

Research Article

Self-Reported Emotional Intelligence Levels and Leadership Behaviors of Turkish Nursing Students and Related Factors: A Multicenter, Cross-Sectional, Descriptive Study

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Background: Nurses with advanced leadership characteristics and emotional intelligence should be trained to deliver high-quality, efficient, cost-effective health care. This study aimed to determine Turkish student nurses' self-reported leadership behaviors and emotional intelligence levels and the influencing factors.

Methods: A cross-sectional, descriptive survey was conducted among 1105 student nurses in Türkiye. Data were collected using a personal characteristics form, a leadership survey evaluating different leadership styles, and an emotional intelligence scale.

Results: In this study, it was found that emotional intelligence scale scores of nursing students were quite high (mean: 138 ± 25.1). There was a significant positive correlation between emotional intelligence and all leadership behaviors ($p = 0.001$). The highest mean score of the students was received from the people-focused leadership behaviors (32.3 ± 5.01), while the lowest was in transformational leadership behaviors (27.5 ± 6.03). The results show that besides demographic factors such as gender and place of living, exceptionally high education level of the mother and positive parent attitudes were found to have significant effects on the students' emotional intelligence levels and leadership behaviors.

Conclusions: Leadership and emotional intelligence concepts should be approached in an integrated way during nursing education. Targeted educational interventions and family-inclusive programs are recommended to support the development of students' leadership and emotional intelligence skills, which may ultimately contribute to improved patient care quality and team collaboration in clinical settings.

Keywords: emotional intelligence; leadership behaviors; nursing; students

1. Introduction

Emotional intelligence and leadership are essential and interrelated concepts in nurses' success [1]. According to Goleman [2]; "emotional intelligence refers to the capacity for recognizing our own feelings and those of others, for motivating ourselves, and for managing emotions well in ourselves, and in our relationships." Bar-On [3] defined emotional intelligence as a whole of emotional, social, and

personal skills. Salovey and Mayer [4] define emotional intelligence as "being able to monitor and regulate one's own and others' feelings and to use feelings to guide thought and action," and it has three main components: evaluation and expression of emotion, regulation of emotions, and use of emotions. This concept gained popularity with the publication of the book "Emotional Intelligence" by Daniel Goleman in 1995 [5]. This study is grounded on the conceptual assumption that emotional intelligence supports

leadership capacities, and both are shaped in part by early family and parenting experiences, aligning with emotional and social learning theories [6–8].

Emotional intelligence is recognizing, evaluating, utilizing, and managing emotions. As vital members of the healthcare team, nurses have roles that include managing patient care and treatment, caring for the dying, and applying adequate time and appropriate communication skills to provide patient-centered and compassionate care. While fulfilling these duties and responsibilities, nurses may experience emotional burden and stress due to factors such as heavy workloads [9]. Similarly, nursing students may experience intense emotions related to the instructor, patients, and the clinical environment during clinical practice. Developing emotional intelligence is crucial for nursing students to understand and manage their emotions throughout their education. Among the most important reasons for this is their ability to communicate with patients and their families to assess their physical, cognitive, and social well-being, their clinical teaching and performance to be more effective, their quality of care to be enhanced, and the role of emotional intelligence in establishing therapeutic relationships with patients. Therefore, it was emphasized that emotional intelligence needs to be effectively integrated into the nursing curriculum [9–11].

There are varying findings in the literature regarding whether the emotional intelligence level of nursing students is low [12], moderate [13, 14], moderate–high [14, 15], or high [9, 16]. In Turkey, there are studies that the emotional intelligence level of nursing students is low [17, 18], moderate [19–22], or satisfactory [23]. These studies emphasized that emotional intelligence needs to be effectively integrated into the nursing curricula. The reasons for the differences in the results of these studies may be the age, social and cultural differences in the participant population, the methodological differences used in the evaluation, and the effect of confounding factors.

In the studies conducted in recent years, it is stated that emotional intelligence is an essential skill that needs to be developed, especially in the clinical applications of nursing education [24–26]. Nursing diligently achieves its primary responsibility of assisting and serving the individual, society, and family in all situations [23]. Developing nurses' leadership and emotional intelligence competencies is crucial to achieving the professional and individual goals of humanistic, holistic care [27]. Nurses are expected to use their emotional intelligence skills in every interaction while exhibiting leadership behaviors to meet the demands of health services and to effectively manage the changing health system [1]. In studies conducted with nursing students, emotional intelligence is effective in establishing a therapeutic relationship between patients and their relatives for providing holistic care, reducing the level of stress and burnout, and adapting better to changing situations [25, 28–30].

Previous studies have shown a positive relationship between emotional intelligence and clinical decision-making, critical thinking, clinical competence/performance abilities, patient care effectiveness, and perceptions of social support in student nurses [11, 31–33]. Similarly,

Alnajjar and Abou Hashish [34] demonstrated in their study that developing leadership skills in nursing students is important for clinical decision-making and that leadership style can influence the choice of conflict management style.

Some studies have shown a positive relationship between emotional intelligence and effective leadership behavior [35, 36]. Effective leadership in healthcare institutions provides important positive outcomes such as increased patient satisfaction, safety, quality of care, and decreased patient mortality rate [37]. Because emotional intelligence also leads to similar outcomes, interest in the relationship between emotional intelligence and leadership behaviors/style has increased in recent years. However, there are limited studies on emotional intelligence and leadership behaviors/style, and there are gaps in the literature demonstrating the value of this topic. Factors such as insufficient correlations between the results of studies conducted on this topic and the lack of a connection between student education and instructor teaching in education and emotional intelligence can lead to limitations in demonstrating the relationship between leadership and emotional intelligence [35, 36].

In the literature, some studies show a positive correlation between emotional intelligence and leadership [21, 38–40]. According to Spector [41], “leadership involves influencing the attitudes, beliefs, behaviors and feelings of other people.” It is suggested that emotional intelligence advances leadership through emotion regulation and behavior patterns [6]. Emotionally intelligent leaders have the most significant influence on their members of the organization, as they are perceived as trustworthy and aware of behavioral and social norms [38]. In addition, the findings of previously published studies provide important information about emotional intelligence, leadership behaviors, and related factors of each. It is stated that emotional intelligence has a relationship with gender [22, 42–44], age [44–46], choosing nursing profession willingly [22], satisfaction of students' family socioeconomic status [47], parents' education [48], marital status [49], etc. In terms of leadership behaviors, gender [50, 51], age [52, 53], education status of father [50], satisfaction with nursing profession [54], marital status [55], and many other factors are related. In addition, emotional intelligence and leadership play a critical role in the parental role [56]. Leaders, like parents, are figures whose role includes guiding, directing, taking charge, and taking care of others less powerful than they and whose fate is highly dependent on them [57]. It is supported by Nastas and Sala's [58] study that the capacity of teenagers to regulate their own emotions and impulses, to be more flexible, removed from difficulties, and to express emotions assertively is heavily influenced by the parenting style. Additionally, emotional intelligence develops across a person's lifetime and may be improved via training [59]. Moreover, it is also thought that parents' educational levels and parenting styles might influence a person's emotional intelligence levels and leadership behaviors.

Although there are limited studies in the literature on leadership behaviors/orientations and emotional intelligence levels among university and nursing students

[35, 36], it is stated that transformational leadership is most closely related to emotional intelligence [8, 60–62].

It is stated that emotional intelligence facilitates learning in nursing education and effectively demonstrates effective leadership behaviors that provide high-quality and compassionate care. For this reason, nursing education curricula should be of a quality that will enable the development of students' emotional intelligence skills [24, 25].

Since leadership skills are seen as an important tool in shaping nursing practices and health policies in recent years, they need to be developed in the education of nursing students [21]. In the study conducted by Yildirim et al. [1] with nursing students in Turkey, it was found that there was a positive correlation between the emotional intelligence level of the students and their leadership orientations. Nurses must employ their emotional intelligence abilities in every interaction while displaying leadership behaviors. Nursing students' leadership behaviors and emotional intelligence skills should be developed during their education [1]. Therefore, it is important to determine leadership behaviors and the emotional intelligence level of nursing students to train future nurse leaders who will be effective. Despite evidence linking emotional intelligence and leadership, there is a lack of studies examining these with parenting styles among nursing students, especially in Middle Eastern contexts. Therefore, this present study aimed to determine nursing students' leadership behaviors and emotional intelligence level and the influencing factors. This study would raise awareness among nurse educators and administrators about developing nursing students' emotional intelligence and leadership behaviors and would guide the necessary planning. The main questions of this study were as follows: (1) What are the perceived emotional intelligence levels and leadership behaviors of nursing students?, (2) What factors are related to perceived emotional intelligence levels and leadership behaviors of nursing students?, (3) What are the relationships between perceived emotional intelligence levels and leadership behaviors of nursing students?, (4) Do the perceived emotional intelligence levels and leadership behaviors of nursing students differ according to sociodemographic features?

2. Method

2.1. Design and Settings. The research was conducted as a multicenter, cross-sectional, descriptive survey study with a convenience sampling method. In the convenience sampling method, the researcher announces the study, and participants choose whether to participate [63]. The primary goal of convenience sampling is to get data from individuals who are conveniently available to the researcher [64]. This study targeted the entire population of the three universities. The study population consisted of 1220 students studying in the nursing department in Türkiye in the 2018–2019 academic year. And, 38 students did not completely fill out the questionnaire, 42 were absent during the data collection process, and 35 did not agree to participate in the study. Therefore, these students were excluded from the study. Finally, the study was composed of 1105 participants.

2.2. Data Collection. Personal Characteristics Form, Emotional Intelligence Assessment Scale (EIAS), and Leadership Orientation Survey (LOS-self) were used to collect data.

2.2.1. Personal Characteristics Form. The researchers developed it as an anonymous self-completed questionnaire including both demographic characteristics [22, 42–46] and study-specific questions related to parenting styles [56, 58, 65, 66].

2.2.2. EIAS. The emotional intelligence level of the participants was assessed using the EIAS. Hall developed it in 1999 to determine the level of self-perception of a person's emotional abilities. The reliability and validity of the Turkish version of this scale were measured by [67]. The scale consists of five subdimensions and 30 items: regulating emotions, awareness of emotions, self-motivation, social skills, and empathy. A 6-point Likert-type scale (1 = *totally disagree*; 6 = *totally agree*) was used for subject responses to each of the items for five subdimensions, each of which includes six items. The possible total scores ranged from 30 to 180 points, and high scores indicate that the level of emotional intelligence is higher. In this study, Cronbach's alpha coefficient for the scale was calculated as 0.95.

2.2.3. LOS-Self. The leadership behaviors of the participants were assessed by using the LOS-self. It was developed by Bolman and Deal [68] to evaluate students' leadership orientations. The translation to the Turkish language and its Turkish validity and reliability study were carried out by Dereli [69]. This scale consists of three sections Section 1: Leadership Behaviors, Section 2: Leadership Style, and Section 3: Overall rating, which consists of questions evaluating the individual's perceptions as a manager and leader. In this study, Section 1 of the scale regarding leadership behaviors was used. The LOS-self (Section 1) involves four basic subscales, including Structure-Oriented Leadership, People-Oriented Leadership, Charismatic Leadership, and Transformational Leadership. Each dimension includes eight items. The survey consists of 32 items with a 5-point Likert scale scored as 1 = *Never*, 2 = *Rarely*, 3 = *Occasionally*, 4 = *Often*, and 5 = *Always*. A minimum of 8 points and a maximum of 40 points can be obtained from each dimension. The high score obtained from the scale dimensions indicates that the person consistently exhibits the relevant leadership characteristics; a low score indicates that the person does not exhibit leadership characteristics.

This study found that the Kaiser–Mayer–Olkin (KMO) value was 0.965 for the EIAS and 0.967 for the LOS-self. The Bartlett's test value was 18,635.807 for the EIAS and 18,424.418 for the LOS-self, which was statistically significant ($p < 0.05$). For the sample size to be sufficient, the KMO index value should be at least 0.60 [70]. For this reason, it was seen that the sample size was sufficient for the EIAS and the LOS-self as a result of the exploratory factor analysis performed after KMO. It was collected in 4 dimensions, and

the rate of explaining the total variance was 58.501% for EIAS and 52.156% for the LOS-self. In this study, the scale's internal consistency coefficient (Cronbach's alpha) was found to be 0.95 for EIAS. Cronbach's alpha coefficient for the subscales was 0.86 for People-Oriented Leadership, 0.82 for Structure-Oriented Leadership, 0.87 for Transformational Leadership, and 0.87 for Charismatic Leadership. The scales used for this study were found to be highly reliable because the Cronbach's alpha value was between $0.81 < \alpha < 1.00$ [71].

2.3. Procedure. Before collecting data, each student was given an information form explaining the research purpose, the research team, and the methodology, and a research team member summarized the study details to the students. Students were also informed that their participation is entirely voluntary, and written informed consent was obtained from the students. The data collection forms were distributed to nursing students who agreed to participate in the study in the classroom. It was explained to the students that the data obtained would be kept confidential and would not be shared with anyone. Students were asked not to write their names on the data collection forms to protect confidentiality. No coercion was applied to the students during data collection. The completion of the forms took 20–25 min on average.

2.4. Ethical Considerations. Before the beginning of the study, written permission was received from the institutions where the study was conducted, and ethics approval was obtained from the local Ethics Committee of Sinop University (No: 2018/06). Participants were informed about the study before attending the class where data were collected. Then, verbal and written informed consent was obtained from each participant to identify those who volunteered to participate in the study.

2.5. Data Analysis. The SPSS (Statistical Package for the Social Sciences), Version 20.0 (SPSS Inc.) was used to analyze data. Descriptive statistics such as number, percentage, mean, standard deviation, median, and Cronbach's alpha were used to express the results. The normality of the variables was analyzed with the Kolmogorov–Smirnov test. Since the variables were non-normally distributed, nonparametric tests were used. A Mann–Whitney *U*-test was used to compare the scores of two group variables, and a Kruskal–Wallis test was used to compare the scores of three or more group variables. In addition, in the Kruskal–Wallis test, the difference was analyzed using the Bonferroni test to look for the source of the difference in the detected groups.

The correlations were studied using Spearman's correlation analysis. The correlations between the variables were defined as very weak for the correlation coefficients between 0 and 0.25, weak between 0.26 and 0.49, moderate between 0.50 and 0.69, high between 0.70 and 0.89 and very high between 0.90 and 1 [72]. *Multiple linear regression analysis* was used to determine the variables that affect the students' emotional intelligence levels and leadership behaviors.

3. Results

3.1. Descriptive Characteristics and Scale Scores of the Students. The students' descriptive characteristics and scale scores are given in Table 1. The mean age of the nursing students was 20.93 ± 1.50 years, and 82.2% were female. The highest mean score of the students was received from the People-Oriented Leadership (32.3 ± 5.01), the lowest mean score was received from the Transformational Leadership (27.5 ± 6.03) subscales of the LOS-self. The mean EIAS total score of the students was 138 ± 25.1 points, and the highest score was received from the Awareness of the Emotions (29.4 ± 5.49) subscale, and the lowest score was received from the Regulating Emotions (25.5 ± 6.21) sub-scale (Table 1).

3.2. Factors Influencing Students' Emotional Intelligence Levels and Leadership Behaviors. Table 2 shows the factors that influence students' emotional intelligence levels and leadership behaviors. It was determined that emotional intelligence scores were statistically significantly higher in female students and those who chose the nursing profession willingly and the students who spent most of their life in a city ($p < 0.05$). In addition, a statistically significant difference was found between the students' median emotional intelligence levels in terms of their mother's educational degree ($p = 0.001$). In the further analysis, it was observed that this difference was due to the emotional intelligence scores of the nursing students whose mothers were primary school graduates being lower than those of high school graduates (Table 2).

"People-Oriented Leadership Orientations" subscale scores of the students were found statistically significantly higher among female students, who chose nursing profession willingly and those who were living in the city ($p < 0.05$). Among the students, the "People-Oriented Leadership" scores were lower in the nursing students with a mother graduated from primary school compared to those with a mother graduated from high school ($p < 0.001$) (Table 2).

The median "Structure-Oriented Leadership" score of the students was lower in those with a low income compared to the students with an equal or high income ($p < 0.05$) and it was significantly higher in those living in a city ($p < 0.05$). The scores of the students with a mother who graduated from primary school were lower than those with a mother who graduated from high school, and the scores of those whose fathers primary school graduates were statistically significantly lower than those with a father graduated from university ($p < 0.05$) (Table 2).

The median "Transformational Leadership Orientation" subscale scores of the students was statistically significantly higher in those with a high income compared to an equal or low income, in those living in a city and in those with parents graduated from high school than in the students with primary school-graduated parents ($p < 0.05$) (Table 2).

The median "Charismatic Leadership Orientation" subscale scores of the students was significantly higher in the students with a high income compared to those with an

TABLE 1: Descriptive characteristics and the EIAS and LOS-self scale scores of the students ($n = 1105$).

Variable		<i>n</i>	%
Gender	Male	197	17.8
	Female	908	82.2
Marital status	Married	6	0.5
	Single	1099	99.5
Working status	Employed	25	2.3
	Unemployed	1080	97.7
Having siblings	Yes	1066	96.5
	No	39	3.5
Choosing nursing profession willingly	Yes	739	66.9
	No	366	33.1
Income level	Less income than expenditures	117	10.6
	Income equals expenditures	929	84.1
	More income than expenditures	59	5.3
The place where the large part of life spent	Village-county	480	43.4
	City center	625	56.6
Educational status of students' mother	Primary school	854	77.3
	High school	191	17.3
	University	60	5.4
Educational status of students' father	Primary school	578	52.3
	High school	331	30.0
	University and higher	196	17.7
		Mean	SD
Age (years)		20.93	1.50
Number of siblings		1.96	1.85
Leadership Orientation Survey	People-Oriented Leadership (8–40)*	32.3	5.01
	Structure-Oriented Leadership (8–40)*	30.9	5.05
	Charismatic Leadership (8–40)*	28.5	6.05
	Transformational Leadership (8–40)*	27.5	6.03
Emotional Intelligence Assessment Scale (total)		138.00	25.11
	Awareness of the Emotions (6–36)*	29.4	5.49
	Empathy (6–36)*	28.5	5.53
	Self-motivation (6–36)*	27.5	5.80
	Social Skills (6–36)*	27.1	5.75
	Regulating Emotions (6–36)*	25.5	6.21

Abbreviation: SD, standard deviation.

*Minimum and maximum scores received from the scales.

equal or low income and in those with a parent graduated from high school compared to the students with a primary school-graduated parents ($p < 0.05$) (Table 2).

In this study, all subscale scores of the EIAS and the LOS-self were significantly higher in the students with parents with “*balanced and stable*,” “*reassuring and supportive*” attitudes. In comparison, all subscale scores of the LOS-self were significantly higher in the students with parents having “*perfectionist*” attitudes, except for the People-Oriented Leadership. In addition, subscale scores of the EIAS were significantly higher in the students whose parents had “*interested and neutral*” attitudes and in the People-Oriented Leadership and the Transformational Leadership. Moreover, the Transformational Leadership scores were significantly higher in the students whose parents had no “*rejectionist*” attitudes ($p < 0.05$) (Table 3).

3.3. The Relationship Between Students' Emotional Intelligence Level and Leadership Behavior Scores. This study found a statistically significant relationship between all subscales' EIAS scores and the LOS-self ($p = 0.001$). There was a moderate positive correlation between the “Empathy” subscale of the EIAS and “People-Oriented Leadership,” “Self-motivation,” and “Structure-Oriented Leadership” and between “Social Skills” and “Transformational Leadership” and “Charismatic Leadership.” In contrast, weak correlations were found with the other subscales (Table 4).

3.4. Factors Influencing Emotional Intelligence Levels and Leadership Behaviors. The results of the multivariate linear regression analysis of the variables influencing the students' emotional intelligence and leadership orientations are given in Table 5. According to linear regression analysis results,

TABLE 2: Comparison of the emotional intelligence levels and leadership behaviors of the students with sociodemographic features ($n = 1105$).

Variable	Emotional Intelligence		Leadership Orientation Survey			
	Median (Q1–Q3)	People-Oriented Leadership Median (Q1–Q3)	Structure-Oriented Leadership Median (Q1–Q3)	Transformational Leadership Median (Q1–Q3)	Charismatic Leadership Median (Q1–Q3)	
<i>Gender</i>						
Male	137.0 (122.0–155.0)	32.0 (29.0–35.0)	31.0 (28.0–34.5)	28.0 (24.0–33.0)	29.0 (24.5–33.0)	
Female	144.0 (130.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–33.0)	
<i>p</i> *	0.036	0.004	0.234	0.259	0.983	
<i>Marital status</i>						
Married	130.0 (91.5–154.5)	35.5 (28.75–39.0)	30.5 (28.75–34.25)	30.5 (27.0–35.25)	30.0 (25.75–34.0)	
Single	143.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–33.0)	
<i>p</i> *	0.286	0.352	0.958	0.167	0.599	
<i>Working status</i>						
Employed	142.0 (123.0–148.0)	34.0 (29.0–35.0)	32.0 (28.0–34.0)	28.0 (24.0–33.0)	29.0 (26.0–32.0)	
Unemployed	143.0 (129.0–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–33.0)	
<i>p</i> *	0.326	0.819	0.911	0.785	0.720	
<i>Having siblings</i>						
Yes	143.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–33.0)	
No	144.0 (129.0–154.5)	34.0 (30.5–36.0)	32.0 (30.0–34.0)	27.0 (25.0–32.0)	30.0 (26.0–32.5)	
<i>p</i> *	0.882	0.519	0.182	0.601	0.234	
<i>Choosing nursing profession willingly</i>						
Yes	144.0 (131.5–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–32.5)	
No	139.5 (123.0–153.0)	32.0 (29.0–35.0)	31.0 (28.0–34.0)	27.0 (23.0–32.0)	29.0 (24.0–33.0)	
<i>p</i> *	< 0.001	0.013	0.139	0.407	0.595	
<i>Income level</i>						
Income less than expenditures ^a	138.0 (122.0–154.0)	32.0 (28.0–35.0)	30.0 (27.0–34.0)	26.0 (22.0–31.0)	29.0 (23.0–33.0)	
Equal income and expenditures ^b	144.0 (129.0–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	28.0 (25.0–33.0)	
Income more than expenditures ^c	143.0 (129.5–151.5)	33.0 (31.0–36.5)	32.0 (29.5–35.0)	30.0 (26.0–33.0)	32.0 (27.0–35.5)	
<i>p</i> **	0.277	0.061	0.024 a < b, a < c, b < c	0.010 a < c, b < c	0.005 a < c, b < c	
<i>The place where the large part of life spent</i>						
Village-county	141.5 (127.0–153.0)	32.0 (29.0–35.0)	30.0 (27.0–34.0)	27.0 (23.0–32.0)	28.0 (24.0–33.0)	
City center	144.0 (133.0–155.0)	33.0 (31.0–36.0)	32.0 (29.0–35.0)	28.0 (24.0–32.0)	29.0 (25.0–33.0)	
<i>p</i> *	0.034	0.003	< 0.001	0.025	0.157	
<i>Educational status of students' mother</i>						
Primary school ^a	142.0 (127.0–153.0)	32.0 (30.0–35.0)	31.0 (28.0–34.0)	27.0 (23.0–31.0)	28.0 (24.0–32.0)	
High school ^b	148.0 (134.0–159.0)	34.0 (31.0–37.0)	32.0 (30.0–36.0)	30.0 (25.5–34.0)	30.0 (26.0–35.0)	
University ^c	142.5 (133.5–153.0)	33.0 (30.0–36.0)	32.0 (28.0–35.0)	27.5 (25.0–33.0)	30.0 (26.0–33.0)	
<i>p</i> **	0.001 a < b	< 0.001 a < b	< 0.001 a < b	< 0.001 a < b	< 0.001 a < b	
<i>Educational status of students' father</i>						
Primary school ^a	142.0 (128.0–153.0)	32.0 (30.0–35.0)	31.0 (28.0–34.0)	27.0 (23.0–31.0)	28.0 (24.0–32.0)	
High school ^b	144.0 (131.0–155.0)	33.0 (30.0–36.0)	32.0 (28.0–35.0)	28.0 (24.5–33.0)	29.0 (25.0–34.0)	
University ^c	143.0 (129.5–156.5)	33.0 (31.0–36.0)	32.0 (28.0–35.0)	27.0 (24.0–33.0)	29.0 (25.0–33.0)	
<i>p</i> **	0.126	0.031 a < c	0.014 a < c	0.021 a < b	0.009 a < b	

Note: Values are shown with median and quartiles (Q1–Q3). Bold values indicate statistically significant results ($p < 0.05$, $p < 0.01$, or $p < 0.001$).

^{ab}Post hoc analysis.

*Mann–Whitney *U*-test.

**Kruskal–Wallis.

TABLE 3: Emotional intelligence levels and leadership behavior scores of the students according to parenting styles ($n = 1105$).

Parenting styles	Emotional Intelligence		Leadership Orientation Survey			
		Median (Q1–Q3)	People-Oriented Leadership Median (Q1–Q3)	Structure-Oriented Leadership Median (Q1–Q3)	Transformational Leadership Median (Q1–Q3)	Charismatic Leadership Median (Q1–Q3)
Authoritarian	Yes	144.0 (128.0–154.0)	33.0 (30.0–36.0)	31.0 (27.0–35.0)	27.0 (23.0–32.0)	28.0 (24.0–33.0)
	No	143.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (29.0–34.0)	28.0 (24.0–32.0)	29.0 (25.0–33.0)
	<i>p</i> *	0.899	0.671	0.316	0.398	0.521
Free	Yes	141.0 (129.0–154.0)	32.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (26.0–33.0)
	No	143.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–35.0)	27.0 (24.0–32.0)	28.0 (25.0–33.0)
	<i>p</i> *	0.756	0.966	0.856	0.822	0.371
Uninterested and neutral	Yes	132.0 (117.5–147.0)	31.0 (27.0–34.0)	29.0 (27.5–32.0)	23.0 (21.0–31.5)	27.0 (24.0–30.5)
	No	143.0 (129.0–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–32.0)	29.0 (25.0–33.0)
	<i>p</i> *	0.010	0.023	0.062	0.040	0.201
Unbalanced and unstable	Yes	134.0 (120.0–149.0)	30.0 (27.0–33.0)	28.0 (25.0–32.0)	24.5 (21.0–29.0)	26.5 (22.0–30.0)
	No	144.0 (129.0–155.0)	33.0 (30.0–36.0)	31.0 (28.0–35.0)	28.0 (24.0–32.0)	29.0 (25.0–33.0)
	<i>p</i> *	0.002	< 0.001	< 0.001	< 0.001	< 0.001
Perfectionist	Yes	145.0 (127.0–157.0)	33.0 (30.0–37.0)	33.0 (29.0–35.0)	30.0 (25.0–34.0)	31.0 (25.0–34.0)
	No	143.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (24.0–31.5)	28.0 (25.0–32.0)
	<i>p</i> *	0.536	0.068	0.025	< 0.001	0.003
Overprotective	Yes	141.0 (126.5–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.0 (23.0–32.0)	29.0 (25.0–33.0)
	No	144.0 (129.0–154.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	28.0 (24.0–32.0)	29.0 (25.0–32.0)
	<i>p</i> *	0.371	0.791	0.815	0.565	0.813
Reassuring and supportive	Yes	144.0 (131.5–155.0)	33.0 (30.0–36.0)	31.0 (29.0–34.0)	28.0 (24.0–32.0)	29.0 (25.0–33.0)
	No	136.0 (116.0–152.0)	31.0 (28.0–34.0)	30.0 (26.5–34.0)	27.0 (21.0–32.0)	28.0 (23.0–32.0)
	<i>p</i> *	< 0.001	< 0.001	< 0.001	0.006	0.014
Rejectionist	Yes	136.5 (127.0–151.0)	32.0 (29.0–34.0)	30.5 (27.0–34.0)	25.0 (21.0–31.0)	28.0 (22.0–32.0)
	No	143.0 (129.0–155.0)	33.0 (30.0–36.0)	31.0 (28.0–34.0)	27.5 (24.0–32.0)	29.0 (25.0–33.0)
	<i>p</i> *	0.168	0.257	0.229	0.038	0.136

Note: Values are shown with median and quartiles (Q1–Q3). Bold values indicate statistically significant results ($d < 0.05$, $d < 0.01$, or $p < 0.001$).

*Mann–Whitney U -test.

TABLE 4: Correlations between emotional intelligence levels and leadership behaviors of the students ($n = 1105$).

Emotional Intelligence Assessment Scale	Leadership Orientation Survey					
	People-Oriented Leadership		Structure-Oriented Leadership		Transformational Leadership	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Awareness of the emotions	0.476	0.001	0.431	0.001	0.361	0.001
Regulating emotions	0.356	0.001	0.398	0.001	0.426	0.001
Self-motivation	0.480	0.001	0.503	0.001	0.499	0.001
Empathy	0.544	0.001	0.456	0.001	0.445	0.001
Social skills	0.468	0.001	0.461	0.001	0.515	0.001

Note: Spearman's correlation test. Bold values indicate statistically significant results ($p < 0.05$, $p < 0.01$, or $p < 0.001$).

TABLE 5: Results of the multivariate analysis of emotional intelligence levels and leadership behaviors of the students ($n = 1105$).

Variable	Emotional Intelligence		People-Oriented Leadership		Structure-Oriented Leadership		Transformational Leadership		Charismatic Leadership	
	β	p	β	p	β	p	β	p	β	p
Gender (female)	0.101	0.001	0.096	0.001	0.045	0.126	-0.043	0.148	-0.002	0.941
Choosing nursing profession willingly (yes)	0.095	0.001	0.091	0.002	0.050	0.092	0.023	0.442	0.026	0.381
Income level (more than expenditures)	-0.11	0.767	0.048	0.178	0.056	0.116	0.067	0.065	0.091	0.012
The place where the large part of life spent (city)	0.090	0.004	0.067	0.030	0.098	0.002	0.061	0.050	0.041	0.192
Maternal education level (high school)	0.045	0.170	0.096	0.003	0.085	0.009	0.127	< 0.001	0.089	0.007
Parental education level (university)	0.016	0.660	0.023	0.509	0.007	0.844	-0.027	0.446	-0.016	0.659
Authoritarian attitude (not)	-0.002	0.942	0.013	0.678	0.048	0.129	0.033	0.307	0.029	0.365
Free attitude (not)	-0.013	0.660	-0.032	0.290	-0.003	0.912	-0.010	0.737	-0.024	0.438
Uninterested and neutral (not)	0.015	0.631	0.017	0.582	-0.007	0.825	0.022	0.481	-0.007	0.810
Unbalanced and unstable (not)	0.049	0.129	0.100	0.002	0.134	< 0.001	0.079	0.016	0.083	0.010
Perfectionist (not)	-0.007	0.832	-0.071	0.026	-0.070	0.028	-0.113	< 0.001	-0.087	0.007
Overprotective (not)	0.019	0.548	0.012	0.694	0.013	0.682	0.027	0.396	0.001	0.971
Reassuring and supportive (not)	-0.171	0.001	-0.147	0.001	-0.101	0.002	-0.071	0.034	-0.075	0.026
Rejectionist (not)	-0.061	0.052	-0.055	0.078	-0.048	0.130	0.006	0.855	0.001	0.975

Note: Bold values indicate statistically significant results ($p < 0.05$, $p < 0.01$, or $p < 0.001$).

female gender, choosing nursing profession willingly and spending a large part of their life in a city, influenced on emotional intelligence level of the students positively (respectively, $\beta = 0.101$, $p = 0.001$; $\beta = 0.095$, $p = 0.001$; $\beta = 0.090$, $p = 0.004$). However, parents' not "reassuring and supportive" attitudes ($\beta = -0.171$, $p = 0.001$) influenced the emotional intelligence level negatively.

It was found that maternal education level and not the "unbalanced and unstable" attitude of parents positively influenced the four subscales of the LOS-self. Not "perfectionist," not a "reassuring and supportive" attitude of parents was negatively associated with four subscales of the LOS-self. Also, spending much of their life in a city was associated positively with People-Oriented and Structure-Oriented Leadership. High income level was associated with Charismatic Leadership, and choosing the nursing profession willingly was positively associated with People-Oriented Leadership (Table 5).

4. Discussion

4.1. Emotional Intelligence Level and Leadership Behavior Level and the Relationship Between Them. This study found that nursing students' leadership behavior and emotional intelligence scale scores were quite high, with a statistically significant positive correlation between leadership behaviors and emotional intelligence levels. In this case, as the emotional intelligence of student nurses increases, their leadership behaviors will also increase. Consistent with the results of this study, Akin and Terzioğlu's [36] study in Türkiye found that the emotional intelligence levels of students studying in different departments of the university were high and that there was a significant relationship between emotional intelligence and leadership orientations. Similarly, it has been shown in the literature that there is a close relationship between effective leadership behaviors and the components of emotional intelligence [1, 24, 73]. In some studies, it is vigorously defended that the increase in the level of emotional intelligence throughout nursing education has a positive effect on the increase in the leadership skills of nursing students and supports the findings of this study [1, 24]. Some studies have shown a relationship between task-oriented leadership [21, 74] and emotional leadership, while some studies have shown a relationship between transformational leadership and emotional intelligence [8, 62]. It is stated that emotional intelligence is a prerequisite for leadership [38, 75]. One of the most important indicators is that the leadership task requires high-level decision-making, and effective decision-making is related to emotional intelligence. In addition, leaders with high emotional intelligence have better interpersonal sensitivity, motivation, and ability to express their emotions, improve their cognitive processes, and control their decisions [76].

The present study found that the students' People-Oriented Leadership subscale was the most exhibited, and the Transformational Leadership subscale was the least exhibited leadership behaviors. Consistent with our study, Akin and Terzioğlu's study also found that People-Oriented Leadership scores were higher in students studying in the health field. However, there were significant differences

between the leadership orientation scores of students studying in different departments [36]. In this study, it is thought that the high People-Oriented Leadership scores of the nursing students were related to gaining sufficient knowledge and skills about interpersonal communication during nursing education. It also shows that students generally focused on the needs of sick/healthy individuals.

In the literature, studies on leadership behaviors/styles indicate that the most dominant and frequently used leadership style among nurse leaders is transformational leadership, which includes transformational abilities such as inspirational motivation (IM) and idealized influence, and that it affects professional behavior attitudes [77, 78].

The transformational leadership subscale consists of five components. These components are idealized attributes (IA), idealized behaviors (IB), IM, intellectual stimulation (IS), and individual consideration (IC). This means that transformational leaders with idealized characteristics have features such as high persuasiveness, the ability to mobilize people, and being politically sensitive and capable when acting skillfully in conflicts [61]. The low level of Transformational Leadership characteristics of the students shows that they do not have sufficient desire, knowledge, and skills in subjects such as creativity, being open to innovation and change, managing conflicts, taking risks, problem-solving, and critical thinking, and they should be supported in these issues. Similar to this study, in the study by Yildirim et al. [1], the nursing students' leadership orientations were mainly people-oriented. In the study of Duygulu et al. [21], it was found that nursing students showed more task-oriented leadership behaviors than people-oriented leadership.

4.2. The Relationship Between Family Characteristics and Emotional Intelligence. It has been reported that good family support, staying with one's family, family behavioral style, and characteristics of parents, such as the mother's occupation and level of education, impact emotional intelligence. However, it has been noted that the results of these studies differ among themselves [13, 79].

This study showed that parents, especially the students' mothers, were high school graduates, which was a very effective factor. This situation is supported by the active participation of mothers in the child-rearing process in Turkish society, their being more concerned and responsible about the educational life of their children, and their high level of education at this point.

Although many studies in the literature show how parental attitudes influence young people's development, very few studies show their impact on emotional intelligence and leadership behaviors. In this study, parental attitudes that have positively influenced students' leadership orientations were found as "balanced and stable," "perfectionist," and "reassuring and supportive" parental attitudes. At the same time, positive and effective factors in emotional intelligence include a "reassuring and supportive" parental attitude. A study by Nguyen et al. [7] stated that the level of emotional intelligence was high in adolescents whose parents showed friendly/warm family attitudes during childhood. In

contrast, it was low in those with parents showing authoritarian and overprotective attitudes. Asghari and Besharat's [80] study found a significant association between perceived warmth parenting style and high emotional intelligence ability in university students. Parental attitudes have an important effect on children's personality traits and emotional development. Individuals who grow up in a reassuring and supportive family environment are more likely to develop emotional intelligence subdimensions such as self-discovery, self-awareness, emotional awareness, self-management, and social awareness [81]. Therefore, this study is an important study that strikingly reveals the positive effect of parental attitudes such as "*balanced and stable*" and "*reassuring and supportive*" on emotional intelligence and leadership behaviors.

The results of the study conducted by Kilic et al. [82] showed that democratic parental style positively affects emotional management skills in young adults, whereas protective parenting style negatively affects them. Olutope et al. [83] found that authoritarian parenting style significantly affected the emotional intelligence of secondary school children. A study by Hassan-Hassan Abo Abdou et al. [13] showed that among nursing students with high emotional intelligence, perceived authoritarian parenting style (high in both sensitivity and control) was higher, while perceived neglectful parenting style (low in both sensitivity and control) was lowest. These results suggest that the balance between control and responsiveness in a parenting style can have different positive and negative effects on emotional intelligence.

According to Eldad and Benatov [84], family styles have an important role in shaping the leadership behaviors of individuals as well as attachment styles. Negative attitudes of parents affect children's ability to express their emotions in socially acceptable ways. Therefore, when parental control is exhibited in a developmentally appropriate manner, children and adolescents may need less parental control [82]. As a result, positive family attitudes contribute positively to both the leadership process and the development of emotional intelligence.

4.3. The Relationship Between Students' Descriptive Characteristics and Their Emotional Intelligence and Leadership Behaviors. In this study, the female gender was an effective factor in the students' emotional intelligence levels and People-Oriented Leadership. This means that female student nurse leaders have higher levels of emotional intelligence. Many studies in the literature conducted with nursing students have reported higher emotional intelligence levels in female participants [85–87]. Women have more advanced empathy abilities, intuition, and sensitivity than men, which positively influences women's emotional intelligence skills [88]. Avcı and Kaya [89] found that female nursing and midwifery students had higher self-leadership perceptions, and third-year students had higher self-leadership perceptions than first- and second-year students. Unlike our study findings, a positive correlation was found between nursing students' age, grade, and emotional intelligence [9] and leadership behaviors in clinical practice [90], but not gender. These study findings suggest that students'

knowledge and skills improve throughout their education. The results of these studies indicate that studies on leadership behaviors/styles in nursing students are limited in number and that there are discrepancies among the results. These differences may be related to the studies conducted in different societies and cultures.

Emotional intelligence contributes to the individual's self-knowledge and to their right to determine their future goals. This study found that students who voluntarily chose the nursing profession had high levels of emotional intelligence and People-Oriented Leadership. Similar to this present study, Turan et al. [22] found that the emotional intelligence scores of nursing students who voluntarily chose the nursing profession were higher. In the study conducted by Öztürk and Kahriman [91] on undergraduate students, it was stated that the rate of students who think they have leadership qualities was higher among students who volunteered to become nurses than among those who were unwilling. A study conducted in Türkiye by Demirhan [92] found that executive nurses who voluntarily chose the nursing profession as their work style, worked day shifts, and were married had higher leadership behavior and work motivation scale scores. The results of this study suggest that the higher motivation of nurses who voluntarily chose their profession leads to greater competence in terms of knowledge, skills, and vision, which in turn positively influences their leadership behavior.

4.4. Limitations. This study has some limitations. This study employed a descriptive, cross-sectional, and correlational design. Due to its nature, there is no causality between the measured variables, so methodological limitations exist. The study data were based on a self-report questionnaire, which may have biased the subjects' perceptions. The results cannot be generalized because the study was conducted only with nursing students enrolled in universities in Türkiye. The study assessed some descriptive characteristics of nursing students, along with their emotional intelligence and leadership behaviors. However, not all confounding factors identified in the literature (such as academic achievement and motivation level) were assessed. This study demonstrated a lack of sufficient research on this topic, and the study results differ due to differences in study methodology, society, and culture. Therefore, further research is needed on this topic. Future studies with larger samples and different confounding factors will contribute to the literature.

This study strikingly reveals the effect of parental attitude on emotional intelligence and leadership behavior, which is rarely discussed in the literature. Additionally, the assessment of parenting styles was based on dichotomous responses, which may not fully capture the complexity of parenting behaviors. It is recommended that studies be conducted involving both students and their families. The findings to be obtained in this regard will be helpful for both families and nurse educators to determine what needs to be done to increase the students' emotional intelligence level and leadership characteristics.

5. Conclusion

In this study, it was found that, in addition to demographic characteristics such as gender and place of living, the mother's high education level and positive parental attitudes substantially influenced the students' emotional intelligence levels and leadership orientations. Moreover, the findings of this present study showed that the nursing students' leadership behavior and emotional intelligence scores were above the medium level, and there was a positive and significant correlation between the students' emotional intelligence levels and leadership behaviors. This present study provides empirical evidence for the relationship between emotional intelligence and leadership key concepts in nursing education. Leadership and emotional intelligence concepts should be approached in an integrated way during nursing education. Targeted educational interventions and family-inclusive programs are recommended to support the development of students' leadership and emotional intelligence skills, which may ultimately contribute to improved patient care quality and team collaboration in clinical settings. In future studies, interventional and follow-up studies are recommended involving students and their families to develop their leadership and emotional intelligence.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Ethics Statement

Before the beginning of the study, written permission was received from the institutions where the study was conducted, and ethics approval was obtained from the local Ethics Committee University (No: 2018/06).

Consent

Participants were informed about the study before attending the class where data were collected. Then, verbal and written informed consent was obtained from each participant to identify those who volunteered to participate in the study.

Conflicts of Interest

The authors declare no conflicts of interest.

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References

- [1] N. Yildirim, F. Kantek, and F. A. Yilmaz, "Relationships Between Leadership Orientations and Emotional Intelligence in Nursing Students," *Perspectives in Psychiatric Care* 58, no. 3 (2022): 903–909, <https://doi.org/10.1111/ppc.12871>.
- [2] D. Goleman, *Working With Emotional Intelligence* (Bantam Books, 1998).
- [3] R. Bar-On, "The Bar-On Model of Emotional-Social Intelligence (ESI)," *Psicothema* 18, no. Suppl (2006): 13–25, <https://www.psicothema.com/pdf/3271.pdf>.
- [4] P. Salovey and J. D. Mayer, "Emotional Intelligence," *Imagination, Cognition and Personality* 9, no. 3 (1990): 185–211, <https://doi.org/10.2190/DUGG-P24E-52WK-6CDG>.
- [5] D. Goleman, *Emotional Intelligence: Why It Can Matter More than IQ* (Bantam Books, 1995).
- [6] E. Alabdulbaqi, H. Banjar, and O. Felemban, "The Relationship Between Self-Leadership and Emotional Intelligence Among Staff Nurses," *IOSR Journal of Nursing and Health Science* 8, no. 1 (2019): 58–65, <https://doi.org/10.9790/1959-0801035865>.
- [7] Q. A. N. Nguyen, T. D. Tran, T. A. Tran, T. A. Nguyen, and J. Fisher, "Perceived Parenting Styles and Emotional Intelligence Among Adolescents in Vietnam," *The Family Journal* 28, no. 4 (2020): 441–454, <https://doi.org/10.1177/1066480719896558>.
- [8] B. Tyczkowski, C. Vandenhousten, J. Reilly, G. Bansal, S. M. Kubsch, and R. Jakkola, "Emotional Intelligence (EI) and Nursing Leadership Styles Among Nurse Managers," *Nursing Administration Quarterly* 39, no. 2 (2015): 172–180, <https://doi.org/10.1097/NAQ.0000000000000094>.
- [9] A. Batran, "The Emotional Intelligence and the Associated Factors Among Nursing Students," *Open Journal of Nursing* 14, no. 03 (2024): 114–126, <https://doi.org/10.4236/ojn.2024.143008>.
- [10] V. Bušac and N. Šimunić, "Emotional Intelligence in Nursing," *Zdravstveni Glasnik* 10, no. 2 (2024): 153–162.
- [11] J. Park, V. Rajaguru, and J. Kim, "The Effect of Emotional Intelligence, Caring Efficacy, and Social Support on Clinical Competency of Nursing Students," *The Open Nursing Journal* 18, no. 1 (2024): <https://doi.org/10.2174/0118744346358099241126041753>.
- [12] B. Singh and D. Das, "Emotional Intelligence Among Nursing Students in Nepal," *Age* 20, no. 162 (2024): 675, <https://www.scienceijsar.com/>.
- [13] S. Hassan-Hassan Abo Abdou, A. Mohamed Fahmy, and S. Saied Adam, "Effect of Mother's Work and Perceived Parenting Style on Emotional Intelligence Among Adolescent Nursing Students," *Egyptian Journal of Health Care* 15, no. 1 (2024): 382–398, <https://doi.org/10.21608/EJHC.2024.340878>.
- [14] M. A. Shahin, "Emotional Intelligence and Perceived Stress Among Students in Saudi Health Colleges: A Cross-Sectional Correlational Study," *Journal of Taibah University Medical Sciences* 15, no. 6 (2020): 463–470, <https://doi.org/10.1016/j.jtumed.2020.09.001>.
- [15] C. Chadayan and M. S. Sweetey, "Level of Emotional Intelligence Among Nursing Students in Dhaka," *International Journal of Advance Research in Medical Surgical Nursing* 7, no. 1 (2025): 185–188, <https://doi.org/10.33545/surgicalnursing.2025.v7.i1c.238>.
- [16] U. Pradhan, N. Koirala, M. Shrestha, D. D. Baral, and S. B. Parajuli, "Emotional Intelligence Among Undergraduate Nursing Students in Selected Colleges of Morang District, Nepal," *Birat Journal of Health Sciences* 6, no. 3 (2021): 1590–1594, <https://doi.org/10.3126/bjhs.v6i3.43199>.

- [17] H. F. Kılıç, S. Çağlıyan, and G. S. Dağ, "Emotional Intelligence Levels of Nursing Students and Affecting Factors," *Journal of Education and Research in Nursing* 14, no. 4 (2017): 275–282, <https://doi.org/10.5222/HEAD.2017.275>.
- [18] H. Tambağ, M. Kaykunoglu, Z. Gündüz, and Y. Demir, "Emotional Intelligence Levels of Nursing Students and Influencing Factors," *Journal of Education and Research in Nursing* 11, no. 1 (2014): 41–46, <https://doi.org/10.5222/HEAD.2017.275>.
- [19] A. Büyükbayram, L. Baysan Arabacı, G. Taş, and D. Varol, "The Relationship Between the Emotional Intelligence and Sociotropy-Autonomy Personality Traits of Nursing Students and Their Resilience," *İzmir Kâtip Çelebi Üniversitesi Sağlık Bilimleri Fakültesi Dergisi* 1, no. 3 (2016): 29–37, <https://dergipark.org.tr/tr/download/article-file/767651>.
- [20] R. Acaroğlu and D. Duman, "The Relationship Between Emotional Intelligence Levels and Empathy Skills of Nursing College's First-Grade Students," *Florence Nightingale Journal of Nursing* 22, no. 1 (2014): 25–32, <https://dergipark.org.tr/en/pub/fnjin/issue/30811/333283>.
- [21] S. Duygulu, D. Hicdurmaz, and I. Akyar, "Nursing Students' Leadership and Emotional Intelligence in Turkey," *Journal of Nursing Education* 50, no. 5 (2011): 281–285, <https://doi.org/10.3928/01484834-20110130-07>.
- [22] N. Turan, G. Özdemir Aydın, A. Özşaban, et al., "Intuition and Emotional Intelligence: A Study in Nursing Students," *Cogent Psychology* 6, no. 1 (2019): 1633077, <https://doi.org/10.1080/23311908.2019.1633077>.
- [23] Y. Culha and R. Acaroğlu, "The Relationship Amongst Student Nurses' Values, Emotional Intelligence and Individualised Care Perceptions," *Nursing Ethics* 26, no. 7-8 (2019): 2373–2383, <https://doi.org/10.1177/0969733018796682>.
- [24] J. Carragher and K. Gormley, "Leadership and Emotional Intelligence in Nursing and Midwifery Education and Practice: A Discussion Paper," *Journal of Advanced Nursing* 73, no. 1 (2017): 85–96, <https://doi.org/10.1111/jan.13141>.
- [25] M. Dugué, O. Sirost, and F. Dosseville, "A Literature Review of Emotional Intelligence and Nursing Education," *Nurse Education in Practice* 54 (2021): 103124, <https://doi.org/10.1016/j.nepr.2021.103124>.
- [26] H. Yağcan, E. Uludağ, and H. Okumuş, "Hemşirelik Öğrencilerinde Duygusal Zekâ Ve Mesleki Değerlerin Karşılaştırması," *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi* 14, no. 3 (2021): 224–231, <https://doi.org/10.46483/deuhfed.777977>.
- [27] M. Gunther, G. Evans, L. Mefford, and T. R. Coe, "The Relationship Between Leadership Styles and Empathy Among Student Nurses," *Nursing Outlook* 55, no. 4 (2007): 196–201, <https://doi.org/10.1016/j.outlook.2007.01.013>.
- [28] M. Cleary, D. Visentin, S. West, V. Lopez, and R. Kornhaber, "Promoting Emotional Intelligence and Resilience in Undergraduate Nursing Students: An Integrative Review," *Nurse Education Today* 68 (2018): 112–120, <https://doi.org/10.1016/j.nedt.2018.05.018>.
- [29] D. Sharon and K. Grinberg, "Does the Level of Emotional Intelligence Affect the Degree of Success in Nursing Studies?" *Nurse Education Today* 64 (2018): 21–26, <https://doi.org/10.1016/j.nedt.2018.01.030>.
- [30] G. Ştiglic, L. Cilar, Z. Novak, et al., "Emotional Intelligence Among Nursing Students: Findings From a Cross Sectional Study," *Nurse Education Today* 66 (2018): 33–38, <https://doi.org/10.1016/j.nedt.2018.03.028>.
- [31] N. Jawabreh, "The Relationship Between the Emotional Intelligence and Clinical Decision Making Among Nursing Students," *SAGE Open Nursing* 10 (2024): <https://doi.org/10.1177/23779608241272459>.
- [32] A. Ayed, M. Z. Malak, R. M. Alamer, A. Batran, B. Salameh, and I. Fashafsheh, "Effect of High Fidelity Simulation on Clinical Decision-Making Among Nursing Students," *Interactive Learning Environments* 31, no. 4 (2023): 2185–2193, <https://doi.org/10.1080/10494820.2021.1875004>.
- [33] S. Moawed, E. M. Gemeay, and H. A. Elsayes, "Emotional Intelligence Among Nursing Students: A Comparative Study," *International Journal of Novel Research in Healthcare and Nursing* 4, no. 1 (2017): 359–369, <https://www.noveltyjournals.com/>.
- [34] H. Alnajjar and E. Abou Hashish, "Exploring the Relationship Between Leadership and Conflict Management Styles Among Nursing Students," *Nursing Management* 29, no. 3 (2022): 25–31, <https://doi.org/10.7748/nm.2022.e2023>.
- [35] J. López González, J. M. Martínez, M. Lomboy, and L. Expósito, "Study of Emotional Intelligence and Leadership Competencies in University Students," *Cogent Education* 11, no. 1 (2024): 2411826, <https://doi.org/10.1080/2331186X.2024.2411826>.
- [36] R. Akın and F. Terzioğlu, "Emotional Intelligence and Leadership Orientations Among University Students," *Journal of Multidisciplinary Studies in Education* 8, no. 3 (2024): 92–107, <https://dergipark.org.tr/en/download/article-file/4044690>.
- [37] N. Elliott, "Building Leadership Capacity in Advanced Nurse Practitioners: The Role of Organisational Management," *Journal of Nursing Management* 25, no. 1 (2017): 77–81, <https://doi.org/10.1111/jonm.12444>.
- [38] F. Alshammari, E. Pasay-An, F. Gonzales, and S. Torres, "Emotional Intelligence and Authentic Leadership Among Saudi Nursing Leaders in the Kingdom of Saudi Arabia," *Journal of Professional Nursing* 36, no. 6 (2020): 503–509, <https://doi.org/10.1016/j.profnurs.2020.04.003>.
- [39] B. F. Batool, "Emotional Intelligence and Effective Leadership," *Journal of Business Studies Quarterly* 4, no. 3 (2013): 84, <https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.652.8649%26rep=rep1%26type=pdf>.
- [40] M. Higgs and P. Aitken, "An Exploration of the Relationship Between Emotional Intelligence and Leadership Potential," *Journal of Managerial Psychology* 18, no. 8 (2003): 814–823, <https://doi.org/10.1108/02683940310511890>.
- [41] P. E. Spector, *Industrial and Organizational Psychology: Research and Practice* (John Wiley & Sons, 2021).
- [42] D. Charbonneau and A. A. Nicol, "Emotional Intelligence and Leadership in Adolescents," *Personality and Individual Differences* 33, no. 7 (2002): 1101–1113, [https://doi.org/10.1016/S0191-8869\(01\)00216-1](https://doi.org/10.1016/S0191-8869(01)00216-1).
- [43] O. Coskun, I. Ulutas, I. I. Budakoglu, M. Ugurlu, and Y. Ustu, "Emotional Intelligence and Leadership Traits Among Family Physicians," *Postgraduate Medicine* 130, no. 7 (2018): 644–649, <https://doi.org/10.1080/00325481.2018.1515563>.
- [44] H. B. Reiff, N. M. Hatzes, M. H. Bramel, and T. Gibbon, "The Relation of LD and Gender With Emotional Intelligence in College Students," *Journal of Learning Disabilities* 34, no. 1 (2001): 66–78, <https://doi.org/10.1177/002221940103400106>.
- [45] R. Bar-On, J. M. Brown, B. D. Kirkcaldy, and E. P. Thome, "Emotional Expression and Implications for Occupational Stress: An Application of the Emotional Quotient Inventory (EQ-i)," *Personality and Individual Differences* 28, no. 6 (2000): 1107–1118, [https://doi.org/10.1016/S0191-8869\(99\)00160-9](https://doi.org/10.1016/S0191-8869(99)00160-9).
- [46] J. D. Mayer, D. R. Caruso, and P. Salovey, "Emotional Intelligence Meets Traditional Standards for an Intelligence," *Intelligence* 27, no. 4 (1999): 267–298, [https://doi.org/10.1016/S0160-2896\(99\)00016-1](https://doi.org/10.1016/S0160-2896(99)00016-1).

- [47] H. Namdar, M. Sahebiagh, H. Ebrahimi, and A. Rahmani, "Assessing Emotional Intelligence and Its Relationship With Demographic Factors of Nursing Students," *Iranian Journal of Nursing and Midwifery Research* 13, no. 4 (2009): 145–149.
- [48] N. R. Harrod and S. D. Scheer, "An Exploration of Adolescent Emotional Intelligence in Relation to Demographic Characteristics," *Adolescence* 40, no. 159 (2005): 503–512, <https://pubmed.ncbi.nlm.nih.gov/16268129/>.
- [49] H. A. Lolaty, A. Tirgari, and J. H. Fard, "Emotional Intelligence and Related Factors in Medical Sciences Students of an Iranian University," *Iranian Journal of Nursing and Midwifery Research* 19, no. 2 (2014): 203–207, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4020032/>.
- [50] T. Türköz, T. O. Mutlu, A. Tabak, and M. Erdoğan, "Examining the Levels of Self-Leadership Perceptions of University Student-Athletes in Terms of Sociodemographic Characteristics," *Physical Culture and Sport, Studies and Research* 58, no. 1 (2013): 43–52, <https://doi.org/10.2478/pccsr-2013-0011>.
- [51] T. C. Wu, C. C. Li, C. H. Chen, and C. M. Shu, "Interaction Effects of Organizational and Individual Factors on Safety Leadership in College and University Laboratories," *Journal of Loss Prevention in the Process Industries* 21, no. 3 (2008): 239–254, <https://doi.org/10.1016/j.jlp.2007.04.011>.
- [52] C. Fardellone, C. M. Musil, E. Smith, and E. R. Click, "Leadership Behaviors of Frontline Staff Nurses," *The Journal of Continuing Education in Nursing* 45, no. 11 (2014): 506–513, <https://doi.org/10.3928/00220124-20141023-05>.
- [53] J. H. Yeung, G. J. Ong, R. P. Davies, F. Gao, and G. D. Perkins, "Factors Affecting Team Leadership Skills and Their Relationship With Quality of Cardiopulmonary Resuscitation," *Critical Care Medicine* 40, no. 9 (2012): 2617–2621, <https://doi.org/10.1097/CCM.0b013e3182591fda>.
- [54] D. Özden, G. G. Arslan, B. Ertugrul, and S. Karakaya, "The Effect of Nurses' Ethical Leadership and Ethical Climate Perceptions on Job Satisfaction," *Nursing Ethics* 26, no. 4 (2019): 1211–1225, <https://doi.org/10.1177/0969733017736924>.
- [55] M. Shirazi, A. H. Emami, S. J. Mirmoosavi, et al., "The Effects of Intervention Based on Supportive Leadership Behaviour on Iranian Nursing Leadership Performance: A Randomized Controlled Trial," *Journal of Nursing Management* 24, no. 3 (2016): 400–408, <https://doi.org/10.1111/jonm.12335>.
- [56] D. Dabke, "Role of Parental Emotional Intelligence and Perceived Parental Leadership Behaviour on Satisfaction With Parent," *Journal of Indian Association for Child and Adolescent Mental Health* 10, no. 1 (2014): 9–30, <https://doi.org/10.1177/0973134220140102>.
- [57] M. Popper and O. Mayseless, "Back to Basics: Applying a Parenting Perspective to Transformational Leadership," *The Leadership Quarterly* 14, no. 1 (2003): 41–65, [https://doi.org/10.1016/S1048-9843\(02\)00183-2](https://doi.org/10.1016/S1048-9843(02)00183-2).
- [58] L. E. Nastas and K. Sala, "Adolescents' Emotional Intelligence and Parental Styles," *Procedia-Social and Behavioral Sciences* 33 (2012): 478–482, <https://doi.org/10.1016/j.sbspro.2012.01.167>.
- [59] N. M. Ashkanasy and C. S. Daus, "Rumors of the Death of Emotional Intelligence in Organizational Behavior Are Vastly Exaggerated," *Journal of Organizational Behavior* 26, no. 4 (2005): 441–452, <https://doi.org/10.1002/job.320>.
- [60] J. Esteves, G. de Haro Rodriguez, M. T. Ballestar, and J. Sainz, "Gender and Generational Cohort Impact on Entrepreneurs' Emotional Intelligence and Transformational Leadership," *The International Entrepreneurship and Management Journal* 20, no. 2 (2024): 1295–1322, <https://doi.org/10.1007/s11365-024-00955-9>.
- [61] I. M. Echevarria, B. J. Patterson, and A. Krouse, "Predictors of Transformational Leadership of Nurse Managers," *Journal of Nursing Management* 25, no. 3 (2017): 167–175, <https://doi.org/10.1111/jonm.12452>.
- [62] L. Spano-Szekely, M. T. Quinn Griffin, J. Clavelle, and J. J. Fitzpatrick, "Emotional Intelligence and Transformational Leadership in Nurse Managers," *The Journal of Nursing Administration: The Journal of Nursing Administration* 46, no. 2 (2016): 101–108, <https://doi.org/10.1097/NNA.0000000000000303>.
- [63] S. J. Stratton, "Population Research: Convenience Sampling Strategies," *Prehospital and Disaster Medicine* 36, no. 4 (2021): 373–374, <https://doi.org/10.1017/S1049023X21000649>.
- [64] I. Etikan, S. A. Musa, and R. S. Alkassim, "Comparison of Convenience Sampling and Purposive Sampling," *American Journal of Theoretical and Applied Statistics* 5, no. 1 (2016): 1–4, <https://doi.org/10.11648/j.ajtas.20160501.11>.
- [65] J. Gottman, "Meta-Emotion, Children's Emotional Intelligence, and Buffering Children From Marital Conflict," *Emotion, Social Relationships, and Health* (2001): 23–40.
- [66] S. A. Motalebi, "Perceived Parenting Styles and Emotional Intelligence Among Iranian Boy Students," *Asian Journal of Social Sciences and Humanities* 2, no. 3 (2013): 460–467.
- [67] F. E. Ergin, "A Research on the Relationship Between Personality Characteristics and the Emotional Intelligence Level of University Students," (2000), <https://tez.yok.gov.tr/UlusalTezMerkezi/tezSorguSonucYeni.jsp>.
- [68] L. G. Bolman and T. E. Deal, *Leadership Orientations Instrument* (Jossey-Bass, 1990).
- [69] M. Dereli, "A Survey Research of Leadership Styles of Elementary School Principals," (2003), <https://etd.lib.metu.edu.tr/upload/1013432/index.pdf>.
- [70] Y. Karagöz and İ. Kösterelioğlu, "Developing Evaluation Scale of Communication Skills With Factor Analysis," *Dumlupınar University Journal of Social Sciences* 21 (2008): 82–97.
- [71] S. Kilic, "Cronbach's Alpha Reliability Coefficient," *Journal of Mood Disorders* 6, no. 1 (2016): 47–48, <https://doi.org/10.5455/jmood.20160307122823>.
- [72] P. Schober, C. Boer, and L. A. Schwarte, "Correlation Coefficients: Appropriate Use and Interpretation," *Anesthesia and Analgesia* 126, no. 5 (2018): 1763–1768, <https://doi.org/10.1213/ANE.0000000000002864>.
- [73] G. Benson, L. Martin, J. Ploeg, and J. Wessel, "Longitudinal Study of Emotional Intelligence, Leadership, and Caring in Undergraduate Nursing Students," *Journal of Nursing Education* 51, no. 2 (2012): 95–101, <https://doi.org/10.3928/01484834-20120113-01>.
- [74] A. Bikmoradi, F. Abdi, Y. Hamidi, A. R. Soltanian, Y. Torabi, and N. Farahmandmoqadam, "Correlation Between Emotional Intelligence and Leadership Style of Nursing Managers in Educational Hospitals of Hamadan University of Medical Sciences," *Revista Publicando* 15, no. 1 (2018): 190–198, https://revistapublicando.org/revista/index.php/crv/article/view/1331/pdf_969.
- [75] G. Frixou, G. Charalambous, P. Galanis, D. Kaitelidou, and D. Sapountzi-Krepia, "Emotional Intelligence, Self-Esteem and Transformational Leadership in Nurses in Cyprus," *Archives of Hellenic Medicine* 37, no. 4 (2020): 464–470, <https://eds.p.ebscohost.com/eds/pdfviewer/pdfviewer?vid=0%26sid=37549aa1-77db-4cfe-8a00-bd6da1a714e7%2540redis>.
- [76] H. Wirawan, M. Tamar, and E. Bellani, "Principals' Leadership Styles: The Role of Emotional Intelligence and Achievement Motivation," *International Journal of*

- Educational Management* 33, no. 5 (2019): 1094–1105, <https://doi.org/10.1108/IJEM-04-2018-0127>.
- [77] S. Zhang, C. Liu, C. Lai, et al., “The Power of Leadership Transforming Nurses’ Professional Attitudes Through the Balance Theory: A Cross-Sectional Study,” *BMC Nursing* 24, no. 1 (2025): 841–14, <https://doi.org/10.1186/s12912-025-03517-8>.
- [78] T. D. M. Ferreira, G. R. Mesquita, G. C. Melo, et al., “The Influence of Nursing Leadership Styles on the Outcomes of Patients, Professionals and Institutions: An Integrative Review,” *Journal of Nursing Management* 30, no. 4 (2022): 936–953, <https://doi.org/10.1111/jonm.13592>.
- [79] A. Martínez-Rodríguez and C. Ferreira, “Factors Influencing the Development of Emotional Intelligence in University Students,” *European Journal of Psychology of Education* 40, no. 2 (2025): 1–33, <https://doi.org/10.1007/s10212-025-00956-4>.
- [80] M. S. Asghari and M. A. Besharat, “The Relation of Perceived Parenting With Emotional Intelligence,” *Procedia-Social and Behavioral Sciences* 30 (2011): 231–235, <https://doi.org/10.1016/j.sbspro.2011.10.046>.
- [81] W. Ambarwati, “Influence of Parents Attention, Emotional Intelligence and Learning Motivation to Learning Outcomes,” *JETL (Journal of Education, Teaching and Learning)* 3, no. 1 (2018): 72–81, <https://doi.org/10.26737/jetl.v3i1.467>.
- [82] S. Kilic, E. C. Var, and H. Kumandas, “Effect of Parental Attitudes on Skills of Emotional Management in Young Adults,” *Procedia-Social and Behavioral Sciences* 191 (2015): 930–934, <https://doi.org/10.1016/j.sbspro.2015.04.276>.
- [83] A. E. Olutope, A. Bede C, and O. Olufunmilayo A, “Parenting Style, Emotional Intelligence and Psychological Health of Nigerian Children,” *Asian Journal of Pediatric Research* 2, no. 2 (2019): 1–11, <https://doi.org/10.9734/ajpr/2019/v2i230100>.
- [84] R. Eldad and J. Benatov, “Adult Attachment and Perceived Parental Style May Shape Leadership Behaviors,” *The Leadership and Organization Development Journal* 39, no. 2 (2018): 261–275, <https://doi.org/10.1108/loj-06-2016-0155>.
- [85] A. Alenezi, M. S. Saleh, and R. G. Elkalashy, “Predicting the Effect of Emotional-Social Intelligence on the Academic Achievement of Nursing Students,” *African Journal of Health Professions Education* 12, no. 3 (2020): 144–148, <https://doi.org/10.7196/AJHPE.2020.v12i3.1365>.
- [86] E. Cerit and N. G. Beser, “Levels of Emotional Intelligence of Nursing Students,” *International Journal of Caring Sciences* 7, no. 3 (2014): 936–945, <https://www.internationaljournalofcaringsciences.org/docs/30.%2520Cerit%2520ORIGINAL.pdf>.
- [87] A. Snowden, R. Stenhouse, J. Young, H. Carver, F. Carver, and N. Brown, “The Relationship Between Emotional Intelligence, Previous Caring Experience and Mindfulness in Student Nurses and Midwives: A Cross Sectional Analysis,” *Nurse Education Today* 35, no. 1 (2015): 152–158, <https://doi.org/10.1016/j.nedt.2014.09.004>.
- [88] A. Fida, A. Ghaffar, A. Zaman, and A. N. Satti, “Gender Comparison of Emotional Intelligence of University Students,” *Journal of Education and Educational Development* 5, no. 1 (2018): 172–188, <https://files.eric.ed.gov/fulltext/EJ1180616.pdf>, <https://doi.org/10.22555/joeed.v5i1.2046>.
- [89] N. Avci and G. Kaya, “The Relationship of Learned Resourcefulness With Self-Leadership Skills: A Study With Nurse and Midwife Students,” *Nurse Education Today* 107 (2021): 105125, <https://doi.org/10.1016/j.nedt.2021.105125>.
- [90] S. Baron, K. Grinberg, J. P. Sousa, et al., “Dimensions of Clinical Leadership Among Pre-Registration Nursing Students: A Cross-Sectional Study Between Two Countries,” *Nurse Education in Practice* 79 (2024): 104092, <https://doi.org/10.1016/j.nepr.2024.104092>.
- [91] H. Öztürk and İ. Kahrıman, “The Opinions of Nurse Students Regarding Leadership in Nursing,” *Procedia-Social and Behavioral Sciences* 93 (2013): 111–115, <https://doi.org/10.1016/j.sbspro.2013.09.161>.
- [92] B. S. Demirhan, “The Effect of Leadership Behaviours of Nurse Managers on Nurses’ Work Motivation,” *International Journal of Caring Sciences* 13, no. 1 (2020): 381–391, https://www.internationaljournalofcaringsciences.org/docs/43_gezgincielif_original_13_1.pdf.