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Measuring the effects of health workers' expectations and perceptions towards managers on their job satisfaction: a scale development and evaluation study

Ayşegül Turan[1]✉ & Furkan Turan[2]

Healthcare managers and healthcare workers play a significant role in the provision of quality healthcare services. Unmet management expectations among healthcare workers lead to numerous problems. There is no scale to measure healthcare workers' expectations and perceptions of managers. The aim of this study is to develop a scale to determine healthcare workers' expectations and perceptions of managers, to determine the extent to which these expectations are met and whether they vary according to demographic data, and to reveal their effects on job satisfaction. In this methodological study, we adopted Boateng's three-main-and-nine-sub-stage scale development and evaluation approach. We conducted this study between October 2023 and June 2024 with 311 healthcare workers employed at public and private healthcare institutions in Kırşehir. The Expectation-Perception Scale in Health Management consists of 22 items and 5 factors with high reliability (Cronbach's Alpha: 0.95). Confirmatory factor analysis has confirmed good fit and validity. This study has confirmed that the expectation-perception scale is a valid and reliable scale in health management. The scale developed in this study can be used as a tool to evaluate and improve management performance in healthcare institutions.

[1] Kırşehir Ahi Evran University, Kırşehir, Turkey. [2] Kapadokya University, Ürgüp/Nevşehir, Turkey. ✉email: aysegul.turan@ahievran.edu.tr

Introduction

Healthcare organizations are unique organizational structures where the effects of management practices on employees are most acutely felt. This is due to their distinct dynamics, which include high workloads, emotional labor, time pressures, and significant responsibility for patient safety (Hoare, 2025). The quality of the relationship between healthcare professionals and their managers directly influences not only individual job satisfaction but also the quality of service, patient safety, and organizational sustainability (Saygili et al., 2025). However, the existing literature in healthcare management offers limited tools capable of comprehensively and holistically measuring what employees expect from their managers, and the extent to which managerial practices align with these expectations as perceived by employees.

Current studies indicate that dimensions of the manager-employee relationship, such as communication, fairness, support, and leadership, are crucial determinants of employee satisfaction and performance (Asif et al., 2025; Dewydar, 2015; Gemlik et al., 2018; Oraman et al., 2011; Mao et al., 2025; Pelasoja et al., 2026). However, a significant proportion of these studies address the concepts of expectations and perceptions through indirect variables or rely on general scales relating to leadership, organizational support, or service quality. These scales often prove inadequate in reflecting the distinctive nature of healthcare services, and more specifically, they fail to directly measure the potential discrepancy between healthcare professionals' expectations of their managers and their perceptions of current management practices.

While Dewydar (2015) highlights the importance of communication in management, there remains a clear need for a specific framework to measure how this communication aligns with employee expectations. Similarly, Gemlik et al. (2018) and Oraman et al. (2011) have explored the relationship between management practices and satisfaction but have not addressed the expectation-perception incongruity within a conceptual framework. Although studies in the education sector (Köyebakan, 2020) have revealed the thematic structure of expectations from managers, the direct transferability of these findings to the healthcare sector is limited. This is primarily because the healthcare sector differentiates itself from others through its hierarchical structure, multidisciplinary teamwork, and critical decision-making processes.

While various expectation and perception scales have been developed across different sectors in the literature (Toka and Ataç, 2023; Doğrul and Yelken, 2022; Engin and Yaş, 2021), these instruments often lack content validity specific to the healthcare management context. Crucially, managerial elements unique to healthcare, such as workload distribution, participation in clinical decision-making processes, ethical sensitivity, professional support, and burnout risk, are insufficiently represented in existing scales. This deficiency complicates the systematic and valid measurement of healthcare professionals' expectations of their managers and their perceptions of current management practices. Existing studies typically address either expectations or satisfaction unidimensionally. In contrast, this research comparatively examines expectation-perception patterns across different professional groups, genders, age cohorts, and experience levels. In doing so, this study offers an empirical framework for healthcare managers to develop management strategies that are sensitive to diverse employee profiles and are appropriately differentiated.

The concept of the expectation-perception gap, as explored in this study, can be linked to several theoretical approaches within the organizational behavior literature. Expectancy Theory posits that the degree to which individuals' expected managerial behaviors align with perceived management practices significantly determines motivation, performance, and job satisfaction (Lin et al., 2023). Consequently, failure to meet expectations can lead to negative perceptions regarding managerial justice, support, and leadership among employees. Similarly, Leader-Member Exchange (LMX) Theory emphasizes that the quality of the relationship between managers and employees is shaped by mutual expectations and perceptions. A disruption in this alignment can diminish trust, commitment, and job satisfaction. The theoretical foundation of LMX theory explains the quality of leader-member relationships within the context of mutual expectations and perceptions (Graen and Uhl-Bien, 1995; Dulebohn et al., 2012). Furthermore, Person-Environment Fit Theory suggests that a mismatch between employee expectations and managerial practices increases the risk of stress, turnover, and burnout (Kristof, 1996; Kristof-Brown et al., 2005).

These theoretical approaches collectively demonstrate that the gap between expectations and perceptions constitutes a critical construct for managerial effectiveness and organizational sustainability. However, within the existing healthcare management literature, there is a scarcity of scales that directly reflect these theoretical frameworks and comprehensively address both expectations and perceptions within a single measurement instrument, in a comparative and multidimensional manner. The Healthcare Management Expectation and Perception Scale developed in this study distinguishes itself from conventional job satisfaction or leadership perception scales. It simultaneously measures what employees expect from their managers and how they perceive current management practices, thereby illuminating the expectation-perception gap. In this regard, the scale contributes to the theoretical understanding of managerial behaviour in healthcare services, offering a unique and contextual measurement framework for the development of expectation-based management approaches.

A fundamental gap in the existing literature is the absence of a valid and reliable scale that comprehensively and multidimensionally assesses healthcare professionals' expectations of their managers and their perceptions of managerial practices within the same measurement instrument. The disparity between expectations and perceptions can lead to critical consequences such as job dissatisfaction, burnout, and reduced organizational commitment. Therefore, the development of an expectation-perception scale specifically tailored for the healthcare management domain emerges as a significant necessity from both theoretical and practical standpoints. The core problem addressed by this study is the inability to systematically evaluate the structure between healthcare professionals' expectations of their managers and their perceptions of current management practices using a valid and reliable measurement tool.

This study seeks to answer the following research questions:

*Is the scale developed to measure healthcare professionals' expectations and perceptions regarding their managers valid and reliable?

*Do healthcare professionals' expectations and perceptions of their managers differ according to their socio-demographic characteristics?

*Do healthcare professionals' expectations and perceptions of their managers affect their job satisfaction?

In line with these questions, we investigated the validity and reliability of the Healthcare Management Expectation and Perception Scale, the impact of healthcare professionals' expectations and perceptions of their managers on their job satisfaction, and the differences across socio-demographic variables.

Table 1 Phases of scale development and evaluation.

Creation of scale items	Generation of scale items		Deductive method (Literature review and evaluation of existing scales) was used in creating the scale items.
	Content validity		It was submitted to the evaluation of 8 expert judges using Lawshe procedures such as content validity rate and content validity index.
Development of the scale	Pre-test application		A pre-test was conducted by applying scale items to 30 healthcare workers.
	Sampling and administration of the survey		To ensure availability of sufficient data for scale development, the sample size was determined as 10 participants per scale item.
	Item reduction		Within-item/item communalities, item-total and adjusted item-total correlations were estimated using the SPSS 29 program. Items with low factor loadings were removed from the scale.
	Determination of factors		Exploratory factor analysis was applied to determine the optimum number of factors and items through the SPSS 29 program.
Evaluation of the scale	Testing Latent Constructs	Confirmatory Factor Analysis	Confirmatory Factor Analysis was applied to verify the structure created by Explanatory Factor Analysis. Factor loadings of the scale were calculated through Confirmatory Factor Analysis.
		Score scale items	Separate means and standard deviations of Managerial Expectation, Managerial Perception and Managerial Expectation Perception Gap Subscale factors were calculated
		Internal Consistency	The internal consistency of the scale was assessed using Cronbach's Alpha.
	Validity tests	Criterion validity	We applied correlation analysis to test criterion validity. We conducted a correlation analysis between the sub-dimensions of the job satisfaction scale and the sub-dimensions of the developed scale.
		Construct validity	The convergent validity of the scale was tested with Average Variance Extracted and Composite Reliability values. The discriminant validity of the scale was tested with Maximum Squared Variance and Average Shared Squared Variance values. Differentiation according to known groups was evaluated by ANOVA analysis.

Kaynak: Boateng et al., 2018.

Methods

Research design and participants. This research constitutes a methodological study aimed at developing an expectation-perception scale in healthcare management. Considering the research variables and planned analyses, a sample size of 107 participants was determined to achieve 95.0% power (α: 0.05) with a medium effect size (f^2: 0.15) (Faul et al., 2007). It is recommended in the literature that low to medium effect sizes are preferred in health sciences studies (Kalaycıoğlu and Akhanlı, 2020; Gaskin, Ve Happell (2013); Okumura and Sakamoto, 2011). For a valid model, it is generally required to have 10 participants per item (Rahman, 2023). Given that the data collection instrument for this study initially comprised 36 items, we decided on a sample size of 311 individuals.

This study was conducted using convenience sampling, involving 311 healthcare professionals working in public and private healthcare institutions in Kırşehir between October 2023 and June 2024. The inclusion criteria stipulated that participants must have been actively working as healthcare professionals in a hospital for at least 1 year. We did not weight for gender or professional representation. All responses were collected via Google Forms. Ethical approval for this study was obtained from the Kırşehir Ahi Evran University Social and Human Sciences Scientific Research and Publication Ethics Committee. We adhered to the ethical rules and principles of the Helsinki Declaration at every stage of the study, informing participants and obtaining their consent before commencing data collection.

Data collection forms. We collected the primary data for the study using a sociodemographic data form, the Job Satisfaction Scale, and the Expectancy Perception Scale in Health Management (EPSHM) that we developed. Sociodemographic data consists of variables such as age, gender, length of service, educational status, marital status, and occupation. We provided detailed information on the characteristics of the EPSHM in the findings section.

Job satisfaction scale. The Job Satisfaction Scale is a 32-item measure developed by Durak-Batıgün and Şahin to measure job satisfaction (2006). The sample of the study consists of 426 individuals working in private and public banks. It is a Likert-type scale, and participants were asked to rate each of these 32 items related to work life on a scale of 1–5, indicating how satisfied they were with each item. The possible score range is between 1 and 160. High scores on the scale indicate high job satisfaction. The Cronbach's alpha internal consistency coefficients for the factors range from 0.53 to 0.90.

Data analysis. An independent researcher specializing in statistics has approved the statistical analysis of this study. In this study, we adopted the phased approach developed by Boateng et al. (2018) for scale development and evaluation studies (Table 1). This approach consists of three main phases and nine sub-phases.

Results

The mean age of the participants was 28.7 ± 0.97 years. The majority of participants were female (53.1%) and 52.7% were married. Regarding educational attainment, 41.8% of the participants held a bachelor's degree, and 36.3% were nurses. Furthermore, 68.8% of the participants had at least 11 years of professional experience (Table 2).

Table 2 Socio demographic characteristics of the participants.

N:311		n	%			n	%
Profession	Nurse	113	36.30	Work Experiences (x: 12.60 ± 1.56)	1–5	48	15.40
	Midwife	32	10.30		6–10	49	15.80
	Emergency medical technician	34	10.90		11–15	65	20.90
	Radiology Technician	17	5.50		16–20	66	21.20
	Laboratory Technician	17	5.50		21–25	50	16.10
	Other	98	31.50		26 years and above	33	10.60
Education status	Pre bachelor	98	31.50	Age (x: 28.70 ± 0.97)	18–25	83	26.70
	Bachelor	130	41.80		26–35	97	31.20
	Master	51	16.40		36–45	98	31.50
	Doctorate	32	10.30		46 years and above	33	10.60
Gender	Male	146	46.90	Married status	Married	164	52.70
	Female	165	53.10		Single	147	47.30

Scale-related results

Phase 1: Establishing content (face) validity of scale items. We drafted the initial scale items based on extensive literature reviews pertaining to healthcare professionals' work life, job satisfaction, expectations of healthcare managers, and the responsibilities and controllability of healthcare managers (Gemlik et al., 2018; Oraman et al., 2011; Köyebakan, 2020; Elbaz and Haddoud, 2017; Ribeiro et al., 2018; Toka and Ataç, 2023; Doğrul and Yelken, 2022; Engin and Yaş, 2021; Karataş and Akça, 2023; Berdibek and Baydaş, 2021; Köseoğlu and Kitapçı, 2022), as well as through expert opinions. The scale items are designed to assess healthcare professionals' expectations of and perceptions regarding their managers. Each item comprises a sub-statement summarizing these expectations and perceptions. Expectations (e.g., "In the institution where I work, I expect my manager to value their employees") and perceptions (e.g., "In the institution where I work, my manager values their employees") are evaluated separately. Consequently, the scale is composed of two distinct subscales: expectations and perceptions. The scale items are rated on a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). A mean score approaching 5 indicates high expectations within the expectation sub-scale and strong positive perceptions of managers within the perception sub-scale. This scale measures healthcare professionals' expectations and perceptions of their managers through self-report.

We submitted the scale items via email to academic professors specializing in healthcare management for their evaluation of suitability. Academicians with expertise in healthcare management were identified through the YÖK Academy platform. Eight professors agreed to participate in the evaluation process. Their expert assessments have been provided as Supplementary Files. We employed the Lawshe technique to refine the scale items based on expert opinions. At this stage, the scale initially comprised thirty-eight items. Following approval by a committee of eight experts, two items with a Content Validity Ratio (CVR) below 0.75 were removed from the preliminary scale (Romero-Jeldres et al., 2023). The CVR values for the remaining 36 items of the scale ranged from 0.75 to 1.00. The Content Validity Index (CVI) for this scale was calculated as 0.84. Since the CVI value of this scale is greater than its CVR values, its content validity is confirmed (Supplementary Material 2).

Phase 2: Scale development

Pre-test: We administered the pool of scale items to a preliminary study group of 30 healthcare professionals via face-to-face surveys. The purpose of our pre-test application was to conduct a qualitative assessment of suitability and comprehensibility. Participants in the pilot group did not provide any negative feedback regarding the clarity or redundancy of the scale items. Data obtained from this preliminary study group were not included in the main study.

Exploratory factor analysis: Exploratory Factor Analysis (EFA) was conducted on the 36 variables of the Expectation-Perception Scale in Healthcare Management using SPSS 29. The Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity values confirmed the suitability of the data for factor analysis (Thao et al., 2022). Specifically, for the Expectation subscale, KMO was 0.93 and Bartlett's χ^2 was 9862.64 ($p < 0.001$); for the Perception subscale, KMO was 0.89 and Bartlett's χ^2 was 7655.20 ($p < 0.001$); and for the Expectation-Perception Gap, KMO was 0.91 and Bartlett's χ^2 was 9092.00 ($p < 0.001$). We set a requirement that items clustering within the factor structure of the Expectation subscale must also cluster similarly within the Perception subscale. Items that did not meet this criterion, those with low factor loadings, and those with cross-loadings were progressively removed from the scale. Consequently, a total of 16 items were removed from the scale. This process continued until the factor loadings of the items clustered under specific groups reached 0.70. Five factors with eigenvalues exceeding 1 were identified: Individual Characteristics, Professional Characteristics, Process Management Characteristics, Managerial Function Characteristics, and Leadership Characteristics. These factor names were determined based on the content of the scale items. These factors collectively explained 88.18% of the total variance in the Expectation subscale, 81.83% in the Perception subscale, and 86.12% in the Expectation-Perception Gap scale (Table 3). The Job Satisfaction Scale comprised 4 factors (Physical Conditions and Interpersonal Relations, Individual Conditions, Autonomy, and Organizational Policies and Salary Factor), explaining 76.61% of the total variance.

Phase 3: Scale evaluation. To validate the factor structure established through EFA, we conducted a Confirmatory Factor Analysis (CFA) using AMOS 21 software. Prior to performing CFA, we checked whether the scales exhibited a normal distribution. The skewness and kurtosis values for the scale items ranged between −2 and +2 (Table 4). Based on these data, the scale demonstrates a normal distribution (Hatem et al., 2022).

According to Table 4, the factor exhibiting the largest expectation-perception gap is "Leadership Characteristics," with a mean difference of 1.35 ± 1.69. Overall, healthcare professionals' mean expectations of their managers (mean: 3.57 ± 0.81) are higher than their mean perceptions of managerial practices (mean: 2.38 ± 0.67).

Reliability test: We assessed the internal consistency of the Expectation-Perception Scale in Healthcare Management using

Table 3 Expectation perception gap EFA.

Icon	Content	Factor loading	Explained variance ratio	Eigenvalue	Factor name
GIF1	1. I expect managers to be fair and honest in the organization where I work/Managers are fair and honest in the organization where I work.	0.86	53.87	11.85	Individual Features (IF)
GIF2	2. I expect managers to be stable in the organization where I work/Managers are stable in the organization where I work	0.84			
GIF3	3. Managers should be trustworthy in the organization where I work/Managers are trustworthy in the organization where I work.	0.83			
GIF4	4. I expect managers in my organization to be dedicated to their work/Managers in my organization are dedicated to their work	0.81			
GPF1	1. I expect managers in my organization to be professional in their profession/Managers in my organization are professional in their profession.	0.83	12.17	2.67	Professional Features (PF)
GPF2	2. I expect managers in my organization to give importance to employee development/Managers in my organization give importance to employee development.	0.84			
GPF3	3. I expect the managers in my organization to support the scientific activities of their employees/The managers in my organization support the scientific activities of their employees.	0.75			
GPF4	4. I expect managers in my organization to give importance to productivity/Managers in my organization give importance to productivity.	0.82			
GPMF1	1. I expect the managers in the organization where I work to implement the official rules and procedures smoothly/The managers in the organization where I work implement the official rules and procedures smoothly.	0.80	7.99	1.76	Process Management Features (PMF)
GPMF2	2. Managers in my organization should be able to manage changes in scientific and technological fields/Managers in my organization can manage changes in scientific and technological fields.	0.85			
GPMF3	3. I expect managers in my organization to take precautions against future risks/Managers in my organization take precautions against future risks.	0.85			
GPMF4	4. I expect managers in my organization to be able to manage crisis situations easily/Managers in my organization manage crisis situations easily.	0.90			
GPMF5	5. I expect managers in the organization I work in to develop appropriate approaches in case of conflict/Managers in the organization I work in exhibit appropriate behaviors in case of conflict.	0.89			
GMFF1	1. I expect managers in my organization to support teamwork/Managers in my organization support teamwork.	0.84	7.22	1.58	Features of Managerial Functions (FMF)
GMFF2	2. I expect managers in my organization to appreciate their employees and act understandingly/tolerantly/Managers in my organization appreciate their employees and act understandingly.	0.87			
GMFF3	3. In the organization where I work, I expect my manager to provide a safe working environment for his/her employees/In the organization where I work, my manager provides a safe working environment for his/her employees.	0.89			
GMFF4	4. I expect the managers in the organization where I work to implement the policies of the organization in the best way possible/The managers in the organization where I work implement the policies of the organization in the best way possible.	0.90			
GLF1	1. I expect managers in my organization to have leadership qualities/Managers in my organization have leadership qualities.	0.80	6.34	1.39	Leadership Features (LF)

Table 3 (continued)

Icon	Content	Factor loading	Explained variance ratio	Eigenvalue	Factor name
GLF2	2. I expect managers in my organization to be capable of making strategic decisions/Managers in my organization are capable of making strategic decisions.	0.86			
GLF3	3. I expect managers to be easily accessible in the organization where I work/Managers are easily accessible in the organization where I work.	0.87			
GLF4	4. I expect my manager to counsel his/her employees in the organization where I work/My manager counsels his/her employees in the organization where I work.	0.80			
GLF5	5. In the organization where I work, I expect my manager to support employees to take initiative./In the organization where I work, my manager supports employees to take initiative.	0.77			

Cronbach's Alpha coefficient. The resulting values were 0.96 for the Managerial Expectation Subscale, 0.89 for the Managerial Perception Subscale, and 0.95 for the Managerial Expectation-Perception Gap. For the Job Satisfaction Scale, the Cronbach's Alpha value was 0.89 (Table 4).

Dimensionality test: We examined the structural validity of the scale using CFA, which tests the validity of the factor model, and by evaluating various goodness-of-fit indices that indicate a good fit between the model and the data (RMSEA: 0.08; χ^2/DF: 3.30; NFI: 0.93; IFI: 0.95; GFI: 0.84; CFI: 0.95; HOELTER: 110) (Table 5). A χ^2/df value ≤5 indicates acceptable model fit (Beribisky and Hancock, 2024). We have included trials of two, three, and four-factor structures as Supplementary Files. According to the literature, NFI, IFI, GFI, and CFI values of ≥0.90 are considered acceptable. The HOELTER value represents the minimum sample size required for the analysis (McNeish and Wolf, 2023). The model fit values for the Expectation-Perception Scale in Healthcare Management fall within the reference ranges, thereby confirming its factor structure (Table 5, Fig. 1).

Validity tests

Results pertaining to criterion validity. To evaluate the relationship between existing measures and variables and the scores from the newly developed scale, we conducted a correlation analysis (Table 6). We identified a significant negative correlation (r: −0.85, $p < 0.001$) between the two scales and their respective factors. The detection of significant relationships between the two scales confirms the predictive/criterion validity of the developed scale. The high-level negative correlation ($r = -0.85$, $p < 0.001$) observed between the total score of the expectation-perception scale and the total score of the job satisfaction scale reveals that an increase in the expectation-perception gap has a strong detrimental effect on job satisfaction. Notably, the leadership factor's high-level negative correlation with some sub-dimensions of job satisfaction suggests that healthcare professionals have high expectations of managerial leadership, and that job satisfaction significantly decreases when these expectations are not met.

Path analysis findings. We analyzed the effects of healthcare professionals' expectations, perceptions, and the expectation-perception discrepancies regarding their managers on job satisfaction using Path Analysis in AMOS software (Fig. 2). We identified that healthcare professionals' expectations of their managers had a negative effect on job satisfaction (β: −0.80, $p \leq 0.001$), while their perceptions had a positive effect (β: 0.85, $p \leq 0.001$). Furthermore, the expectation-perception gap was found to have a significant negative effect on job satisfaction (β: −0.86, $p \leq 0.001$). When all variables were included in the model, as per Fig. 1, the expectation-perception gap was observed to have an effect on job satisfaction (β: −0.22, $p \leq 0.001$).

Construct validity. The convergent validity of the scale was tested using Average Variance Extracted (AVE) and Composite Reliability (CR) values. According to Gitomer et al. (2021), for convergent validity, AVE values should be greater than 0.50, and CR values should exceed 0.70. For discriminant validity, the Maximum Shared Variance (MSV) and Average Shared Variance (ASV) values should be smaller than AVE, and the square root of AVE values should be greater than the correlations between factors. In the Expectation-Perception Scale in Healthcare Management, the CR, AVE, MSV, and ASV values are all within the reference ranges. Thus, the Expectation-Perception Scale in

Table 4 Descriptive findings for the scales.

Scale name	Factors	Mean	Standard Deviation	Skewness	Standard Error of Skewness	Kurtosis	Standard Error of Kurtosis
Managerial Expectation Perception Gap Subscale (x: −0.68 ± 1.24) Cronbach's α: 0.80	GIF	0.12	0.69	0.10	0.14	1.30	0.28
	GPF	0.02	0.79	1.04	0.14	1.28	0.28
	GPMF	−1.08	1.59	−0.12	0.14	−0.82	0.28
	GMFF	−1.18	1.81	0.06	0.14	−0.38	0.28
	GLF	−1.35	1.69	0.26	0.14	−0.73	0.28
Job Satisfaction Scale (x: 3.80 ± 0.93) Cronbach's α: 0.89	JS1	3.54	0.92	−0.27	0.14	−0.35	0.28
	JS2	3.68	0.85	−0.41	0.14	−0.11	0.28
	JS3	3.27	0.80	−0.16	0.14	0.54	0.28
	JS4	3.46	0.85	−0.08	0.14	−0.38	0.28

GIF gap individual features, *GPF* gap professional features, *GPMF* gap process management features, *GMMF* gap managerial functions features, *GLF* gap leadership features, *JS* job satisfaction.

Table 5 Expectation Perception Gap in Health Management Scale CFA.

Factor name	Loadings of factor items	CR	AVE	√AVE	MSV	ASV	Correlation coefficients between factors				
							1	2	3	4	5
Individual Features	IF1: 0.73; IF2: 0.79; IF3: 0.93; IF4: 0.91	0.91	0.72	0.8	0.00	0.00		0.52	0.39	0.34	0.55
Professional Features	PF1: 0.82; PF2: 0.81; PF3: 0.94; PF4: 0.92	0.93	0.76	0.87	0.15	0.12			0.48	0.49	0.59
Managerial Functions Features	MFF1: 0.88; MFF2: 0.92; MFF3: 0.99; MFF4: 0.99	0.97	0.90	0.94	0.00	0.00				0.55	0.51
Process Management Features	PMF1: 0.98; PMF2: 0.99; PMF3: 0.88; PMF4: 0.86; PMF5:0.86	0.97	0.85	0.92	0.00	0.00					0.54
Leadership Features	LF1: 0.90; LF2: 0.92; LF3: 0.90; LF4: 0.94; LF5: 0.92	0.97	0.85	0.92	0.30	0.25					1
Goodness of fit values: RMSEA: 0.08; x^2/DF: 3.30; NFI: 0.93; IFI: 0.95; GFI: 0.84; CFI: 0.95: HOELTER: 110.											

CR: AVE, ASV: MSV: RMSEA, DF, NFI, IFI, GFI, CFI, HOELTER.
IF individual features, *PF* professional features, *MFF* features of managerial functions, *PMF* process management features, *LF* leadership features.

Healthcare Management demonstrates both convergent and discriminant validity (Table 5).

MANOVA analysis. Boateng et al. (2018) recommend using analysis of variance to demonstrate the scale's ability to discriminate between known dichotomous groups. To assess whether healthcare professionals' managerial expectations and perceptions varied according to socio-demographic variables, we conducted a Multivariate Analysis of Variance (MANOVA) (Table 7). The homogeneity of variance for the data file was tested using Levene's statistic (GPF p: 0.39; EPF p: 0.78; PIF p: 0.61; PPF p: 0.03). In the MANOVA analysis, we employed Hotelling's Trace test (Nakip and Yaraş, 2017), which is based on the assumption of multivariate normal distribution and allows for the testing of multivariate hypotheses.

The results of this analysis yielded the following findings:

Healthcare professionals' perceptions of their managers do not differ significantly ($p \geq 0.05$) based on Age, Education status, Gender, or Marital status.

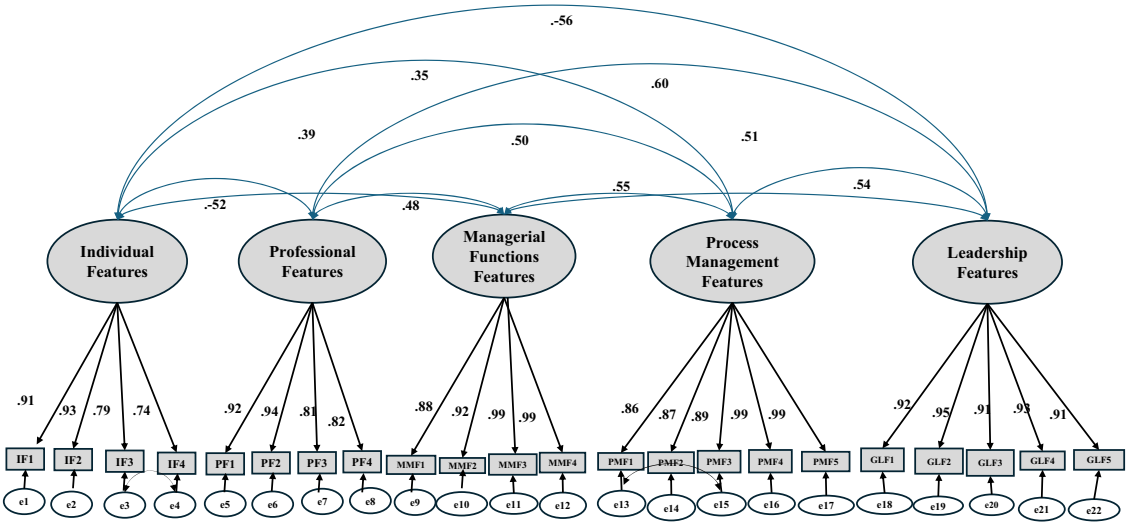
Healthcare professionals' perceptions of their managers do differ significantly ($p \leq 0.05$) based on Working year and Profession.

Healthcare professionals' expectations of their managers do not differ significantly ($p \geq 0.05$) based on Age, Education status, Gender, Marital status, or Working year.

Healthcare professionals' expectations of their managers do differ significantly ($p \leq 0.05$) based on Profession.

The Expectation-Perception Gap regarding healthcare professionals' managers does not differ significantly ($p \geq 0.05$) based on Age, Education status, Gender, Marital status, or Working year.

The Expectation-Perception Gap regarding healthcare professionals' managers does differ significantly ($p \leq 0.05$) based on Profession.



χ2/df=3.30; GFI=.84; NFI: .93; IFI=.95; CFI=.95; RMSEA=.08

Fig. 1 Expectation Perception Gap in Health Management Scale CFA Diagram. Note: IF Individual Features, PF Professional Features MFF Features of Managerial Functions, PMF Process Management Features, GLF Gap Leadership Features.

Table 6 Correlation analysis between EPGHMS and JS scales.

EPGHMS/ JS	JS1 Pearson's R; Significance	JS2 Pearson's R; Significance	JS3 Pearson's R; Significance	JS4 Pearson's R; Significance
GIF	−0.22**	−0.42**	−0.39**	−0.29**
GPF	−0.31**	−0.49**	−0.37**	−0.45**
GFMF	−0.61**	−0.42**	−0.20**	−0.50**
GPMF	−0.42**	−0.47**	−0.25**	−0.83**
GLF	−0.29**	−0.85**	−0.40**	−0.54**
EPGHMS Overall Average- JS Overall Average Pearson's *R*: −0.85, $p < 0.001$				

EPGHMS Expectation Perception Gap Health Management Scale, *JS* job satisfaction.
**: $p < 0.001$.

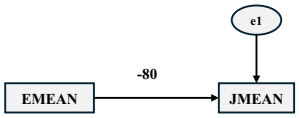
To maintain clarity and prevent an excessively large table, we have presented only the findings that exhibited significant differences in Table 7. When examining Table 7 according to years of service, healthcare professionals' perceptions of their managers' individual characteristics differ only between those with 1–5 years and 11–15 years of work experience. Analyzing by profession, perceptions of managers' individual characteristics differ solely between midwives and nurses, Emergency Medical Technicians (EMTs), and other healthcare professionals. Furthermore, healthcare professionals' perceptions of their managers' expertise characteristics differ only among those with 1–5 years, 6–10 years, and 11–15 years of work experience. Expectations regarding managers' expertise characteristics differ exclusively between midwives and EMTs. The expectation-perception gaps concerning managers' expertise characteristics differ only between midwives and Laboratory Technicians (LTs). The low Partial Eta Squared values observed in the MANOVA test for both years of service and profession (Sánchez et al. (2016)) indicate that demographic variables account for a very small proportion of the variance in these expectation and perception dimensions. This suggests that other, much stronger factors (such as organizational culture, management style, workload, educational level, etc.) may influence healthcare professionals' perceptions and expectations of their managers.

Discussion

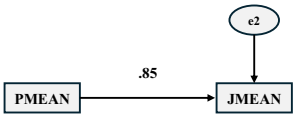
In this study, we developed a valid and reliable scale capable of simultaneously measuring healthcare professionals' expectations of and perceptions regarding their managers. While the literature often addresses healthcare professionals' expectations of managers through qualitative methods (Hyde et al., 2009; Tønnessen et al., 2017; Schön Persson et al., 2018; André et al., 2013), scale-based studies that allow for a quantitative comparison of these expectations with perceived managerial behaviors are limited. In this regard, the current study fills a significant gap in the healthcare management literature by providing one of the first quantitative instruments to systematically measure the expectation-perception gap.

Our study's findings indicate that healthcare professionals' expectation levels are significantly higher than their perception levels in the dimensions of Process Management, Managerial Functions, and Leadership Characteristics. Healthcare professionals expect their managers to exhibit an active leadership role that not only encompasses individual or professional competencies but also involves managing processes, making decisions, and providing guidance. The observation that perception scores are higher in the dimensions of individual and professional characteristics suggests that employees perceive managers' personal qualities and professional competencies as relatively strong. However, this also implies that these attributes may not be adequately translated into observable organizational managerial behaviors.

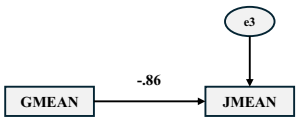
Bornman (2015), in a study conducted across different sectors, reported that the expectation dimension was consistently higher than the perception dimension, with the most pronounced discrepancy observed in leadership. However, unlike Bornman's findings, our current study reveals that this gap is also significant in structural areas such as process management and managerial functions within the context of the healthcare sector. This



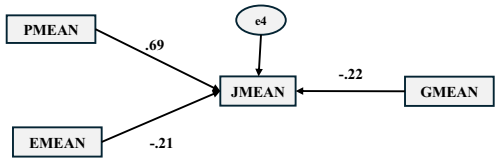
JMEAN ←EMEAN Estimate: -1.12; SE: .04; CR: -23.22; p≤.001



JMEAN ←PMEAN Estimate: .86; SE: .03; CR: 28.42; p≤.001



JMEAN ←GMEAN Estimate: -.52; SE: .01; CR: -29.10; p≤.001



JMEAN ←EMEAN Estimate: -.23; SE: .04; CR: -5.58; p≤.001

JMEAN ←PMEAN Estimate: .54; SE: .03; CR: 18.51; p≤.001

JMEAN ←GMEAN Estimate: -.10; SE: .01; CR: -5.92; p≤.001

Fig. 2 Path analysis diagram illustrating the effects of expectation, perception, and expectation-perception gap variables on the job satisfaction variable. Note: Created with AMOS 21 Program.

Table 7 Differences between the expectation perception scale in health management and demographic variables.

Dependent variable	Independent variable (a)	Independent variables (b)	Mean difference (a-b)	Sig.	*F*	Hotelling's Trace	Partial Eta Squared
PIF	Working year				1.16	0.06	.01
	1–5	6–10	0.15	0.09			
	1–5	11–15	0.17	**0.04**			
	1–5	16–20	0.05	0.50			
	1–5	21–25	0.11	0.19			
	1–5	26 over	0.05	0.57			
PPF	1–5	6–10	0.17	**0.03**	1.41	0.06	0.02
	1–5	11–15	0.17	**0.02**			
	1–5	16–20	0.10	0.17			
	1–5	21–25	0.13	0.11			
	1–5	26 over	0.06	0.51			
PIF	Profession				1.44	0.06	0.02
	Nurse	Midwife	0.21	**0.01**			
	Nurse	Emergency medical technician	0.03	0.70			
	Nurse	Radiology technician	0.04	0.72			
	Nurse	Laboratory technician	0.04	0.72			
	Nurse	Other	0.18	0.66			
PIF	Midwife	Emergency medical technician	0.24	**0.02**	1.44	0.06	0.02
	Midwife	Radiology technician	0.25	0.06			
	Midwife	Laboratory technician	0.25	0.06			
	Midwife	Other	0.18	**0.04**			
EPF	Midwife	Nurse	0.35	**0.03**	1.08	0.06	0.01
	Midwife	Emergency medical technician	0.41	**0.05**			
	Midwife	Radiology technician	0.19	0.44			
	Midwife	Laboratory technician	0.37	0.14			
	Midwife	Other	0.29	0.09			
GPF	Midwife	Nurse	0.26	0.09	1.02	0.06	0.01
	Midwife	Emergency medical technician	0.33	0.08			
	Midwife	Radiology technician	0.2	0.35			
	Midwife	Laboratory technician	0.46	**0.04**			
	Midwife	Other	0.21	0.18			

Bold is used to highlight instances of significant difference.

suggests that, due to the high workload, complex organizational structure, and multidisciplinary work environment inherent in healthcare institutions, leadership expectations are related not only to individual characteristics but also to systematic management practices. The concentration of expectation-perception gaps particularly in the dimensions of leadership, process management, and managerial functions aligns consistently with Leader-Member Exchange (LMX) and Person-Environment Fit approaches. The Expectation-Perception Scale in Healthcare Management (EPSHM) empirically supports these theoretical approaches, specifically within the healthcare sector, by rendering the expectation-perception incongruity a measurable construct.

Gemlik et al. (2018) emphasized in their qualitative studies that healthcare workers expect respect, support, fairness and participatory decision-making from managers. The scale developed in this study not only validated these qualitative findings at a quantitative level, but also concretely revealed the management areas in which these expectations were not met. In particular, the high expectation-perception gap in the leadership dimension indicates that employees expect managers to demonstrate a leadership model that is not only well-intentioned and communicative, but also guiding, accessible, and delegating.

Another significant finding of this study is that the expectation-perception gaps/discrepancies in various areas concerning healthcare professionals' managers negatively affect job satisfaction. This result indicates that unmet expectations can reduce job satisfaction, independent of perceived managerial support. Studies conducted in different sectors (Oraman et al., 2011; Aksan, 2019; Hossaın and Wadud (2017)) have also identified job satisfaction as being related to managerial support, leadership, or organizational conditions. However, this study offers a unique contribution to literature by treating the expectation-perception incongruity as an independent explanatory variable within the healthcare sector. The global increase in workload, multidisciplinary team structures, and managerial complexity characterizing healthcare services makes inconsistencies in managerial expectations and perceptions a universal problem. The Expectation-Perception Scale in Healthcare Management (EPSHM), with appropriate cultural adaptation and validation studies, has the potential to serve as a valuable measurement tool for comparative research across different countries and in both public and private healthcare systems.

Consistent with existing literature (Larsson et al., 2023; Szymanska and Rubin, 2018; Vaughan-Johnston et al., 2021; Cha et al., 2023), our study found that healthcare professionals' managerial expectations and perceptions vary according to their socio-demographic characteristics. Specifically, we observed that healthcare professionals with 1–5 years of work experience had the lowest average managerial perceptions regarding professional characteristics, whereas those with 11–15 years of experience exhibited the highest average perceptions concerning professional characteristics. Perceptions of managers' personal characteristics differed most significantly between participants with 1–5 years and 11–15 years of experience. The findings related to demographic variables offer actionable insights for managers. Particularly, the higher managerial expectations among long-serving employees suggest that this group requires a management approach that is not solely operational but also strategic and consultancy-oriented. Accordingly, prioritizing leadership practices that include mentorship, participation in decision-making processes, and shared responsibility can be recommended for senior employees. For younger employees or those with limited experience, structured feedback, clear job descriptions, and directive management styles may prove more effective.

This study goes beyond merely developing a scale to measure healthcare professionals' expectations of and perceptions regarding their managers. It also illuminates the areas where expectation-perception gaps are most pronounced, how these gaps affect job satisfaction, and which concrete intervention areas they indicate for managers. The findings suggest that healthcare managers should receive targeted training in leadership and process management, develop differentiated management strategies tailored to employee profiles, and regularly monitor expectation-perception alignment. In this respect, the study offers significant theoretical and practical contributions. From a practical perspective, the findings also provide important implications for health policy and leadership training. Systematically monitoring expectation-perception gaps can enable managers' performance to be evaluated not solely based on outcomes but also on perceived management quality. The Expectation-Perception Scale in Healthcare Management (EPSHM) can be utilized as a diagnostic tool in manager development programs, potentially contributing to the restructuring of training content for leadership, process management, and managerial functions based on employee expectations.

Limitations of the study. One of the most significant limitations of this study is its execution within a specific timeframe and in a single city. Expanding the study to different samples using a pre-test and post-test design (e.g., a pre-assessment followed by an evaluation after improvement initiatives) would provide a more comprehensive understanding of the situation concerning healthcare managers.

Practical implications. As the expectation-perception gap regarding healthcare professionals' managers widens, their job satisfaction decreases. This reduction in job satisfaction can negatively impact various organizational factors, including commitment, productivity, burnout, and service quality. Given that the healthcare sector directly influences the quality of life and the shaping of societal well-being, understanding healthcare professionals' expectations of and perceptions regarding their managers is of paramount importance.

Conclusions

This study confirms that the Expectation-Perception Scale in Healthcare Management is a valid and reliable measurement instrument. The scale developed in this research can be utilized as a universal tool for evaluating and enhancing management performance within healthcare organizations. Healthcare professionals hold diverse expectations and perceptions regarding their managers' personal and professional qualities, process management, managerial functions, and leadership capabilities. When positive perceptions exceed expectations, it leads to job satisfaction; conversely, when perceptions fall short of expectations, it results in job dissatisfaction.

Due to the demanding and stressful work environment in healthcare settings, healthcare professionals' expectations and perceptions of their managers are often overlooked. Simultaneously, managers frequently remain unaware of their employees' managerial expectations. Over time, this disconnect can create an unproductive cycle between employees and managers, potentially leading to job dissatisfaction, burnout, and decreased productivity. Therefore, understanding healthcare professionals' expectations and perceptions of their managers is crucial for fostering a participatory management process.

Suggestions. This scale can be effectively utilized to design the content of training programs for future healthcare managers. For instance, if significant deficiencies are identified in the leadership dimension, leadership skills can be prioritized in training

curricula. Employing this scale to pinpoint expectation-perception gaps and organizational shortcomings could serve as a valuable resource for continuous improvement processes, thereby clarifying which areas should be prioritized in organizational development projects. Analysis of healthcare professionals' average perceptions and expectations regarding their managers reveals that perception scores are lower than expectation scores in the dimensions of process management, managerial functions, and leadership characteristics, indicating that expectations are not being fully met. Through this scale, the performance of healthcare managers can be systematically evaluated by obtaining regular feedback from employees.

Given that this study identified variations in healthcare professionals' managerial expectations and perceptions based on socio-demographic characteristics, it is anticipated that implementing personalized management approaches (such as integrating the expertise of experienced employees into strategic decision-making processes and applying workload balancing strategies for nurses) can enhance employee satisfaction.

Data availability

The data of this research consists of quantitative (provided) survey responses. The datasets, generated and analyzed during the current study are not publicly available due to commitments made to Research participants (as required by social ethics process) that their contributions would be confidential and only accessed by the research team. The data sets used and analyzed during the current study are available from the corresponding author on reasonable request.

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Author contributions

AT: Conceptualization, Data Collection, Data Analysis and Writing; FT: Conceptualization, Data Collection, Data Analysis and Writing.

Competing interests

The authors declare no competing interests.

Ethical approval

This study received approval from the Kırşehir Ahi Evran University Ethics Review Board (Ref. no. 2023/02/36, dated 18.01.2023). The research was conducted using Google Forms, and informed written consent was obtained from all participants prior to their involvement. The ethical rules and principles of the Declaration of Helsinki were followed at every stage of the study.

Informed consent

Informed consent was obtained from participants prior to the survey interview (which took place between October 19, 2023, and June 20, 2024).

Additional information

Supplementary information The online version contains supplementary material available at https://doi.org/10.1057/s41599-026-06852-6.

Correspondence and requests for materials should be addressed to Ayşegül Turan.