








Self-disclosure, empathy and anxiety in nurses

Özlem İbrahimoglu RN, PhD¹  | Sevinç Mersin RN, PhD²  |
Gizem Açıkgöz RN³  | Merve Çağlar RN¹  | Eda Akyol RN¹  |
Burcu Özkan RN, PhD³  | Özlem Öner RN⁴ 

¹Nursing Department, Faculty of Health Sciences, İstanbul Medeniyet University, İstanbul, Turkey

²Nursing Department, Faculty of Health Sciences, Bilecik Şeyh Edebali University, Bilecik, Turkey

³Nursing Department, Faculty of Health Sciences, İstanbul Kent University, İstanbul, Turkey

⁴Zeynep Kamil Women's and Children's Disease Education and Research Hospital, İstanbul, Turkey

Correspondence

Özlem İbrahimoglu, İstanbul Medeniyet Üniversitesi, Sağlık Bilimleri Fakültesi, Cevizli Yerleşkesi, 34685 İstanbul, Turkey.
Email: oogutlu@gmail.com

Abstract

Purpose: This study aimed to examine the relationship between self-disclosure, empathy, and anxiety in nurses.

Design and Methods: The study was conducted with 255 nurses working in hospitals in Turkey. Data were collected using a Sociodemographic Form, the Self-Disclosure Scale (SDS), the Basic Empathy Scale (BES), and the Spielberger State-Trait Anxiety Inventory (STAI).

Findings: A statistically significant positive relationship was found among the SDS, BES, and Spielberger STAI.

Practice Implications: Psychiatric nurses should ensure the reduction of nurses' anxiety levels by planning different interventions such as psychotherapy, counseling, and training. They may determine nurses' self-disclosure and empathy skills as well as their needs.

KEYWORDS

anxiety, empathy, nursing, self-disclosure

1 | INTRODUCTION AND BACKGROUND

Self-disclosure is an important way of communicating by which a person can directly convey her/his thoughts, feelings, and wishes and explain herself/himself to other people.^{1,2} Today, discussions are still going on regarding the formation of appropriate self-disclosure and determination of its limits. Because self-disclosure can be therapeutic, it can be mediated as haphazard exhibitionism.^{3,4}

Self-disclosure provides a way to explain one's self to others, and thereby evaluate it based on the other person's reactions. This helps to provide new insight, create positive insight, encourage the development of a therapeutic relationship, and also encourage the other person to disclose themselves. Therefore, the level of self-disclosure of the individual is also important for self-evaluation. Self-disclosure helps to express what a person want to say better. It has been emphasized in the literature that self-disclosure is necessary for the initiation and advancement of communication.^{4,5} Sprecher et al.⁴ stated that high self-disclosure ensures more likeability, closeness, and quality communication.

Nurses have to share their feelings and thoughts with other individuals, and communicate well in their profession. As a result, it is recommended that they consider all the therapeutic communication techniques when interacting with the patients/clients.^{6,7} Although self-disclosure has been defined as a communication method since the 1950s, there have been few studies on self-disclosure in nursing. There are two roles in the self-disclosure process—the discloser role and the recipient role. When the discloser shares personal information, the recipient listens to and receives this information. The common interaction in self-disclosure is turn-taking or reciprocity.⁴ Many nurses may not be aware that this is a self-disclosure technique, although they use it in their routine practice. Self-disclosure is not included in nursing education.⁸ In practice, nurses' empathy is expressed through self-disclosure and their interest in the patient, which is intended to reduce the patient's anxiety.^{5,9,10} This can increase the quality of nursing care and the self-esteem of the patient, thereby, increasing the emotional well-being of both the patient and the nurses, and reducing anxiety in nurses as well.^{10,11}

Empathy is the ability of a person to put herself/himself in someone else's shoes, and thereby, understand her/his feelings, thoughts, and attitudes.¹² Empathy has both cognitive and affective dimensions. The cognitive dimension includes thought, perception, and comprehension skills, whereas, the affective dimension is defined as understanding someone else's emotion, that is, what they feel, and responding appropriately to that emotion.^{12,13} High cognitive and affective levels of empathy increase the awareness level of the individual and facilitate good communication.^{7,14} Although empathy is a concept that has been extensively studied in relation to nursing, it is thought that there are still problems in teaching empathic skills and making them a habit.^{15,16} Travelbee emphasized that empathy plays a decisive role for nurses in managing patients' pain and suffering.¹⁷ Peplau, on the other hand, stated that the purpose of the nurse-patient relationship is to help patients recover by reducing their existing anxiety. She explained that the psychological changes experienced by the patients during the illness process also enable the nurses to learn about their own psychological processes. She also emphasized that the nurse-patient relationship improves communication by reducing anxiety levels in both of them.¹⁷

Anxiety is a mental health disorder accompanied by physical symptoms of fear of an unknown cause.¹⁸ Life experiences play an important role in the development of anxiety. These life experiences can originate from individual and professional life. In particular, challenges of professional life are more effective in the development of anxiety.^{19,20} Nurses are also at risk for anxiety disorders. This is because nurses often have to make crucial decisions for critical patients in emergency situations. Moreover, they are accountable to conscientious, administrative, and ethical norms. All these factors contribute to increase their anxiety.^{21,22} Therefore, the studies emphasized the importance of improving the physical and mental health and the interpersonal relationships of nurses by reducing their anxiety levels, thereby, establishing satisfactory nurse-patient, nurse-patients' relative and nurse-colleague relationships.⁷ Thus, the ability of nurses to accept their profession, to be proud of it, and to continue it can be realized at the highest level.

In the literature, it is recommended that nurses use their communication skills when interacting with patients and their family members. A therapeutic communication enables nurses to know how their own behavior affects others. Nurses consciously use their knowledge and skills to help the patients get better.^{7,23} Nurses' self-disclosure, which is effective in interpersonal communication, can contribute positively to the recovery of the patients when it is used in the formation of a therapeutic process.⁵ However, nurses' self-disclosure is appropriate only when it benefits the patients therapeutically.^{3,5} In practice, it is not common for nurses to disclose themselves as they are more of an authority figure. However, in recent years, research in all disciplines, to improve human understanding and communication, have emphasized the importance of self-disclosure as it increases honesty, reliability, trust, and sincerity in establishing good communication.^{24,25} Self-disclosure, empathy, and anxiety can be important in nurses' interpersonal relationships. However, no study evaluating nurses' self-disclosure, empathy, and

anxiety together has been found in both the international and national literature. Thus, this study aims to determine the relationship between self-disclosure, empathy, and anxiety levels in nurses and discuss them.

1.1 | Aims

This study was designed to examine and evaluate the relationship between self-disclosure, empathy, and anxiety levels in nurses, and their relationship with factors such as age, gender, educational level, working time as a nurse, marital status, and having children.

2 | MATERIALS AND METHODS

2.1 | Setting and participants

This study was conducted between September and November, 2020 with 255 nurses working in seven hospitals in Turkey.

2.2 | Instruments

2.2.1 | Sociodemographic Form

This form was used to collect personal information of the nurses.

2.2.2 | Self-Disclosure Scale

The Self-Disclosure Scale (SDS) was developed by Wheeless and Grotz¹ and later revised by Wheeless² and Chen and Marcus.²⁶ The validity and reliability of the Turkish version were tested by Öksüz et al.²⁵ The 7-point Likert-type scale consists of 16 items divided into five sub-dimensions. These are intent (1st, 2nd, 3rd items), amount (4th, 5th, 6th, 7th items), positivity (8th, 9th, 10th items), honesty (11th, 12th, 13th, 14th items), and control (15th and 16th items) subdimensions. The score for each item ranges from 1 to 7. Reversely scored items in the scale are 4-5-6-7-11-12. Evaluation is made on subdimensions instead of total score. The scores of the subdimensions are calculated by taking the average score of the items in the sub-dimensions. Accordingly, the average score that can be obtained from the subdimensions varies between 1 and 7. High score average shows that the level of self-disclosure of that subdimension is high. In this study, the Cronbach's alpha for the subdimensions of SDS was between 0.66 and 0.71.

2.2.3 | Basic Empathy Scale

The Basic Empathy Scale (BES) was developed by Jolliffe and Farrington¹³ and tested for validity and reliability in the Turkish language by Topçu et al.¹⁴ The 5-point Likert-type scale consists of 20 items

divided into two factors (cognitive empathy and affective empathy). The scores on the subdimensions can range from 9 to 45 for cognitive empathy and 11 to 55 for affective empathy. In this study, the Cronbach's alpha for the BES was 0.75.

2.2.4 | State-Trait Anxiety Inventory

The State-Trait Anxiety Inventory (STAI) was developed by Spielberger in 1970 and adapted in Turkish by Öner and Le Compte.²⁷ The scale consists of two separate inventories—state (STAI-S) and trait (STAI-T)—each including 20 items on a 4-point Likert-type scale. The total score obtained for each inventory is a minimum of 20 and a maximum of 80. High scores indicate a high level of anxiety. In this study, the Cronbach's alpha for the STAI was 0.92.

2.3 | Data collection

Data were collected via Google Forms. The study was approved by the ethics board. The study was conducted in accordance with the Declaration of Helsinki, and the participants' consent to participate in the study in a digital environment was obtained at the beginning of the survey. Participants completed the survey in 15–20 min.

2.4 | Analysis

SPSS 24.0 was used for data analysis. Mean, standard deviation, frequencies, percentages, and minimum and maximum values were calculated. Student's *t*-test was used to compare two groups with normal distribution, and one-way analysis of variance test was used to compare three and more groups. Bonferroni correction was used in cases where there was a difference between the groups. Pearson correlation analysis was used to analyze the relationship between the scales and the demographic characteristics of participants and scales. All tests were conducted with $p < 0.05$ as the level of significance. The power of the correlation coefficient was indicated by *r*. The correlation values were evaluated as 0–0.2 = very weak, 0.2–0.4 = weak, 0.4–0.6 = moderate, and 0.6–0.8 = strong.²⁸

3 | RESULTS

The demographic characteristics of participants are shown in Table 1.

3.1 | The results of the scales

Participants' mean scores on the intent, amount, positivity, honesty, and control subdimensions of SDS were 5.73 ± 0.95 , 4.42 ± 1.14 , 4.52 ± 1.14 , 4.29 ± 0.66 , 3.76 ± 1.28 , respectively.

TABLE 1 Characteristics of participants

	<i>n</i>	%	
Gender			
Female	225	88.2	
Male	30	11.8	
Education			
High school	21	8.2	
Graduate	175	68.6	
Postgraduate	59	23.1	
Marital status			
Married	132	51.8	
Single	123	48.2	
Having children			
Yes	104	40.8	
No	151	59.2	
	$\bar{X} \pm (SD)$	Min	Max
Age	30.05 ± 6.40	20	50
Number of siblings	3.00 ± 1.71	0	12
Work duration (year)	8.10 ± 6.68	1	29

Mean scores of BES, STAI-S, and STAI-T were 63.02 ± 8.30 , 45.67 ± 6.08 , and 51.75 ± 7.91 , respectively. The mean scores on the subdimension of the BES were 31.60 ± 3.67 for cognitive empathy and 31.43 ± 5.76 for affective empathy (Table 2).

3.2 | Correlation among scales

There was a weak positive correlation between the positivity, honesty, and control subdimensions of SDS and BES ($r = 0.159, 0.208, 0.253$, $p < 0.05$), the intent, positivity, honesty, and control subdimensions of

TABLE 2 Average scores of the scales

Scales	$\bar{X} \pm (SD)$	Min	Max
Self-Disclosure Scale			
Intent	5.73 ± 0.95	1	7
Amount	4.42 ± 1.14	1	7
Positivity	4.52 ± 1.14	1	7
Honesty	4.29 ± 0.66	1	7
Control	3.76 ± 1.28	1	7
Basic Empathy Scale	63.02 ± 8.30	20	100
Cognitive empathy	31.60 ± 3.67	9	45
Affective empathy	31.43 ± 5.76	11	55
State Anxiety Inventory	45.67 ± 6.08	20	80
Trait Anxiety Inventory	51.75 ± 7.91	20	80

SDS and STAI-S ($r = 0.272, 0.161, 0.179, 0.192, p < 0.05$), the honesty and control subdimensions of SDS and STAI-T ($r = 0.170, 0.280, p < 0.05$), the BES and STAI-S ($r = 0.256, p < 0.05$), the BES and STAI-T ($r = 0.344, p < 0.05$) (Table 3).

3.3 | Relationship between characteristics of nurses and the scales

A statistically significant relationship was found between gender and STAI-T ($t = 3.656, p < 0.05$), between marital status and the intent subdimension of SDS and STAI-S ($t = 2.800, t = 2.232, p < 0.05$). Moreover, both the intent and honesty subdimensions of SDS ($t = 2.559, t = 1.238, p < 0.05$) and the STAI-S ($t = 2.574, p < 0.05$) showed a statistically significant relationship with the participants' characteristic of having children. Also, a statistically significant relationship was found between education level and the intent and amount subdimensions of SDS ($F = 6.650, F = 3.497, p < 0.05$) (Table 4).

On the other hand, the intent, positivity, and honesty subdimensions of SDS showed a very weak positive correlation with the age of participants ($r = 0.165, 0.143, 0.169, p < 0.05$). The intent subdimensions of SDS showed a very weak negative correlation and the honesty subdimension of SDS showed a very weak positive correlation with their number of siblings, respectively ($r = -0.161, r = 0.176, p < 0.05$). There was a very weak positive correlation between the intent, positivity, and honesty subdimensions of SDS and work duration as a nurse ($r = 0.141, r = 0.137, r = 0.175, p < 0.05$) (Table 5).

4 | DISCUSSION

The mean intent, amount, positivity, honesty, and control subdimensions of SDS scores of the nurses was found to be $5.73 \pm 0.95, 4.42 \pm 1.14, 4.52 \pm 1.14, 4.29 \pm 0.66, 3.76 \pm 1.28$, respectively (min: 1,

max: 7), which suggests that the nurses disclose themselves. Self-disclosure is a communication skill by which an individual expresses their feelings, thoughts, and needs to another.¹ When a person discloses herself/himself, she/he also reveals her/his knowledge to other people; this not only includes their behavior but also their experiences and feelings.² It is seen that nurses use self-disclosure because they spend a long time with patients, witness their pain, and learn their intimate characteristics. They help patients and their relatives cope with their emotions, enable them to establish satisfactory relationships by trusting each other, and contribute to their well-being.^{4,5} The mean BES score of nurses was 63.02 ± 8.30 (min: 20, max: 100), which suggests that they are empathic. An individual's level of empathy is important because it changes their behavior.¹⁴ It has been reported that individuals with high levels of empathy have a positive impact on the lives of those with whom they establish relationships.^{16,29}

It has also been reported that empathy has many positive effects on nurses and patients.¹⁵ On one hand, empathy increases the level of emotional well-being, resilience, and satisfaction in nurses,^{30,31} and on the other hand, it facilitates wound healing and pain relief, and decreases the development of complications in chronic diseases and increases the survival rate of patients.^{32,33} Fernandez and Zahavi¹² point out that it is not simple to understand and respond compassionately to patients and empathize with them, especially in complex diseases, nurses face difficulty in expressing compassion. They also state that a nurse should accept and respect the subjectivity and uniqueness of patients' experiences to have real empathy.

In this study, the mean STAI-S and STAI-T scores of nurses were found to be 45.67 ± 6.08 (min: 20, max: 80), and 51.75 ± 7.91 (min: 20, max: 80), respectively. Spielberger¹⁸ has defined state anxiety as one that occurs when an undesirable situation is encountered, and trait anxiety as a long-term and severe anxiety that exists even when there is no reason. The anxiety scores of the nurses were far from

TABLE 3 Correlations among scales

Scales	A1	A2	A3	A4	A5	B	B1	B2	C	D
Self-Disclosure Scale (A)										
Intent (A1)	1.00	-0.018	0.171*	0.030	-0.049	0.011	0.102	-0.045	0.272*	-0.014
Amount (A2)		1.00	-0.107	0.134*	-0.193*	0.087	0.047	0.090	-0.105	0.041
Positivity (A3)			1.00	0.110	0.065	0.159*	0.154*	0.124*	0.161*	0.069
Honesty (A4)				1.00	0.245*	0.208*	0.104	0.219*	0.179*	0.170*
Control (A5)					1.00	0.253*	0.191	0.288*	0.192*	0.280*
Basic Empathy Scale (B)										
Cognitive empathy (B1)						1.00	0.737*	0.919*	0.256*	0.344*
Affective empathy (B2)							1.00	0.410*	0.300*	0.280*
State Anxiety Inventory (C)										
Trait Anxiety Inventory (D)									1.00	0.294*

* $p < 0.05$ Spearman's correlation.

TABLE 4 Relationship between characteristics of participants and scales

	Gender		Marital status		Having children		Education		F	p
	Female $\bar{X} \pm (SD)$	Male $\bar{X} \pm (SD)$	Married $\bar{X} \pm (SD)$	Single $\bar{X} \pm (SD)$	Yes $\bar{X} \pm (SD)$	No $\bar{X} \pm (SD)$	High school $\bar{X} \pm (SD)$	Postgraduate $\bar{X} \pm (SD)$		
Self-Disclosure Scale										
Intent	5.75 ± 0.95	5.60 ± 0.94	5.89 ± 0.82	5.57 ± 1.04	5.92 ± 0.83	5.61 ± 1.00	5.81 ± 0.90	5.60 ± 0.97	6.11 ± 0.76	6.650
										0.002*
Amount	4.40 ± 1.58	4.57 ± 0.01	4.41 ± 1.15	4.42 ± 1.13	4.41 ± 1.09	4.42 ± 1.17	4.39 ± 1.26	4.53 ± 1.07	4.08 ± 1.25	3.497
										0.032*
Positivity	4.55 ± 1.14	4.28 ± 1.16	4.69 ± 1.10	4.33 ± 1.16	4.76 ± 1.10	4.35 ± 1.14	4.25 ± 1.50	4.54 ± 1.11	4.55 ± 1.10	0.623
										0.537
Honesty	4.28 ± 0.65	4.41 ± 0.66	4.31 ± 0.73	4.27 ± 0.57	4.35 ± 0.76	4.25 ± 0.57	4.34 ± 0.80	4.31 ± 0.69	4.20 ± 0.47	0.720
										0.488
Control	3.80 ± 1.27	3.43 ± 1.39	3.73 ± 1.29	3.78 ± 1.28	3.76 ± 1.32	3.75 ± 1.26	4.19 ± 1.68	3.70 ± 1.27	3.80 ± 1.15	1.168
										0.314
Basic Empathy Scale	62.59 ± 6.57	58.87 ± 8.29	62.83 ± 6.85	61.42 ± 6.87	63.05 ± 6.55	61.54 ± 7.06	62.24 ± 9.57	61.91 ± 6.75	62.83 ± 6.21	0.581
										0.677
Cognitive empathy	31.40 ± 2.85	30.27 ± 3.73	31.42 ± 2.98	31.10 ± 2.98	31.52 ± 2.85	31.09 ± 3.06	31.24 ± 4.07	31.19 ± 3.01	31.51 ± 2.44	0.254
										0.776
Affective empathy	31.19 ± 4.89	28.60 ± 6.06	31.41 ± 5.09	30.32 ± 5.07	31.53 ± 5.02	30.44 ± 5.12	31.00 ± 7.01	30.72 ± 4.92	31.32 ± 4.90	0.305
										0.737
State Anxiety Scale	42.25 ± 5.36	45.83 ± 3.29	46.01 ± 4.59	44.58 ± 5.62	46.31 ± 4.63	44.64 ± 5.40	44.86 ± 7.33	45.16 ± 5.31	45.95 ± 3.54	0.607
										0.546
Trait Anxiety Scale	52.17 ± 7.03	47.33 ± 4.84	50.98 ± 6.80	52.27 ± 7.12	51.15 ± 6.50	51.91 ± 7.29	53.00 ± 8.20	51.53 ± 6.88	51.34 ± 6.86	0.472
										0.624

Note: t_{IST} , independent samples t-test; F, one-way ANOVA.* $p < 0.05$.

	Age		Number of siblings		Work duration	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Self-Disclosure Scale						
Intent	0.165	0.008*	-0.161	0.010*	0.141	0.025*
Amount	0.042	0.502	0.033	0.596	0.054	0.391
Positivity	0.143	0.022*	-0.040	0.521	0.137	0.029*
Honesty	0.169	0.007*	0.176	0.005*	0.175	0.005*
Control	0.010	0.871	0.046	0.467	0.045	0.472
Basic Empathy Scale	0.043	0.494	0.031	0.620	0.066	0.292
Cognitive empathy	0.008	0.895	0.021	0.740	0.008	0.895
Affective empathy	0.053	0.397	0.030	0.635	0.085	0.178
State Anxiety Scale	0.093	0.139	0.006	0.921	0.071	0.257
Trait Anxiety Scale	-0.090	0.153	-0.069	0.269	-0.069	0.271

Abbreviation: *r*, Pearson correlation.

* $p < 0.05$.

the minimum score, which suggests that the nurses are anxious. This result is also compatible with the findings of Zengin and Gümüş²² and Maharaj et al.²¹ who studied Turkish and Australian nurses, respectively. Determining nurses' anxiety status is important as it may negatively affect their cognitive performance, job performance, nursing care quality, and their economic, social, and individual status.^{21,34,35}

Correlation analysis showed that there was a statistically significant positive relationship between the SDS, BES, and STAI ($p < 0.05$) (Table 3). A significant positive relationship determined between the positivity, honesty, and control subdimensions of SDS and the BES ($r = 0.159$, $r = 0.208$, $r = 0.253$, $p < 0.05$) suggests that self-disclosure has a significant effect on empathy. Self-disclosure is associated with trust and intimacy in therapeutic relationships and has a strong impact on healthcare outcomes.³⁶ Self-disclosure in nursing is effective in increasing patients' compliance with healthcare recommendations.^{37,38} Considering that the main purpose of nursing is to understand the patient and meet their needs, it can be said that empathy is necessary, and that self-disclosure of nurses is effective in achieving this. Thus, nurses can increase their level of empathy through self-disclosure. Healthcare professionals should personally talk to patients, be true to themselves, and not limit themselves to a professional role as it can make it more difficult for them to relate to patients in a sincere and empathic way. The nurses' self-disclosure helps them cope with their problems.^{39,40}

A significant positive relationship determined between the intent, positivity, honesty, and control subdimensions of SDS and the STAI-S ($r = 0.272$, $r = 0.161$, $r = 0.179$, $r = 0.192$, $p < 0.05$) and the honesty and control subdimensions of SDS and STAI-T ($r = 0.170$, $r = 0.280$, $p < 0.05$). High levels of anxiety in nurses affect their critical thinking and decision-making strategies,⁴¹ cause job dissatisfaction, mental health distress, poor patient safety, poor patient satisfaction, medical errors, and burnout.³⁴ Researchers have stated

TABLE 5 Participant characteristics and their relationship to the mean of scale scores

that it is important to reduce nurses' anxiety,^{21,22,34} however, in this study, the level of anxiety of nurses increased with their level of self-disclosure. This may be related to their inappropriate or haphazard self-disclosure as it can increase the likelihood of disclosing inappropriate personal information to others. As a result, dangerous and meaningless self-disclosure can cause disturbing emotions such as anxiety in people.³ Unhjem et al.⁵ report reservations about the benefits of nurses' disclosure, even though self-disclosure means making a relationship open, honest, and equal in nurse-patient relationships. To reduce these reservations, they suggest the provision of therapeutic nurse self-disclosure.

A significant positive relationship determined between the BES and the STAI-S and the STAI-T ($r = 0.256$, $r = 0.344$, $p < 0.05$). On the contrary, studies show a negative relationship between empathy and anxiety.⁹ The results of this study, however, may be related to the emotional processes between empathy and anxiety. When nurses try to understand the feelings and thoughts of the patients by empathizing, they organize their own feelings and make an effort to actually feel the emotion that they should reflect at that moment.¹² The emotions that the nurses actually feel and those that they display while caring for their patients, may not always be the same. When these are different from each other, the nurses change their feelings by empathizing and trying to keep their emotions close to the emotions of the patient at that moment.⁴² In this adaptation process, nurses make extreme efforts to reduce the emotional incompatibility that occurs when there is a conflict between the emotions that they actually feel and those that are expected from them. This situation can lead to some unwanted and stressful consequences for the nurses, for example, their tension and stress increase, and they may experience emotional exhaustion, anxiety, and burnout as a result of depletion of emotional resources from constant acting.⁴³ Failure to properly manage and support emotions may cause

stress and anxiety in nurses, as they try to increase patient satisfaction by using intense emotional labor.^{42,43}

In this study, a statistically significant relationship was found between gender and STAI-T. Women's trait anxiety levels were higher than those of men ($p < 0.05$) (Table 4), which corroborates the literature.^{22,44} It has been reported that the higher level of anxiety in women compared to men is due to emotional and behavioral reasons caused by genetic predisposition, hormonal effects, and culture.⁴⁴

The STAI-S showed a statistically significant relationship with marital status and having children. This suggests that the state anxiety levels of nurses who are married and have children were higher than that of those who are single or were married with no children ($p < 0.05$) (Table 5). Şengül et al.³⁵ and Salma and Hasan⁴⁵ have determined that the anxiety levels of married nurses are higher, which corroborates to the present study's findings. The present study was conducted during the pandemic period and the nurses could not use family support as a shield against anxiety. The increased workload, isolation, fear of contamination, and fear of death during the pandemic may have increased the level of anxiety in married nurses. In addition, the fear of not being together with their children, of being separated from them, of contaminating them and leaving them alone in case of their own death may be some of the reasons for the high state anxiety level of nurses who have children.

A statistically significant relationship was found between marital status and the intent subdimension of SDS and having children and the intent and honesty subdimensions of SDS, which suggests that nurses who have married and have children are more likely to intend for disclosing themselves ($p < 0.05$) (Table 4). Also, those who have children disclose themselves honestly. According to the theoretical foundation of nursing, communication determines the quality of the relationship between the patient and the nurse. In these communication processes, nurses often focus on understanding patients' experiences and their life situations, and develop skills to heal them. They also try to reduce their pain by empathizing with the patients and narrating their own life and professional experiences. Although this situation is defined as self-disclosure in the literature, this concept has not been defined in detail for nursing. Parental behavior includes talking, laughing, caring, touching, and making the best choices for their children's physical and psychological well-being. They use their experience and knowledge to cater to their children's needs.^{5,6} In this study, the self-disclosure of nurses who have children can be explained by the maintenance of their parent roles. Although the distinction between professional and private life is emphasized in the education process, it is not always possible to distinguish between the behaviors directed by our emotions.

A statistically significant relationship was found between education level of nurses and the intent and amount subdimensions of SDS ($F = 6.650$, $F = 3.497$, $p < 0.05$) (Table 4). The mean intent scores of SDS is the highest in the postgraduate level, while the mean amount scores of SDS is the highest at the graduate level. This result is important in terms of showing the importance of education in patient–nurse relationships.

According to another result determined in this study, as the age and professional experience of nurses increased, their scores on the intent, positivity, and honesty subdimensions of SDS also increased ($p < 0.05$) (Table 5). Studies have reported that as age and professional experience of nurses' increase, their critical thinking, problem-solving, decision-making, and communication skills also increase.^{41,46,47} This shows the importance of experience in learning and applying therapeutic communication techniques. Self-disclosure is also a therapeutic communication process for nurses. Unhjem et al.⁵ have reported that nurses use self-disclosure in their communication with patients, which helps to develop an open, honest, and equal relationship between them. In addition, as the number of siblings decreases, the intent scores of SDS increases and as the honesty scores of SDS increases, the number of siblings increases in this study. These results are important in terms of showing the importance of establishing interpersonal relationships and trusting people.

4.1 | Limitations

This study was not conducted face-to-face but via the Internet. Therefore, a formal environment could not be created during data collection. Participants were working in seven hospitals in Turkey; therefore, the results of this study cannot be generalized.

5 | CONCLUSIONS

This study indicates that there is a statistically significant positive relationship between the self-disclosure, empathy, and anxiety. According to the results of this study, nurses empathize with their patients and self-disclose which, increases their level of anxiety. As a result, there is a need to test the relationship between self-disclosure, empathy, and anxiety levels with experimental studies.

6 | IMPLICATIONS FOR PSYCHIATRIC NURSING PRACTICE

It is a positive finding that nurses' empathy skills increase as they engage in self-disclosure. However, it is interesting to note that nurses who disclose themselves and empathize with patients, have high levels of anxiety. As the level of self-disclosure and empathy increases, the anxiety level increases; this may be the result of the nurses' emotional fatigue. It can therefore, be assumed that nurses need to learn techniques to cope with emotional burden. Therefore, psychiatric nurses should be encouraged to reduce nurses' anxiety levels by planning different interventions, such as psychotherapy, counseling, and training. They may determine nurses' self-disclosure and empathy skills as well as their needs, and develop the necessary strategies accordingly.

CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

ETHICS STATEMENT

Ethics committee approval was obtained from Zeynep Kamil Women's and Children's Disease Education and Research Hospital (18.12.2019/122).

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request. The data are not publicly available due to privacy or ethical restrictions.

ORCID

Özlem İbrahimioğlu  <http://orcid.org/0000-0002-0925-0378>

Sevinç Mersin  <http://orcid.org/0000-0001-8130-6017>

Gizem Açıkgöz  <https://orcid.org/0000-0002-6133-9038>

Merve Çağlar  <https://orcid.org/0000-0003-2626-4170>

Eda Akyol  <https://orcid.org/0000-0002-1614-7942>

Burcu Özkan  <https://orcid.org/0000-0003-2310-717X>

Özlem Öner  <https://orcid.org/0000-0002-0986-4118>

REFERENCES

1. Wheelless LR, Grotz J. Conceptualization and measurement of reported self-disclosure. *Hum Commun Res.* 1976;2(4):338-346. <https://doi.org/10.1111/j.1468-2958.1976.tb00494.x>
2. Wheelless LR. A follow-up study of the relationships among trust, disclosure, and interpersonal solidarity. *Hum Commun Res.* 1978;4(2):143-157. <https://doi.org/10.1111/j.1468-2958.1978.tb00604.x>
3. Greene K, Derlega VJ, Mathews A. Self-disclosure in personal relationships. In: Vangelisti AL, Perlman D, eds. *The Cambridge Handbook of Personal Relationships*. New York, NY: Cambridge University Press; 2006:409-427. <http://eclipse.rutgers.edu/wp-content/uploads/sites/51/2014/pdf/Self%20Discloure%20in%20Personal%20Relationships%20copy.pdf>
4. Sprecher S, Treger S, Wondra JD. Effects of self-disclosure role on liking, closeness, and other impressions in get-acquainted interactions. *J Soc Pers Relat.* 2013;30(4):497-514. <https://journals.sagepub.com/doi/full/10.1177/0265407512459033>
5. Unhjem JV, Vatne S, Hem MH. Transforming nurse-patient relationships — a qualitative study of nurse self-disclosure in mental health care. *J Clin Nurs.* 2018;27(5-6):e798-e807. <https://doi.org/10.1111/jocn.14191>
6. Borji M, Shahbazi F, Nariman S, Otoghi M, Safari S. Investigating the relationship between mother-child bonding and maternal mental health. *J Compr Pediatr.* 2018;9(1):e14014. <https://doi.org/10.5812/compreped.14014>
7. Cannity KM, Banerjee SC, Hichenberg S, et al. Acceptability and efficacy of a communication skills training for nursing students: building empathy and discussing complex situations. *Nurse Educ Pract.* 2021;50:102928. https://www.sciencedirect.com/science/article/pii/S1471595320310143?casa_token=9cfhGOW2wtkAAAAA:MBqwetTU9H9cn1cGqCeX18P5l3HZDWcFUUejNn_Zl41bc6gj9ADi_IeZqRD9lVe-HjjsNgBhfmY
8. İbrahimioğlu Ö, Mersin S, Saray Kılıç H. Nursing education curriculum and learning outcomes. *J Higher Educ Sci.* 2019;9(1):12-16. <https://doi.org/10.5961/jhes.2019.305>
9. Ayuso-Murillo D, Colomer-Sánchez A, Santiago-Magdalena CR, et al. Effect of anxiety on empathy: an observational study among nurses. *Healthcare.* 2020;8(2):140-151. <https://www.mdpi.com/2227-9032/8/2/140>
10. Gambin M, Sharp C. Relations between empathy and anxiety dimensions in inpatient adolescents. *Anxiety Stress Coping.* 2018;31(4):447-458. https://www.tandfonline.com/doi/full/10.1080/10615806.2018.1475868?casa_token=x4KNgKzqoHcAAAAA%3Asl8Jyc2H_-9xRsa2XCyEivKirbl5Prz0YTVhXWKJ8tphr7WOGClf9wzvgi_gCk3MN0M645yTq8CR9g
11. Barbe T, Kimble LP, Rubenstein C. Subjective cognitive complaints, psychosocial factors and nursing work function in nurses providing direct patient care. *J Adv Nurs.* 2018;74(4):914-925. <https://doi.org/10.1111/jan.13505>
12. Fernandez AV, Zahavi D. Basic empathy: developing the concept of empathy from the ground up. *Int J Nurs Stud.* 2020;110:103695. <https://doi.org/10.1016/j.ijnurstu.2020.103695>, https://www.sciencedirect.com/science/article/pii/S002748920301796?casa_token=KlBf7V6volAAAAA:6P7x5u4CVcwAtxploVITYpzoHa-AizH0siq0UWeyHRSJhJUKY_mMr8LUppMXMgCYuRf5z0F4bWo4
13. Jolliffe D, Farrington DP. Development and validation of the Basic Empathy Scale. *J Adolesc.* 2006;29:589-611. <https://doi.org/10.1016/j.adolescence.2005.08.010>
14. Topçu Ç, Erdur Baker Ö, Çapa Aydın Y. Turkish adaptation of Basic Empathy Scale: validity and reliability study. *Turk Psychol Couns Guid J.* 2010;4(34):174-180. <https://dergipark.org.tr/en/pub/tpdrd/issue/21454/229819>
15. Levett-Jones T, Cant R, Lapkin S. A systematic review of the effectiveness of empathy education for undergraduate nursing students. *Nurse Educ Today.* 2019;75:80-94. https://www.sciencedirect.com/science/article/pii/S026069171830501X?casa_token=_8KSoGgGUfIAAAAA:s21-p4WgHjwc84O0dZ3rrsASZm6BmlSnhikeknKKmOURIMI71kUNniT7XdTdDWUJiT77HZZJIYU
16. McKinnon J. In their shoes: an ontological perspective on empathy in nursing practice. *J Clin Nurs.* 2018;27(21-22):3882-3893. <https://doi.org/10.1111/jocn.14610>
17. Alligord MR, Tomey AM. *Nursing Theorists and Their Work*. 7th ed. Maryland Heights, MO: Mosby Elsevier; 2010:50-68.
18. Spielberger CD. State-Trait Anxiety Inventory. *The Corsini Encyclopedia of Psychology.* 2010;1(1). <https://onlinelibrary.wiley.com/doi/abs/10.1002/9780470479216.corpsy0943>
19. Song KW, Choi WS, Jee HJ, et al. Correlation of occupational stress with depression, anxiety, and sleep in Korean dentists: cross-sectional study. *BMC Psychiatry.* 2017;17(1):398. <https://doi.org/10.1186/s12888-017-1568-8>
20. Basu S, Qayyum H, Mason S. Occupational stress in the ED: a systematic literature review. *Emerg Med J.* 2017;34(7):441-447. <https://doi.org/10.1136/emered-2016-205827>
21. Maharaj S, Lees T, Lal S. Prevalence and risk factors of depression, anxiety, and stress in a cohort of Australian nurses. *Int J Environ Res Public Health.* 2019;16(1):61-71. <https://www.mdpi.com/1660-4601/16/1/61>
22. Zengin L, Gümüş F. Anxiety and depressive symptoms in nurses and related factors. *J Acad Res Nurs.* 2019;5(2):116-122. <https://doi.org/10.5222/jaren.2019.40469>
23. Kerr D, Ostaszkiwicz J, Dunning T, Martin P. The effectiveness of training interventions on nurses' communication skills: a systematic review. *Nurse Educ Today.* 2020;89:104405. https://www.sciencedirect.com/science/article/pii/S0260691719311244?casa_token=oQfF1m0RN1cAAAAA:RoFUoiqFTyal6GKxUY3xm6silkl4vOMcJmWzqkv694QlsvFxFmaTjmo8arGHGFZ-YANIK3YCE
24. Hill CE, Knox S, Pinto-Coelho KG. Therapist self-disclosure and immediacy: a qualitative meta-analysis. *Psychotherapy.* 2018;55(4):445-460. <https://psycnet.apa.org/record/2018-51673-010>
25. Öksüz E, Mersin S, Türker T. Validity and reliability of the Turkish version of the Self-Disclosure Scale among university students. *Anatolian J Psychiatry.* 2017;18(6):586-593. <https://go.gale.com/ps/anonymou?id=GALE%7CA558814773&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=13026631&p=AONE&sw=w>
26. Chen B, Marcus J. Students' self-presentation on Facebook: an examination of personality and self-construal factors. *Comput Hum Behav.* 2012;28(6):2091-2099. <https://doi.org/10.1016/j.chb.2012.06.013>

27. Öner N, Le Compte A. *Handbook of the State-Trait Anxiety Inventory*. 2nd ed. Istanbul, Turkey: Boğaziçi University Publications; 1998.
28. Karagöz Y. *SPSS 23 and AMOS 23 Applied Statistical Analysis*. Ankara, TX: Nobel Publisher; 2016.
29. Stavropoulou A, Rovithis M, Sigala E, Pantou S, Koukouli S. Greek nurses' perceptions on empathy and empathic care in the intensive care unit. *Intensive Crit Care Nurs*. 2020;58:102814. https://www.sciencedirect.com/science/article/pii/S0964339720300173?casa_token=3qVJS3sWxd8AAAAA:-2_JH41x3w_zibhOubf-q7IOGUj9S2W7jwhmm1s3yAsg_PYYnAO5ca2SFjvXzuUY-nlI5NtNPo
30. Navarro-Carrillo G, Torres-Marín J, Corbacho-Lobato JM, Carretero-Dios H. The effect of humor on nursing professionals' psychological well-being goes beyond the influence of empathy: a cross-sectional study. *Scand J Caring Sci*. 2020;34(2):474-483. https://onlinelibrary.wiley.com/doi/full/10.1111/scs.12751?casa_token=hn89GfH_03sAAAA%3A1-UkTwlns5TSuSO-m7dNoPOnuGMEiI5uYjqofDAvRTDGyC7atPjrC_8ISM_PDlnArk1B9KgaRK1Ug
31. Cao X, Chen L. The impact of empathy on work engagement in hemodialysis nurses: The mediating role of resilience. *Jpn J Nurs Sci*. 2020;17(1):e12284. <https://onlinelibrary.wiley.com/doi/full/10.1111/jjns.12284>
32. Kesbakh MS, Rohani C. Exploring oncology nurses' perception of the consequences of clinical empathy in patients and nurses: a qualitative study. *Support Care Cancer*. 2020;28(6):2985-2993. <https://link.springer.com/article/10.1007/s00520-019-05118-z>
33. Yi X, Sicheng X, Lihui Z, et al. Changes in empathy of nurses from 2009 to 2018: a cross-temporal meta-analysis. *Nurs Ethics*. 2020. <https://journals.sagepub.com/doi/abs/10.1177/0969733020968163>
34. Saquib N, Zaghoul MS, Saquib J, Alhormaidan HT, Al-Mohaimed A, Al-Mazrou A. Association of cumulative job dissatisfaction with depression, anxiety and stress among expatriate nurses in Saudi Arabia. *J Nurs Manag*. 2019;27(4):740-748. https://onlinelibrary.wiley.com/doi/full/10.1111/jonm.12762?casa_token=O_F1H0bttBsAAAA%3A8NcV7aFNHAjgkgoY0fa9Yq6abgYiXf1ilbxjwZzsZorLMArpSIOGRj4GbO7Kd0_6jsL0OckHbCGGsA
35. Şengül H, Çınar F, Bulut A. The effects of anxiety levels on burnout syndrome in nurses. *Kocaeli Med J*. 2019;8(2):219-229. <https://kocaelimj.org/ENG/jvi.aspx?pdire=kocaelitip&plng=eng&un=KTD-75875&look4=>
36. Dowling M. The sociology of intimacy in the nurse-patient relationship. *Nurs Stand*. 2006;20(23):48-54.
37. Barrett M, Berman J. Is psychotherapy more effective when therapists disclose information about themselves? *J Consult Clin Psychol*. 2001; 69(4):597-603. <https://doi.org/10.1037/0022-006X.69.4.597>
38. Frank E, Breyan J, Elon L. Physician disclosure of healthy personal behaviors improves credibility and ability to motivate. *Arch Fam Med*. 2000;9(3):287-290.
39. Rogers CR. *On Becoming a Person: A Therapist's View of Psychotherapy*. New York, USA: Houghton Mifflin Harcourt; 1995. https://books.google.com.tr/books?hl=tr&lr=&id=0yHBXXhJbKQC&oi=fnd&pg=PR9&dq=On+Becoming+a+Person:+A+Therapist%27s+View+of+Psychotherapy&ots=7uYJq5Hsm-&sig=ukBfrFfwXcKpvBk1DZGv8QcQwDg&redir_esc=y#v=onepage&q=On%20Becoming%20a%20Person%3A%20A%20Therapist's%20View%20of%20Psychotherapy&f=false
40. Rogers CR, Stevens B. *Person to Person: The Problem of Being Human: A New Trend in Psychology*. Real People Press; 1967.
41. Polat Ş, Kutlu L, Ay F, Purisa S, Erkan HA. Decision-making styles, anxiety levels, and critical thinking levels of nurses. *Jpn J Nurs Sci*. 2019;16(3):309-321. <https://onlinelibrary.wiley.com/doi/full/10.1111/jjns.12240>
42. Yılmaz G, Baran Durmaz G. The relationship between empathic tendencies, emotional labor behaviors and burnout levels of pediatric nurses. *J Hacettepe Univ Fac Nurs*. 2019;6(2):92-100. <https://doi.org/10.31125/humhemsire.59863>
43. Bulgurcu Gürel E, Çetinkaya Bozkurt Ö. The effects of managing emotions on job satisfaction and emotional exhaustion level. *Mehmet Akif Ersoy Univ J Soc Sci Inst*. 2016;8(14):133-147. <https://dergipark.org.tr/en/pub/makusobed/issue/19446/206904>
44. Gao W, Ping S, Liu X. Gender differences in depression, anxiety, and stress among college students: a longitudinal study from China. *J Affect Disord*. 2020;263:292-300. https://www.sciencedirect.com/science/article/pii/S0165032719320385?casa_token=xLDM8LObipEAAAAA:3iibvU969Xoh9Zwu-22q10b84-6OMIpZxsncOnei5hpKMRp-DtUbVNZ4QNx-q9zjAQ41_0LZX
45. Salma U, Hasan MM. Relationship between job satisfaction and depression, anxiety and stress among the female nurses of Dhaka Medical College and Hospital, Bangladesh. *Public Health Res*. 2020;10(3):94-102. <http://article.sapub.org/10.5923/j.phr.20201003.02.html>
46. Lee J, Jang MH. The influences of critical thinking ability, communication skills, leadership, and professionalism on clinical practice ability in nursing students. *J East-West Nurs Res*. 2017;23(2):124-133. <https://www.koreascience.or.kr/article/JAKO201734964190333.page>
47. Kim AY, Sim IO. Communication skills, problem-solving ability, understanding of patients' conditions, and nurse's perception of professionalism among clinical nurses: a structural equation model analysis. *Int J Environ Res Public Health*. 2020;17(13):4896. <https://www.mdpi.com/1660-4601/17/13/4896>

How to cite this article: İbrahimoğlu Ö, Mersin S, Açıkgöz G, et al. Self-disclosure, empathy and anxiety in nurses. *Perspect Psychiatr Care*. 2021;1-9. <https://doi.org/10.1111/ppc.12842>