

# Coping with Stress and Psychological Resilience Among Relatives of Patients in Coronary Intensive Care Unit: A Descriptive and Correlational Study

## Koroner Yoğun Bakım Ünitesinde Yatan Hastaların Yakınlarında Stresle Başa Çıkma ve Psikolojik Dayanıklılık: Tanımlayıcı ve İlişkisel Bir Çalışma

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### Abstract

**Objective:** This study aimed to determine the stress coping styles and psychological resilience of relatives of patients in the coronary intensive care unit.**Methods:** This descriptive study was carried out with 205 relatives of patients in the coronary intensive care unit. Information Form, Coping Ways Scale (WCS), and Psychological Resilience Scale for Adults (PRS-A) were data tools. The data were evaluated with descriptive and correlational analysis.**Results:** The WCS subscale mean scores of the patient relatives; it was found that the mean score for the self-confident approach (SCA) was 2.23±.39, the optimistic approach (OA) was 2.16±.41, social support-seeking (SSS) was 2.14±.44, the helpless approach (HA) was 1.38±.38, and the submissive approach (SA) was 1.31±.35. It was found that the total score of the PRS-A was 3.83±.54. The highest scoring subscale of PRS-A was the Family Integrity (4.20±.74). The sub-dimension with the lowest score was the Future Perception (2.31±.44). It was found that there was a relationship between PRS-A total and subscale scores and SCA, OA, and SSS subscales, and that this relationship was moderately positive (for each  $P < .01$ ). A relationship was determined between PRS-A total and subscale scores and HA and SA subscales. This relationship was moderate and negative (for each  $P < .01$ ).**Conclusion:** In conclusion, psychological resilience increases effective coping in the relatives of patients in the coronary intensive care unit. Interventions that increase psychological resilience are needed to help relatives of the patients cope more effectively with stress.**Keywords:** Coping, coronary intensive care, patient' relatives, psychological resilience, stress

### Öz

**Amaç:** Bu çalışmanın amacı koroner yoğun bakım ünitesinde yatan hastaların yakınlarının stresle başa çıkma tarzları ve psikolojik dayanıklılıklarını belirlemektir.**Yöntemler:** Tanımlayıcı tipteki bu çalışma koroner yoğun bakım ünitesinde yatan 205 hasta yakını ile yürütülmüştür. Çalışmada veri araçları olarak Bilgi Formu, Başa Çıkma Tarzları Ölçeği (BÇTÖ) ve Yetişkinler İçin Psikolojik Dayanıklılık Ölçeği (YPDÖ) kullanılmıştır. Veriler tanımlayıcı ve ilişkisel analiz ile değerlendirilmiştir**Bulgular:** Hasta yakınlarının BÇTÖ'nün alt ölçek puanları; Özgüvenli Yaklaşım (ÖY) için ortalama puan 2,23±,39, İyimser Yaklaşım (İY) için ortalama puan 2,16±,41, Sosyal Destek Arama (SDA) için ortalama puan 2,14±,44, Çaresiz Yaklaşım (ÇY) için ortalama puan 1,38±,38 ve Boyun Eğici Yaklaşım (BEY) için ortalama puan 1,31±,35 olarak bulunmuştur. YPDÖ toplam puanının 3,83±,54 olduğu; YPDÖ alt boyutunun en yüksek puan alan alt boyutunun Aile Bütünlüğü (4,20±,74), en düşük puan alan alt boyutunun ise Gelecek Algısı (2,31±,44) olduğu belirlendi. YPDÖ toplam ve alt ölçek puanları ile ÖY, İY ve SDA alt ölçekleri arasında ilişki olduğu ve bu ilişkinin orta düzeyde pozitif olduğu bulunmuştur (her biri için  $P < ,01$ ). YPDÖ toplam ve alt ölçek puanları ile ÇY ve BEY alt ölçekleri arasında ilişki saptanmış olup, bu ilişkinin orta düzeyde ve negatif yönlü olduğu görülmüştür (her biri için  $P < ,01$ ).**Sonuç:** Sonuç olarak, psikolojik dayanıklılık koroner yoğun bakım ünitesinde yatan hasta yakınlarında etkili başa çıkmayı artırmaktadır. Hasta yakınlarının stresle daha etkili başa çıkabilmeleri için psikolojik dayanıklılığı artıran müdahalelere ihtiyaç vardır.**Anahtar Kelimeler:** Başetme, hasta yakını, koroner yoğun bakım, psikolojik dayanıklılık, stress

## INTRODUCTION

Intensive care units (ICU) are specialized clinics where the medical treatment and care of patients with acute and life-threatening, partially or entirely dysfunctional organs and systems need to be supported for a certain period, and one or more vital functions are at risk.<sup>1,2</sup> Different intensive care units depend on the type of disease in hospitals. One of these units, the coronary intensive care unit, is where patients struggle with life and serious cardiovascular problems stay. Relatives of patients in coronary intensive care units experience issues for various reasons, as in other intensive care units.<sup>3,4</sup> A loved one's critical illness and admission to intensive care affects their family, other relatives, and friends. It is also stated that physical, psychological, social, economic, and cultural problems occur in the relatives of the patients; their anxiety and depression levels are high, they experience stress and crisis, and they feel hopeless and helpless.<sup>2,5-8</sup> Considering this challenging process, coping with stress is essential.<sup>2,4,8,9</sup>

Stress coping refers to the strategies people use to manage events that cause them stress. While some people cope with stress healthily and effectively, others cannot.<sup>6,10,11</sup> An intensive care hospitalization is a traumatizing event for many patient relatives. In the battle against this trauma, relatives try to cope in many ways, and sometimes ineffective coping methods are used.<sup>9,11,12</sup> Psychological well-being and psychological resilience are essential variables in the coping process. Psychological resilience is a protective factor in reducing the adverse effects of a stressful life and preventing the formation of mental illness.<sup>13-16</sup> Psychological resilience is an individual's ability to cope with obstacles, uncertain situations, and many negative situations and achieve success. Psychological resilience is a self-recovering factor in stressful life events and generally describes a process of success or adaptation.<sup>16-18</sup> Individuals with high psychological resilience may have the power and resilience to achieve positive outcomes from negative situations with the ability to influence people close to them.<sup>19</sup>

In addition, individuals with high levels of psychological resilience experience less anxiety and higher levels of self-confidence.<sup>20</sup> Individuals with low levels of psychological resilience have low levels of self-control and may exhibit behaviors such as distancing themselves from those around them and alienating themselves from others.<sup>16,20</sup> In this regard, psychological resilience is known as an individual's stage of adaptation to significant stressors such as trauma, threats, tragic events, or problems due to family and relationships, crucial health problems, and workplace and financial difficulties. All these positively affect coping with the disease more effectively and with less emotional stress.<sup>16</sup>

The review of studies conducted with patient relatives in the ICU found that they used effective and ineffective methods of coping with stress to varying degrees. The needs of patient relatives, stress, anxiety, depression, and patient-related variables influenced their coping skills.<sup>7</sup> However, in the literature reviewed, studies examining the psychological resilience levels of patient families are limited.<sup>21</sup> Determining the stress, coping, and psychological resilience of relatives of patients in the coronary intensive care unit is of great importance in planning holistic nursing care. Further, it is considered necessary to provide holistic care to patients and their families, determine the family's psychological needs, and create nursing interventions.<sup>17,19</sup>

In this context, the present study aimed to evaluate the stress coping styles and psychological resilience of relatives of patients hospitalized in the coronary intensive care unit of a hospital. In the study, the stress coping styles and psychological resilience levels of the patients' relatives, the relationship between them, and the differences in these levels according to the variables in the study were evaluated.

## METHODS

This study is descriptive and correlational research in the survey model that evaluates the participants' opinions.

**Participants:** It was conducted at Karabük Training and Research Hospital coronary intensive care unit between December 2021 and March 2022. The unit treats an average of 1000 patients per year. Two hundred-five patient

relatives who met the inclusion criteria and could be reached were involved in the study. At least one day of hospitalization in the coronary intensive care unit, the absence of illiteracy and communication barriers, and the patient relative being 18 years or older and willing to participate were determined as the criteria for inclusion in this study. Patient relatives who completed the data collection tools incompletely or erroneously were not included in the study.

**Data collection:** The researcher collected the data through face-to-face interviews with participants after obtaining their informed consent in front of the coronary intensive care unit. Data was collected through the forms below.

*The Participant Information Form* is a questionnaire that includes 10 questions. It is used to gather data on the relatives of socio-demographic characteristics (age, gender, education level, etc.), their relationship with the patient receiving treatment, and their previous experiences with intensive care.

*The Ways of Coping Scale (WCS):* The scale was developed by Folkman and Lazarus and adapted to Turkish by Şahin and Durak.<sup>22</sup> It consists of 30 items and is composed of five factors (1. Confident Approach (CA)- 2. Optimistic Approach (OA)- 3. Seeking Social Support (SSS)- 4. Helpless Approach (HA)- 5. Submissive Approach (SA)). Higher scores on the subscales indicate greater use of the coping strategies in that dimension. The internal consistency coefficients for the subscales ranged from .45 to .80 in both the original and the current studies.

*The Resilience Scale for Adults (PRS-A):* The Turkish validity and reliability of this scale, which was developed by Fribourg et al., was conducted by Basım and Çetin.<sup>23</sup> It consists of 33 items and 6 (six) sub-dimensions. As the schematic evaluation, in this study, higher scores indicate higher psychological resilience. The Cronbach Alpha values were determined to be between .75 and .86 in the original research and between .67 and .79 in the study for the sub-dimensions of the scale.

**Data analysis:** SPSS 26 (IBM SPSS Corp., Armonk, NY, USA) statistical software was used for data analysis. Descriptive statistics were presented for the descriptive characteristics of the patients' relatives and intensive care process-related characteristics. Kolmogorov-Smirnov normality test was performed, and it was seen that the distribution was not expected ( $P < .05$ ). Descriptive characteristics and scales with two categories were analyzed using the Mann-Whitney U test. Independent variables with more than two categories were compared to The Kruskal-Wallis test. If there was a difference in more than two categories of variables, Bonferroni-corrected was used. The relationship between WCS and PRS-A dimensions was analyzed using the Spearman correlation.

**Ethical Considerations:** Ethical approval was received from Karabük University Non-Interventional Research Ethics Committee for the study (Date: 04.10.2021 / No: 2021/654). Permission to use PRS-A in the research was received from the author via e-mail. The research adhered to the Declaration of Helsinki. Before collecting data, patients' relatives were informed about the study. By the principle of volunteering, written informed consent to participate in the study was obtained from the patient's relatives.

## RESULTS

The participants had an average age of  $45.17 \pm 14.69$  and 50.7% were female, 72.7% were married. It was determined that 16.6% of the patient relatives had previously been hospitalized in the intensive care unit as patients, and 81% had experience with intensive care as a patient's relative (Table 1).

When the WCS subscale mean scores of the patient's relatives were examined, it was found that the mean score for the self-confident approach (SCA) was  $2.23 \pm .39$ , the optimistic approach (OA) was  $2.16 \pm .41$ , social support-seeking (SSS) was  $2.14 \pm .44$ , the helpless approach (HA) was  $1.38 \pm .38$ , and finally, the submissive approach (SA) was  $1.31 \pm .35$ . The mean total score for PRS-A of the patient relatives was  $3.83 \pm .54$ , and the mean subscale scores were determined as family cohesion  $4.20 \pm .74$ , social resources  $4.09 \pm .61$ , structural style  $3.97 \pm .86$ , self-concept  $3.95 \pm .78$  social competence  $3.98 \pm .70$ , and self-perception  $2.31 \pm .44$  (Table 2).

**Table 1. Distribution of Descriptive Characteristics of Relatives of Patients**

|                                      |                         | Mean  | Sd    |
|--------------------------------------|-------------------------|-------|-------|
| Age                                  |                         | 45.17 | 14.69 |
| Patient Age                          |                         | 65.53 | 16.67 |
|                                      |                         | n     | %     |
| Patient Gender                       |                         |       |       |
|                                      | Male                    | 101   | 49.3  |
|                                      | Female                  | 104   | 50.7  |
| Marital Status                       |                         |       |       |
|                                      | Single                  | 56    | 27.3  |
|                                      | Married                 | 149   | 72.7  |
| Educational status                   |                         |       |       |
|                                      | Primary School          | 59    | 29.8  |
|                                      | Secondary School        | 22    | 10.7  |
|                                      | High School             | 63    | 30.7  |
|                                      | Undergraduate Degree    | 55    | 26.3  |
|                                      | Graduate Degree         | 6     | 2.9   |
| Degree of Kinship                    |                         |       |       |
|                                      | Spouse                  | 59    | 29.8  |
|                                      | Mother                  | 22    | 10.7  |
|                                      | Father                  | 63    | 30.7  |
|                                      | Uncle/aunt/uncle/auntie | 55    | 26.3  |
|                                      | Other                   | 6     | 2.9   |
| Chronic Disease                      |                         |       |       |
|                                      | Yes                     | 83    | 40.5  |
|                                      | No                      | 122   | 59.5  |
| ICU Experience as a Patient          |                         |       |       |
|                                      | Yes                     | 34    | 16.6  |
|                                      | No                      | 171   | 83.4  |
| ICU Experience as a Patient Relative |                         |       |       |
|                                      | Yes                     | 166   | 81.0  |
|                                      | No                      | 39    | 19.0  |

Sd: Standard deviation

**Table 2. Distribution of Patient Relatives' Scores on The WCS and PRS-A**

|                               | Number of Items | Mean | Sd  | Median | Minimum | Maximum |
|-------------------------------|-----------------|------|-----|--------|---------|---------|
| <b>WCS</b>                    |                 |      |     |        |         |         |
| Self-Confident Approach (SCA) | 7               | 2.23 | .39 | 2.29   | .86     | 3.00    |
| Optimistic Approach (OA)      | 5               | 2.16 | .41 | 2.20   | .80     | 3.00    |
| Helpless Approach (HA)        | 8               | 1.38 | .38 | 1.38   | .13     | 2.25    |
| Social Support-Seeking (SSS)  | 4               | 2.14 | .44 | 2.25   | 1.00    | 3.00    |
| Submissive Approach (SA)      | 6               | 1.31 | .35 | 1.33   | .00     | 2.50    |
| <b>PRS-A</b>                  |                 |      |     |        |         |         |
| Structural style (SS)         | 4               | 3.97 | .86 | 4.00   | 1.00    | 5.00    |
| Future perception (FP)        | 4               | 2.31 | .44 | 2.25   | 1.00    | 3.00    |
| Family cohesion (FC)          | 6               | 4.20 | .74 | 4.50   | 2.00    | 5.00    |
| Self-perception (SP)          | 6               | 3.95 | .78 | 4.17   | 1.67    | 5.00    |
| Social competence (SC)        | 6               | 3.98 | .70 | 4.17   | 1.67    | 5.00    |
| Social resources (SR)         | 7               | 4.09 | .61 | 4.14   | 2.14    | 5.00    |
| PRSA Total                    | 33              | 3.83 | .54 | 3.91   | 2.39    | 4.64    |

Sd: Standard deviation WCS; The Ways of Coping Scale PRS-A; The Psychological Resilience Scale for Adults

The relationship between patient relatives' coping strategies and resilience levels was analyzed using Spearman correlation. It was found that there was a relationship between PRS-A total and subscale scores and SCA ( $r=.64$ ), OA ( $r=.56$ ), and SSS ( $r=.44$ ) subscales of WSC and that this relationship was moderately positive ( $P < .01$ ). In contrast, a relationship was determined between PRS-A total and subscale scores and HA ( $r=-.45$ ) and SA ( $r=-.30$ ) subscales, and this relationship was moderate and negative ( $P < .01$ ).

**Table 3. Relationships Between Patient Relatives' WCS and PRSA Total and Subdimensions**

|                   |   | SCA    | OA     | HA     | SSS    | SA     |
|-------------------|---|--------|--------|--------|--------|--------|
| PRS-A Total       | r | .648   | .563   | -.451  | .448   | -.302  |
|                   | p | < .001 | < .001 | < .001 | < .001 | < .001 |
| Structural Style  | r | .468   | .412   | -.341  | .324   | -.195  |
|                   | p | < .001 | < .001 | < .001 | < .001 | < .001 |
| Future Perception | r | .818   | .701   | -.159  | .440   | -.148  |
|                   | p | < .001 | < .001 | .02    | < .001 | .03    |
| Family Cohesion   | r | .468   | .480   | -.283  | .368   | -.130  |
|                   | p | < .001 | < .001 | < .001 | < .001 | .06    |
| Self-Perception   | r | .550   | .408   | -.453  | .352   | -.332  |
|                   | p | < .001 | < .001 | < .001 | < .001 | < .001 |
| Social Competence | r | .433   | .398   | -.386  | .370   | -.357  |
|                   | p | < .001 | < .001 | < .001 | < .001 | < .001 |
| Social Resources  | r | .430   | .348   | -.303  | .310   | -.154  |
|                   | p | < .001 | < .001 | < .001 | < .001 | .02    |

r: Spearman Correlation Analysis; SCA: Self-Confident Approach; OA: Optimistic Approach; HA: Helpless Approach; SSS: Social-Support Seeking; SA: Submissive Approach

The descriptive characteristics of the patient's relatives were compared with the median scores of the sub-dimensions of the WSC and presented in Table 4. Significant differences were found among groups in terms of sub-dimension median scores based on gender, educational status, and presence of chronic illness, while no significant differences were seen among groups based on marital status, degree of kinship, and whether they had experience with intensive care unit as a patient or family member. The median scores of male patient relatives were significantly higher for the SCA ( $P = .007$ ) and OA ( $P = .005$ ) sub-dimensions, while significantly lower for the HA ( $P = .02$ ) sub-dimension. The median scores of patient's relatives with primary school education were significantly lower for the SCA ( $P = .04$ ) and OA ( $P = .03$ ) sub-dimensions than those with high school education. Further, the median scores of patient relatives with high school and undergraduate education were significantly lower for the HA sub-dimension than those with primary school education ( $P < .001$ ). The median scores of patient relatives with chronic disease were considerably higher for the HA ( $P = .01$ ) (Table 4).

**Table 4. Comparison of WCS Subscales According To Descriptive Characteristics of Patient Relatives**

|   |              | SCA                   | OA                    | HA                    | SSS                   | BEY                   |
|---|--------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <b>Age</b>                                  | r*; p        | .045; .52             | .012; .86             | .163; .02             | .104; .13             | .073; .30             |
| <b>Patient Age</b>                          | r*; p        | -.049; .48            | -.025; .71            | .071; .31             | .009; 0.89            | .037; .59             |
|   |              | <b>Med. (Min-Max)</b> | <b>Med. (Min-Max)</b> | <b>Med. (Min-Max)</b> | <b>Med. (Min-Max)</b> | <b>Med. (Min-Max)</b> |
| <b>Patient Gender</b>                       |              |                       |                       |                       |                       |                       |
| Male  |              | 2.29 (0.86-3)         | 2.2 (0.8-3)           | 1.25 (0.25-2.13)      | 2.25 (1.25-3)         | 1.33 (0-2.5)          |
| Female                                      |              | 2.14 (1.29-3)         | 2 (1.2-3)             | 1.38 (0.13-2.25)      | 2 (1-3)               | 1.33 (0-2.17)         |
|   | Z; p         | -2.717; .007          | -2.806; .005          | -2.305; .021          | -1.803; .07           | -1.172; .24           |
| <b>Marital Status</b>                       |              |                       |                       |                       |                       |                       |
| Single                                      |              | 2.29 (1.43-3)         | 2.3 (1.2-3)           | 1.25 (.38-2.25)       | 2 (1-3)               | 1.33 (0-2.17)         |
| Married                                     |              | 2.14 (.86-3)          | 2.2 (.8-3)            | 1.38 (.13-2.13)       | 2.25 (1.5-3)          | 1.33 (0-2.5)          |
|   | Z; p         | -.957; .33            | -1.70; .08            | -1.746; .08           | -.807; .42            | -.272; .78            |
|   |              | <b>SCA</b>            | <b>OA</b>             | <b>HA</b>             | <b>SSS</b>            |                       |
| <b>Educational status</b>                   |              |                       |                       |                       |                       |                       |
| Primary School <sup>a</sup>                 |              | 2.14 (.86-3)          | 2.2 (.8-3)            | 1.63 (.25-2.13)       | 2.25 (1.5-3)          | 1.33 (.83-1.83)       |
| Secondary School <sup>b</sup>               |              | 2.21 (1.43-2.71)      | 2.2 (1.6-2.6)         | 1.38 (1-2)            | 2 (1-2.75)            | 1.33 (.67-1.83)       |
| High School <sup>c</sup>                    |              | 2.29 (.86-3)          | 2.4 (1.2-3)           | 1.38 (.63-2.25)       | 2.25 (1.25-3)         | 1.33 (0-2.5)          |
| Undergraduate Degree <sup>d</sup>           |              | 2.14 (1.43-2.86)      | 2 (1-2.8)             | 1.25 (.13-2.13)       | 2 (1.25-3)            | 1.33 (0-1.83)         |
| Graduate Degree <sup>e</sup>                |              | 2.43 (2-2.86)         | 2.6 (1.8-2.8)         | 1.25 (.88-1.63)       | 2.38 (1.5-3)          | 1.08 (1-1.67)         |
|   | $\chi^2$ ; p | 9.621; .04            | 10.479; .03           | 20.535; < .001        | 6.008; 0.19           | 9.042; .06            |
|   | difference   | a<c                   | a<c                   | c,d<a                 |                       |                       |
| <b>Degree of Kinship</b>                    |              |                       |                       |                       |                       |                       |
| Spouse                                      |              | 2.07 (1.71-3)         | 2 (1.6-2.4)           | 1.63 (1-1.88)         | 2 (1.5-2.5)           | 1.25 (.83-1.67)       |
| Mother                                      |              | 2 (1.29-3)            | 2.1 (1-3)             | 1.5 (.25-2.25)        | 2 (1.5-3)             | 1.33 (.5-2.17)        |
| Father                                      |              | 2.14 (.86-2.86)       | 2.2 (1.4-3)           | 1.5 (1-2.13)          | 2.25 (1.25-3)         | 1.33 (.83-1.83)       |
| Uncle/aunt/uncle/auntie                     |              | 2.29 (.86-3)          | 2.2 (.8-3)            | 1.31 (.25-2.13)       | 2 (1-3)               | 1.33 (.33-2.5)        |
| Other                                       |              | 2.21 (1.57-2.86)      | 2.3 (1.4-2.8)         | 1.25 (.13-2.13)       | 2.25 (1.25-3)         | 1.33 (0-2.17)         |
|   | $\chi^2$ ; p | 7.494; .11            | 5.494; .24            | 9.446; .051           | 3.931; .41            | 4.228; .37            |
| <b>Chronic Disease</b>                      |              |                       |                       |                       |                       |                       |
| Yes   |              | 2.14 (.86-3)          | 2.2 (1.2-3)           | 1.5 (.5-2.25)         | 2 (1-3)               | 1.33 (.33-2.17)       |
| No  |              | 2.29 (.86-3)          | 2.2 (.8-3)            | 1.38 (.13-2.13)       | 2.25 (1.25-3)         | 1.33 (0-2.5)          |
|   | Z; p         | -.878; .38            | -1.081; .28           | -2.576; .01           | -.779; .43            | -1.681; .09           |
| <b>ICU Experience as a Patient</b>          |              |                       |                       |                       |                       |                       |
| Yes   |              | 2.29 (1.71-3)         | 2.2 (1.4-2.6)         | 1.38 (.25-2)          | 2.25 (1.5-3)          | 1.25 (.67-1.83)       |
| No  |              | 2.14 (.86-3)          | 2.2 (.8-3)            | 1.38 (.13-2.25)       | 2.25 (1-3)            | 1.33 (0-2.5)          |
|   | Z;p          | -1.157; .24           | -.219; .82            | -.443; .65            | -.882; .37            | -1.661; .09           |
| <b>ICU Experience as a Patient Relative</b> |              |                       |                       |                       |                       |                       |
| Yes   |              | 2.29 (.86-3)          | 2.2 (1.2-3)           | 1.38 (.13-2.25)       | 2.25 (1-3)            | 1.33 (0-2.5)          |
| No  |              | 2.14 (.86-2.86)       | 2 (.8-3)              | 1.38 (.25-1.75)       | 2 (1.25-3)            | 1.5 (.33-2.17)        |
|   | Z;p          | -.677; .49            | -1.379; .16           | -.712; .47            | -.462; .64            | -1.863; .06           |

ICU: Intensive Care Unit; Z: Mann Whitney U,  $\chi^2$ : Kruskal Wallis, median, minimum, and maximum data values are presented.

SCA: Self-Confident Approach; OA: Optimistic Approach; HA: Helpless Approach; SSS: Social Support-Seeking; SA: Submissive Approach

The total and subscale median scores of PRSA were compared based on the descriptive characteristics of the patient's relatives. Significant differences were revealed between groups regarding gender, marital status, education level, and experience as a patient or patient relative in the intensive care unit ( $P < .05$  for each). Significant differences were also found between the total score of PRS-A and subscale median scores of structural style, future perception, self-perception, and social competence by gender ( $P < .05$  for each). Male patient relatives had higher scores than females in the areas where significance was found. Only in the self-perception subscale was a significant difference found by marital status ( $P < .05$ ), with single patient relatives having a significantly higher median score. Based on education level, significant differences were noted in the total PRS-A score and subscale median self-perception, social competence, and social resources ( $P < .05$  for each). It was established that patient relatives who graduated from primary, middle, and high school had significantly lower total scores of RSA and subscale scores of self-perception, social competence, and social resources than those who graduated from postgraduate education. No differences were found in the PRSA total and subscale median scores between groups based on proximity degree, chronic illness, patient age, and experience as a patient in the intensive care unit (Table 5).

**Table 5. Comparison of PRS-A Total and Subscale Scores According To Descriptive Characteristics of The Patient of Relatives**

|   |          |  | SS             | FP             | FC             | SP             | SC             | SR             | PRS-A Total    |
|---|----------|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| <b>Age</b>                                  | $r^*$    |  | .010           | .091           | .049           | -.051          | -.049          | -.066          | -.006          |
|   | $P$      |  | .88            | .19            | .48            | .46            | .48            | .34            | .50            |
| <b>Patient age</b>                          | $r^*$    |  | -.011          | -.027          | .060           | -.032          | -.046          | .044           | -.014          |
|   | $P$      |  | .87            | .69            | .39            | .65            | .51            | .53            | .83            |
|   |          |  | <b>Med</b>     | <b>Med</b>     | <b>Med</b>     | <b>Med</b>     | <b>Med</b>     | <b>Med</b>     | <b>Med</b>     |
|   |          |  | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> | <b>(Mn-Mx)</b> |
| <b>Gender</b>                               |          |  | 4.25           | 2.5            | 4.5            | 4.17           | 4.17           | 4.14           | 4              |
| Male  |          |  | (2-5)          | (1-3)          | (2.33-5)       | (2.17-5)       | (2.33-5)       | (2.14-5)       | (2.52-4.61)    |
| Female                                      |          |  | 4              | 2.25           | 4.5            | 4              | 4              | 4.14           | 3.77           |
|   |          |  | (1-5)          | (1-3)          | (2-5)          | (1.67-5)       | (1.67-5)       | (2.29-5)       | (2.39-4.64)    |
|   | $Z$      |  | -2.062         | -2.533         | -1.327         | -2.110         | -2.414         | -0.505         | -2.491         |
|   | $P$      |  | .03            | .01            | .18            | .03            | .01            | .61            | .01            |
| <b>Marital Status</b>                       |          |  | 4.25           | 2.5            | 4.5            | 4.42           | 4.33           | 4.14           | 4.05           |
| Single                                      |          |  | (1.5-5)        | (1-3)          | (2-5)          | (2.17-5)       | (1.67-5)       | (2.29-5)       | (2.48-4.61)    |
| Married                                     |          |  | 4              | 2.25           | 4.33           | 4              | 4              | 4.14           | 3.91           |
|   |          |  | (1-5)          | (1-3)          | (2-5)          | (1.67-5)       | (2.17-5)       | (2.14-5)       | (2.39-4.64)    |
|   | $Z$      |  | -1.173         | -1.629         | -1.326         | -2.164         | -1.086         | -.468          | -1.660         |
|   | $P$      |  | .24            | .10            | .18            | .03            | .27            | .64            | .09            |
| <b>Educational Status</b>                   |          |  | 4              | 2.25           | 4.33           | 3.83           | 4              | 4              | 3.76           |
| Primary School <sup>a</sup>                 |          |  | (1-5)          | (1-3)          | (2.17-5)       | (1.67-5)       | (1.67-5)       | (2.71-5)       | (2.39-4.64)    |
| Secondary School <sup>b</sup>               |          |  | 4              | 2.25           | 4.42           | 4.17           | 4              | 3.86           | 3.89           |
|   |          |  | (2.25-5)       | (1.75-3)       | (2-5)          | (2.33-5)       | (1.83-5)       | (3.29-5)       | (2.48-4.52)    |
| High School <sup>c</sup>                    |          |  | 4              | 2.5            | 4.33           | 4              | 4.17           | 4.14           | 3.97           |
|   |          |  | (1.25-5)       | (1-3)          | (2.33-5)       | (2.17-5)       | (2.33-5)       | (2.14-5)       | (2.52-4.61)    |
| Undergraduate <sup>d</sup>                  |          |  | 4.25           | 2.25           | 4.5            | 4.17           | 4.33           | 4.29           | 4              |
|   |          |  | (1.5-5)        | (1-3)          | (2-5)          | (2.17-5)       | (2.17-5)       | (2.43-5)       | (2.64-4.61)    |
| Graduate Degree <sup>e</sup>                |          |  | 4.63           | 2.63           | 4.83           | 4.67           | 4.67           | 4.71           | 4.44           |
|   |          |  | (3.5-5)        | (2-3)          | (3.17-5)       | (4-5)          | (3.83-4.83)    | (4.43-4.86)    | (3.82-4.61)    |
|   | $\chi^2$ |  | 4.244          | 6.286          | 2.504          | 10.998         | 11.283         | 13.152         | 10.437         |
|   | $P$      |  | .37            | .24            | .64            | .02*           | .02*           | .01*           | .03*           |
| <b>Degree of Kinship</b>                    |          |  | 4              | 2.25           | 4.33           | 3.67           | 3.92           | 4.07           | 3.7            |
| Spouse                                      |          |  | (2.25-4.75)    | (1.5-3)        | (2.33-5)       | (1.67-4.83)    | (2.33-4.5)     | (3-5)          | (2.39-4.55)    |
| Mother                                      |          |  | 4.25           | 2.25           | 4.42           | 4              | 4              | 4.21           | 3.82           |
|   |          |  | (1.25-5)       | (1-3)          | (3-5)          | (2.17-5)       | (1.67-5)       | (3-5)          | (2.64-4.61)    |
| Father                                      |          |  | 4.25           | 2.25           | 4.33           | 3.67           | 3.83           | 3.86           | 3.76           |
|   |          |  | (2-5)          | (1-3)          | (2.33-5)       | (2.17-5)       | (2.33-5)       | (2.14-4.71)    | (2.52-4.48)    |
| Uncle/aunt/auntie                           |          |  | 4.13           | 2.38           | 4.5            | 4.17           | 4.33           | 4.14           | 4.09           |
|   |          |  | (1-5)          | (1-3)          | (2-5)          | (2.17-5)       | (1.83-5)       | (2.43-5)       | (2.48-4.64)    |
| Other                                       |          |  | 4              | 2.25           | 4.42           | 4.17           | 4.17           | 4.14           | 3.91           |
|   |          |  | (2-5)          | (2-3)          | (2-5)          | (2-5)          | (2.17-5)       | (2.71-5)       | (2.55-4.61)    |
|   | $\chi^2$ |  | 1.561          | 5.313          | 4.744          | 9.023          | 5.143          | 3.377          | 6.644          |
|   | $P$      |  | .81            | .25            | .31            | .06            | .27            | .49            | .15            |
| <b>Chronic Disease</b>                      |          |  | 4 (2-5)        | 2.25           | 4.5            | 4              | 4              | 4              | 3.91           |
| Yes   |          |  |                | (1-3)          | (2-5)          | (1.67-5)       | (1.83-5)       | (2.14-5)       | (2.39-4.61)    |
| No  |          |  | 4.25 (1-5)     | 2.25           | 4.5            | 4.17           | 4.17           | 4.29           | 3.92           |
|   |          |  |                | (1-3)          | (2-5)          | (2.5-5)        | (1.67-5)       | (2.29-5)       | (2.58-4.64)    |
|   | $Z$      |  | -1.242         | -.536          | -1.138         | -1.968         | -.239          | -1.875         | -1.270         |
|   | $P$      |  | .21            | .59            | .25            | .04            | .81            | .06            | .20            |
| <b>ICU Experience as a Patient</b>          |          |  | 4.13           | 2.25           | 4.5            | 4.17           | 4.17           | 4.07           | 3.94           |
| Yes   |          |  | (2.25-5)       | (1.5-3)        | (2.33-5)       | (2.17-5)       | (2.83-4.83)    | (3-5)          | (2.61-4.61)    |
| No  |          |  | 4              | 2.25           | 4.5            | 4.17           | 4              | 4.14           | 3.91           |
|   |          |  | (1-5)          | (1-3)          | (2-5)          | (1.67-5)       | (1.67-5)       | (2.14-5)       | (2.39-4.64)    |
|   | $Z$      |  | -.610          | -.475          | -.436          | -.498          | -.878          | -.791          | -.144          |
|   | $P$      |  | .54            | .63            | .66            | .61            | .38            | .42            | .88            |
| <b>ICU Experience as a Patient Relative</b> |          |  | 4              | 2.25           | 4.5            | 4.17           | 4.17           | 4.14           | 3.94           |
| Yes   |          |  | (1.25-5)       | (1-3)          | (2-5)          | (1.67-5)       | (1.83-5)       | (2.14-5)       | (2.39-4.64)    |
| No  |          |  | 4              | 2.25           | 4.33           | 4.17           | 3.83           | 4.14           | 3.88           |
|   |          |  | (1-5)          | (1-3)          | (2.5-5)        | (2.5-5)        | (1.67-5)       | (2.29-4.86)    | (2.58-4.58)    |
|   | $Z$      |  | -.998          | -.991          | -.754          | -.165          | -2.430         | -.589          | -1.392         |
|   | $P$      |  | .31            | .32            | .45            | .86            | .01            | .55            | .16            |

Z: Mann Whitney U,  $\chi^2$ : Kruskal Wallis, Med (Min-Max): Median (minimum-maksimum) \* difference a.b.c.e ; ICU: Intensive Care Unit; SS: Structural Style; FP: Future Perception; FC: Family Cohesion; SP: Self-perception; SC: Social Competence; SR: Social Resources; PRS-A: The Psychological Resilience Scale for Adult

## DISCUSSION

Stress is an essential factor that every individual experiences daily in a way they cannot avoid. A person must adapt to the situation over time and develop coping strategies.<sup>9,11</sup> The unusual environment of the ICU, the negative impact of environmental factors, the unfamiliarity of devices and technological tools related to the patient to the relatives, the inability of the family to see and touch their loved ones whenever they want, and the fear of loss increases the level of stress and anxiety. Studies indicate that relatives of patients admitted to coronary intensive care who have coronary heart disease, need more information and the sudden and unexpected admissions, as well as the vital danger, cause more stress.<sup>1,9,11</sup> Therefore, patients' relatives must find ways to cope with stress. Although the coronary intensive care process is stressful for patients and their families, it necessitates effective coping strategies.<sup>24,25</sup>

The present study ascertained that patient relatives used the confident, social support-seeking, and optimistic approaches, which are effective coping styles. At the same time, they also used the helpless and submissive approaches, which are ineffective coping styles. Similar study findings were found in the reviewed literature.<sup>26</sup> This finding may indicate that patient relatives sometimes have difficulty coping with this challenging process. Women, those with low education levels, and caregivers with chronic illnesses used the ineffective coping style of the helpless approach more frequently. Still, their coping styles did not differ according to their experiences as patients or patient relatives in the intensive care unit. Similar studies have also reached the same conclusions regarding education level.<sup>27,28</sup>

The mean score of patient relatives on the PRS-A was  $3.83 \pm .54$ . The lowest score on the scale is 1, and the highest is 5. Psychological resilience increases as the scores increase; the score obtained by patient relatives indicates that their psychological resilience is above the medium level. It has been noted that patient relatives received the highest score in the dimensions of family cohesion and social resources in this area. When considering sub-dimensions, it can be said that family cohesion was high during the intensive care process, and social resources were used more frequently. This result emphasizes the importance of family and social relationships in a process that is considered difficult, such as when a family member is in the intensive care unit. Similar studies in literature have reached similar conclusions regarding psychological resilience.<sup>29,30</sup> The fact that patient relatives received the lowest score on the future perception sub-dimension of psychological resilience can be interpreted as the intensive care process negatively affecting individuals' plans and expectations for the future. The literature emphasizes that in acute and serious illnesses requiring intensive care, patients and their families focus on the current situation and safety by delaying their thoughts and predictions.<sup>25,30</sup> Thus, the low score obtained from the future perception sub-dimension can be considered an expected result.

In the current study, there is a positive correlation between the sub-dimensions of the self-confident, optimistic, and social support-seeking approaches, which are effective coping methods with total and sub-dimension scores of PRS-A, and a moderately negative correlation between the sub-dimensions of the helpless and the submissive approaches, which are ineffective coping methods. This result can be interpreted as an increase in effective coping skills as psychological resilience levels increase and as a struggle for patient relatives with low resilience levels to cope with stress effectively. Stress affects individuals physically, socially, and psychologically, depending on its severity, level, and perception. This impact is reflected in the sub-dimensions of psychological resilience, such as family cohesion, social resources, future perception, self-perception, social competence, and relationship styles. In this regard, individuals with high levels of psychological resilience can reduce the effects of stress to a lesser extent and, therefore, cope effectively with stress.

Various samples show positive relationships between effective coping skills and psychological resilience.<sup>9,19</sup> In another study, it was noticed that psychological resilience helps to overcome stressful situations.<sup>31</sup> Based on these findings, psychological resilience level is an influential factor in coping with stress in the relatives of intensive care patients and independently of the situation.

In the current study, there were no relationship between the caregiver's age, the patient's age, and psychological resilience. Similar to our research, Tönbul's<sup>14</sup> study did not see a significant difference in psychological resilience levels according to age groups. There are also studies in the literature that support an increase in psychological resilience as age increases. In contrast to our research, another study noted that psychological resilience decreased as individuals' age increased.<sup>21</sup>

A significant difference was revealed between the PRS-A total score and the median scores of the self-perception, structural style, perception of the future, and social competence sub-dimensions based on gender. It was discovered that the scores of male patient relatives were higher than those of females in significant areas. It can be assumed that male patient relatives are less emotionally affected by the intensive care process than female patient relatives. In most studies, men have higher psychological resilience than women.<sup>21,29</sup>

A significant difference was observed between the PRS-A total score and the sub-dimension scores of self-perception, social competence, and social resources of patient relatives who graduated from primary, middle, and high school compared to those with graduate degrees. As a person's education level increases, they become more aware of their patient and have more information about their condition, which may result in an increased psychological resilience among the patient's relatives, depending on their education level. Similar to our study, some studies conclude that resilience increases as the educational status increases.<sup>32,33</sup> At the same time, there are also studies that did not find a significant relationship between educational status and resilience.<sup>14,18</sup>

Significantly higher social competence sub-dimension scores were seen in patient relatives who had previously had a relative in the ICU according to the characteristics of the patient relatives during the ICU process. Increased social support and social competence due to past life experiences may have contributed to this result. In the literature, the importance of social support resources is emphasized, and it is noted that family and friends are essential support elements related to psychological resilience.<sup>21,30,34</sup> In a study conducted on family members with patients in the ICU, it was also found that social support contributes to gaining control and increasing psychological resilience.<sup>30</sup> The importance of social support in increasing an individual's level of psychological resilience is clearly seen in our study and other studies.

**Limitations:** There are some limitations in the research. The fact that the study was conducted in a single center, with a small sample, and with self-rating scales limits the generalization of the findings. Also, this study contains limitations, which include not evaluating the respondents' perceptions of their coping strategies and variables that could influence coping strategies and psychological resilience, such as overload, social support and stress levels before hospitalization. This finding points to the need for further studies with more robust designs.

## CONCLUSION

According to our findings, there is a positive, moderate relationship between the PRS-A total score and the sub-dimensions of WCS considered effective coping methods a negative, moderately significant relationship between the sub-dimensions considered ineffective coping. Considering this relationship, psychological resilience enhances effective coping. In this regard, intensive care nurses should also focus on the psychological states of individuals while providing holistic and family-centered nursing care. During the intensive care process of patients, nurses planned and implemented effective coping skills and interventions to enhance psychological resilience in patient's relatives. To increase the quality of the care they provide, nurses identify the stress factors and psychological difficulties that patients' relatives may experience, provide support, counseling, and education to patients' relatives to develop effective stress coping skills, and work in collaboration with consultation-liaison psychiatry units in these respects.

**Ethics Committee Approval:** Ethical approval was received from Karabük University Non-Interventional Research Ethics Committee for the study (Date: 04.10.2021 / No: 2021/654), and written institutional approval from Karabük Training and Research Hospital. Permission to use PRS-A in the research was received from the author via e-mail. The research adhered to the Declaration of Helsinki.

**Informed Consent:** Before collecting data, patients' relatives were informed about the study. By the principle of volunteering, written informed consent to participate in the study was obtained from the patients' relatives.

**Peer-review:** Externally peer-reviewed.

**Author Contributions:** Concept – S.Y., N.O.; Design – S.Y., N.O.; Data collection for the study – S.Y.; Data analysis for the study – S.Y., N.O.; Data interpretation for the study – S.Y., N.O.; Manuscript writing – S.Y., N.O.; Critical revision for important intellectual content – N.O.; Final approval of the version to be published – S.Y., N.O.

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**Hasta Onamı:** Veri toplama öncesinde hasta yakınlarına çalışma hakkında bilgi verilmiş, gönüllülük ilkesi doğrultusunda yazılı onam alınmıştır.

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