



How TQM Principles Influence Job Performance in Healthcare? The Role of Locus of Control*

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Abstract: *The high-level coordination needs of hospitals require a conscious and disciplined total quality management (TQM) to improve healthcare service quality. Besides, the effectiveness of TQM relies on how healthcare professionals perceive TQM principles and how they improve their job attitudes and performances accordingly. From this view, we aimed to examine how TQM principles in healthcare services (i.e., patient focus, continuous improvement, teamwork) affect healthcare professionals' job performance. From the social learning perspective, we predicted that the relationship between TQM principles and job performance might differ by the locus of control (internal and external). We collected data through questionnaires from 347 nurses actively working in various departments of two different public hospitals in Turkey. We found that nurses' perceptions of patient focus and continuous improvement positively relate to their job performance. In addition, we found that the relationship between teamwork perception and job performance differed regarding the locus of control. While teamwork negatively affects job performance in nurses with a higher internal locus of control, it positively affects job performance in those with a higher external locus of control.*

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1. Introduction

Total quality management (TQM) has become an issue that researchers and practitioners are increasingly interested in regarding improving work processes and financial gains and increasing customer satisfaction (Puthanveetil et al., 2021). Although TQM initially provided organizations with a competitive advantage regarding the efficiency of production processes, it has also become an essential management approach increasingly adopted in the service sector (Psomas & Jaca, 2016). Within the scope of the service sector, effective management of healthcare quality processes has become an important need in terms of increasing costs and demand and pressures to improve quality standards in healthcare institutions operating in a dynamic and complex environment (Babu & Thomas, 2020). In particular, the conditions introduced by the COVID-19 pandemic have significantly increased the need for re-planning and coordination in healthcare processes (Torrent-Ramos et al., 2021). Although the importance of TQM approaches in healthcare services has been increasing, studies examining quality processes in healthcare have remained relatively limited in the literature (Alzoubi et al., 2019; Puthanveetil et al., 2021). Given the limited empirical studies in the

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literature on quality processes in healthcare services, especially in developing countries, examining the TQM-related determinants of performance outputs of healthcare institutions in the context of Turkey may provide valuable findings to the literature (e.g., Gök & Sezen, 2013; Gözükarar et al., 2019).

Preliminary studies in the literature emphasized that the effective adoption and application of TQM principles improve performance outcomes at both individual and organizational levels (Morrow, 1997; Fuentes-Fuentes et al., 2004). In this respect, practices and principles such as the commitment and leadership of the top management to the TQM, continuous improvement in processes, training and development, participation in decision processes, teamwork and cooperation, employee empowerment, quality culture, customer focus, and incentive systems have been examined as the factors determining the performance indicators in healthcare services (Alzoubi et al., 2019). In this study, it is aimed to examine the job performance of healthcare professionals in the context of Turkey within the framework of TQM principles suggested by Dean and Bowen (1994), which includes the principles of customer focus, continuous improvement and teamwork. However, although previous studies have emphasized that personality factors may also play a determining role in the relationship between TQM principles and job performance (e.g., Coyle-Shapiro & Morrow, 2003; Ehigie & Akpan, 2006), there is not enough empirical evidence supporting this argument in the literature. Therefore, it is aimed to examine the role of locus of control as a personality factor in the relationship between perceived TQM principles and job performance of healthcare professionals. The concept of locus of control refers to individuals' attributing the consequences of events they encounter throughout their lives to their own preferences (internal) or to factors outside of their willpower (external) (Rotter, 1966). From the social learning perspective, the more personal effort or luck a phenomenon such as success is perceived in a particular context, the less general assumptions will be valid in explaining differences in individual behaviors (Rotter, 1960). In this sense, locus of control is considered as one of the essential personality traits that determine one's work motivation, psychological well-being, and behavioral tendencies in the organizational context (Ng et al., 2006). In that vein, the employees' internal and external locus of control tendencies become prominent as one of the crucial factors determining the performance outputs of their work behaviors (Spector, 1982).

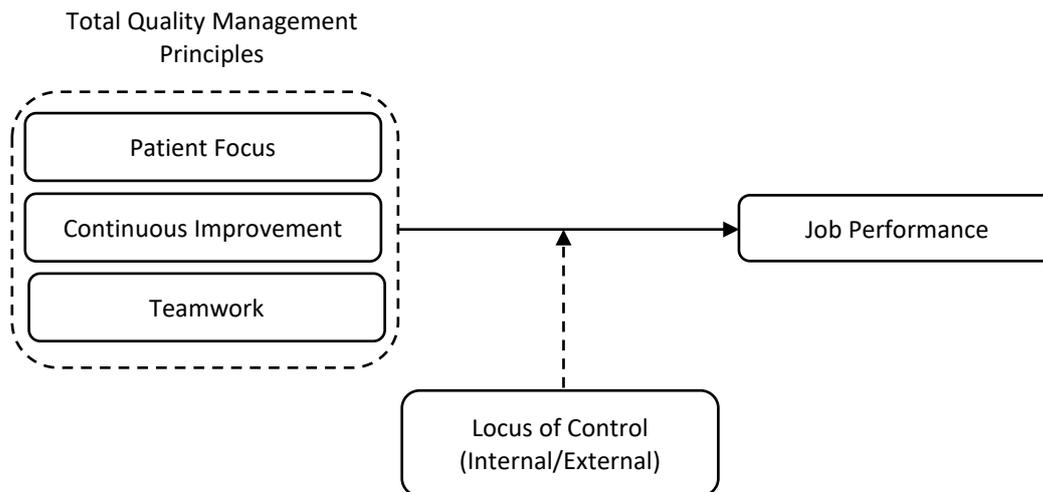
Within the framework of social learning theory, we predict that the tendency of healthcare professionals to adopt TQM principles and reflect on their job performance may differ according to their locus of control. Considering that nurses interact closely with patients, observe and listen to patient needs, and provide feedback to the management to improve the quality of healthcare services, we aimed to examine how nurses' adoption of TQM principles and locus of control influence their job performance in this study. Therefore, it is thought that nurses with an internal or external locus of control will produce different performance outcomes in the implementation of TQM principles such as patient focus, continuous improvement, and teamwork. Accordingly, the present study aims to answer the following research questions:

RQ1. How do TQM principles such as patient focus, continuous improvement, and teamwork affect nurses' job performance in healthcare services?

RQ2. What is the role of nurses' locus of control in the relationship between perceived TQM principles and job performance in healthcare services?

RQ3. How does the internal or external locus of control affect nurses' job performance in terms of patient focus, continuous improvement, and teamwork?

To answer these research questions in this paper, we first present the conceptual framework and develop hypotheses regarding our theoretical arguments. Second, we explain the research method that is used to test the relevant research hypotheses. Following this, we present the findings of the study that is obtained via quantitative data analyses. Finally, we discuss the theoretical and practical implications of the present study. Additionally, we indicate the limitations of the study and suggest future research directions that may advance our knowledge of how TQM principles influence job performance in healthcare. The conceptual model is depicted in Figure 1.

Figure 1. Conceptual Model

2. Theoretical Framework and Hypothesis Development

2.1. TQM Principles in Healthcare and Job Performance

Recent literature has provided evidence that TQM principles and practices improve various performance outcomes at the individual and organizational levels (e.g., Fuentes-Fuentes et al., 2004; Kaynak, 2003; Vihari et al., 2022). Previous studies have emphasized the decisive role of TQM principles and practices (e.g., customer-oriented approaches, managerial applications, and leadership in quality processes) on performance outcomes (Alzoubi et al., 2019). This study aims to examine the individual-level performance consequences of customer focus, continuous improvement, and teamwork dimensions regarding healthcare services by adopting the framework of TQM principles suggested by Dean and Bowen (1994). Dean and Bowen (1994) indicate that each of these TQM principles is implemented through practices such as analyzing processes and collecting required information. Additionally, these practices are supported by various techniques and operational steps aimed at increasing the effectiveness of the intended processes (Dean & Bowen, 1994).

2.1.1. Patient/Customer Focus and Job Performance

The main purpose of today's organizations trying to survive in a globalizing world where competition is at the forefront and technological developments are rapidly increasing is to maximize customer satisfaction by meeting their needs and expectations regarding products and services. From the TQM perspective, customer focus is based on ensuring that organizations meet customer needs effectively and thus gain competitive advantage in the long run and make customer satisfaction sustainable (Dean & Bowen, 1994). Practices such as developing close relationships with customers through effective communication and taking customer feedback into account are considered as indicators of customer focus (Morrow, 1997). Previous studies have emphasized that customer-focused TQM approaches positively affect employees' job performance (e.g., Zhang, 2000; Fuentes-Fuentes et al., 2004;).

Healthcare institutions aim to improve customer satisfaction based on the patient focus in their services in order to increase their competitiveness in the face of many problems that differ in a dynamic and complex environment (Gountas et al., 2014). Effective communication with the patients before and after the treatment, providing a hygienic environment during the treatment process, and achieving successful treatment results are important criteria for the perception of service quality in the patients who apply for healthcare services. In this respect, patient-focused approaches in healthcare institutions are one of the vital TQM principles that can improve patient satisfaction and loyalty in the long term. Although previous studies have emphasized that there is a positive relationship between patient focus and employee job satisfaction

and job performance (e.g., Harris et al., 2008; Gountas et al., 2014), there is limited empirical evidence in the literature. In order to contribute to a better understanding of the literature on this subject, it is aimed to examine the relationship between the perceived patient focus of healthcare professionals and their job performance.

2.1.2. Continuous Improvement and Job Performance

From the TQM view, continuous improvement refers to the constant control of the effectiveness of technical and managerial procedures in search of better methods in organizational processes (Dean & Bowen, 1994). Commitment to continuous improvement ensures that the quality of processes within and between organizational subsystems is constantly enhanced, and thus customer expectations are met at an optimal level. Developing an awareness of continuous improvement in the processes at the individual- and team-level positively affects service quality performance and customer satisfaction (Morrow, 1997). Previous studies showed that TQM approaches toward continuous improvement contribute to the improvement of performance at the individual and organizational levels (e.g., Wickramasinghe & Wickramasinghe, 2016; Galeazzo et al., 2021).

Although it is emphasized that continuous improvement practices enhance performance outcomes regarding quality processes in healthcare services (e.g., Stelson et al., 2017; Déry et al., 2022), there still remains a lack of evidence in the literature. Considering that the understanding of continuous improvement in terms of health services will make treatment processes more effective and faster, facilitate the development of accurate solutions by identifying problems, and increase customer satisfaction by meeting patient expectations at the optimum level, building such an awareness in the organization will maximize performance outputs. At the individual level, it is predicted that healthcare professionals will show more commitment and participation in the detection and solution of problems in the treatment processes where a culture of continuous improvement is established, and this behavioral orientation will positively reflect on their job performance.

2.1.3. Teamwork and Job Performance

From the perspective of TQM, teamwork is an approach that enables increasing the effectiveness of processes and developing collective solutions to potential problems with a sense of shared responsibility. Teamwork emphasizes effective cooperation and solution orientation between the employees with and without managerial roles, between different sub-units, and between the organization and its customers/suppliers (Dean & Bowen, 1994). Solving problems with joint decision-making, adopting the team concept, and valuing each member's ideas are the aspects that determine the effectiveness of teamwork (Morrow, 1997). Since teamwork includes cooperation and a collective approach rather than seeking individual solutions in organizational processes, it contributes to making effective decisions at both individual and team levels and improving performance outputs (Fuentes-Fuentes et al., 2004; LePine et al., 2008; Salas et al., 2008).

Teamwork within the framework of TQM in healthcare services enables more effective decisions to be made in order to increase the quality of services in treatment processes. By means of teamwork, when potential problems are encountered in the treatment processes, fast and effective solutions can be developed with shared responsibility. The commitment of healthcare professionals to teamwork improves both individual and team performance. Previous studies emphasize that teamwork contributes to efficiency and performance outcomes in healthcare services (e.g., Rosen et al., 2018; Lavelle et al., 2020). In that vein, it is predicted that the commitment of healthcare professionals to teamwork will contribute positively to the improvement of job performance in terms of quality processes. According to the TQM framework adopted within the scope of this study, it is predicted that the effective implementation of TQM principles in healthcare institutions will contribute to the job performance of healthcare professionals. Accordingly, the following hypothesis is developed:

H₁: TQM principles perceived by nurses; (a) patient focus, (b) continuous improvement, and (c) teamwork positively affect their job performance.

2.2. The Role of Locus of Control

Although the roles of contextual and managerial factors in the relationship between TQM principles and performance indicators are mainly examined in the literature (e.g., Kaynak, 2003; Fuentes-Fuentes et al., 2004; Vihari et al., 2022), empirical evidence on the role of employee personality traits is still lacking. However, personality traits may have a decisive role in the effectiveness of TQM principles' individual- and team-level implementation (Coyle-Shapiro & Morrow, 2003; Ehigie & Akpan, 2006). When analyzed from a social learning perspective, individuals possess distinctive personality traits and develop specific attitudes within a cultural environment; thus, their future behavioral tendencies are shaped (Rotter, 1960). In this sense, the tendency of employees to adopt managerial practices and perform as expected in the organizational context is shaped by the fit between personality traits and contextual demands.

Considering the limited understanding of personality factors in the literature, we aim to examine the role of locus of control in the relationship between TQM principles and employee job performance. Rotter (1966) explains the concept of locus of control as the tendency of individuals to attribute the events they face to their own choices (internal) or factors outside of their willpower (external). It is presumed that individuals who tend to perceive the results of events around them depending on their own decisions and efforts have an internal locus of control, while individuals who tend to perceive those events depending on stronger external factors such as luck and fate have an external locus of control (Rotter, 1966, 1990; Spector, 1982). While individuals with a higher internal locus of control have higher awareness, self-confidence, and a tendency to control their environment, individuals with a higher external locus of control adopt a more passive and adaptive attitude towards environmental conditions (Ng et al., 2006). In addition, individuals with an internal locus of control have a higher tendency to establish a relationship between their behavior and the results they attain. Social learning theory provides an explanatory basis for the development of locus of control tendencies and their behavioral consequences in a social context. From the social learning perspective, the more clearly a situation is perceived as personal skill or luck in a given culture, the less generalized expectations will play a role in explaining differences in individuals' behavior (Rotter, 1960). In the organizational context, the locus of control of the employees is accepted as one of the important personality factors that determine their motivation, psychological states, behavioral preferences, and performance potentials regarding their work processes (Spector, 1982; Judge & Bono, 2001; Ng et al., 2006).

Employees with a higher internal locus of control are more likely to seek autonomy, feedback, meaningfulness, and learning opportunities in work processes. In this respect, these employees are more inclined to control processes and outputs through their own initiative (Ng et al., 2006). From the TQM view, healthcare professionals with an internal locus of control are more likely to be successful in quality processes that involve a certain degree of autonomy and personal initiative. On the other hand, employees with a higher external locus of control are more likely to have a higher need for certainty, direction, and coordination in work processes (Ng et al., 2006). Therefore, employees with an external locus of control have a lower tendency to control work processes and outputs. These employees will have a higher potential for success in tasks that require managerial guidance and collaborative work rather than personal initiative. In the present study, it is predicted that the locus of control of health professionals may be effective in examining the effects of perceived TQM principles in healthcare services on performance outcomes. Accordingly, the following hypotheses have been suggested:

H₂: TQM principles perceived by nurses with a higher internal locus of control; (a) patient focus, (b) continuous improvement, (c) teamwork affect their job performance.

H₃: TQM principles perceived by nurses with a higher external locus of control; (a) patient focus, (b) continuous improvement, (c) teamwork affect their job performance.

3. Method

3.1. Participants and Data Collection

The research was carried out on nurses working full-time in two public hospitals operating in Kocaeli, Turkey. Data were collected from the nurses in the sample group through questionnaires. In the questionnaire form, there are structured items for the measurement of the research variables and questions about demographic characteristics. The paper-and-pencil questionnaires were collected with the voluntary participation of nurses in October and November 2020, when the Covid-19 pandemic still continued. Official permission and ethics committee approvals were obtained from the relevant healthcare institutions in order to conduct the survey. The participants were informed about the purpose of the research and that the data to be gathered would be considered confidential and anonymous. As a result of the survey application, 347 valid questionnaires were collected.

3.2. Measures

We used multi-item scales from the literature to measure the research variables. TQM principles and job performance scale items were assessed with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The locus of control scale consisted of items including two options. We translated the original scale items into Turkish and conducted the questionnaires in Turkish. The scales used in the study are as follows:

TQM principles. The scale developed by Morrow (1997) was adapted to measure TQM principles in healthcare services. The scale consists of 12 items and three dimensions. These dimensions are patient/customer focus (four items), continuous improvement (four items), and teamwork (four items). A sample item regarding the patient focus dimension is as follows: *“People in my work unit maintain close contact with the patients we serve.”* A sample item regarding the continuous improvement dimension is as follows: *“My work unit has accepted the goal of continuous improvement.”* A sample item regarding the teamwork dimension is as follows: *“Many work problems are being solved through team meetings.”*

Job performance. The scale was adapted from the study of Kirkman and Rosen (1999) to measure the performance indicators at the individual level. This unidimensional scale consists of six items. A sample item is *“When I encounter a problem, I react quickly and take action immediately.”*

Locus of control. The scale developed by Rotter (1966) and adapted to Turkish by Dağ (1991) was used in this study. The scale consists of 29 items, and each item includes two options in the type of forced-choice response. For example, the options for an item were 7(a): *“No matter how hard you try, some people just don't like you”* (external) and 7(b): *“People who can't get others to like them don't understand how to get along with others”* (internal). Six items were placed as filler items to hide the purpose of the scale. The options for the external locus of control of the other 23 items are assessed with 1 point each. Hence, scale scores range from 0 to 23, and high scores indicate an increase in external locus of control. We coded the participants who scored over 12.5 as externals and others who scored less than 12.5 as internals.

4. Findings

The research data gathered from 347 nurses was analyzed by using SPSS 26.0. The data were first subjected to validity and reliability analyses. Following these, correlation and regression analyses were performed to test the hypotheses.

4.1. Demographic Profile of Participants

Of the 347 participants, 76.4% were female. Participants' age range mainly consisted of between 18-25 and between 26-30 (60.6%). Of the participants, 48.8% were married, while 51.2% were single. Most participants had bachelor's degrees (67.1%). Most participants had organizational tenure between 1-5 years (38.3%). Additionally, they mostly had 1-5 years of professional experience in healthcare (34%). Detailed frequencies regarding the demographic characteristics of the participants are shown in Table 1.

Table 1. Demographics

Gender	Frequency	Percentage (%)
Female	265	76.4
Male	82	23.6
Age		
18-25	113	32.6
26-30	97	28.0
31-35	54	15.5
36-40	41	11.8
41 and over	42	12.1
Marital Status		
Single	177	51.2
Married	169	48.8
Education		
High school degree	26	7.5
Associate degree	56	16.2
Bachelor's degree	233	67.1
Master's degree	30	8.6
Doctoral degree	2	0.6
Organizational Tenure		
Less than one year	95	27.4
1-5 years	133	38.3
6-10 years	67	19.3
11-15 years	35	10.1
More than 16 years	17	4.9
Professional Experience		
Less than one year	50	14.4
1-5 years	118	34.0
6-10 years	72	20.7
11-15 years	53	15.3
More than 16 years	54	15.6

N=347

4.2. Validity and Reliability

Exploratory factor analysis was performed to test the construct validity of the research data. The findings of factor analysis performed with the principal component method and varimax rotation are shown in Table 2. The findings showed that four factors explained 64.3% of the total variance. The KMO statistic was found as 0.86, which indicates that the sample has adequate for factor analysis. Additionally, Bartlett's Test of Sphericity statistic showed that there is a significant correlation between the items regarding factor analysis ($\chi^2=2961.43$; $p<0.01$). It was found that four items in the patient focus dimension, four in the continuous improvement dimension, four in the teamwork dimension, and six in the job performance dimension were significantly loaded on the previously predicted factors, with a greater factor loading than 0.50. As a result, the findings showed that the research data has construct validity. In addition, the Cronbach's Alpha internal consistency coefficients of the variables are above the acceptable level of 0.70 (Nunnally & Bernstein, 1994). Thus, findings showed that the research variables have reliability.

Table 2. Factor Analysis Results

Items	Factors			
	Patient Focus	Continuous Improvement	Teamwork	Job Performance
PF1	0.676			
PF2	0.716			
PF3	0.705			
PF4	0.665			
CI1		0.740		
CI2		0.756		
CI3		0.678		
CI4		0.528		
T1			0.814	
T2			0.841	
T3			0.880	
T4			0.790	
JP1				0.697
JP2				0.705
JP3				0.787
JP4				0.797
JP5				0.799
JP6				0.684
Cronbach's Alpha	0.71	0.83	0.88	0.86
KMO Sampling Adequacy			0.866	
Bartlett's Test of Sphericity			2961.43 (0.000)	
Total Variance Explained			64.3%	

Table 3 shows the descriptive statistics and correlation analysis findings. TQM principles; patient focus ($r=0.316$, $p<0.01$), continuous improvement ($r=0.395$, $p<0.01$), and teamwork ($r=0.227$, $p<0.01$) moderately and positively related with job performance. In addition, TQM principles are moderately and positively correlated with each other. However, the locus of control variable only showed a low and negative correlation with continuous improvement ($r=-0.162$, $p<0.05$).

Table 3. Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5
1 Patient Focus	3.47	0.79					
2 Continuous Improvement	3.38	0.87	0.494**				
3 Teamwork	2.95	1.02	0.297**	0.588**			
4 Job Performance	4.07	0.63	0.316**	0.395**	0.227**		
5 Locus of Control	12.34	3.80	-0.078	-0.162*	-0.067	-0.052	

$N=347$; ** $p<0.01$; * $p<0.05$

4.3. Hypothesis Testing

To test the research hypotheses, we performed multiple regression analyses. We created three different regression models. The findings of the analyses are reported below. Model-1 illustrates the effects of patient focus, continuous improvement, and teamwork perceptions of nurses on their job performance (see Table 4). According to the findings, Model-1 is statistically significant ($F=24,303$, $p<0.01$) and explains 17.5% of the variance in job performance. It was found that patient focus ($\beta=0.160$, $p<0.01$) and continuous

improvement ($\beta=0.321$, $p<0.01$) had significant positive effects on job performance. On the other hand, teamwork had no significant effect on job performance ($\beta=-0.009$, $p>0.01$). In line with the findings, H1a and H1b were supported, whereas H1c was not supported.

Table 4. Model-1 Regression Analysis Results

Model-1: Variables	Job Performance		
	β	t	Sig.
Patient Focus (H1a)	0.160	2.834	0.005***
Continuous Improvement (H1b)	0.321	4.825	0.000***
Teamwork (H1c)	-0.009	-0.155	0.877
R^2		0.175	
F		24,303	
Sig.		0.000***	

*N=347; *** $p<0.01$; ** $p<0.05$; * $p<0.10$*

Model-2 shows the regression analysis findings on the effects of patient focus, continuous improvement, and teamwork perceptions of nurses with an internal locus of control on their job performance (see Table 5). According to the findings, 177 participants have an internal locus of control, while 170 participants have an external locus of control. Findings showed that Model-2 is statistically significant ($F=13,538$, $p<0.01$) and explains 19.7% of the variance in job performance. It was found that patient focus ($\beta=0.164$, $p<0.05$) and continuous improvement ($\beta=0.381$, $p<0.01$) have a significant positive effect on job performance in nurses with an internal locus of control. On the contrary, teamwork had a significant negative effect on job performance in nurses with an internal locus of control ($\beta=-0.135$, $p<0.10$). In line with the significant findings regarding the predicted relationships, H2a, H2b, and H2c were supported.

Table 5. Model-2 Regression Analysis Results

Model-2: Variables	Job Performance		
	β	t	Sig.
Patient Focus (H2a)	0.164	2.006	0.046**
Continuous Improvement (H2b)	0.381	4.080	0.000***
Teamwork (H2c)	-0.135	-1.521	0.075*
R^2		0.197	
F		13,538	
Sig.		0.000***	

*N=177; *** $p<0.01$; ** $p<0.05$; * $p<0.10$*

Model-3 shows the regression analysis findings on the effects of patient focus, continuous improvement, and teamwork perceptions of nurses with an external locus of control on their job performance (see Table 6). According to the findings, Model-3 is statistically significant ($F=12,077$, $p<0.01$) and explains 17.3% of the variance in job performance. It was found that patient focus ($\beta=0.195$, $p<0.05$), continuous improvement ($\beta=0.246$, $p<0.05$), and teamwork ($\beta=0.117$, $p<0.10$) have a significant positive effect on job performance in nurses with an external locus of control. In line with the significant findings, H3a, H3b, and H3c were supported.

Table 6. Model-3 Regression Analysis Results

Model-3: Variables	Job Performance		
	β	t	Sig.
Patient Focus (H3a)	0.195	2.438	0.016**
Continuous Improvement (H3b)	0.246	2.558	0.011**
Teamwork (H3c)	0.117	1.364	0.085*
R^2		0.173	
F		12,077	
Sig.		0.000***	

N=170; *** p <0.01; ** p <0.05; * p <0.10

5. Discussion and Conclusion

5.1. Theoretical Implications

In this study, we examined how the understanding of the principles of TQM affects the job performance of the nurses working in public hospitals and how the locus of control plays a role in this relationship in terms of personality traits. In light of the findings, we concluded that TQM principles, especially patient focus and continuous improvement, have significant effects on improving job performance. The findings of the study support previous studies in the literature (e.g., Fuentes-Fuentes et al., 2004; Psomas & Jaca, 2016; Puthanveetil et al., 2021). Accordingly, it can be stated that the attitudes of healthcare professionals to respond effectively to patient expectations will strengthen their initiatives to improve their job performance. Similarly, we can infer that the positive attitudes of healthcare professionals towards the continuous improvement of healthcare services will increase their endeavors to improve their job performance. On the other hand, although there is evidence in the literature that effective teamwork in healthcare services contributes positively to the improvement of performance outcomes (e.g., Rosen et al., 2018; Lavelle et al., 2020), no significant findings were observed in this study. However, research findings indicate that the teamwork dimension may differ regarding the locus of control in nurses.

As for the Turkey context, in accordance with the current findings, research showed that the adoption of TQM in healthcare institutions could enhance the indicators of performance, efficiency, and patient satisfaction. More specifically, Gök and Sezen (2013) conducted a study on 348 public hospitals in Turkey; they found that the structural quality of care process is positively related with patient satisfaction and hospital efficiency. In another study conducted in a Turkish public hospital, Turan and Bozaykut-Bük (2016) showed that service quality, empathy, reliability and responsiveness, and tangibles were positively related to patient satisfaction. Besides, a study conducted on 33 private hospitals in Turkey showed that patient focus and employee participation practices positively affected performance indicators (Subaşı-Evren & Öztürk, 2020). However, although previous studies provided evidence that the quality of healthcare has a key role in improving performance at both individual and organizational levels, an insight into personality factors in the TQM processes is still lacking in the literature. Therefore, we aimed to investigate the role of locus of control in the relationship between TQM principles and job performance.

We concluded that the locus of control at the individual level has a significant role in adopting TQM principles and its reflection on job performance in nurses. More specifically, we found that patient focus and continuous improvement perception in nurses with a higher internal locus of control are related to increased job performance. In addition, results showed that nurses with a higher internal locus of control had a lower tendency to adopt teamwork. Preliminary studies in the literature indicate that employees with a higher internal locus of control will have a higher tendency to control the results of the tasks they undertake and to take responsibility for potential outcomes (Spector, 1982; Judge & Bono, 2001; Ng et al., 2006). Thus, the findings support the previous views in the literature. In this respect, we can infer that the behavioral

outcomes of patient focus and continuous improvement may be more likely to be individually controlled; and thus, the nurses with a higher internal locus of control are more likely to enhance their performance through these principles. Besides, it may be considered that teamwork, as a practice in which not only individual initiative but also mutual interaction and effective coordination are required, may cause a decrease in the job performance of nurses with an internal locus (Salas et al., 2008).

On the other hand, we concluded that the nurses with a higher external locus of control had a higher tendency to adopt teamwork as well as patient focus and continuous improvement. Employees with a higher external locus of control attribute to how external factors affect the results rather than taking responsibility for the results of their tasks (Ng et al., 2006). In this sense, teamwork became prominent as a dimension that improves job performance among the nurses with a higher external locus of control examined in this study. Therefore, we can deduce that nurses with an external locus of control can better reveal their performance potential in a team-based work environment with a collective division of labor and shared responsibility. Consequently, when the teamwork principle in TQM is considered in terms of employees' locus of control, it can be predicted that while individual work practices generate better performance outcomes for internals, collective work practices can turn into better performance outcomes for externals (Ng et al., 2006).

5.2. Practical Implications

From the TQM perspective in healthcare, principles such as patient focus and satisfaction, continuous improvement of processes and teamwork play a crucial role in achieving aimed performance outputs (Alzoubi et al., 2019). In this study, we underscored how the adoption of TQM principles can enhance health professionals' job performance and how the locus of control at the individual level shapes this relationship. In this respect, it is a critical requirement for the management of healthcare institutions to adopt TQM principles and implement practices to motivate their employees to perform their tasks with total quality awareness. Healthcare institutions that cannot meet patient expectations regarding healthcare services and cannot continuously improve their processes face the threat of losing their competitiveness in the long run. In addition, the risk of not providing employee satisfaction as well as patient satisfaction will cause problems such as the loss of valuable human resources, the costs of faulty use of health equipment, and the slowdown in work procedures due to a lack of coordination in the processes. For example, the COVID-19 pandemic has shown how critical TQM in healthcare is in unforeseen crisis situations (Torrent-Ramos et al., 2021). During the pandemic, crisis management and coordination processes were managed much more effectively in healthcare institutions that adopted the TQM. In this sense, the commitment of hospital quality units to TQM principles can act as a safety belt in order to maintain service quality and coordination effectively, even in crisis circumstances, including high uncertainty such as pandemics. In addition, when considered from the perspective of person-job fit, analyzing healthcare professionals' locus of control tendencies and thus assigning them to the appropriate units is crucial in improving the quality performance in the processes. Within the framework of this study, it was found that nurses with an internal locus of control were less inclined to teamwork, while nurses with an external locus of control were more prone to teamwork. Therefore, analyzing the personality traits in the recruitment and job rotation processes and assigning employees to the most appropriate work unit can support the increase in quality performance at the individual, team, and institutional levels. At this point, it is essential that human resources management in healthcare institutions actively integrate into the TQM processes and establish their policies with quality awareness.

5.3. Limitations and Future Research

The research has several methodological limitations. First, the COVID-19 pandemic affected the whole world at the time of the study and caused an unpredictable workload in healthcare systems. Therefore, it should be considered that the workload, physical fatigue, and stress levels of the healthcare professionals from whom the research data were collected may have increased. Second, because the study included a cross-sectional measurement design and self-assessment items, there might be a risk of common method bias and social desirability. As a procedural remedy to minimize this risk, it is guaranteed that participants'

identities and responses will be anonymously and confidentially assessed (Podsakoff et al., 2012). Future research can reduce the risk of common method bias by using different measurement sources (e.g., colleague-rated or manager-rated evaluations). In addition, conducting measurements of the variables at different time points or using a longitudinal design may help minimize method biases (Podsakoff et al., 2012). Third, although it was planned to collect the research data on the basis of work units, this could not be performed since the majority of healthcare professionals were organized to serve in pandemic units. Future research can provide more detailed findings by collecting team-level data in healthcare institutions. In addition, examining the managerial practices regarding different TQM principles (e.g., creating a quality development culture; Gözükara et al., 2019) and employee perceptions regarding these practices (e.g., psychological empowerment; Kilic et al., 2020a) can make an important contribution to the understanding of the factors that determine the performance outcomes. Besides, although this study provides evidence for the role of personality factors in the adoption of TQM principles, the literature still lacks evidence regarding individual-level determinants. Thus, future investigations may focus on what individual-level determinants affect the implementation of TQM practices and principles in Turkish healthcare institutions. Additionally, comparative analyses between developing countries may be performed regarding implementing TQM principles and the reflections on the job and organizational performance indicators.

Considered from the perspective of personality approaches, examining the role of person-job fit in the relationship between the TQM principles in healthcare and performance outcomes can provide enlightening contributions to the literature (Christensen & Wright, 2011). Employees with a higher person-job fit may be more likely to adopt TQM practices and improve their performance potential in that job. Besides, increasing the quality of healthcare services and continuously improving processes requires effective communication between health professionals and management and active participation in decisions. Regarding this, future research can provide comprehensive inferences by examining the nurses' initiatives of active participation in the decisions or their leader-member exchanges (Laschinger et al., 2007). In addition, the affective well-being of the employees may be one of the determinants in the relationship between the TQM practices and their work behaviors (Kilic et al., 2020b). In this sense, the capacity of healthcare professionals to cope with stress and to act calmly in emotionally challenging circumstances can be examined as a determining factor in the development of positive quality performance outcomes. Similarly, future research can investigate the health professionals' perceived emotional labor (Henderson, 2001) and work meaningfulness (Koçoğlu & Kilic, 2019), especially in examining the relationship between patient focus and job performance.

Declarations and Disclosures

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