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# The Relationship Between Proactive Personality Traits and Care Behaviors of Nursing Students in the Pandemic Process

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**Abstract**

**Background:** Nursing students, who resumed face-to-face education with the decline in Coronavirus Disease 2019 (COVID-19) pandemic effects, face difficulties adapting to clinical environments, which impacts their care behaviors.

**Aim:** The aim of this study is to examine the relationship between nursing students' proactive personality traits and care behaviors during the COVID-19 pandemic.

**Methods:** This descriptive and cross-sectional study was conducted with 193 nursing students studying at a university in Türkiye between March 21 and June 1, 2022. Data were collected using a personal information form, the Caring Behaviors Inventory-24, and the Proactive Personality Scale. Descriptive statistics, Mann-Whitney U test, Kruskal-Wallis test, Spearman correlation coefficient, and multiple linear regression analysis were used in the analysis of the data.

**Results:** The mean age of nursing students was 21.1 ± 1.77 years, and 70.5% of them were female. Mean scores on the total Proactive Personality Scale and Caring Behaviors Inventory-24 were 54.8 ± 10.7 and 5.01 ± 0.80, respectively. The variables examined for the Caring Behaviors Inventory-24 explained approximately 29% of the total variance ($R^2$=0.29, F=11.213, P < 0.001). It was determined that the level of proactive personality traits varied according to factors related to vocational education such as "role model instructor" and "choosing the profession willingly".

**Conclusion:** The results of this study showed that proactive personality traits were effective in caring behaviors. Although maintaining optimal care is related to the proactive aspects of nurses, the impact of policies on the quality of care provided by nurses should not be forgotten, and ways to develop and implement policies that will support their professional service should be sought.

*Keywords: Caring behavior, nursing students, pandemic, proactive personality*

## Introduction

Coronavirus Disease 2019 (COVID-19) was declared a pandemic by the World Health Organization in March 2020, and it brought about many changes in human life, as well as negatively affecting education and training processes.[1,2] The suspension of clinical training during this period, especially in the field of health sciences, restricted future health professionals' access to clinical experience.[3,4] Nursing students, whose access to clinical experience was restricted, experienced stress, anxiety, and problems with coping skills and learning.[1,2]

In the later stages of the pandemic, with the loosening of restrictions, students started to practice in clinics in a controlled manner. However, the process of adapting to the new normal after returning to clinical practice and the gaps during distance education led to further anxiety.[3-5] It has been stated that personality traits are among the effective factors for nursing students who experience anxiety to cope with this situation and adapt to emergencies such as pandemics.[6]

A proactive personality trait, which is one of the effective personality attributes to cope with changes and stress factors, gives some advantages to individuals. People with this trait are more decisive, and they are more likely to create opportunities to increase their performance.[7-10] A proactive personality is defined as taking action to change the environment and efforts to shape the external environment by exploring opportunities instead of passively accepting the current situation.[7] Individuals with proactive

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personality traits are entrepreneurial and responsible, and can take risks when necessary and when they believe it is appropriate. They tend to solve the problems they face in their working environment thanks to their characteristics.[7,11]

The importance of supporting students' proactive personality traits to improve professional self-efficacy in care practices and the necessity of implementing interventions to strengthen these skills have been emphasized in nursing education.[12-14] Therefore, in terms of adapting to rapidly developing and changing conditions such as the COVID-19 pandemic that we recently experienced, nursing students' ability to shape their environment and care behaviors according to new conditions can be associated with proactive personality traits. It is estimated that by evaluating this relationship in the light of scientific study data, awareness to support proactive personality traits in the nursing education process that will positively affect the quality of education and care behaviors will increase. When the studies conducted during the COVID-19 process were searched using the keywords "proactive personality traits" and "care behaviors," no study evaluating these two variables together was found. It is thought that the data obtained from this study will contribute to the literature in this respect.

This study was conducted to examine the relationship between nursing students' proactive personality traits and care behaviors during the COVID-19 pandemic. The research questions were as follows:

- What is the level of proactive personality traits and caring behaviors of nursing students?
- Do the levels of nursing students' proactive personality traits and caring behaviors differ according to some sociodemographic and profession-related characteristics?
- Is there a relationship between nursing students' proactive personality traits and caring behaviors?
- Do nursing students' proactive personality traits affect their caring behaviors?

## Materials and Methods

### Type of Study

A descriptive and cross-sectional design was used.

### Population and Sample of the Study

The study was conducted with nursing students studying at the Faculty of Health Sciences of Hatay Mustafa Kemal University in the southern region of Türkiye between March 21, 2022 and June 1, 2022. The population of the study consisted of 350 nursing students. No sampling procedure was implemented; it was planned to reach the entire population. A total of 202 nursing students responded to the survey. However, 9 of them were excluded from the research because they were first-year students who exceeded the maximum absence limit of the course. The research was completed with a total of 193 students. Post-power analysis was conducted on the G-power 3.1 software (a=0.05, d=0.508), and the power of the study was found to be 0.99.

Nursing students take the clinical practice of a basic nursing course every semester in this school, starting from the first semester of the first year (seven semesters in total). Since the faculty is located in a province with a mixed ethnic society, students provide nursing care to various ethnic communities that have lived here for many years. Nursing students who had completed at least one semester of clinical practice and who agreed to participate in the study were included. First-year nursing students completed the questionnaires when their clinical rotations were over. First-year nursing students who stated that they exceeded the maximum absence period for the course were excluded from the study.

### Data Collection Tools

#### Personal Information Form

This form was developed by the researchers in line with the relevant literature.[12,15,16] It consisted of 21 questions about sociodemographic information, such as age, gender, grade, educational status of the mother and the father, and nursing profession-related characteristics, such as professional experience, the status of choosing the profession willingly, and the status of practicing nursing after graduation.

#### The Caring Behaviors Inventory-24

The Caring Behaviors Inventory-24 (CBI-24) was developed by Wu et al. (2006). It is used to compare nurses' self-assessment and patient perceptions.[17] The Turkish validity and reliability study of the scale was conducted by Kurşun and Kanan.[18] The scale consists of 24 items and four sub-dimensions, namely "assurance," "knowledge-skills," "respectability," and "connectedness." The items are answered using a six-point Likert-type scale (1=never; 6=always). As the sub-dimension and total scale scores increase, the level of nurses' perception of quality of care increases as well. Cronbach's alpha coefficient for the total scale was reported as 0.97 in patients and 0.96 in nurses.[18] The alpha coefficient obtained in the present study was 0.97 for the total scale and 0.90-0.95 for the sub-dimensions.

#### Proactive Personality Scale

The Proactive Personality Scale (PPS) short version is a one-dimensional, 10-item tool developed by Bateman and Crant[7] after more than three months of study on three different samples. Akın, Abacı, Kaya, and Arıcı[19] conducted its Turkish validity and reliability study. The PPS includes a seven-point Likert scale with options ranging from 1 (strongly disagree) to 7 (strongly agree). There is no cut-off point for the PPS. Higher scores indicate that the individual shows more proactive personality traits. The internal consistency reliability coefficient of the scale was found to be 0.86.[19] In the present study, Cronbach's Alpha reliability coefficient was 0.94.

### Data Collection

Data were collected between March 21, 2022 and June 1, 2022 through a self-reported online questionnaire created on Google Forms. An online questionnaire to be filled outside the classroom was preferred in order to minimize contamination among nursing students and instructors while answering the questions. The online questionnaire was delivered to the students through WhatsApp groups created by representatives of each class at the faculty. The class representatives were merely the intermediary in delivering the questionnaire link to the group. After the nursing students were first informed about the study and their consent to participate was obtained, they were directed to the questionnaire items to respond to them. The survey could not be taken twice from the same electronic device, and it could be completed in 12-15 minutes. Answers to survey questions were kept confidential. Nursing students who did not agree to participate in the research were prevented from reading and answering the online survey questions.

### Data Analysis

SPSS 22.0 (SPSS 22.00, IBM, Chicago, IL, USA) statistical software was used to evaluate the data. Continuous variables were expressed as means, standard deviations (Mean ± SD), medians, quartiles M (Q25/Q75), frequency distributions, numbers (n), and percentages (%). Continuous data were subjected to normality analysis using the Kolmogorov-Smirnov goodness-of-fit test. The Mann-Whitney U test was used for paired group comparisons, and the Kruskal-Wallis test was employed for comparison of more than two groups. The relationship between the CBI-24 and PPS was evaluated using Spearman correlation analysis. Multiple linear regression analysis was utilized to determine factors affecting the CBI-24. The statistical significance level was accepted as $P < 0.05$.

### Ethical Consideration

The necessary approval was obtained from Hatay Mustafa Kemal University Social and Human Sciences Scientific Research and Publication Ethics Committee (Approval Number: 03/18, Date: 07.03.2022) before the study data were collected. In addition, permission from the institution where the study would be conducted was obtained. Participants were informed about the study, and their written informed consent was obtained. All digital data were kept on a password-protected computer accessible only to the researcher (SSK). The authors of the scale granted permission for its use in the study. The study was carried out in accordance with the Helsinki Declaration.

## Results

The distribution of nursing students according to sociodemographic and occupational characteristics is given in Table 1. The mean age of nursing students was 21.1 ± 1.77 years. The majority of them (70.5%) were female. The majority of the nursing students reported that they partially had language problems while providing care for patients and that they felt "partially" competent in patient care (Table 1).

Table 2 shows the distribution of CBI-24 total and subscale scores and PPS total scores according to students' sociodemographic and occupational characteristics. When PPS and CBI-24 scores were compared according to nursing students' sociodemographic characteristics, a statistically significant difference was found in PPS total and CBI-24 knowledge-skills sub-dimension scores according to the number of siblings ($P < 0.05$). Nursing students with three siblings had higher total PPS and CBI-24 knowledge-skills sub-dimension scores compared to those with four or more siblings (Table 2).

When the scale scores were analyzed in terms of occupational characteristics, it was found that students who chose the profession willingly, felt competent in care, did not have language problems, or had an instructor as a role model had significantly higher PPS scores ($P < 0.05$). Those who voluntarily chose the profession and reported having a nurse as a role model had significantly higher scores on the CBI-24 connectedness sub-dimension. Those who reported that they would choose the nursing profession again had significantly higher scores on the total CBI-24 and all sub-dimensions, except for the knowledge-skills. Participants who felt competent in care had significantly higher scores on the total CBI-24 and all sub-dimensions, and those who did not have language problems had significantly higher scores on all CBI-24 sub-dimensions except for the knowledge-skills ($P < 0.05$) (Table 2).

**Table 1.** Distribution of Participants' Sociodemographic and Occupational Characteristics (n=193)

| Variables | $\bar{X}$ ± SD |
|---|---|
| Age | 21.1 ± 1.77 (min=18, max=30) |
| | n (%) |
| Sex | |
| Female | 136 (70.5) |
| Male | 57 (29.5) |
| Grade | |
| 1st-year | 35 (18.1) |
| 2nd-year | 47 (24.4) |
| 3rd-year | 51 (26.4) |
| 4th-year | 60 (31.1) |
| Income Level | |
| Income less than expenses | 74 (38.3) |
| Income equal to expenses | 104 (53.9) |
| Income more than expenses | 15 (7.8) |
| Number of Siblings | |
| 1-3 | 87 (45.1) |
| ≥4 | 106 (54.9) |
| Having Language Problems While Providing Care | |
| Yes | 42 (21.8) |
| No | 69 (35.7) |
| Partially | 82 (42.5) |
| Status of Having High School-Based Work Experience | |
| Yes | 24 (12.4) |
| No | 169 (87.6) |
| Choosing the Profession Willingly | |
| Yes | 127 (65.8) |
| No | 66 (34.2) |
| Willingness to Practice Nursing After Graduation | |
| Yes | 176 (91.2) |
| No | 17 (8.8) |
| Would You Choose Nursing Again? | |
| Yes | 107 (55.4) |
| No | 86 (44.6) |
| Feeling Competent in Care | |
| Yes | 68 (35.2) |
| No | 35 (18.2) |
| Partially | 90 (46.6) |
| Having a Role Model Instructor | |
| Yes | 167 (86.5) |
| No | 26 (13.5) |
| Having a Role Model Nurse | |
| Yes | 160 (82.9) |
| No | 33 (17.1) |

SD: Standard Deviation.

When the scale scores were analyzed in terms of nursing students' occupational characteristics, it was found that nursing students who did not experience language problems, those who chose the profession willingly, those who felt competent in care, and those who had an instructor as a role model had significantly higher PPS total scores ($P < 0.05$) (Table 2).

There was no significant difference in CBI-24 and PPS total and subscale scores in terms of sex, grade, status of having high school-based work experience, graduate nurse, and willingness to practice nursing after graduation (Table 2).

Table 3 shows the PPS total score, CBI-24 total and subscale scores, and the correlation distributions between them. The CBI-24 mean score was 5.01 ± 0.8 and the PPS total score was 54.8 ± 10.7, which were above average. Of the PPS subscales, the assurance score was 5.08 ± 0.83, the knowledge skills score was 4.95 ± 0.87, the respectability score was 5.03 ± 0.84, and the connectedness score was 4.91 ± 0.85. A moderate, positive, and statistically significant correlation was found between the mean PPS score and CBI-24 total and sub-dimension scores (r=0.508, 0.502, 0.498, 0.498, 0.468, and 0.446; P < 0.001).

**Table 2.** Distribution of the Caring Behaviors Inventory-24 (CBI-24) and Proactive Personality Scale (PPS) Scores According to Nursing Students' Sociodemographic and Occupational Characteristics

| | CBI-24 | | | | | PPS |
|---|---|---|---|---|---|---|
| Variables | Total M ($Q_{25}$–$Q_{75}$) | Assurance M ($Q_{25}$–$Q_{75}$) | Knowledge-skills M ($Q_{25}$–$Q_{75}$) | Respectability M ($Q_{25}$–$Q_{75}$) | Connectedness M ($Q_{25}$–$Q_{75}$) | Total M ($Q_{25}$–$Q_{75}$) |
| Number of Siblings | | | | | | |
| 1–2–3 | 5.20 (4.75–5.66) | 5.37 (4.75–5.87) | 5.20 (4.60–5.80) | 5.16 (4.83–5.66) | 5.00 (4.60–5.80) | 57.00 (52.00–63.00) |
| ≥4 | 5.12 (4.41–5.59) | 5.12 (4.71–5.75) | 5.00 (4.40–5.40) | 5.00 (4.45–5.83) | 5.00 (4.15–5.60) | 56.00 (49.00–60.25) |
| Z, p [a] | -1.206, 0.228 | -0.806, 0.420 | -2.06, 0.039 | -0.855, 0.339 | -0.956, 0.339 | -2.051, 0.040 |
| Having Language Problems While Providing Care | | | | | | |
| Yes | 5.00 (4.60–5.30) | 5.12 (4.59–5.37) | 5.00 (4.60–5.40) | 5.00 (4.41–5.50) | 4.90 (4.20–5.20) | 56.50 (49.75–60.00) |
| No | 5.25 (4.85–5.87) | 5.37 (5.00–6.00) | 5.40 (4.60–5.80) | 5.33 (4.83–6.00) | 5.20 (4.80–6.00) | 59.00 (53.50–63.50) |
| Partially | 5.14 (4.41–5.55) | 5.12 (4.59–5.75) | 5.00 (4.35–5.60) | 5.16 (4.50–5.66) | 5.00 (4.40–5.45) | 55.50 (49.00–61.00) |
| H, p [b] | 7.148, 0.028 | 6.032, 0.049 | 5.619, 0.060 | 7.309, 0.026 | 7.511, 0.023 | 6.348, 0.042 |
| Choosing the Profession Willingly | | | | | | |
| Yes | 5.16 (4.66–5.75) | 5.25 (4.87–5.87) | 5.00 (4.60–5.60) | 5.16 (4.66–5.83) | 5.00 (4.60–5.80) | 57.00 (52.00–62.00) |
| No | 5.02 (4.40–5.37) | 5.12 (4.59–5.50) | 5.00 (4.15–5.60) | 5.00 (4.45–5.54) | 4.97 (4.20–5.20) | 55.50 (48.00–60.00) |
| Z, p [a] | -1.855, 0.064 | -1.815, 0.070 | -1.335, 0.182 | -1.647, 0.099 | -2.046, 0.041 | -2.102, 0.036 |
| Would You Choose Nursing Again? | | | | | | |
| Yes | 5.25 (4.79–5.70) | 5.37 (5.00–5.87) | 5.20 (4.60–5.60) | 5.33 (4.83–5.83) | 5.20 (4.60–5.80) | 57.00 (51.00–62.00) |
| No | 5.00 (4.30–5.51) | 5.00 (4.43–5.65) | 5.00 (4.20–5.60) | 5.00 (4.29–5.66) | 5.00 (4.15–5.40) | 56.00 (48.75–60.25) |
| Z, p [a] | -2.136, 0.033 | -2.410, 0.016 | -1.341, 0.180 | -1.988, 0.047 | -2.259, 0.024 | -1.15, 0.248 |
| Feeling Competent in Care | | | | | | |
| Yes | 5.47 (4.92–5.90) | 5.43 (5.00–6.00) | 5.50 (4.80–6.00) | 5.50 (4.83–6.00) | 5.30 (4.80–5.80) | 59.00 (53.25–63.00) |
| No | 4.83 (4.04–5.25) | 5.00 (4.00–5.25) | 4.60 (4.00–5.20) | 5.00 (4.00–5.50) | 4.60 (4.00–5.00) | 53.00 (48.00–60.00) |
| Partially | 5.14 (4.66–5.51) | 5.18 (4.84–5.85) | 5.00 (4.55–5.40) | 5.00 (4.66–5.54) | 5.00 (4.60–5.45) | 56.00 (50.00–60.25) |
| H, p [b] | 14.753, 0.001 | 10.268, 0.006 | 18.412, 0.000 | 9.789, 0.007 | 14.214, 0.001 | 8.624, 0.013 |
| Having a Role Model Instructor | | | | | | |
| Yes | 5.16 (4.66–5.66) | 5.25 (4.87–5.87) | 5.00 (4.60–5.60) | 5.16 (4.66–5.83) | 5.00 (4.60–5.60) | 57.00 (51.00–62.00) |
| No | 5.00 (4.05–5.41) | 5.00 (4.12–5.53) | 5.00 (4.00–5.40) | 5.00 (4.04–5.50) | 4.80 (3.70–5.40) | 50.00 (44.75–58.00) |
| Z, p [a] | -1.707, 0.088 | -1.877, 0.061 | -1.578, 0.114 | -1.373, 0.170 | -1.894, 0.058 | -2.841, 0.004 |
| Having a Role Model Nurse | | | | | | |
| Yes | 5.16 (4.66–5.70) | 5.25 (4.87–5.87) | 5.00 (4.60–5.75) | 5.16 (4.66–5.83) | 5.00 (4.60–5.80) | 57.00 (51.00–62.00) |
| No | 5.00 (4.12–5.41) | 5.00 (4.12–5.62) | 5.00 (4.00–5.40) | 5.00 (4.16–5.58) | 4.80 (4.00–5.20) | 55.00 (48.00–60.00) |
| Z, p [a] | -1.673, 0.094 | -1.499, 0.134 | -1.529, 0.126 | -1.341, 0.180 | -2.301, 0.021 | -1.456, 0.145 |

[a]Mann-Whitney U Test; [b] Kruskal -Wallis Test; Bold fonts show statistical significance.

**Table 3.** Correlation Distributions Between PPS and CBI-24

| | Mean ± SD | Min-Max | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|
| 1 PPS Total Score | 54.8 ± 10.7 | 10-70 | 1 | | | | | |
| 2 CBI-24 Total Score | 5.01 ± 0.80 | 2.92-6 | 0.508* | 1 | | | | |
| 3 Assurance | 5.08± 0.83 | 2.88-6 | 0.468* | 0.934* | 1 | | | |
| 4 Knowledge-skills | 4.95 ± 0.87 | 2.60-6 | 0.446* | 0.900* | 0.788* | 1 | | |
| 5 Respectability | 5.03 ± 0.84 | 2.83-6 | 0.498* | 0.790* | 0.850* | 0.790* | 1 | |
| 6 Connectedness | 4.91 ± 0.85 | 2.60-6 | 0.502* | 0.800* | 0.828* | 0.800* | 0.918* | 1 |

*$P$ < 0.001.

Table 4 shows the results of the regression analysis conducted with the variables that showed significant differences between the CBI-24 scores. The variables examined for the CBI-24 explained approximately 29% of the total variance (R2=0.29, F=11.213, P < 0.001) and only the proactive personality trait was a significant predictor of caring behaviors (β=0.491).

## Discussion

The proactive personality traits of professionals working in care services are known to trigger proactive behavior, thereby having numerous benefits for constantly developing and changing care behaviors.[20] Factors such as effective use of limited time and high workload require nurses to develop different strategies in their work.[21] Thus, they need to be proactive. In a recent study on the examination of nurses' views on being a good nurse and a better nurse in Korea, the definition of a better nurse was associated with performing above expectations and the concept of a proactive nurse.[22] In this study, it was determined that proactive personality traits were effective in care behaviors. Additionally, the level of proactive personality traits and caring behaviors of nursing students were found to be above average. Although there are a limited number of studies on the subject, the findings of this study are consistent with the literature.[12,23-25] In similar studies conducted with nursing students and nurses, it was reported that as proactive personality traits increased, communication skills, adaptability to the career, job performance, and proactive coping skills increased, and academic burnout decreased.[12,20,26,27] Therefore, it can be argued that higher levels of proactive personality traits will lead to a higher quality of care that nursing students will provide in health care services in the future.

Nursing education has vital importance in gaining competence in caring behaviors and developing skills to adapt to rapidly changing healthcare environments.[14,24] In the study, the level of proactive personality traits was found to be higher in those who felt competent in care, those who did not have language problems while providing care, and those who had a positive educator role model. There are many studies in the literature on the examination of caring behaviors[15,21,22,28,29] and proactivity[23,30] in terms of socio-demographic and/or occupational characteristics. In most of these studies, "role model instructor" has been reported as an important variable in terms of occupational characteristics and proactivity. In the literature, it has been reported that a role model instructor increases the student's interest in the profession and motivation to learn[31,32] and that students with increased motivation can further sharpen and use their creative skills, maintain success by boosting their interest and attention, and thus gain the attributes of a proactive nurse.[33] In a study conducted with nurse managers, it was reported that the strongest factors affecting the level of proactive behavior were "commitment to work", "quality interpersonal relationships with physicians and nurses", and "experience working as a nurse manager".[34] In addition, it was stated that the use of educational methods in nursing education other than the classical method (group work, story/game, and role play, interactive teaching) various cooperative learning techniques (jigsaw technique), and the addition of courses such as project

**Table 4.** Factors that Predicted CBI-24 Scores

| | CBI-24 | | | | |
|---|---|---|---|---|---|
| Independent Variables | *B* | SE | *Beta* | *t* | *p* |
| Number of Siblings (3 and below) | 0.024 | 0.101 | 0.015 | 0.242 | 0.809 |
| Choosing the Profession Willingly (Yes) | 0.010 | 0.111 | 0.006 | 0.086 | 0.932 |
| Feeling Competent in Care (Yes) | 0.131 | 0.108 | 0.078 | 1.212 | 0.227 |
| Having Language Problems While Providing Care (Yes) | -0.082 | 0.123 | -0.042 | -0.671 | 0.503 |
| Having a Role Model Nurse (Yes) | 0.079 | 0.134 | 0.037 | 0.590 | 0.556 |
| Willingness to Choose the Profession Again (Yes) | 0.137 | 0.107 | 0.085 | 1.276 | 0.204 |
| Proactive Personality Trait | 0.037 | 0.005 | 0.491 | 7.598 | **<0.001** |

R: 0.54; $R^2$: 0.29; Adj$R^2$: 0.27; F: 11.213; *P* < 0.001.

management and entrepreneurship to the curriculum can contribute to the training of proactive nurses.[33,35] In the present study, students choosing the nursing profession willingly had high proactive personality trait scores, which was consistent with the literature. This is because choosing a profession willingly produces a positive effect on the morale, motivation, and performance associated with the profession,[16] and this increases intrinsic motivation, which is a fundamental antecedent of proactive behavior.[36] For this reason, in order to graduate as a nurse with fully-fledged proactive traits, students should be provided with the right guidance before they are admitted to nursing programs,[37] and opportunities should be created to nourish positive attitudes toward the profession during their education.[15]

The relationship between the number of siblings and proactivity, which is the last finding of the present study, can be attributed to the fact that in families with a low number of children, the parental education level or the psychological value given to the child is often higher, which in turn creates a parent-child relationship that is supportive of the child's development of an independent identity.[38]

### Limitations

This study has some limitations. The first was that the number of participants decreased due to students' lack of interest in the online survey during the COVID-19 pandemic. Secondly, the study was conducted in a single center, and therefore it is not possible to generalize the results to the whole society.

## Conclusion

This study showed that proactive personality traits are effective in caring behaviors. Proactive personality traits and caring behaviors of nursing students were found to be at moderate levels. In addition, the level of proactive personality traits varied according to factors related to vocational education such as "role model instructor" and "choosing the profession willingly."

As the urgency of the COVID-19 response has slowed down and the world has been trying to adapt to the new normal, nurses need to have proactive behavioral skills to facilitate adaptation to changes in healthcare systems and maintain optimal quality of care. Determining the relationship between nursing students' proactive personality traits and care behaviors is very important in terms of identifying the resources needed by nurses to provide better care services under all conditions in the future. Although pandemics and similar extraordinary situations pose a threat to available resources, focusing on what can be done under these conditions and acting proactively will improve the quality of care. It is recommended that faculty members support the proactive personality traits of nursing students, through which they can express themselves more easily, before the clinical internship.

Ethics Committee Approval: The necessary approval was obtained from Hatay Mustafa Kemal University Social and Human Sciences Scientific Research and Publication Ethics Committee (Approval Number: 03/18, Date: 07.03.2022) before the study data were collected.

Informed Consent: Participants were informed about the study, and their written informed consent was obtained.

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