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The factors affecting the resilience levels of the nurses working in a public hospital

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Abstract

This study was conducted as a descriptive study to determine the factors affecting the psychological endurance levels of the nurses. A questionnaire consisting of 21 questions and the Resilience Scale for Adults (RSA) were used for data collection in this study. It is a five-point Likert scale, consisting of 33 items. Percentage calculation, Kruskal–Wallis test and Mann–Whitney U test were used for the assessment of the data. The average score of the nurses in the RSA was determined to be 123.3 ± 21.3. A statistically significant relationship has been found between some of the sociodemographic characteristics of the nurses and their score in the RSA ($p < 0.05$). As per the results, it has been determined that the nurses who are married, have kids, have bachelor's degree or higher, love their jobs, satisfied with the department they work at and chose their departments of their own volition, have high levels of resilience.

Keywords: Endurance, nurse, resilience.

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1. Introduction

Although the term 'resilience' refers to the ability of the individual to bounce back (Agirkan & Kagan, 2017; Cam & Buyukbayram, 2017), it can be used synonymously with terms of endurance, firmness, constancy and perseverance (Cam & Buyukbayram, 2017). While the word resilience has been initially described as a term defining the psychological endurance against the posttraumatic experiences, it is defined as a concept which contributes to enduring difficult situations faced after the interaction of many factors and systems and which can change at any time (Basar & Oz, 2016).

When resilience is defined in a more general sense, it refers to a person's ability to bounce back after an experienced catastrophe (Bitmis, Sokmen & Turgut, 2013), and a personal characteristic that allows for good results to be obtained after a stressful situation; being physically and mentally healthy. Resilience is not only required for the person to maintain their lives but also a must of existence throughout a person's life (Bozgeyikli & Sat, 2014).

Resilience is a characteristic that can change over time in that it can be learned and be improved (Alikasifoglu & Ercan, 2009; Bektas & Ozben, 2016). When an individual initially faces a negative situation, they get into a negative mood. In time, they get used to this situation and they begin the adaptation process (Altintas, 2017). Together with this, an individual can show different resilience patterns when they are faced with different circumstances (Bektas & Ozben, 2016).

The literature indicates that those resilient individuals who can control their behaviours, are socially competent and can assume social responsibilities, can easily carry out these responsibilities and that they believe their efforts can lead them to success (Basim & Cetin, 2011; Gillespie, Chaboyer & Wallis, 2009; Karairmak & Cetinkaya, 2011; Karreman & Vingerhoets, 2012).

Friborg et al. (2003) have approached resilience under five dimensions: personal competence, social competence, family coherence, social support and personal structure. In 2005, they have indicated that personal competence can be divided into two as 'the perception of self' and 'the perception of future'. Thus, resilience can be approached under six dimensions: the perception of self, the perception of future, social competence, family coherence, social support and personal structure. The perception of self indicates a person's acknowledgement of ones-self and their expression of thoughts regarding who they fundamentally are. The perception of the future provides information regarding the individual's perspective of the future (Basim & Cetin, 2011). Social competence specifies the individual's social adaptation, extroversion and their willingness to participate in social activities. Personal structure concerns the individual's ability to perform daily tasks, to plan and to organise. Family coherence indicates the familial support that the individual receives. Social support designates the individual's social relations (Bitmis et al., 2013).

Resilience is one of the most important coping mechanisms that allow a person to bounce back after a stressful live event (Gungormus, Okanli & Kocabeyoglu, 2015). Nursing is a vocation that includes many stressful and tension-causing situations, where there are long working hours. As the long working hours and the heavy workload affect the physical and mental health of the individuals, nursing is a vocation that pushes resilience limits (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O'flaherty, 2013; McCann et al., 2013). Being extensively exposed to stress negatively affects the individuals, and subsequently their kin, family and work lives (Ocak & Guler, 2013). Nurses are one of the pillars of the medical team, and it is important to ensure that their performance is not affected by the personal and vocational aspects of their lives. Therefore, it is critical to determine the factors that influence the nurses' resilience levels.

1.1. Purpose of the study

This study was conducted to answer the following questions regarding the factors influencing the resilience levels of nurses:

- What are the sociodemographic and vocational characteristics of nurses?
- What are the resilience levels of nurses?
- What factors influence the resilience of the nurses?
- Are the nurses' sociodemographic characteristics and the factors that influence their resilience correlated?

2. Methods

2.1. Study design and sampling method

This study was conducted as a descriptive and cross-sectional study to determine the factors affecting the psychological endurance levels of the nurses who work in a public hospital. The research was carried out with the participation of the nurses working in a public hospital between November 30, 2017 and December 30, 2017. The nurses were chosen using the Simple Random Sampling Methods (a Probability Sampling Method) which allow individuals to be chosen from the universe with equal probability. The size of the sample that could represent the universe was calculated to be 168 nurses among the total of 320 nurses who worked in the hospital ($p < 0.05$). The male/female nurses who were older than 18 years old were included in the research on a voluntary basis. The nurses who were off-duty or who were on sick leave at the time of the study were not included in the sample.

2.2. Collection of the data

The data presented in this study were collected using the 'Resilience Scale for Adults (RSA)', which was presented to the nurses with an introductory form. The introductory form consisted of 21 questions concerning the nurses' sociodemographic and vocational characteristics and their resilience levels. The questionnaire was tested with a pilot study with 15 subjects. The nurses who were in the pilot study were not included in the sample. The nurses were informed regarding the study and they have given written consent before the data were collected. The approximate duration of the data collection was 8–10 minutes. The nurses were notified that the participation in the study was completely up to them, that the questionnaire would not include their names and that the collected data would only be used for research purposes.

2.3. Resilience scale for adults

The RSA was developed by Friborg et al. (2003) and Friborg, Barlaug, Martinussen, Rosenvinge and Hjemdal (2005) to determine the resilience levels of employees, and it was adapted into Turkish by Basim and Cetin (2011). It is a five-point Likert scale, consisting of 33 items. The scale was revised by Friborg et al. (2005). The final version included six dimensions: the perception of self, the perception of future, social competence, family coherence, social support and personal structure. The scope of the questions are as follows: personal structure in questions 3, 9, 15 and 21; the perception of future in questions 2, 8, 14 and 20; family coherence in questions 5, 11, 17, 23, 26 and 32; the perception of self in questions 1, 7, 13, 19, 28 and 31; social competence in questions 4, 10, 16, 22, 25 and 29; social support in questions 6, 12, 18, 24, 27, 30 and 33. The highest possible score is 165 and the lowest possible score is 33. A high final score indicates high resilience and a low final score indicates low resilience. Basim and Cetin have determined the Cronbach's alpha reliability coefficient to be 0.86 for the RSA. This study has found the Cronbach's alpha reliability coefficient to be 0.88 for the RSA among nurses. A written permission from Basim was obtained for the application of the Turkish version of the scale.

2.4. Ethical considerations

The Ondokuz Mayis University, Social and Human Sciences Ethical Committee, has given permission for the study (05.09.2017, No: 2017/201). A written consent was obtained from the administration of the hospital and an informed consent was obtained from the nurses who were included in the study.

2.5. Analysis of the data

The SPSS 21.0 package program was used for the statistical analysis of the data concerning the resilience levels of the nurses included in the study. The analysis includes the descriptive statistics (mean, percentage, standard deviation and median (minimum–maximum)), normality test; and for the non-normally distributed data, the Mann–Whitney U test and Kruskal–Wallis test. The reliability of the scale was tested using the Cronbach's alpha analysis. $p < 0.05$ was statistically significant.

3. Results

3.1. Findings concerning the sociodemographic and vocation characteristics of the nurses

Among the 168 nurses who were included in the study, 84.5% were female and 15.5% were male, 62.5% were married, 46.4% had a bachelor's degree, 85.7% lived only with their spouses and children and 60.1% had children. The mean age was 32.82 ± 7.11. The nurses were assigned to the following departments: 26.2% in internal medicine, 23.8% in surgical departments and 50.0% in the other departments. Also, 89.9% of the subjects worked as clinical nurses, 93.5% were on the payroll of the hospital, 75.0% worked in shifts, 71.4% loved their job, 63.1% were happy with the department that they were working in, 66.7% worked in the department of their preference and 66.7% never had previous health problems (Table 1).

The mean duration of working as a nurse was 11.12 ± 7.37 and the mean duration of working in the current hospital was 6.46 ± 6.22. The nurses' average duration of working in their current clinics was 4.76 ± 5.33, their average weekly working hours were 48.35 ± 9.80 and the number of nurses working in a clinic was 13.09 ± 6.24.

The results of the RSA (total, sub-dimension median and mean scores) are presented in Table 2. The median score for the total RSA was 125. The median scores for the sub-dimensions the perception of self, the perception of future, personal structure, social competence, family coherence and social support were 22, 16, 14, 22, 22 and 27, respectively. The average total score for the RSA was 123.3 ± 21.3. The average scores for the sub-dimensions were as follows: the perception of self 22.8 ± 4.7, the perception of future 14.9 ± 3.7, personal structure 14.1 ± 3.3, social competence 22.2 ± 4.7, family coherence 22.0 ± 5.2 and social support 27.3 ± 6.0 (Table 2).

It was determined that the total median RSA score was not different for different groups of age, gender, the role in the clinic, duration of working, duration of working in the current hospital, the total number of nurses, working position, the type of employment, voluntarily choosing the occupation or not, liking the job, weekly working hours, previous medical history and having lost a relative ($p > 0.05$). It was determined that the RSA scores were influenced by the following factors: the marital status of the nurse ($p = 0.042$), education ($p = 0.003$), type of family ($p = 0.018$), having children or not ($p = 0.024$), being content with the clinic that they are currently assigned ($p = 0.001$) and preference of the clinic that they work in ($p = 0.033$) (Table 3).

It was determined that the median score for the perception of self sub-dimension was influenced by being content with the current clinic ($p = 0.018$) and preferring the clinic that they work in ($p = 0.033$). It was observed that the RSA for the perception of the self sub-dimension score was higher among nurses who were content with their current clinic and who preferred the clinic that they worked in.

It was determined that the median score for the perception of future sub-dimension was influenced by the education of the nurses (p = 0.002), the structure of the household (p = 0.035), liking the job (p = 0.011), being content with the current clinic (p < 0.001) and preferring the clinic that they work in (p = 0.03). It was observed that the RSA for the perception of the future sub-dimension score was higher among nurses who had a bachelor's degree, who lived only with their spouse/children, who loved their jobs, who were content with their current clinic and who preferred the clinic that they worked in.

It was determined that the median score for the personal structure sub-dimension was influenced by the nurses' education (p = 0.014) and being content with the clinic that they work in (p = 0.01). It was observed that the RSA personal structure sub-dimension score was higher among nurses who were content with their current clinic and who had a bachelor's degree.

It was determined that the median score for the social competence sub-dimension was influenced by the nurses' marital status (p = 0.022), education (p = 0.018), having children (p = 0.002) and being content with the current clinic (p = 0.007). It was observed that the RSA social competence sub-dimension score was higher among nurses who were married, who had master's degrees, had children and who were content with the clinic that they worked in.

It was determined that the median score for the family coherence sub-dimension was influenced by the nurses' education (p = 0.047) and preferring the clinic that they work in (p = 0.034). It was observed that the RSA family competence sub-dimension score was higher among nurses who had master's degrees and who preferred the clinic that they worked in.

It was determined that the median score for the social support sub-dimension was influenced by the nurses' marital status (p = 0.037), education (p = 0.014), structure of household (p = 0.015), being content with the current clinic (p = 0.012) and preferring the clinic that they work in (p = 0.031). It was observed that the RSA social support sub-dimension score was higher among nurses who were married, who had a bachelor's degree, who had children, were content with their current clinic and who preferred the clinic that they worked in.

4. Discussion

The individuals can feel weak when they cannot protect themselves against the experienced stress and difficulties and, consequently, experience psychological and physical illnesses. The number of studies that assess the factors that affect the resilience levels of nurses is quite low, thus the discussion of the related findings is limited.

This study has found that the resilience level was not influenced by gender, with the females being more resilient than males. It was determined that among nurses, the RSA scores of the following sub-dimensions were not influenced by gender: the perception of self, the perception of future, personal structure, social competence, family coherence and social support. These results are compatible with the results of the study by Tas (2013), which was the first study in the national literature that evaluated the resilience, depression and perceived stress among nurses. This study has likewise found that the RSA score and the sub-dimensions (the perception of self, the perception of future, personal structure, social competence, family coherence and social support) did not depend on gender.

In our study, it was determined that the RSA score and the sub-dimensions did not depend on different age groups. Tas (2013) has indicated that the RSA score and the sub-dimensions the perception of future, personal structure, family coherence, the perception of self and social support did not significantly depend on age groups. However, the Tas (2013) study has found that the social competence sub-dimension score was significantly higher among the subjects who were aged 30 or older. Taycan, Kutlu, Cimen and Aydin (2006) have studied the depression and exhaustion levels of nurses regarding the sociodemographic characteristics. They have reported that the nurses were

better able to deal with work-related problems as they got older, thus, they felt better (Taycan et al., 2006).

Tas (2013) has indicated the RSA and sub-dimension scores were not influenced by the nurses' educations. However, this study has determined that the nurses' RSA sub-dimensions were not solely influenced by the perception of the self sub-dimension score. The perception of self indicates a person's acknowledgement of ones-self and their expression of thoughts regarding who they fundamentally are. It was observed that the social support sub-dimension score (that explains the individual's social relations) was higher among the nurses with a bachelor's degree; however, the total RSA score was higher among nurses with master's degrees. Education has several important functions concerning personal development and improvement of the individual's skills. It can be said that the resilience levels are higher among the individuals who were able to benefit from education compared to the individuals who were not.

This study has found that the resilience levels were higher among the nurses with longer work experiences; however, this difference was not found to be significant. Similarly, Tas (2013) has found that the resilience levels were lower among nurses with 5 years of work experience or more; however, the study indicates that this difference was statistically insignificant.

Adali and Priami (2002) have indicated that age, working years and education were influencing factors of stress coping strategies. Moore, Kuhik and Katz (1996) have conducted a study among surgical nurses. They have observed that the age of the nurse and their sensitivity towards stress was negatively correlated. The older nurses had lower stress levels. It was also observed that the nurses with more working years, older age and further education were better able to adapt to negative circumstances and better able to cope with the situation (Adali & Priami, 2002; Xianyu & Lambert, 2006).

Our study has determined that the social support and social competence sub-dimensions were influenced by marital status. The social support and social competence scores were higher among married nurses. Tas (2013) has found that only the social support sub-dimension was influenced by the marital status athe(n)3(u)3(rse8s W-34(c)10(o)5(en-2(ed)-46(an)4(d)18e)-6(en-2(ed m[(h)3(av)-379(AdwT)-2(a)

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5. Conclusion

This study has determined that the median RSA score to be 125. It was observed that the RSA score was higher among the nurses who were married, who had master's degrees, who lived only with their spouse/children, who had children, who were content with their current clinic and who preferred the clinic that they work in.

As a result of the findings, it was concluded that;

- The personal and vocational factors that influence the resilience values of nurses should be taken into consideration.
- The managers should pay attention to the clinics that the nurses prefer to work in.
- The workload of the nurses should be decreased through the increased number of nurses and a planned workforce.
- The working hours of the nurses should be revised.

6. Limitations of the study

The limitations of this study include its unicentric nature, the application of a quantitative research method, the fact that the data were collected only through a questionnaire, and the absence of observation and evaluation regarding the subject.

7. Future research

We suggest that the future studies concerning this subject should utilise qualitative interview methods, conduct focus-group discussions with the nurses, and conduct observations and evaluations regarding the factors that may influence resilience in the workplace.

Table 1. The **distribution of the nurses' sociodemographic and vocational properties** (***n*** = 168)

Characteristics		***n***	%
Age groups	Aged 21–30	75	44.6
Mean age: 32.82 ± 7.11	Aged 31–42	79	47.0
	Aged 43–53	14	8.3
Gender	Female	142	84.5
	Male	26	15.5
Marital status	Married	105	62.5
	Single	63	37.5
Education	Med. Vocational H.S. School	27	16.1
	Associate Degree	54	32.1
	Bachelor's Degree	78	46.4
	Master's Degree	9	5.4
Household structure	Extended family	24	14.3
	Only spouse/children	144	85.7
Presence of children	Yes	101	60.1
	No	67	39.9
Current clinic	Internal Medicine	44	26.2
	Surgical Departments	40	23.8
	Other Departments	84	50.0
Position in the clinic	Clinical nurse	151	89.9
	Clinical head nurse	17	10.1
Duration of working as a nurse	1–11 years	97	57.7
	12–22 years	60	35.7
	23–33 years	11	6.5
Duration of working in the current	1–11 years	138	82.1

hospital	12–22 years	24	14.3
	23–33 years	6	3.6
Duration of working in the current clinic	1–9 years	144	85.7
	10–18 years	17	10.1
	19–27 years	7	4.2
The number of nurses working in the clinic	1–8 years	69	41.1
	9–16 years	29	17.3
	17–23 years	70	41.7
Employment type	Payroll	157	93.5
	Contractual	11	6.5
Working hours	Only during the day	42	25.0
	In shifts	126	75.0
Voluntarily chosen vocation	Yes	124	73.8
	No	44	26.2
Liking the vocation	I like my job	120	71.4
	I do not like my job	19	11.3
	Undecided	29	17.3
Being content with the current clinic	Happy	106	63.1
	Not happy	19	11.3
	Partially happy	43	25.6
Preferring the current clinic	Yes	114	67.9
	No	54	32.1
Previous medical problems	Yes	56	33.3
	No	112	66.7
Having lost a relative	Yes	77	45.8
	No	91	54.2

Table 2. The Resilience Scale for adults of the nurses and the total and sub-dimension scores

Sub-dimensions	Med (Min–Max)	**Mean ± S.D.**
The perception of self	22 (10–30)	22.8 ± 4.7
The perception of future	16 (4–20)	14.9 ± 3.7
Personal structure	14 (4–20)	14.1 ± 3.3
Social competence	22 (10–30)	22.2 ± 4.7
Family coherence	22 (9–30)	22.0 ± 5.2
Social support	27 (13–35)	27.3 ± 6.0
Total RSA	125 (72–165)	123.3 ± 21.3

Table 3. The Comparison of the sociodemographic properties of the nurses and the RSA Scores

Characteristics		Med (Min–Max)	Test result ***p***-value
Age groups	Aged 21–30	127 (92–161)	$\chi^2 = 0.027$
	Aged 31–42	121 (72–165)	$p = 0.987$
	Aged 43–53	126 (90–165)	
Gender	Female	125 (72–165)	$U = 1635.5$
	Male	109.5 (93–165)	$p = 0.356$
Marital status	Married	127 (72–165)	$U = 2686$
	Single	121 (90–158)	$p = 0.042$
Education	Med. Vocational H.S.[A]	108 (86–149)	$\chi^2 = 13.653$
	Associate Degree[A]	113 (89–161)	$p = 0.003$
	Bachelor's Degree[B]	129 (72–165)	

	Master's Degree[AB]	133 (92–161)	
Type of household	Extended family	111 (90–152)	$U = 1208$
	Only spouse/children	127 (72–165)	$p = 0.018$
Children	Yes	129 (72–165)	$U = 2689$
	No	121 (90–161)	$p = 0.024$
Position in the clinic	Clinical nurse	122 (87–165)	$U = 1091.5$
	Clinical head nurse	137 (72–165)	$p = 0.312$
Duration of working as a nurse	1–11 years	127 (89–161)	$\chi^2 = 0.713$
	12–22 years	121 (72–165)	$p = 0.7$
	23–33 years	132 (99–165)	
Duration of working in the current hospital	1–11 years	125 (89–165)	$\chi^2 = 0.121$
	12–22 years	123 (72–153)	$p = 0.941$
	23–33 years	118 (99–157)	
Duration of working in the current clinic	1–9 years	125 (86–165)	$\chi^2 = 1.869$
	10–18 years	117 (72–153)	$p = 0.393$
	19–27 years	145 (99–165)	
The number of nurses in the clinic	1–8 nurse(s)	121 (86–158)	$\chi^2 = 1.401$
	9–16 nurses	115 (87–158)	$p = 0.496$
	17-23 nurses	128 (72–165)	
Type of employment	On the payroll	125 (72–165)	$U = 808.5$
	Contractual	122 (103–153)	$p = 0.724$
Working hours	Only during the day	137 (72–165)	$U = 2196$
	In shifts	121.5 (89–165)	$p = 0.099$
Voluntary choice of occupation	Yes	125 (72–165)	$U = 2607$
	No	120 (86–161)	$p = 0.662$
Liking the job	I like my job	127 (86–165)	$\chi^2 = 3.267$
	I do not like my job	109 (72–153)	$p = 0.195$
	Undecided	117 (89–161)	
Being content with the current clinic	Happy[A]	129.5 (92–165)	$\chi^2 = 14.563$
	Not happy[AB]	127 (72–153)	$p = 0.001$
	Partially happy[B]	108 (86–158)	

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