

The Relationship Between Charge Nurses and Clinical Nurses' Perceptions of Patient Safety Culture and Leadership Practices*

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Abstract

Background: A patient safety culture needs to be developed for quality and safe care in health care institutions. Executive nurses having transformational leadership behavior have an important effect on establishing a patient safety culture in hospitals. **Objectives:** The aim of this study is to reveal transformational leadership practices of unit charge nurses from their own perspective and the perspective of staff nurses they work with, to determine the patient safety culture perceptions of unit charge nurses and staff nurses, and to examine the relationship between transformational leadership practices and patient safety culture. **Methods:** This descriptive, relationship-seeking and cross-sectional study was conducted between March and June 2014 in four hospitals in Konya province. The sample of the study consisted of 70 unit charge nurses and 357 staff nurses working with these unit charge nurses. Participation rate in the study is 84.5%. Data were collected by using the Demographic Data Form, Leadership Practices Inventory and Patient Safety Culture Hospital Questionnaire. Means, t test, percentages, standard deviation and Spearman's tests were used in the analysis of the data. **Results:** According to the evaluations of the unit charge nurses and staff nurses; it was found that the unit charge nurses' averages scores for prodding others into action, encouraging others and questioning the process sub-dimension and total leadership practice were significantly higher than those of the staff nurses. Patient Safety Culture perceptions of unit charge nurses are higher than service nurses. According to the findings obtained from the study, there is a positive relationship between nurses' transformational leadership practices and patient safety culture. **Conclusion:** In the study, it has been shown that there is a positive relationship between nurses' transformational leadership practices and patient safety culture. In order to create a positive patient safety culture in the units of charge nurses, it is necessary to develop the unit charge nurses' transformational leadership practices.

Key Words: Nursing, Patient Safety Culture, Transformational Leadership Practice, Charge Nurses, Staff Nurses.

Öz

Sorumlu Hemşireler ile Klinik Hemşirelerinin Hasta Güvenliği Kültürü Algıları ve Liderlik Uygulamaları Arasındaki İlişki

Giriş: Sağlık kuruluşlarında kaliteli ve güvenli bir bakım için hasta güvenliği kültürünün geliştirilmesi gerekmektedir. Hemşire yöneticilerinin dönüşümcü liderlik becerileri hasta güvenliği kültürünün oluşturulmasında oldukça önemlidir. **Amaç:** Bu çalışmanın amacı, servis sorumlu hemşirelerinin dönüşümcü liderlik uygulamalarını kendileri ve birlikte çalıştıkları servis hemşireleri gözüyle ortaya koymak, servis sorumlu ve servis hemşirelerinin hasta güvenliği kültürü algısını belirlemek ve dönüşümcü liderlik uygulamaları ile hasta güvenliği kültürü arasındaki ilişkiyi incelemektir. **Yöntem:** Tanımlayıcı, ilişki arayıcı ve kesitsel tipteki bu çalışma, Konya ilinde bulunan dört hastanede Mart-Haziran 2014 tarihleri arasında gerçekleştirilmiştir. Çalışmanın örneklemini 70 servis sorumlu hemşiresi ve bu hemşireler ile birlikte çalışan 357 servis hemşiresi oluşturmuştur. Çalışmaya katılım oranı %84.5'dir. Veriler, Demografik Veri Formu, Liderlik Uygulamaları Envanteri ve Hasta Güvenliği Kültürü Hastane Anketi kullanılarak toplanmıştır. Verilerin analizinde, ortalama, t testi, yüzde, standart sapma ve Spearman's testleri kullanılmıştır. **Bulgular:** Servis sorumlu hemşireleri ve servis hemşirelerinin değerlendirmelerine göre; servis sorumlu hemşirelerinin, başkalarını harekete geçirme, cesaretlendirme ve süreci sorgulama alt boyut puanları ve toplam liderlik uygulama puan ortalamaları servis hemşirelerinden anlamlı olarak daha yüksek olduğu bulunmuştur. Servis sorumlu hemşirelerinin hasta güvenliği kültürü algılarının daha yüksek olduğu belirlenmiştir. Çalışmada hemşirelerin dönüşümcü liderlik uygulamaları ile hasta güvenliği kültürü arasında pozitif bir bulunmuştur. **Sonuç:** Çalışmada hemşirelerin dönüşümcü liderlik uygulamaları ile hasta güvenliği kültürü arasında pozitif bir ilişki olduğu gösterilmiştir. Sorumlu hemşirelerinin birimlerinde olumlu bir hasta güvenliği kültürünü oluşturulabilmesi için servis sorumlu hemşirelerinin dönüşümcü liderlik uygulamalarının geliştirilmesi gerekmektedir.

Anahtar Kelimeler: Hemşirelik, Hasta Güvenliği Kültürü, Dönüşümcü Liderlik Uygulamaları, Sorumlu Hemşireler, Hemşireler.

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Patient safety is a primary concern of health care institutions and organizations, and it has become a precondition for high quality health care services. In an international conference held in Geneva 2017 and supported by the European Commission, the World Health Organization (WHO) emphasized that 10 million people around the world are estimated to become mutilated or die every year due to preventable medical errors and called on everyone to do more research about patient safety (1). To provide safe and high-quality patient care, patient safety culture (PSC) must be improved in the health sector (2,3). Unit charge nurses (UCNs) have a pivotal responsibility to create a positive practice environment in which nurses are more satisfied and high-quality patient care standards are met (4). To transform the services to achieve higher levels of excellence, the UCNs' must be knowledgeable, skilled, and well trained in facilitating group communication, solving conflicts, creating motivation, development, and improvement (5). Therefore, for PSC to be created, maintained and achieved in an institution, there is a need for UCNs' effective leadership practices (6). The relevant literature shows that there have been positive developments in patient safety outputs through transformational leadership practices (TLP), and that such leadership is important for creating a PSC (7-10). For a quality and safe healthcare service, staff nurses who provide the closest level of healthcare services to patients 24/7 should have a positive perception of PSC. Nurse executives with advanced TLP skills can create a positive PSC by mobilizing the nurses they work with, creating appropriate working conditions, improving communication, and encouraging and guiding them (10). Therefore, revealing how UCNs' TLPs are reflected in the clinical environment through the eyes of the staff nurses they work with and determining the relationship between TLP and PSC is very important in creating a positive PSC.

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PSC is commonly defined as: "the product of individual and group values, attitudes, competencies, and patterns of behavior that determine the commitment to and the style and proficiency of an organization's health and safety program" (14). Institutions' failure to create PSC causes serious damage to patients, nurses and the institutions themselves. When patients are harmed during health care service, it can cause serious injuries, extend hospital stays, increase medical errors and even cause death (2,15). It causes psychological traumas, diminishes patients' functionality, reduces patients' trust in the health care system and its workers and leads to socio-economic losses (1,15). Moreover, it has been shown that the lack of PSC increases nurses' injuries, professional dissatisfaction (16) and rates of resignation while reducing their motivation and commitment to their institutions (17). In hospitals where a PSC has been established, there are positive changes in patient care outputs (18). It has been shown that such environments ensure workers' motivation and psychological wellness (2).

Transformational Leadership Practices

Kouzes and Posner, (19) described the behaviors of transformational leaders as guiding others, inspiring a shared vision, challenging processes and encouraging followers by congratulating them on their achievements and improvements. Nurse managers in health institutions have a crucial role in improvement and the facilitation of safe care practices (2,10). In literature there are numerous studies showing effect of nurse managers who have transformational leadership behaviors on health institutions' outputs and performances in developing and changing health care world (6,20,21). These studies have found that nurses who work with transformational leaders have high job satisfaction and a positive PSC (6). Work with transformational leaders also makes them stronger and more productive (20), increases worker and patient satisfaction and affects teamwork positively. In addition, transformational leadership supports psychological wellness and reduces resignation rates among nurses, reducing the financial losses of health care institutions (21).

Relationship Between Transformational Leadership Practices and Patient Safety Culture

A positive relationship between the level of transformational leadership and the improvement of patient safety have been shown in previous studies (7,9), and transformational leadership has a positive effect on the creation of a safety climate (8). Furthermore, TLP was determined as the most relevant leadership for current stressed and turbulent healthcare work environments (22). Researchers have also emphasized that nurse managers' leadership plays a very important role to develop and maintain PSC (23).

It is to be expected that there is a desirable PSC in environments in which UCNs are capable of uniting their nurse colleagues around patient care goals, innovating, creating a shared vision and stimulating and motivating them. Therefore, TLP is important to create a PSC and/or develop it (Figure 1).

Although the importance of PSC and TLP of nurse managers in health care environments is often emphasized and there are many published studies indicating the importance of TLP and PSC there are no studies that evaluate the UCNs' TLPs by both themselves and the staff nurses they work with and examine the effect of this evaluation on the perception of PSC. Evaluation of their own executives' TLPs by staff nurses having an important position in providing a quality and safe health care service and determining its effect on PSC perceptions will make a significant contribution to the creation of a positive PSC (Figure 1).

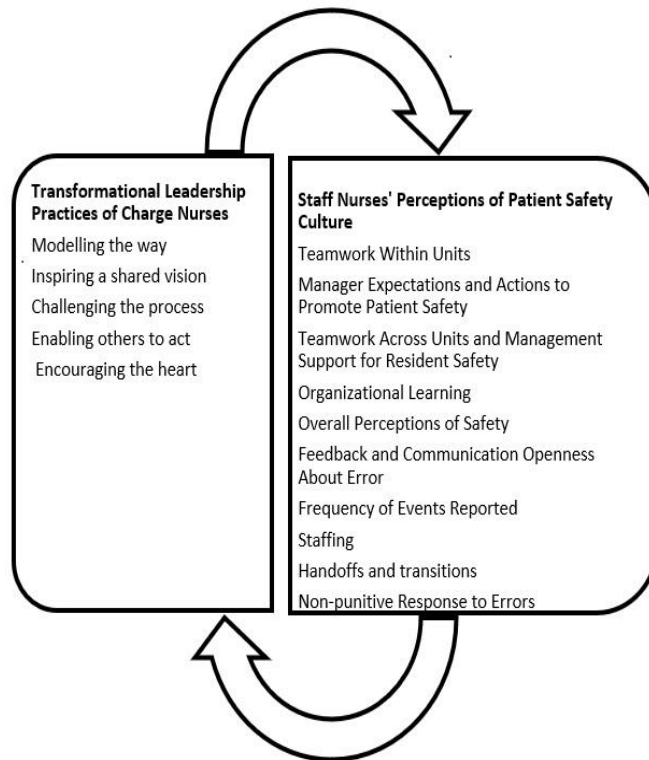


Fig. 1. Framework of The Study.

Araştırma

The aim of this study is to reveal transformational leadership practices of unit charge nurses from their own perspective and the perspective of staff nurses they work with, to determine the perception of patient safety culture of unit charge nurses and staff nurses, and to examine the relationship between transformational leadership practices and patient safety culture.

The study questions are given below:

- What are the UCNs and staff nurses' evaluations of the UCNs' TLP?
- What are the UCNs and staff nurses' evaluations of PSC?
- Is there a relationship between UCNs and staff nurses' TLPs and PSC total and sub-dimensions?

Methods

Type of the Research

This descriptive correlational and cross-sectional study design was used.

Place and Time of the Research

The setting was Ministry of Health Hospitals in Konya. It was conducted between March and June 2014.

Research Universe/Sample

The research population consists of 90 UCN and 840 staff nurses working in four large Ministry of Health hospitals in a big city in Central Anatolian. The convenience sampling method was used in the study and UCN and staff nurses working in the internal diseases, surgical, intensive care and emergency staff units of this hospital and in the same clinics for at least six months were included in the study. A total of 505 nurses, 75 UCN and 430 staff nurses, who met the criteria to participate in the study, were included in the sample. A total of 427 nurses, including 70 UCN and 357 staff nurses who agreed to participate in the study, have participated. It was recommended that three to eight nurses from each unit be included, based on the number available (24). In this study, as there were at most five nurses who worked with each UCN for at least six months in some units, five staff nurses were taken in the sample. The participation rate in the research is 84.5%.

Data Collection Tools

Nurses' Demographics Data Form

This form was developed as two separate forms to collect introductory information about UCNs included in the study sample and the nurses they worked with. The Demographics Data Form prepared for staff nurses working and unit charge nurses includes questions such as age, educational status, duration of professional experience and manner of work, and consists of 13 questions in total.

The Leadership Practices Inventory (LPI)

LPI was developed by Kouzes and Posner to determine TLP behaviors. The inventory is completed by both UCNs and staff nurses. Psychometric Properties of the Turkish version of inventory were tested by Duygulu et al., (25). Cronbach's alpha internal consistency coefficients of the inventory were $\alpha=0.92$ for leaders and $\alpha=0.97$ for staff nurses. The Cronbach's alpha coefficient were found as $\alpha=0.92$ for leaders and $\alpha=0.97$ for staff nurses in this study. (Modeling the way, Inspiring a shared vision, Challenging the process, Encouraging the heart $\alpha=0.96$, Enabling others to act $\alpha=0.95$). The inventory examines five basic TPIs; modeling the way, inspiring a shared vision, challenging the process, encouraging the heart and, encouraging the others to act (19). Each dimension consists of six items. The statements in the inventory were assessed using a 5-point scale (from almost never-1 to almost always-5). The highest value indicates that the relevant leadership behavior is used almost always, and the lowest value indicates that it is almost never used. The possible minimum and maximum score is ranging from 6 to 30 for a single leadership behavior. The possible minimum score on the entire inventory is 30, and the possible maximum score is 150.

The Hospital Survey on Patient Safety Culture (HSOPSC)

Agency for Health Care Research and Quality (AHRQ) developed HSOPSC It consists 42 items and 12 dimensions, 10 of which were about patient safety culture, and 2 of which were about the hospitals outputs regarding PSC. Cronbach's alpha coefficient of the survey's Turkish version was $\alpha=0.86$ (25). Filiz and Bodur (26) reorganized the scale to include 10 dimensions and 42 items when translating it into Turkish. This study also used the scale with 10 dimensions and 42 items, and the study data were assessed based on this scale. The Cronbach's alpha coefficient was found as 0.86 in this study.

The sections of unit of service, management and hospitals (sections A, B and F) included the options from 1-Strongly disagree 5-Strongly agree, and the options in the sections of communication and the frequency of reported events (sections C and D) were: 1=Never, 2=Rarely, 3=Sometimes, 4=Usually, and 5=Always. The positive responses to each item were: Strongly agree (5), Agree (4), Usually (4), and Always (5). The survey was assessed based only on the mean scores of positive answers (scores of either 4 or 5). The result is the average positive response given to the items. (27). Groups "strongly disagree" and "never" (1), "disagree and rarely" (2), "neither agree nor disagree, and sometimes" (3) are not included in the calculation of positive response percentage. According to the Sorra and Nieva (27), any dimension that achieves a positive response rate (scores of either 4 or 5) of 75% or above can be considered an area of PSC strength, whereas areas of PSC weakness are those showing positive response rates of 50% or less.

Data Collection

The researcher distributed the data collection forms to the nurses and took them back between March and June 2014. The UCNs were given a Demographic Data Form, the LPI (Self), and the Hospital Survey on Patient Safety Culture (HSOPSC). The staff nurses were given a Demographic Data Form, the LPI (staff nurses form), and the HSOPSC. These forms were returned to the researcher in sealed envelopes; the UCNs never saw the responses of the staff nurses It took the nurses approximately 20 minutes to fill out the data collection forms.

Data Analysis

The data were analyzed by using IBM SPSS Statistics 22 (SPSS, Chicago, IL). Descriptive statistics were used for the demographic data and independent sample *t* test, means, percentages, standard deviation and Spearman's nonparametric correlation were applied in the data analysis. The results were considered significant at a 95% confidence interval and at a *p* value of <0.05.

Ethical Considerations

Before conducting the study, the researcher obtained permission from the hospitals and the Non-invasive Clinical Research Ethical Board of a university (Date:05.03.2014, Decision No: GO14/125-18). The researcher also obtained written consent from the UCNs and staff nurses who participated in the study. Necessary permissions were obtained from the authors who developed the data collection tools and conducted the validity and reliability study. Research and publication ethics were followed in the article.

Results

The UCNs' average age was 38.29 years (*SD* = 4.90), average working year in hospital was 8.97 (*SD* = 6.76), and average working experience as UCN was 3.10 years (*SD* = 2.73). The average age of the staff nurses was 32.11 years (*SD* = 6.50), average working period at the hospital was 4.85 years (*SD* = 4.60), and the average working time with the UCNs was 1.78 years (*SD* = 1.66).

Transformational Leadership Practices

Table 1 shows the results of the descriptive statistics analysis that was conducted to answer the first research question: "What are the UCNs and staff nurses' evaluations of the UCNs' TLP?" The UCNs' mean scores on the sub-dimensions of challenge the process (24.01), enable others to act (25.39), encourage the heart (25.24) and total TLP scores (122.29) were higher than the staff nurses (*p* = .015). According to the UCNs and staff nurses, the most frequent leadership behavior was enabling others to act.

Table 1. The UCNs and Staff Nurses' evaluations of the UCNs Transformational Leadership Practices

Leadership practices	UCNs n=70	Staff Nurses=357	<i>t</i>	<i>p</i>
	<i>X</i> ± <i>SD</i>	<i>X</i> ± <i>SD</i>		
Modeling the way	24.61 ± 2.48	24.03 ± 4.70	1.507	.134
Inspiring a shared vision	23.03 ± 2.95	22.95 ± 5.04	.179	.859
Challenging the process	24.01 ± 2.81	22.88 ± 4.97	2.653	.009**
Enabling others to act	25.39 ± 2.61	24.16 ± 4.70	3.072	.002**
Encouraging the heart	25.24 ± 2.99	23.63 ± 4.98	3.637	.000*
Total	122.29 ± 12.10	117.65 ± 23.10	2.447	.015***

****p* < .05, ***p* < .01, **p* < .001

Patient Safety Culture

Table 2 shows statistical analysis results that was conducted to answer the second research question: "What are the UCNs and staff nurses' evaluations of PSC?". In the study, total PSC average percentage of positive responses of nurses (unit charge nurses and staff nurses) was 48.2. The UCNs' average percentage of positive responses (59.2) was significantly higher than that of the staff nurses (46.7) (*p* = .000). The highest positive response percentage of teamwork within units sub-dimension is observed in both UCNs and staff nurses. In the sub dimensions of staffing, non-punitive response to errors and frequency of errors reported, the UCNs and staff nurses' average percentage of positive answers was lower than 50%. (Table 2).

Table 2. The Percentage of Positive Responses by UCNs and Staff Nurses to the Items in PSC Sub dimensions

Ten factors subscales	Average percentage of positive response				TOTAL
	Staff Nurses n=357	UCNs n=70	t	p	
Teamwork Within Units (4 items) (Cronbach's $\alpha = .74$)	73.4	87.1	-3.417	.001	
Manager Expectations and Actions to Promote Patient Safety (4 items) (Cronbach's $\alpha = .45$)	39.8	56.0	-1.328	.185	
Teamwork Across Units and Management Support for Resident Safety (6 items) (Cronbach's $\alpha = .73$)	43.8	63.3	-3.839	.000	
Organizational Learning (3 items) (Cronbach's $\alpha = .65$)	43.9	52.8	-4.552	.000	
Overall Perceptions of Safety (4 items) (Cronbach's $\alpha = .51$)	58.1	67.1	-2.554	.011	
Feedback and Communication Openness About Error (6 items) (Cronbach's $\alpha = .74$)	54.1	70	-2.199	.028	
Frequency of Events Reported (3 items) (Cronbach's $\alpha = .90$)	38.6	40.4	-3.689	.000	
Staffing (3 items) (Cronbach's $\alpha = .35$)	33.2	33.8	-0.345	.731	
Handoffs and transitions (5 items) (Cronbach's $\alpha = .74$)	49.8	64.2	-0.203	.839	
Non-punitive Response to Errors (4 items) (Cronbach's $\alpha = .45$)	31.0	35.7	-3.213	.001	
TOTAL	46.7	59.2	-4.517	.000	48.2

Table 3 shows statistical analysis results which answer the third research question: " Is there a relationship between UCNs and staff nurses' TLPs and PSC sub-dimensions and total?"

There was a moderately positive and significant correlation between staff nurses' assessments of total TLP and PSC sub-dimensions; teamwork within units ($r = .40, p = .000$), manager expectations and actions to promote patient safety ($r = .25, p = .000$), teamwork across units and management support for resident safety ($r = .40, p = .000$), organizational learning ($r = .18, p = .001$), overall perceptions of safety ($r = .30, p = .000$), feedback and communication openness about error ($r = .37, p = .000$), frequency of events reported ($r = .11, p = .040$), non-punitive response to errors ($r = .14, p = .008$) and total PSC ($r = .42, p = .000$) (Table 3).

There was a moderately positive and significant correlation between UCNs' assessments of total TLP and PSC sub-dimensions; teamwork within units ($r = .29, p = .014$), teamwork across units and management support for resident safety ($r = .36, p = .003$), feedback and communication openness about error ($r = .32, p = .008$), handoffs and transitions ($r = .38, p = .001$) and total PSC ($r = .38, p = .001$) (Table 3).

Table 3. The Correlation Between PSC and Total TLP (n:357 for Staff Nurses, n:70 for UCNs)

PSC items		Total TLP	
		Staff Nurses	UCNs
Teamwork Within Units	<i>r</i>	.40	.29
	<i>p</i>	.000	.014
Manager Expectations and Actions to Promote Patient Safety	<i>r</i>	.25	.15
	<i>p</i>	.000	.206
Teamwork Across Units and Management Support for Resident Safety	<i>r</i>	.40	.36
	<i>p</i>	.000	.003
Organizational Learning	<i>r</i>	.18	.09
	<i>p</i>	.001	.437
Overall Perceptions of Safety	<i>r</i>	.30	.22
	<i>p</i>	.000	.067
Feedback and Communication Openness About Error	<i>r</i>	.37	.32
	<i>p</i>	.000	.008
Frequency of Events Reported	<i>r</i>	.11	.17
	<i>p</i>	.040	.159
Staffing	<i>r</i>	.05	.07
	<i>p</i>	.360	.577
Handoffs and transitions	<i>r</i>	.10	.38
	<i>p</i>	.065	.001
Non-punitive Response to Errors	<i>r</i>	.14	.04
	<i>p</i>	.008	.770
Total PSC	<i>r</i>	.42	.38
	<i>p</i>	.000	.001

Discussion

In this study, it was aimed to present the TLPs of UCNs from the perspective of themselves and the staff nurses they work with, to determine the PSC perceptions of UCNs and staff nurses, and to examine the relationship between nurses' perceptions of TLP and PSC. Although there are some studies examining the relationship between nurses' PSC and TLP, being the first study that examines the effect of UCNs' TLP on both themselves and the staff nurses' perception of PSC is introducing the difference of this study.

In the self-assessments of the UCNs, their mean scores on the sub dimensions of challenging the process, encouraging the heart, enabling others to act, and total TLP scores were higher than the scores given by the staff nurses. This result may be explained by the inclination to social desirability. Accordingly, the UCNs may be inclined to express behaviors that they are expected to display rather than their actual behaviors. It may also be assumed that the UCNs have limitations related to assessing their own practices objectively. Similar results were found in previous studies (28,29). Enabling others to act was the UCNs' most frequent leadership behavior. This indicates that the UCNs support cooperation, create a team spirit, include others in their decision making and make their teams even stronger.

The sub dimension of non-punitive response to the errors had the lowest average percentage of positive responses. This result may imply that the importance and necessity of creating a PSC in the health care institutions has not been understood completely in Turkey, and making a mistake may set nurses thinking that they are blamed and punished by the senior management. Previous studies have similarly found that nurses and other health care professionals are not willing to report their errors since they think that they will be punished, marginalized or that it will have a negative effect on their careers (26,30). The researchers believes that this was why the percentage of positive responses to the sub dimension of frequency of events reported was lower than 50% in this study. The results of previous studies are consistent with this study about the frequency of error reporting (30,31). However, the results of a study conducted by AHRQ in the US are not consistent with this study's results (32). This inconsistency implies that the culture of patient safety is a continuing issue in Turkey, and nurses avoid reporting errors for fear of being punished. The percentage of positive responses in the staffing sub dimension was lower than 50% for both the UCNs and the staff nurses, which implies that the number of nurses in health institutions is low. This may be one of the main causes of the medical errors that pose a threat to patients' lives (33).

The teamwork within units sub dimension had the highest percentage of positive responses, while the sub dimension of teamwork between units had a low score. Nurses worked in harmony as a team in their units, yet there were poorer results for teamwork between units. This result is important since it shows that each unit has an independent culture (34) However, teamwork between units is as necessary as teamwork in units to create PSC in hospitals as Singer et al., (35) stated.

UCNs' positive responses' percentage about PSC was significantly higher than that of the staff nurses. A study by Hwang (36) also reached similar findings. This can also be explained as an effect of social likability. So the fact that they have managerial positions may lead the UCNs to try to make the services they are responsible for look good. The percentage of nurses' positive responses to the PSC total was 48.2%. This rate is lower than the rate found by study conducted by AHRQ in the US (32), which indicates that the PSC in the health institutions where this study was conducted is still not at the desired level. In Turkey, there are works related to patient safety in the hospitals directed by the Ministry of Health, which requires quality regulations. In context of these regulations, the authorities have developed Standards for Quality in Health Care (*Health Quality Standards*), and these standards began to be implemented in all hospitals directed by the Ministry of Health (37). However, this study's results show that there are some problems regarding the attainment of the desired results, and there were difficulties with the regulations to establish a PSC.

Another significant finding of the study is that the rate of positive responses to the PSC items was low, although the TLP scores of the UCNs were high. Considering the capability of TLP to change and improve practices, these results imply that the UCNs have difficulties creating these changes. Different structures and processes should be included and attitudes, beliefs, and behaviors should be changed to form a PSC that is reflected in an organizational culture. Therefore, forming and maintaining a desired PSC in medical institutions is a time-consuming, difficult process (31,32). The fact that UCNs have TLP-related characteristics is highly significant for providing high-quality, safe medical services and thus forming a PSC. In addition to these characteristics, a suitable working environment, various resources (funds, personnel, time, and materials) and support are necessary for the formation of a PSC (33).

Staff nurses have evaluated the TLP of the UCNs who are responsible for their own management, and it was found from the TLP of UCNs and the staff nurses' PSC total and PSC sub-dimensions that there is a positive significant relationship between teamwork within units, manager, expectations and actions to promote patient safety, teamwork across units and management support for resident safety, organizational learning, overall perceptions of safety, feedback and communication openness about error, frequency of events reported, non-punitive response to errors. In the literature, there are no studies examining the relationship between the PSC perception of UCNs' TLP both themselves and the staff nurses they work with. In general, in similar studies about nurses, it was reported that a positive teamwork (6) can be achieved with TLP. The support of the leaders and the hospital management is very important in order to prevent the formation of an accusatory and punitive culture by the management or peers in the case of mistakes (10,38). It has been reported that there is a positive relationship between administrator support for patient safety and feedback about errors, open communication, the frequency of reporting events and the degree of patient safety (39). Expectations and Actions to Promote Patient Safety is defined as "the degree to which administrators consider staff recommendations to improve patient safety and address patient safety issues" (32). According to this definition, we can say that UCNs took into account the recommendations of the staff nurses they work with on patient safety. It has been concluded that staff nurses working with UCNs with advanced TLP skills may have a positive perception of PSC.

It has been concluded from UCN's own TLP and PSC sub-dimensions that there is a positive relationship between teamwork within units, teamwork across units and management support for resident safety, feedback and communication openness about error, handoffs and transitions, and total PSC. In the study, it was found from PSC sub-dimensions of both UCNs and staff nurses that there is a positive correlation between teamwork within units, teamwork across units and management support for resident safety, feedback and communication openness about error and PSC total scores. Different from staff nurses, UCNs' TLPs have been found to be related to handoffs and transitions which are sub-dimensions of PSC. Unlike UCNs, staff nurses' TLPs were found to be associated with manager expectations and actions to promote patient safety, overall perceptions of safety, organizational learning, frequency of events reported, non-punitive response to errors which are sub-dimensions of PSC. This difference may be due to the different TLP scores of staff nurses and UCNs.

As a result, we can say that UCNs with TLP skills positively affect their own and staff nurses' total PSCs, so there is a positive relationship between PSC and TLP. Similarly, studies have found a positive correlation between the improvement of patient safety and TLP (8-10). The formation of a PSC requires a significant in-house change or transformation. In other words, the positive effect of TLP over PSC is an expected outcome as the hospital practices related to patient safety require changes in personnel's beliefs, attitudes, and behaviors. Health service organizations must develop a PSC, such as clear goals, fixed procedures, and safe processes. In order to create a positive PSC in health institutions, it is necessary to raise awareness of patient safety among working nurses, to direct and support staff, to develop error reporting systems, to manage risk and to communicate with patients. For this, nurse executives must have successful leadership practices (10,40). In patient safety practices, staff nurses achieve high morale and motivation only when UCNs successfully implement TLP.

Conclusion and Use of Results in Practice

The study found that nurses' leadership scores were high, but their positive responses to the items on Hospital Survey on Patient Safety Culture was low. This study is the first study that evaluates UCNs' TLP from the perspectives of both themselves and the staff nurses they work with and examines the relationship between this evaluation and the perception of PSC. For this reason, evaluation of their executives in terms of TLP applications by staff nurses who are primarily responsible for patient care and revealing the relationship between this and PSC perception can be a guide in establishing a positive PSC. The results of this study show that PSC is not at the desired level in hospitals where study conducted. The study also revealed that staff nurses need more support from UCNs to develop their PSCs.

The researcher suggests that the necessary regulations be made at once for improving patient safety and quality of patient care in the hospitals. It is important that an effective error reporting system be established, and that managers play constructive and supportive roles in error reporting. A sufficient number of suitably qualified nurses should be employed for patient safety, and teamwork should be encouraged and maintained. Nurse managers' TLP qualities should be improved, and necessary regulations should be made to get this improvement to enhance patient safety practices. Further studies are needed to

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identify why TLP does not establish PSC in institutions that have transformational leaders. It is important to determine the leadership and PSC relationship in order to develop a positive PSC in healthcare institutions. However, factors affecting PSC should also be determined. Therefore, PSC and affecting factors should also be examined in the same group of nurses. Therefore, in the second part of the study, PSC and the factors affecting it are examined in the same group of nurses.

Limitations

This study was conducted with UCNs and staff nurses who had been working with them for at least six months. The research findings reflect the results of the hospitals where the study was conducted. Thus, its findings cannot be generalized. The research findings were based on the assessments of the UCNs and the staff nurses.

This study is part of one research project where unit charge nurses' transformational leadership and perception of all nurses on patient safety culture and affecting factors were explored. This study is the first part and the relationship between unit charge nurses' transformational leadership and nurses' perception of patient safety culture was investigated.

Conflict of Interest Statement: No conflict of interest has been declared by the authors.

Information

The authors' contribution rate statement is as follows: research idea SD, data collection, analysis and manuscript writing AY, study design, manuscript control and editing SD, All authors approved the final version for submission.

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Ethical principles

Before conducting the study, the researcher obtained permission from the hospitals and the Non-invasive Clinical Research Ethical Board of the university (Date:05.03.2014, Decision No: GO14/125-18).

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