strategies of coping stress, besides that, planful problem solving, selfcontrolling and positive reappraisal are the most often applied ways of coping stress, while confrontive coping and escape/avoidance are less common.

2. The Indicators of emotional intelligence in nurses are relatively high, in particular the indicators of interpersonal competence, which indicates that the nurses in the sample can be characterized by the ability to effectively communicate, collaborate and get on well with other people; The prevailing scales of EI are self-actualization, social responsibility and optimism, while flexibility and independence are less common.

3. External locus of subjective control is characteristic to 40% of nurses which may indicate that they can be characterized by subjective sense of dependence on others, external circumstances, fate to a greater extent, conformity is characteristic to their communication, they are more easily emotionally alarmed, there is a greater possibility of neuroticism.

4. There exist statistically significant correlation of personality factors:
   - Problem oriented SCS correlates negatively with LC and positive correlation with EI intrapersonal and general mood competences which means that if the external LC is characteristic to a nurse's personality more the she more frequently uses problem-oriented SCS and her ability to be aware of her emotions, ability to feel positive in life, to be satisfied with herself and her life are more advanced;

- Emotion-oriented SCS has a negative correlation with the EI adaptive and stress management competences , which indicates that the more often nurses use emotion oriented SCS the less characteristic the following competences are: ability to be flexible, realistic, to effective deal with problems and to competently solve them;
- LC statistically significantly correlates with both WCS and EI, it positively correlates with EI adaptive competence and total EI the closest, which indicates that the more a nurse's personality can be characterized by internal locus of control the higher developed her adaptive competence and total EI are;
- LC has a negative correlation with two WCSs- "escape/avoidance" and "confrontive coping" which indicates that the more to nurse's personality is characteristic internal LC the less she applies those two ways in coping stress.

5. There exist statistically significant differences among the ways of coping stress, emotional intelligence and the locus of subjective control in practicing nurses with different length of work experience and age:
    - there exist statistically significant differences among different age groups in application of emotion oriented WCS – older nurses use this strategy more frequently:
    - there exist statistically significant differences in the use of both stress coping strategies among the groups with different work experience: less experienced nurses apply the following WCSs - „confrontive coping", "seeking social support", and "escape/avoidance", while more experienced nurses more frequently uses "distancing" and "accepting responsibility";

- Statistically significant differences have not been observed in the patients with different education which may mean that educational attainment does not affect them considerably.

6. The following PRB parameters are the most significant among nurses: „ability to cooperate", „appropriate behaviour in a given situation", „ability to concentrate", „ability to apply they theoretical knowledge in practice", „ability to improve and develop their practical skills", „emotional stability", „ability to constructively deal with conflicts", „compliance with work ethics", „ability to make decisions and implement them" as well as job satisfaction".

7. There have not been observed any statistically significant differences in PRB related to education, however, there exist differences in relation to age and work experience:
- The significance of "ability to deal constructively with conflicts", "professional and life experience" , "compliance with work ethics" and "tendency to reflect on own behaviour" increases with age;
- Statistically significant differences in PRB parameters related to nursing experience: the significance of "ability to be objectively critical of others" increases with the increase in nurses' work experience and the importance of "job satisfaction" decreases.

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