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Resilience in nurses in terms of perceived social support, job satisfaction and certain variables

Emine Öksüz[1] | Meral Demiralp[2] | Sevinç Mersin[3] | Hilal Tüzer[4] | Miray Aksu[5] | Gamze Sarıkoc[1]

[1]Psychiatric and Mental Health Nursing Department, Gulhane Faculty of Nursing, University of Health Sciences, Ankara, Turkey

[2]Psychiatric and Mental Health Nursing Department, School of Nursing, Ufuk University, Ankara, Turkey

[3]Psychiatric and Mental Health Nursing Department, School of Nursing, Bilecik Seyh Edebali University, Bilecik, Turkey

[4]Department of Nursing, Faculty of Health Sciences, Yildirim Beyazit University, Ankara, Turkey

[5]Management Department, Gulhane Education and Research Hospital, Ankara, Turkey

Correspondence
Emine Öksüz, Ruh Sağlığı ve Hastalıkları Hemşireliği ABD, Gulhane Hemşirelik Fakültesi, Sağlık Bilimleri Üniversitesi, Ankara, Turkey.
Email: eminetopac@gmail.com

Abstract

Aim: This study investigated the resilience of nurses, the factors that contribute to resilience, and its relationship with perceptions of social support and job satisfaction.

Background: Resilience plays an important role in how nurses cope with work-related stressors.

Methods: A descriptive study was conducted with 242 nurses working at three public hospitals in Turkey. Data were collected using a descriptive data form, the Resilience Scale for Adults (RSA), the Multidimensional Scale of Perceived Social Support (MSPSS) and the Minnesota Job Satisfaction Scale (MJSS).

Results: Nurses' mean scores on the RSA, MSPSS, and MJSS were 99.80 ± 4.43, 66.66 ± 13.30, and 3.31 ± 0.72, respectively. Statistically significant relationships were detected between resilience and five factors: age, gender, mother's educational level, work experience and working hours ($p < 0.05$). A statistically significant positive correlation was also observed between MJSS score and both total RSA and family support subscale scores ($p < 0.05$).

Conclusion: The resilience, perceived social support, and job satisfaction of participating nurses were moderate. Significant factors in their resilience were age, gender, mother's educational level, work experience, working hours, perceived social support and job satisfaction.

Implications for Nursing Management: Nurse managers can use the results to plan interventions that improve resilience among nurses.

KEYWORDS

job satisfaction, nurses, resilience, social support

1 | BACKGROUND

Resilience is the ability to recover from stressful life events and generally refers to the process of successful adaptation (Lim et al., 2015). It plays an important role in increasing personal strength against stressful events, coping with difficulty, developing effective coping strategies and adapting to situations involving change (Lim et al., 2015; Shatté, Perlman, Smith, & Lynch, 2017). Caldeira and Timmins (2016) have characterized resilience as being fundamental across the lifespan and closely related to health and wellbeing. Although resilience was initially described as a personality trait, in the last 20 years it has been redefined as a dynamic, mutable process that can be improved as well as weakened (Aburn, Gott, & Hoare, 2016; Magtibay, Chesak, Coughlin, & Sood, 2017).

For nurses, who experience problems at work due to excessive workloads, staffing shortages, having to provide care in adverse

conditions and general deficiencies in health care systems (Hart, Brannan, & De Chesnay, 2014; McCann et al., 2013), resilience is important for negotiating stress factors and maintaining professionalism in different circumstances at work (Çam & Büyükbayram, 2017; Hart et al., 2014). Numerous studies conducted with various samples in the United States (Hudgins, 2016), France (Lala et al., 2016), the United Kingdom (Ablett & Jones, 2007), Spain (García–Izquierdo, Pedro, Ríos–Risquez, & Sánchez, 2018), Australia (Hegney, Rees, Eley, Osseiran-Moisson, & Francis, 2015), Israel (Itzhaki et al., 2015), China (Guo, Cross, et al., 2017), Japan (Gito, Ihara, & Ogata, 2013) and Singapore (Ang et al., 2018; Zheng et al., 2017) to examine resilience among nurses have highlighted sociodemographic and work-related characteristics as the main factors in nurses' resilience. Moreover, nurses with high levels of resilience have also been shown to have high levels of psychological health (Gao et al., 2017; Mealer et al., 2012), quality of professional life (Hegney et al., 2015) and job satisfaction (Hudgins, 2016). Resilience has also been reported to shield nurses from stress, depression, burnout and emotional exhaustion (Brown, Wey, & Foland, 2018; García-Izquierdo et al., 2018; Gito et al., 2013; Guo, Luo, et al., 2017; Magtibay et al., 2017; Zou et al., 2016).

Social support is an important factor in ability to cope with stressors encountered in work environments. By extension, perceived social support is the perception of supportive resources when they are required. A major potential source of social support is emotional support from family, friends and peers. Social support and resilience protect individuals against threats to their mental and physical health by reducing or balancing the negative effects of stressful events that they experience in life (Sun et al., 2017; Woodhead, Northrop, & Edelstein, 2016).

It is important for nurses who work in challenging, stressful conditions to be satisfied with their work so that they can maintain, if not improve, the quality of services that they provide. Among conditions that influence the success, happiness, and productivity of individuals at work, job satisfaction is the personal feeling of satisfaction created by the perceived benefits of a person's job (Amarneh, 2017). Of all the factors that contribute to resilience, job satisfaction ranks among the most important (Li et al., 2018; Zheng et al., 2017).

The resilience of nurses should be increased so that they can efficiently provide high-quality care in health care environments and cope with negative events during the process. It is therefore important to further identify and describe the factors that contribute to resilience among nurses (Aburn et al., 2016; Hart et al., 2014). Several studies in the literature have also reported that the level of education of nurses' mothers cannot explain their resilience and it is possible that this factor differs according to culture. Female children used to be raised mostly as mothers to cook and do housework before the republic era in Turkey and therefore were not encouraged to complete their education whereas male children were raised to be fathers who would be responsible for the family finances in the future and were therefore expected to receive a full education. The equal rights of males and females after the declaration of the republic in Turkey resulted in greater emphasis on receiving an education and becoming employed for female children in the cities but not in rural areas where tradition was still strong and female children were expected to do the housework (Özaydınlık, 2014). Other studies have revealed that the personal, family, social and occupational features of nurses can affect their resilience levels and this can vary according to the culture (Aburn et al., 2016; Ang et al., 2018; Hegney et al., 2015). Despite the many studies on such factors, only one, conducted at an oncology clinic, has involved examining the resilience of nurses in Turkey (Kutluturkan, Sozeri, Uysal, & Bay, 2016). In this contribution we sought to gauge the resilience levels of nurses in various public hospital departments in Turkey.

2 | AIMS

The aims of our study were to identify the resilience levels of nurses, pinpoint factors that account for their resilience and investigate the relationships between their resilience on the one hand and perceived social support and job satisfaction on the other.

3 | METHODS

3.1 | Study design and participants

Our descriptive study was conducted in three public hospitals in two provinces of Turkey between November 2015 and February 2016. Our sample included 88 nurses from the first hospital, 78 from the second, and 76 from the third, for a total of 242 nurses. All nurses who volunteered to participate in the study were included in the sample.

3.2 | Instruments

3.2.1 | Descriptive data

A descriptive data form was prepared by the researchers. It consisted of items addressing the nurses' sociodemographic characteristics and conditions at work.

3.2.2 | Resilience

Resilience was measured using the Resilience Scale for Adults (RSA). Focusing on protective resources that support resilience, the RSA aims to determine the chief protective factors of regaining and maintaining mental health. The Turkish validity and reliability study of the RSA, originally developed by Friborg, Hjemdal, Rosenvinge, and Martinussen (2003), was performed by Basım and Çetin (2011). Consisting of 33 items, the scale has six subscales: perception of self, perception of future, social competence, family cohesion, social resources, and structured style. To prevent acquaintance bias, scoring of the scales is freeform and, in our study, increased mean scores indicated increased resilience. Regarding inner consistency, Basım and Çetin (2011) reported a Cronbach's alpha of 0.86 for the RSA, whereas we calculated a value of 0.74.

3.2.3 | Social support

The Multidimensional Scale of Perceived Social Support (MSPSS) was used to assess the perceived social support of participants. Originally developed by Zimet, Dahlem, Zimet, and Farley (1988) to identify factors of social support perceived by individuals, the MSPSS was later adapted for the Turkish population by Eker, Arkar, and Yaldız (2001). With 12 items rated on a seven-point Likert-type scale (1 = very strongly disagree, 7 = very strongly agree), the MSPSS has three subscales with four items each to identify support from families, friends and other individuals. The possible score range of each subscale is 4–28 points, for a minimum possible total score of 12 points and a maximum of 84 points; higher scores indicate higher degrees of perceived social support. Eker et al. (2001) calculated the Cronbach's alpha for the MSPSS to be 0.89, whereas our Cronbach's alpha was 0.87.

3.2.4 | Job satisfaction

Job satisfaction was measured using the Minnesota Job Satisfaction Scale (MJSS), a five-point Likert-type scale with 20 items in two subscales: internal satisfaction and external satisfaction. A Turkish validity and reliability study of the MJSS was conducted by Baycan (1985). Total scores for the MJSS range from 20 to 100 points, in which the midpoint of 60 points indicates moderate job satisfaction. Possible mean scores for each subscale range from 1 to 5 points, and 3 points indicates moderate job satisfaction. Baycan (1985) determined Cronbach's alpha for the MJSS to be 0.77, whereas we calculated it to be 0.93.

3.3 | Data collection

Written permission from the participating hospitals for conducting the study and approval from their ethics review committees were obtained. Participating nurses were informed about the study's topic and aims, and that their participation was voluntary. Informed consent was obtained from each participant.

Data-collection tools were administered in the lounges of the hospital units in which the nurses worked. Quiet and well lit, the lounges are used by nurses to rest and have tea and coffee. The data-collection tools were distributed to the subjects by the researchers and information was provided separately to each subject on how to complete them. The subjects were left alone in the interview room/lounge while completing these tools to prevent any anxiety or pressure due to the researcher waiting in the room and to make sure they could enter their responses in a relaxed atmosphere. The subjects completed the data collection tools in approximately 15–20 min. Participants could enjoy tea or coffee while completing the forms.

3.4 | Analysis

Data were analysed with the Statistical Package for the Social Sciences version 21.0 (SPSS Inc., Chicago, IL, USA, 2012), and numbers, percentages, means, and standard deviations were used to record results. An independent *t* test and one-way analysis of variance test were used to compare of the variables, and the relationships of the variables were evaluated with Pearson's correlation test. All values of $p < 0.05$ were considered to indicate statistical significance.

4 | RESULTS

Descriptive characteristics of the participants appear in Table 1.

4.1 | Resilience, social support and job satisfaction results

As shown in Table 2, the mean total scores on the RSA, MSPSS, and MJSS were 99.80 (*SD* = 4.43), 66.66 (*SD* = 13.30) and 3.31 (*SD* = 0.72), respectively.

4.2 | Descriptive results of resilience

The RSA total score and subscale scores were compared according to the descriptive characteristics of participants; statistically significant differences appear in Table 3. A statistically significant difference was found among nurses in different age groups according to RSA total score as well as scores on the social competence and family cohesion subscales ($p < 0.05$). Additional analysis conducted to identify groups responsible for that difference revealed that all three scores for 36–40 and 41–45 year-olds were greater than the scores of the other age groups ($p < 0.05$).

A statistically significant difference was detected in participants' scores on the perception of future subscale by gender ($t = -1.851$, $p = 0.008$), with women nurses scoring lower. According to marital status, a statistically significant difference also emerged between the family cohesion subscale scores of nurses ($t = 2.979$, $p = 0.002$), which were lower among single nurses. Another statistically significant difference appeared between the RSA total, perception of future, and structured style subscale scores according to mother's educational level ($p < 0.05$). A post hoc analysis with the Bonferroni correction, performed to identify the origin of that difference, revealed that all three scores were lower among nurses whose mothers were illiterate ($p < 0.05$), as shown in Table 3.

Another statistically significant difference in terms of the work experience of the nurses was found among the RSA total, perception of self, structured style, social competence and family cohesion subscale scores ($p < 0.05$). A post hoc analysis with Bonferroni correction, to identify the groups responsible for that difference, showed the RSA total, structured style, social competence and family cohesion subscale scores of nurses who had worked for 5 years or less were lowest ($p < 0.05$). By contrast, perception of self subscale scores of nurses with 11 or more years of work experience were higher (Table 3).

A final statistically significant difference surfaced among RSA total, perception of self, perception of future, structured style, social competence and family cohesion subscale scores depending

TABLE 1 Descriptive statistics for participants (N = 242)

	n	%
Age		
18–24	44	18.2
25–30	58	24.0
31–35	39	16.1
36–40	67	27.7
41–45	34	14.0
Gender		
Female	224	92.6
Male	18	7.4
Marital status		
Married	161	66.5
Single/widow	81	33.5
Have any children		
Yes	151	62.4
No	91	37.6
Number of children		
1	68	28.1
2	73	30.2
≥3	10	4.1
Educational level		
High school	36	14.9
University	173	71.5
Postgraduate education	33	13.6
Income per month		
Income <expenditure	86	35.5
Income =expenditure	156	64.5
Educational level of mother		
Elementary school	20	8.3
Secondary school	154	63.6
High school	40	16.5
University	28	11.6
Educational level of father		
Elementary school	111	45.9
High school	89	36.8
University	42	17.4
Work experience (years)		
≤5	48	19.8
6–10	46	19.0
11–20	77	31.8
>20	71	29.3
Working hours		
Only day (08–16)	86	35.5
Both day or night (16–24 or 16–08)	156	64.5
Status		
Clinic nurses	224	92.6
Management nurses	18	7.4
	Mean	*SD*
Working hours per week	42.01	7.33

Note. *SD*: standard deviation.

on the working hours of the nurses (p <0.05). Those scores were lower among nurses who worked during both day and night shifts (Table 3).

By contrast, no statistically significant difference emerged between the RSA total and subscale scores of participants according to age, number of children, educational level, income, father's educational level, unit of work, professional rank, and working hours per week (p > 0.05).

4.3 | Correlations among resilience, perceived social support and job satisfaction

Correlations between the RSA total scores and the MSPSS total, MJSS total and subscale scores of participants appear in Table 4. A statistically positive correlation was found between mean RSA total and family support subscale scores (r = 0.177, p = 0.006) and between RSA total and MJSS total scores (r = 0.198, p = 0.002), RSA total and internal satisfaction subscale scores (r = 0.136, p = 0.034) and RSA total and external satisfaction subscale scores (r = 0.258, p < 0.001) at the p < 0.05 significance level. Although not tabulated here, the results of the analysis of the correlation between MSPSS total and MJSS total scores also revealed a statistically positive correlation (r = 0.431, p < 0.001).

5 | DISCUSSION

Our study was conducted to investigate the resilience of nurses and the factors that contribute to it, in addition to the relationships among resilience, perceived social support, and job satisfaction. The resilience of the nurses was moderate, and the nurses were observed to be competent in maintaining, planning and organising their daily work; to have good self-confidence, positive plans for the future, and good family relationships and family support, and to be eager to participate in social activities. The resilience of nurses was also shown to be moderate in other studies conducted with nurses working at public hospitals (Guo, Cross, et al., 2017; Zou et al., 2016). Another study in Turkey with oncology nurses conducted with the same measurement tools also reported high resilience levels among nurses in its sample (Kutluturkan et al., 2016). The difference in results may be due to the characteristics of the various samples.

Among the descriptive characteristics of the nurses, age, gender, marital status, mother's educational level, work experience and working hours affected their resilience. Individual, family-related

TABLE 2 Descriptive statistics for RSA, MSPSS, and MJSS total and subscale scores

	Scale's min. to max. scores	Participants' min. to max. scores	Mean	*SD*
RSA total	33–165	88–116	99.80	4.43
Perception of self	6–30	12–24	18.09	1.71
Perception of future	4–20	7–19	11.86	1.42
Structured style	4–20	6–20	12.29	1.66
Social competence	6–30	15–26	18.37	1.78
Family cohesion	6–30	13–24	19.83	2.36
Social resources	7–35	12–23	19.32	1.77
MSPSS total	12–84	31–84	66.66	13.30
Family support	4–28	7–28	23.70	5.04
Friend support	4–28	8–28	22.57	5.16
Other person support	4–28	4–28	20.39	7.20
MJSS total	1–5	1.30–4.75	3.31	0.72
Internal satisfaction	1–5	1.42–4.83	3.45	0.72
External satisfaction	1–5	1.00–5.00	3.09	0.81

Note. MJSS: Minnesota Job Satisfaction Scale; MSPSS: Multidimensional Scale of Perceived Social Support; RSA: Resilience Scale for Adults; *SD*: standard deviation.

and environmental factors have also been shown to affect the resilience of nurses (Caldeira & Timmins, 2016; Hart et al., 2014). Although some researchers have added that age ranks among factors contributing to nurses' resilience (Ang et al., 2018; Kutluturkan et al., 2016; Shatté et al., 2017; Zheng et al., 2017), other studies have shown that it did not (Gillespie, Chaboyer, Wallis, & Grimbeek, 2007; Rushton, Batcheller, Schroeder, & Donohue, 2015; Zou et al., 2016). The resilience scores of nurses aged 36–45 in our study were high, probably because their high level of professional experience better equipped them to cope with difficulties faced in their personal and professional lives. Knowing oneself is an important factor in coping with personal and occupational adversity and can arguably explain the high degree of resilience in nurses aged 36–45 years in our sample.

The resilience levels of women in our sample were lower than those of men according to scores on the perception of future subscale. As planning for the future and being optimistic increase resilience (Aburn et al., 2016), that result could stem from women's low expectations for the future. However, gender did not affect the resilience of nurses in other studies (Guo, Cross, et al., 2017; Zheng et al., 2017). Unlike those findings, our results suggest that women nurses should be supported in improving their perceptions of the future.

The resilience of single nurses in our sample was low according to their scores on the family cohesion subscale. Arguably, single nurses interact less with their families and have less family support. The results of other studies have indicated high resilience in individuals who live with their families and have positive family relationships, which supports our results (Ang et al., 2018; Fu et al., 2017; Malkoç & Yalçin, 2015; Sun et al., 2017).

In terms of the ability to cope with daily tasks, to plan and to organise (structural style subscale), make realistic plans for the future, and be optimistic (perception of future subscale), resilience was lower in nurses with illiterate mothers. Nurses with illiterate mothers could thus have a reduced ability to maintain, plan and organise their daily work and lack hope for the future. The declaration of a republic in Turkey made primary education compulsory but female children were still not sent to school in some regions (especially in places like villages) for financial and traditional reasons. This can result in these girls praising and encouraging their children insufficiently, and can lead to difficulties in problem solving and coping with stress when they become mothers themselves (Özaydınlık, 2014). Indeed, having parents with a good education has been identified as a protective factor against possible risks during the development of resilience (Aburn et al., 2016). The results of our study corroborate that finding.

Another factor contributing to resilience among nurses in our study was work experience as nurses. Nurses with 5 years or less of work experience in the profession had less ability to organise their daily work (structured style subscale), less desire to participate in social activities (social competence subscale) and a lower likelihood of having established a compliant relationship with family members (family cohesion subscale), together with generally low resilience. Such results indicate that work experience increases resilience, as the findings of other studies have previously shown (Ang et al., 2018; Gifkins, Loudoun, & Johnston, 2017; Kutluturkan et al., 2016; Zheng et al., 2017). Moreover, the self-perception and self-confidence of nurses who had worked for more than 10 years as nurses was higher than among other nurses in our sample. As individuals with a positive self-perception can cope better with the difficulties

TABLE 3 Comparison of the total RSA ve subscale scores of participants according to their descriptive characteristics

	RSA total	Perception of self	Perception of future	Structured style	Social competence	Family cohesion	Social resources
Age							
18–24	99.00 ± 4.69	17.88 ± 1.88	12.00 ± 1.44	12.43 ± 1.73	18.25 ± 2.21	19.40 ± 2.37	19.02 ± 2.15
25–30	98.37 ± 4.28	17.82 ± 1.73	11.81 ± 1.41	12.01 ± 1.75	18.12 ± 1.56	19.36 ± 2.48	19.24 ± 1.85
31–35	99.15 ± 4.31	18.02 ± 1.24	11.66 ± 1.05	12.20 ± 1.73	18.79 ± 1.05	19.82 ± 2.42	19.64 ± 1.85
36–40	101.56 ± 4.23	18.34 ± 2.03	12.02 ± 1.65	12.55 ± 1.30	19.19 ± 1.81	20.02 ± 2.17	19.41 ± 1.63
41–45	100.52 ± 4.14	18.41 ± 1.10	11.70 ± 1.33	12.20 ± 1.96	18.02 ± 1.64	20.85 ± 2.21	19.32 ± 1.22
	$F = 5.294$	$F = 1.172$	$F = 0.632$	$F = 0.928$	$F = 5.633$	$F = 2.693$	$F = 0.365$
	$p < 0.001$*	$p = 0.324$	$p = 0.640$	$p = 0.448$	$p < 0.001$*	$p = 0.032$*	$p = 0.833$
Gender							
Female	99.88 ± 4.33	18.11 ± 1.68	11.79 ± 1.34	12.33 ± 1.67	18.37 ± 1.80	19.90 ± 2.32	19.36 ± 1.75
Male	98.72 ± 5.54	17.83 ± 2.14	12.72 ± 2.08	11.83 ± 1.54	18.38 ± 1.53	19.05 ± 2.75	18.88 ± 2.08
	$t = 1.074$	$t = 0.671$	$t = -1.851$	$t = 1.230$	$t = -0.032$	$t = 1.462$	$t = 1.086$
	$p = 0.284$	$p = 0.503$	$p = 0.008$*	$p = 0.220$	$p = 0.975$	$p = 0.145$	$p = 0.279$
Marital status							
Married	100.05 ± 4.28	18.08 ± 1.56	11.78 ± 1.38	12.18 ± 1.53	18.42 ± 1.65	20.15 ± 2.43	19.42 ± 1.63
Single	99.29 ± 4.70	18.12 ± 1.98	12.02 ± 1.51	12.53 ± 1.89	18.27 ± 2.01	19.20 ± 2.10	19.13 ± 2.02
	$t = 1.259$	$t = -0.182$	$t = -1.213$	$t = -1.550$	$t = 0.645$	$t = 2.979$	$t = 1.185$
	$p = 0.224$	$p = 0.856$	$p = 0.226$	$p = 0.122$	$p = 0.519$	$p = 0.002$*	$p = 0.271$
Educational level of mother							
Elementary school	93.00 ± 0.00	15.00 ± 0.00	11.00 ± 0.00	12.00 ± 0.00	17.00 ± 0.00	17.00 ± 0.00	21.00 ± 0.00
Secondary school	99.83 ± 4.23	18.14 ± 1.69	12.00 ± 1.47	12.29 ± 1.53	18.33 ± 1.62	19.89 ± 2.51	19.44 ± 1.53
High school	101.22 ± 4.59	18.55 ± 1.53	12.12 ± 1.20	12.95 ± 2.18	18.97 ± 2.38	19.70 ± 2.20	18.92 ± 2.04
University	103.50 ± 3.53	19.50 ± 2.12	12.50 ± 0.70	12.50 ± 0.70	18.00 ± 0.00	20.50 ± 2.12	20.50 ± 2.12
	$F = 8.138$	$F = 1.928$	$F = 4.774$	$F = 3.891$	$F = 0.538$	$F = 1.330$	$F = 1.250$
	$p < 0.001$*	$p = 0.126$	$p = 0.003$*	$p = 0.010$*	$p = 0.657$	$p = 0.265$	$p = 0.292$

(Continues)

TABLE 3 (Continued)

	RSA total	Perception of self	Perception of future	Structured style	Social competence	Family cohesion	Social resources
Work experience (years)							
≤5	96.85 ± 3.81	17.64 ± 1.76	11.77 ± 1.57	11.89 ± 1.85	17.58 ± 1.39	18.87 ± 2.19	19.08 ± 2.09
6–10	98.23 ± 3.62	17.56 ± 1.93	11.91 ± 1.33	12.08 ± 1.72	18.17 ± 1.55	19.30 ± 2.33	19.19 ± 1.93
11–20	99.92 ± 4.36	18.11 ± 1.55	11.72 ± 1.66	12.15 ± 1.53	18.44 ± 1.68	20.11 ± 2.59	19.36 ± 1.88
>20	102.67 ± 3.59	18.71 ± 1.51	12.05 ± 1.06	12.85 ± 1.51	18.97 ± 2.04	20.53 ± 1.95	19.53 ± 1.25
	$F = 24.457$	$F = 6.031$	$F = 0.747$	$F = 4.214$	$F = 6.440$	$F = 6.214$	$F = 0.718$
	$p < 0.001^*$	$p = 0.001^*$	$p = 0.525$	$p = 0.006^*$	$p < 0.001^*$	$p < 0.001^*$	$p = 0.542$
Working hours							
Only day (08–16)	103.01 ± 2.89	18.81 ± 1.58	12.19 ± 1.38	13.01 ± 1.69	18.69 ± 1.93	20.72 ± 2.05	19.56 ± 1.59
Both day or night (16–24 or 16–08)	98.03 ± 4.13	17.69 ± 1.66	11.68 ± 1.42	11.90 ± 1.51	18.19 ± 1.67	19.35 ± 2.39	19.19 ± 1.86
	$t = 9.900$	$t = 5.078$	$t = 2.702$	$t = 5.214$	$t = 2.097$	$t = 4.470$	$t = 1.586$
	$p < 0.001^*$	$p < 0.001^*$	$p = 0.007^*$	$p < 0.001^*$	$p = 0.037^*$	$p < 0.001^*$	$p = 0.098$

F, ANOVA test; RSA, Resilience Scale for Adults; *t*, independent *t* test. $^*p < 0.05$.

that they encounter at work (Cetin, Yeloglu, & Basim, 2015), our results indicate that nurses with less work experience in the profession should be supported more with initiatives to increase their resilience.

The resilience of nurses in our sample who worked both day shifts and night shifts was lower than that of all the other nurses. They had less self-confidence (perception of self subscale), planned less for the future and were less optimistic (perception of future subscale), had less ability to organise their daily work (structured style subscale), had less desire to participate in social activities (social competence subscale), interacted less with their family members and received less family support (family cohesion subscale). Working at night can negatively affect physical and mental health as well as disrupt social life (Costa, 2010). West, Boughton, and Byrnes (2009) found that work shifts also negatively affected family life, while Jahromi, Moattari, and Sharif (2013) found that working at night in particular causes anxiety and stress among nurses. More recently, Amarneh (2017) identified that working in shifts ranked among the most important work-related stressors for nurses. However, other authors have reported that working shifts has its advantages (Gifkins et al., 2017) and does not affect psychological wellbeing (Delgado, Upton, Ranse, Furness, & Foster, 2017). The low resilience of nurses working both day shifts and night shifts in our study can be explained by a deterioration in their circadian rhythms, especially due to working nightshifts, which can negatively affect physical and mental health as well as social life.

Nurses in our sample presented moderate levels of perceived social support. Results indicated that their families were the greatest source of social support, which likely stemmed from the importance of strong family ties in Turkish culture. Cultural values such as protecting, supporting, solidarity and providing financial and spiritual help are still strong between family members in the Turkish family structure. The effects of these values continue even when the children become adults or moves to their own homes (Ekici, 2014). Moreover, in this study, nurses with greater perceived family support also demonstrated higher levels of resilience. Support from family members reduces the feeling of isolation in the face of problems and makes coping with problems easier (Fu et al., 2017; Orgambídez-Ramos & Almeida, 2017). Perceived social support from the family or relatives also positively affected the physical and mental health of nurses at hospitals in other studies (Fu et al., 2017; Sun et al., 2017).

The job satisfaction of nurses in our sample was moderate, whereas other studies have reported that nurses in their samples had moderate or low job satisfaction (Boafo, 2018; Kantek & Kartal, 2016; Sansoni et al., 2016). Nevertheless, as in the findings of studies conducted in the United States (Brown et al., 2018; Hudgins, 2016; Matos, Neushotz, Griffin, & Fitzpatrick, 2010) and Singapore (Zheng et al., 2017), our results indicated a positive relationship between job satisfaction and the resilience of nurses. Moreover, the job satisfaction of the nurses in our sample increased as their level of perceived social support increased. In their study with nurses in three public hospitals in Portugal, Orgambídez-Ramos and Almeida

TABLE 4 Correlations between the RSA total scores and the MSPSS total, MJSS total and subscale scores of the participants

	RAS total	
	r	*p*
MSPSS total	0.088	0.173
Family support	0.177	0.006*
Friend support	0.079	0.218
Other person support	−0.019	0.772
MJSS total	0.198	0.002*
Internal satisfaction	0.136	0.034*
External satisfaction	0.258	<0.001*

r, Pearson correlation test. *$p < 0.05$.

(2017) similarly reported that perceived social support improved job satisfaction. Our findings thus suggest that perceived social support, job satisfaction and resilience may all improve nurses' ability to cope with stressors at work.

Overall, resilience and two of the factors that contribute to it—perceived social support and job satisfaction—were important for nurses in coping with stressors encountered in their work environments. Such results should be taken into account when establishing institutional policies and regulations so that nurses can provide higher quality care to their patients.

5.1 | Limitations

The results of our study can be generalized only to our sample. Among other limitations, the sample was small and the tools used for data collection relied upon self-report.

6 | CONCLUSION

Nurses in our sample showed moderate resilience, perceived social support and job satisfaction and, in particular, their level of resilience was influenced by their age, gender, marital status, work experience, working hours and mother's educational level. Among other major findings, resilience, perceived family support and job satisfaction had a positive relationship. Such results can guide the planning of interventions to increase resilience among nurses, although additional experimental research on increasing nurses' psychological resilience could be useful.

7 | IMPLICATIONS FOR NURSING MANAGEMENT

It is of multidisciplinary interest that resilience strengthens personal characteristics that enable individuals to cope with and resolve problems (Aburn et al., 2016). The results of our study indicate that some sociodemographic and work-related factors, in addition to social support and job satisfaction, influence resilience among nurses. In the light of those findings, nurse managers should take the sociodemographic characteristics and work conditions of nurses into account to improve their resilience at work. Moreover, nurse managers should be aware that working at night and having less job experience negatively affect nurses' resilience. In response, they should make individual and institutional arrangements to increase the job satisfaction and mechanisms of social support for nurses under their supervision. Although there are no specific practices or models to improve support and foster resilience in the hospital this study took place in, nursing managers could use the model suggested by Rees, Breen, Cusack, and Hegney (2015). Rees et al. (2015) put forward a theoretical model of individual resilience in the workplace that attempts to map essential key individual difference variables. At the same time, they should arrange regular meetings, seminars, conferences, panels, workshops and structured training sessions at the workplace to afford means of personal growth for nurses to improve their resilience. The structured training programmes of Stress Management and Resiliency Training—SMART (Cheak, 2013; McDonald, Jackson, Wilkes, & Vickers, 2012) and Mindfulness-Based Stress Reduction—MBSR) (Foureur, Besley, Burton, Yu, & Crisp, 2013) could be helpful.

ETHICAL APPROVAL

Gulhane Military Medical Academy Ethical Board/266.

ORCID

Emine Öksüz http://orcid.org/0000-0001-6970-7408

REFERENCES

Ablett, J. R., & Jones, R. S. (2007). Resilience and well-being in palliative care staff: A qualitative study of hospice nurses' experience of work. *Psychooncology*, *16*, 733–740. https://doi.org/10.1002/pon.1130

Aburn, G., Gott, M., & Hoare, K. (2016). What is resilience? An integrative review of the empirical literature. *Journal of Advanced Nursing*, *72*, 980–1000. https://doi.org/10.1111/jan.12888

Amarneh, B. H. (2017). Social support behaviors and work stressors among nurses: A comparative study between teaching and non-teaching hospitals. *Behavioral Sciences*, *7*, 5. https://doi.org/10.3390/bs7010005

Ang, S. Y., Uthaman, T., Ayre, T. C., Mordiffi, S. Z., Ang, E., & Lopez, V. (2018). Association between demographics and resilience—A cross sectional study among nurses in Singapore. *International Nursing Review*, https://doi.org/10.1111/inr.12441. [Epub ahead of print].

Basım, H. N., & Çetin, F. (2011). The reliability and validity of the resilience scale for adults—Turkish version. *Turkish Journal of Psychiatry*, *22*, 104–114.

Baycan, F. A. (1985). *An analysis of the several aspects of job satisfaction between different occupational groups (in Turkish)*. Unpublished master's thesis. Social Science Institution Dissertation, Bogazici University, Istanbul, Turkey.

Boafo, I. M. (2018). The effects of workplace respect and violence on nurses' job satisfaction in Ghana: A cross-sectional survey. *Human Resources for Health*, *16*(1), 6. https://doi.org/10.1186/s12960-018-0269-9

Brown, R., Wey, H., & Foland, K. (2018). The relationship among change fatigue, resilience, and job satisfaction of hospital staff nurses. *Journal of Nursing Scholarship*, *50*, 306-313. https://doi.org/10.1111/jnu.12373

Caldeira, S., & Timmins, F. (2016). Resilience: Synthesis of concept analyses and contribution to nursing classifications. *International Nursing Review*, *63*, 191–199. https://doi.org/10.1111/inr.12268

Cam, O., & Büyükbayram, A. (2017). Nurses' resilience and effective factors. *Journal of Psychiatric Nursing*, *8*, 118–126. https://doi.org/10.14744/phd.2017.75436

Cetin, F., Yeloglu, H. O., & Basim, H. N. (2015). The role of big five personality on predicting the resilience: A canonical relation analysis. *Turkish Journal of Psychology*, *30*, 93–95.

Cheak, S. (2013). *Integration and impact of stress management and resiliency training (SMART) in a nurse residency program: A feasibility study*. Unpublished Doctoral Thesis. University of Wisconsin, Milwaukee.

Costa, G. (2010). Shift work and health: Current problems and preventive actions. *Safety and Health at Work*, *1*, 112–123. https://doi.org/10.5491/SHAW.2010.1.2.112

Delgado, C., Upton, D., Ranse, K., Furness, T., & Foster, K. (2017). Nurses' resilience and the emotional labour of nursing work: An integrative review of empirical literature. *International Journal of Nursing Studies*, *70*, 71–88. https://doi.org/10.1016/j.ijnurstu.2017.02.008

Eker, D., Arkar, H., & Yaldız, H. (2001). Factorial structure, validity, and reliability of revised form of the Multidimensional Scale of Perceived Social Support. *Turkish Journal of Psychiatry*, *12*, 17–25.

Ekici, F. Y. (2014). Change and transformation of Turkish family structure and evaluation of the elements that affecting this change and transformation. *International Journal of Social Science*, *30*, 209–224.

Foureur, M., Besley, K., Burton, G., Yu, N., & Crisp, J. (2013). Enhancing the resilience of nurses and midwives: Pilot of a mindfulness based program for increased health, sense of coherence and decreased depression, anxiety and stress. *Contemporary Nurse*, *45*, 114–125. https://doi.org/10.5172/conu.2013.45.1.114

Friborg, O., Hjemdal, O., Rosenvinge, J. H., & Martinussen, M. (2003). A new rating scale for adult resilience: what are the central protective resources behind healthy adjustment?. *International Journal of Methods in Psychiatric Research*, *12*, 65-76.

Fu, C. Y., Yang, M. S., Leung, W., Liu, Y. Y., Huang, H. W., & Wang, R. H. (2017). Associations of professional quality of life and social support with health in clinical nurses. *Journal of Nursing Management*, *26*, 172-179. https://doi.org/10.1111/jonm.12530

Gao, T., Ding, X., Chai, J., ... S. (2017). The influence of resilience on mental health: The role of general well-being. *International Journal of Nursing Practice*, *23*, e12535. https://doi.org/10.1111/ijn.12535

García-Izquierdo, M., Pedro, M., Ríos-Risquez, M., & Sánchez, M. (2018). Resilience as a moderator of psychological health in situations of chronic stress (burnout) in a sample of hospital nurses. *Journal of Nursing Scholarship*, *50*(2), 228–236.

Gifkins, J., Loudoun, R., & Johnston, A. (2017). Coping strategies and social support needs of experienced and inexperienced nurses performing shiftwork. *Journal of Advanced Nursing*, *73*, 3079–3089. https://doi.org/10.1111/jan.13374

Gillespie, B. M., Chaboyer, W., Wallis, M., & Grimbeek, P. (2007). Resilience in the operating room: Developing and testing of a resilience model. *Journal of Advanced Nursing*, *59*, 427–438. https://doi.org/10.1111/j.1365-2648.2007.04340.x

Gito, M., Ihara, H., & Ogata, H. (2013). The relationship of resilience, hardiness, depression and burnout among Japanese psychiatric hospital nurses. *Journal of Nursing Education and Practice*, *3*, 12–18. https://doi.org/10.5430/jnep.v3n11p12

Guo, Y. F., Cross, W., Plummer, V., Lam, L., Luo, Y. H., & Zhang, J. P. (2017). Exploring resilience in Chinese nurses: A cross-sectional study. *Journal of Nursing Management*, *25*, 223–230.

Guo, Y. F., Luo, Y. H., Lam, L., Cross, W., Plummer, V., & Zhang, J. P. (2017). Burnout and its association with resilience in nurses: A cross-sectional study. *Journal of Clinical Nursing*, *27*, 441–449.

Hart, P. L., Brannan, J. D., & De Chesnay, M. (2014). Resilience in nurses: An integrative review. *Journal of Nursing Management*, *22*, 720–734. https://doi.org/10.1111/j.1365-2834.2012.01485.x

Hegney, D. G., Rees, C. S., Eley, R., Osseiran-Moisson, R., & Francis, K. (2015). The contribution of individual psychological resilience in determining the professional quality of life of Australian nurses. *Frontiers Psychology*, *21*, 1613. https://doi.org/10.3389/fpsyg.2015.01613

Hudgins, T. A. (2016). Resilience, job satisfaction and anticipated turnover in nurse leaders. *Journal of Nursing Management*, *24*, 62–69. https://doi.org/10.1111/jonm.12289

Itzhaki, M., Peles-Bortz, A., Kostistky, H., Barnoy, D., Filshtinsky, V., & Bluvstein, I. (2015). Exposure of mental health nurses to violence associated with job stress, life satisfaction, staff resilience, and posttraumatic growth. *International Journal of Mental Health Nursing*, *24*, 403–412. https://doi.org/10.1111/inm.12151

Jahromi, M. F., Moattari, M., & Sharif, F. (2013). Novice nurses' perception of working night shifts: A qualitative study. *Journal of Caring Sciences*, *2*, 169–176.

Kantek, F., & Kartal, H. (2016). The effects of job satisfaction on nurses' professional status: A meta analysis. *Journal of Human Sciences*, *13*, 4268–4277.

Kutluturkan, S., Sozeri, E., Uysal, N., & Bay, F. (2016). Resilience and burnout status among nurses working in oncology. *Annals of General Psychiatry*, *14*, 33. https://doi.org/10.1186/s12991-016-0121-3

Lala, A. İ., Sturzu, L. M., Picard, J. P., Druot, F., Grama, F., & Bobirnac, G. (2016). Coping behavior and risk and resilience stress factors in French regional emergency medicine unit workers: A cross-sectional survey. *Journal of Medicine and Life*, *9*, 363–368.

Li, H., Ying, S., Li, Y., Xing, Z., Shouqi, W., Jie, Y., ... Jiao, S. (2018). Relationship between nurse psychological empowerment and job satisfaction: A systematic review and meta-analysis. *Journal of Advanced Nursing*, *74*, 1264–1277. https://doi.org/10.1111/jan.13549

Lim, M. L., Lim, D., Gwee, X., Nyunt, M. S., Kumar, R., & Ng, T. P. (2015). Resilience, stressful life events, and depressive symptomatology among older Chinese adults. *Aging Mental Health*, *19*, 1005–1014. https://doi.org/10.1080/13607863.2014.995591

Magtibay, D. L., Chesak, S. S., Coughlin, K., & Sood, A. (2017). Decreasing stress and burnout in nurses: Efficacy of blended learning with stress management and resilience training program. *Journal of Nursing Administration*, *47*, 391–395. https://doi.org/10.1097/NNA.0000000000000501

Malkoç, A., & Yalçin, İ. (2015). Relationships among resilience, social support, coping, and psychological well-being among university students. *Turkish Psychological Counseling and Guidance Journal*, *5*, 35–43.

Matos, P. S., Neushotz, L. A., Griffin, M. T., & Fitzpatrick, J. J. (2010). An exploratory study of resilience and job satisfaction among psychiatric nurses working in inpatient units. *International Journal of Mental Health Nursing*, *19*, 307–312. https://doi.org/10.1111/j.1447-0349.2010.00690.x

McCann, C. M., Beddoe, E., McCormick, K., Huggard, P., Kedge, S., Adamson, C., & Huggard, J. (2013). Resilience in the health professions: A review of recent literature. *International Journal of Wellbeing*, *3*, 60–81. https://doi.org/10.5502/ijw.v3i1.4

McDonald, G., Jackson, D., Wilkes, L., & Vickers, M. H. (2012). A work-based educational intervention to support the development of personal resilience in nurses and midwives. *Nurse Education Today*, *32*, 378–384. https://doi.org/10.1016/j.nedt.2011.04.012

Mealer, M., Jones, J., Newman, J., McFann, K. K., Rothbaum, B., & Moss, M. (2012). The presence of resilience is associated with a healthier psychological profile in intensive care unit (ICU) nurses: Results of a

national survey. *International Journal of Nursing Studies*, *49*, 292–299. https://doi.org/10.1016/j.ijnurstu.2011.09.015

Orgambídez-Ramos, A., & de Almeida, H. (2017). Work engagement, social support, and job satisfaction in Portuguese nursing staff: A winning combination. *Applied Nursing Research*, *36*, 37–41. https://doi.org/10.1016/j.apnr.2017.05.012

Özaydınlık, K. (2014). Women in Turkey on the basis of gender and education. (Turkish). *Sosyal Politika Çalışmaları Dergisi [journal of Social Policy Studies]*, *33*, 93–112.

Rees, C. S., Breen, L. J., Cusack, L., & Hegney, D. (2015). Understanding individual resilience in the workplace: The international collaboration of workforce resilience model. *Frontiers in Psychology*, *6*, 73. https://doi.org/10.3389/fpsyg.2015.00073

Rushton, C. H., Batcheller, J., Schroeder, K., & Donohue, P. (2015). Burnout and resilience among nurses practicing in high-intensity settings. *American Journal of Critical Care*, *24*, 412–420. https://doi.org/10.4037/ajcc2015291

Sansoni, J., De Caro, W., Marucci, A. R., Sorrentino, M., Mayner, L., & Lancia, L. (2016). Nurses' job satisfaction: An Italian study. *Annali Di Igiene*, *28*, 58–69.

Shatté, A., Perlman, A., Smith, B., & Lynch, W. D. (2017). The positive effect of resilience on stress and business outcomes in difficult work environments. *Journal of Occupational and Environmental Medicine*, *59*, 135–140. https://doi.org/10.1097/JOM.0000000000000914

Sun, N., Lv, D. M., Man, J., Wang, X. Y., Cheng, Q., Fang, H. L., & Wu, Q. H. (2017). The correlation between quality of life and social support in female nurses. *Journal of Clinical Nursing*, *26*, 1005–1010. https://doi.org/10.1111/jocn.13393

West, S., Boughton, M., & Byrnes, M. (2009). Juggling multiple temporalities: The shift work story of mid-life nurses. *Journal of Nursing Management*, *17*, 110–119. https://doi.org/10.1111/j.1365-2834.2008.00920.x

Woodhead, E. L., Northrop, L., & Edelstein, B. (2016). Stress, social support, and burnout among long-term care nursing staff. *Journal of Applied Gerontology*, *35*, 84–105. https://doi.org/10.1177/0733464814542465

Zheng, Z., Gangaram, P., Xie, H., Chua, S., Ong, S. B., & Koh, S. E. (2017). Job satisfaction and resilience in psychiatric nurses: A study at the Institute of Mental Health, Singapore. *International Journal of Mental Health Nursing*, *26*, 612–619. https://doi.org/10.1111/inm.12286

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*, 30-41.

Zou, G., Shen, X., Tian, X., Liu, C., Li, G., Kong, L., & Li, P. (2016). Correlates of psychological distress, burnout, and resilience among Chinese female nurses. *Industrial Health*, *8*, 389–395. https://doi.org/10.2486/indhealth.2015-0103

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