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Assessment of Hospital Managers' Sustainable Leadership Levels

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ABSTRACT

This study aims to evaluate the sustainable leadership levels of hospital managers with the participation of healthcare professionals working in public hospitals in Bitlis province. The cross-sectional and descriptive study was conducted on 354 healthcare professionals and the information form and Sustainable Management Behaviors Scale were used as data collection tools. The demographic analysis of the study shows that the majority of the participants are male, under the age of 30 and have a bachelor's degree. In terms of occupational groups, it was observed that other health personnel and nurses were predominant. The findings revealed that the participants generally evaluated the sustainable leadership behaviors of the managers at a level above medium. Especially environmental sensitivity and conservation sensitivity dimensions have high mean values. Nurses were found to have the most negative opinions about managers' sustainable leadership levels, while administrative staff had the most positive opinions. It was determined that positive perceptions were higher for managers who are experienced, act in accordance with ethical principles and adopt the philosophy of continuous learning. The study draws attention to the importance of sustainable leadership practices in the healthcare sector and offers strategic recommendations to increase the leadership capacity of hospital managers.

Keywords: Sustainable Leadership, Hospital Managers, Leadership Behaviors, Healthcare, Sustainability.

JEL Classification Codes: M10, Q56, K32

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INTRODUCTION

The health sector possesses a dynamic structure that is continuously changing and evolving, thereby increasing the significance of effective leadership practice in this field. Leaders in this domain are compelled to develop flexible and holistic strategies in response to both internal and external factors. The adoption of sustainable leadership approaches should be considered a strategic step aimed at ensuring the long-term success of healthcare institutions and improving the overall health status of the community. In this context, the effective management of healthcare services and the proper utilization of resources significantly impact a country's level of development and the general well-being of its population.

The level of development of a country and the welfare of its population are directly associated with the performance of healthcare services and the efficiency of resource utilization in this field (Ilıman Yaltagil, 2023).

The objective of this study is to comprehensively assess and analyze the sustainable leadership levels of hospital managers. Sustainable leadership encompasses leadership approaches and strategies that support the long-term success and resilience of institutions. In this context, the study examines the leadership practices of hospital managers, the impacts of these practices, and how they support sustainability in the healthcare services sector. The research will scrutinize the effects of leadership behaviors on the quality of patient care, employee satisfaction, and institutional sustainability, while also addressing the challenges faced by hospital managers and strategies for enhancing their sustainable leadership competencies. The outcome of this study aims to provide recommendations and strategies for increasing the sustainable leadership capacities of hospital managers.

Sustainable Leadership

Leadership can be defined as the ability to unite individuals around specific goals and to motivate them

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to achieve these goals. In this process, the internalization and desire of the objectives set by the leader among group members enhance the leader's capacity to influence and strengthen their ability to mobilize the group members. A leader's demonstration of belief and commitment to the goals they set, ensuring the loyalty and motivation of group members, encourages them to exert the necessary effort to achieve these goals. Therefore, leadership is not limited to merely setting goals but also encompasses the skill of effectively managing group dynamics and human resources required to achieve these goals (Eren, 2011; Koçel, 2014; Allio, 2012). Sustainability practices present both risks and opportunities for organizations, and clear and direct leadership is required to improve these processes (Boeske, 2023).

Healthcare institutions are high-energy-consuming entities that produce harmful and toxic waste. Simultaneously, experts from various disciplines work within this shared ecosystem. Furthermore, considering the increasing costs due to the need for high technology and high-paid labor in the health sector, the concept of social, environmental, and financial sustainability becomes indispensable in healthcare institutions. Studies in the literature emphasize the critical importance of leadership in organizations being sustainable (McSherry and Pearce 2016; Sagha Zadeh et al. 2016).

Lindsey and Mitchell (2012) categorize the essential characteristics that effective health leaders must possess under five main headings. These characteristics are presented as qualities that will contribute to the development of leaders who will shape the future of the health sector. These five core qualities are:

- Leaders in healthcare services must have the capacity to foresee and accurately interpret the continuously changing structure and needs of the health sector.
- They must demonstrate sensitivity to the needs of healthcare service recipients and possess the ability to provide quick and effective responses to these needs.
- They should have a vision capable of managing change processes within institutions and organizations, centering these changes.
- They must embody leadership qualities that can motivate themselves and those around them and serve as a source of inspiration.
- Health leaders should possess management skills that ensure the operation of organizations in a straightforward and high-quality manner.

The concept of sustainable leadership denotes a management philosophy that considers the needs of future generations. This leadership style prioritizes long-term impacts and institutional resilience over short-term successes. Sustainable leaders integrate various dimensions such as social justice, environmental balance, and economic stability to ethically and responsibly manage their organizations. They aim for the long-term welfare of the institution by balancing the interests of internal and external stakeholders while ensuring the efficient use and renewal of resources (Mısırdalı Yangil, 2016). Sustainable leadership has benefits such as focusing on the situation, demonstrating moral courage and high self-awareness, having a long-term vision, meeting stakeholders' needs, creating sustainable shared value and creating collective impact (Liao, 2022).

Sustainable leadership is based on a clear and sustainability-focused business vision, long-term goals, and a comprehensive sense of responsibility towards individuals, groups, organizations, and society. This leadership approach develops a strong organizational culture that supports sustainable organizational development and encourages collective efforts based on mutual assistance rather than individual endeavors. Operating with high levels of trust and goodwill, sustainable leadership emphasizes the synergy of team members' efforts and supports innovation and creativity by reusing the organization's current resources. Teamwork aims to achieve and maintain quality through a sustainability-focused organizational culture and to foster employee loyalty and professional development by adhering to sustainability principles (Šimanskienė and Župerkienė, 2014).

Factors Affecting Sustainable Leadership

There are internal and external factors that influence sustainable leadership, which can be conceptualized into three main groups: stakeholder assessments, institutional processes, and the external environment. These elements represent a grouping of factors necessary for achieving a sustainable culture and sustainable leadership. This conceptualization demonstrates the various elements and factors affecting an institution's sustainable culture and leadership. By developing this conceptualization of sustainable leadership, connections can be established within the literature, and the potential effects of sustainable leadership can be explored (Gerard et al.,

2017). The vision, credibility, collaboration, accountability, and orientation towards action of leaders are significant factors in achieving sustainable development (Tomšič, Markič, & Bojnec, 2016).

Dimensions of Sustainable Leadership

Sustainable leadership encompasses three dimensions: environmental sustainability, economic sustainability, and social sustainability (McCann and Holt, 2010).

Environmental sustainability refers to leadership practices focused on preserving environmental resources and maintaining the integrity of ecosystems. Environmentally sustainable leadership aims to leave a healthy environment for future generations through responsible use of natural resources and minimization of environmental impacts. This approach requires strategic decisions to preserve ecological balance and promote environmental sustainability (Morelli, 2011).

Economic sustainability describes leadership that targets the efficient use of resources and long-term financial stability. This dimension prioritizes economic growth as well as cost-effectiveness, return on investment, and financial sustainability. Economically sustainable leaders support the future success of organizations by ensuring efficiency and equity in resource allocation (Harris, 2000). Organizations assess processes to maintain control over costs while conducting their operations effectively and efficiently (Orhan and Kafes, 2021).

Social sustainability emphasizes leadership practices that contribute to the welfare of society and the promotion of social justice. This dimension focuses on meeting the needs of individuals and communities and promoting social cohesion and equality. Socially sustainable leaders foster an inclusive and fair society by placing a strong emphasis on ethical values and social responsibility (McKenzie, 2004).

Models of Sustainable Leadership

Sustainable leadership models include the Hargreaves and Fink model, Lambert's sustainable leadership model, the Russell Reynolds sustainable leadership model, Šimanskienė and Zuperkiene's sustainable leadership model, Avery and Bergsteiner's sustainable leadership model, and the Cambridge sustainable leadership model.

Hargreaves and Fink Model

This model emphasizes the diversity of educational environments, the importance of idea exchange, the necessity of active participation in successful practices that share continuous development and learning, alongside various forces affecting the type of leadership. In this study, sustainability in leadership is specifically focused on the characteristics and needs of the education sector (Hargreaves and Fink, 2003).

Lambert's Sustainable Leadership Model

Developed in 2011, Lambert's Sustainable Leadership Model comprehensively examines six fundamental elements of leadership. These elements include building staff capacity, strategic deployment, consolidation, transition from short-term to long-term objectives, diversity, and preservation. This model details the sustainable leadership concept, highlighting the contribution of each element to organizational success (Lambert, 2011).

Russell Reynolds Sustainable Leadership Model

In this model, sustainable leadership is defined as organizations developing long-term strategies beyond short-term gains and addressing social, environmental, and financial performance in a balanced manner. Sustainable leaders in this model are individuals who understand the system holistically and consider the broader context beyond the organization. They also focus on building long-term relationships by viewing diversity as an opportunity (Jansen and Ligthart, 2015).

Šimanskienė and Zuperkiene's Sustainable Leadership Model

This model addresses sustainability in four fundamental areas: individual, team, organization, and society. These categories represent different aspects of leadership and various dimensions of sustainability. The individual dimension emphasizes leaders' personal awareness and acceptance of responsibility. The team dimension focuses on the need for qualified workforce and establishing sustainable relationships among employees. The organizational dimension involves strengthening sustainable ideas at the corporate level and shaping organizational culture (Šimanskienė and Zuperkiene, 2014).

Davies' Sustainable Leadership Model

Developed by Davies (2007), the "Nine Key Factors" sustainable leadership model identifies fundamental principles supporting long-term development. This model emphasizes that leadership culture should be shaped by achieving accessible successes based on moral purposes. Among the key elements of sustainable leadership are measuring not only outputs but

outcomes; balancing short and long-term goals; focusing on processes rather than plans; having a passion for continuous improvement and development; building long-term leadership capacity through personal humility and professional will; the importance of strategic timing and strategic implementation in enhancing capacity and encouraging participation; and developing strategic success metrics.

Avery and Bergsteiner's Sustainable Leadership Model

Under the "Honeybee and Locust Approach," this model examines the impacts of leadership approaches on environmental and social sustainability. It is based on two fundamental metaphors: the honeybee, representing a sustainable approach that benefits society, and the locust, symbolizing a leadership style focused on short-term gains and unsustainable. This theoretical framework evaluates the effects of leaders' decision-making processes on their organizations' long-term success and the overall welfare of society. The model emphasizes that leaders acting with sustainable methods contribute to creating a more livable world for future generations by supporting ecological balance and social justice (Avery and Bergsteiner, 2011).

Cambridge Sustainable Leadership Model

This model represents an approach focused on integrating sustainability into business strategies by leaders. It aims to support the long-term success of organizations and environmental, social, and economic sustainability. Its core principles include meeting the needs of all stakeholders in a balanced manner, promoting the efficient use of resources, and developing innovative solutions. The Cambridge Sustainable Leadership Model emphasizes prioritizing ethical values and sustainable practices in leaders' decision-making processes. It requires organizations to assess their decisions not only in terms of financial results but also considering social and environmental impacts. Leaders, with this model, aim to make responsible and informed decisions considering the welfare of future generations (Visser and Courtice, 2011).

METHOD

This cross-sectional and descriptive study's population consists of health workers employed at public hospitals in Bitlis province. The sample size was calculated using the formula for known population sizes, employing the calculator available on surveymonkey.com. It was determined that data needed to be collected from 384 individuals, considering a 95% confidence interval (z=1.96) with a 4% margin of error. However, 354 health workers voluntarily participated in the study. The research included the participation of doctors, nurses, midwives, other health personnel, and administrative staff working in 7 public hospitals in the province.

For data collection, a questionnaire comprising a 4-question information form prepared by the researchers and the Sustainable Management Behaviors Scale was used. The scale, developed by Demirbilek and Çetin (2021), includes 50 statements related to dimensions of Institutional Functioning, Economic Efficiency, Environmental Sensitivity, and Protection Sensitivity Behaviors. Research data were collected online via Google Forms. The measurements were conducted using a 5-point Likert scale.

For the analysis of research data, SPSS 25.0 and SPPS AMOS 24.0 were utilized. Within this context, confirmatory factor analysis was conducted to determine the validity and reliability of the scale developed for the education sector in the health sector. Internal consistency coefficient was calculated to test structural reliability. Furthermore, mean tests related to the scale and its dimensions were conducted according to the study's control variables, and differences were analyzed with parametric tests since the assumptions of normal distribution were met.

Before commencing data collection for the study, institutional permission numbered E-93515114-605.99-212780087 from the relevant institution and ethical approval numbered 2023/04-04 and E.3668 from the Ethical Principles and Ethics Committee of Bitlis Eren University were obtained.

FINDINGS

This study examines the sustainable leadership behaviors of managers in healthcare institutions from the perspective of employees. In the section below, findings related to the demographic characteristics of the participants and their opinions about their leaders, as well as validity and reliability analyses of the scale, average values, and comparisons of these values between groups are presented.

Table 1 presents the distribution of participant profiles according to demographic and various variables. The study examines several variables including gender, age, education level, profession, duration of employment at the institution, experience status of the institution's managers, whether participants believe managers act in accordance with ethical principles, and whether they

Table 1: Distribution of Employees' Demographic Characteristics and Their Opinions About Their Leaders

Variables		n	%
Gender	Female	141	39,8
	Male	213	60.2
Age	*≤ 30*	170	48,0
	31-40	129	36,4
	41-50	45	12,7
	≥ 51	10	2,8
Education	Primary and Secondary Education	45	12,8
	Associate Degree	87	24,7
	Bachelor's Degree	194	55,1
	Graduate Degree	26	7,4
Profession	Physician	56	15,8
	Nurse	93	26,3
	Midwife	23	6,5
	Other Health Personnel	135	38,1
	Administrative Staff	47	13,3
Duration of Employment at the Institution	*≤ 1 Year*	50	14,1
	1-3 Year	84	23,7
	≥ 3 Year	220	62,1
Experience Status of the Institution's Managers	Inexperienced	60	16,9
	Moderately Experienced	140	39,5
	Experienced	154	43,5
Whether Employees Believe Managers Act in Accordance with Ethical Principles	*No*	73	20,6
	Partially	125	35,3
	Yes	156	44,1
Whether Employees Think Managers Embrace a Philosophy of Continuous Learning	*No*	74	20,9
	Partially	119	33,6
	Yes	161	45,5
TOTAL		**354**	**100,0**

think managers embrace a philosophy of continuous learning.

When examining gender distribution, it is observed that 60.2% of the participants are male, and 39.8% are female. Looking at the age distribution, a significant portion of the participants are under 30 years old (48.0%), while the proportion of participants aged 51 and above is only 2.8%. In terms of education level, the highest rate is observed among participants with a bachelor's degree (55.1%). In the profession distribution, a large part of the participants are identified as other health personnel (38.1%) and nurses (26.3%). When examining the duration of employment at the institution, it is observed that 62.1% of the participants have been working at the same institution for 3 years or more.

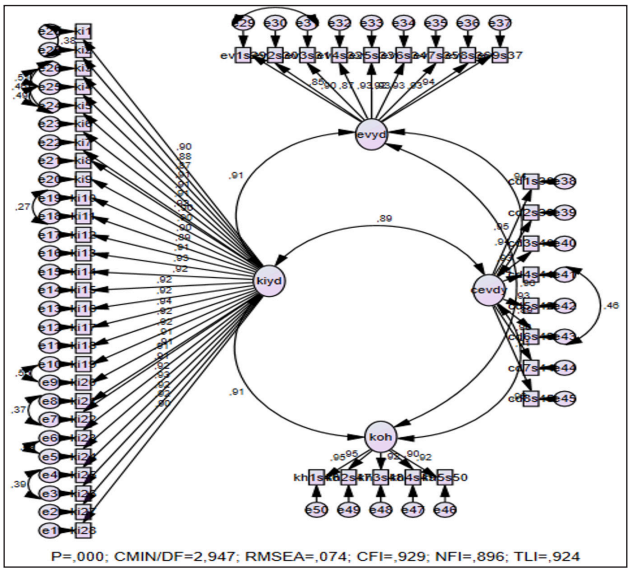

Figure 1: Confirmatory Factor Analysis of the Sustainable Leadership Behaviors Scale

Table 2: Statistical Values Related to the Sustainable Leadership Scale and Its Statements

The Sustainable Leadership Scale Statements and Dimensions	x	sd	Kurt.	Skew.	a
Efforts to reduce inequalities.	3,25	1,50	-0,32	-1,28	
Cares for marginalized individuals.	3,32	1,51	-0,36	-1,28	
Fosters unity and solidarity among employees in the institution.	3,29	1,51	-0,32	-1,32	
Embraces social justice.	3,29	1,51	-0,28	-1,34	
Supports democratic governance.	3,22	1,49	-0,23	-1,31	
Rejects discrimination.	3,25	1,54	-0,20	-1,42	
Strives to increase employee satisfaction in the institution.	3,35	1,49	-0,37	-1,26	
Values equal opportunities.	3,28	1,46	-0,27	-1,23	
Clarifies uncertainties.	3,30	1,45	-0,30	-1,22	
Ensures employees have equal access to necessary resources.	3,41	1,46	-0,46	-1,12	
Works to maintain employee continuity in the institution.	3,43	1,47	-0,45	-1,18	
Manages emerging risks effectively.	3,46	1,46	-0,45	-1,12	
Considers diversity in the institution.	3,40	1,42	-0,39	-1,12	
Has a clear vision.	3,36	1,45	-0,34	-1,20	
Thinks more of the well-being of everyone in the institution than their own interests.	3,21	1,53	-0,21	-1,38	**0,993**
Establishes dialogues that inspire the future of society.	3,33	1,47	-0,33	-1,26	
Creates lasting unity in the institution by ensuring stakeholder participation.	3,30	1,48	-0,30	-1,27	
Acts responsibly towards meeting employee needs.	3,38	1,45	-0,34	-1,21	
Develops a vision for the long-term development of the institution.	3,33	1,48	-0,29	-1,28	
Sets permanent development goals.	3,32	1,45	-0,32	-1,22	
Mobilizes resources to sustain employee development.	3,31	1,45	-0,33	-1,20	
Develops strategies aimed at maintaining institutional efficiency.	3,39	1,45	-0,36	-1,20	
Engages in long-term planning.	3,34	1,47	-0,32	-1,25	
Directs the future of the institution by reducing uncertainty.	3,31	1,45	-0,30	-1,23	
Collaborates with employees for the effective use of resources.	3,38	1,44	-0,34	-1,19	
Fights to protect elements that carry the institution into the future.	3,41	1,40	-0,38	-1,08	
Takes care to distribute the resources owned by the institution fairly among stakeholders.	3,28	1,50	-0,29	-1,32	
Considers the activity-resource status balance.	3,38	1,43	-0,37	-1,16	
Behaviors Related to Institutional Functioning (BRIF):	3,33	1,34	**-0,31**	**-1,17**	
Prefers to effectively utilize existing materials instead of purchasing new ones for the institution.	3,59	1,32	-0,53	-0,83	
Dislikes wastage of institutional resources.	3,61	1,42	-0,60	-0,94	
Transforms and reuses old materials of the institution.	3,47	1,35	-0,48	-0,88	
Makes balanced expenditures.	3,40	1,40	-0,35	-1,10	
Knows how to evaluate existing resources well.	3,52	1,37	-0,48	-0,97	**0,977**
Ensures economical use of the budget in planning.	3,53	1,39	-0,50	-0,96	
Saves costs by using resources efficiently.	3,53	1,39	-0,48	-1,02	
Eliminates practices that cause resource waste.	3,52	1,40	-0,49	-1,00	
Takes care to preserve the institutional heritage.	3,48	1,37	-0,46	-0,93	
Behaviors Related to Economic Efficiency (BREE):	3,52	1,27	**-0,47**	**-0,88**	

Encourages projects related to the environment.	3,39	1,42	-0,36	-1,14	
Has sensitivity towards environmental protection.	3,47	1,39	-0,47	-1,00	
Engages in initiatives aimed at preserving nature.	3,52	1,35	-0,46	-0,96	
Has sensitivity towards the separation of waste.	3,75	1,26	-0,72	-0,49	
Works to increase environmental awareness in the institution.	3,51	1,38	-0,46	-1,00	**0,976**
Supports recycling practices.	3,64	1,31	-0,57	-0,77	
Partners with NGOs related to the environment.	3,42	1,38	-0,36	-1,05	
Rejects initiatives that may harm the environment.	3,62	1,35	-0,58	-0,82	
Behaviors Related to Environmental Sensitivity (BRES):	3,54	1,25	**-0,45**	**-0,88**	
Has sensitivity towards the preservation of institutional resources.	3,58	1,31	-0,53	-0,81	
Uses resources within the institution's limits efficiently.	3,54	1,35	-0,53	-0,88	
Thinks not only about today but also about the future.	3,46	1,42	-0,46	-1,07	
Desires to maintain positive conditions in the institution.	3,63	1,33	-0,62	-0,73	**0,968**
Encourages employees to use resources sparingly.	3,55	1,36	-0,52	-0,89	
Behaviors Related to Conservation Sensitivity (BCS):	3,55	1,28	**-0,45**	**-0,92**	
Sustainable Leadership Behaviors Scale (Overall)	3,42	1,27	**-0,34**	**-1,05**	0,995

The study also finds that a majority of managers are experienced (43.5%), participants generally believe their managers act according to ethical principles (44.1%), and most think that their managers adopt a philosophy of continuous learning (45.5%).

Figure 1 schematizes the Confirmatory Factor Analysis model conducted to determine if the Sustainable Leadership Behaviors Scale, developed for the education sector, provides valid and reliable measurement in the health sector.

Based on the information provided in Figure 1, considering the factor loadings of the statements onto dimensions and the model fit indices, it has been determined that the scale provides valid measurement. The figure at the bottom shows the p-value, Chi-Square/Degrees of Freedom value (CMIN/DF), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and the Root Mean Square of the Residuals (RMR) values, indicating that they are at good and acceptable levels (Karagöz et al., 2016).

Table 2 contains scale statements, dimensions, and overall scale-related mean and standard deviation values, kurtosis and skewness values, and Cronbach's alpha internal consistency coefficients. The internal consistency coefficients for the overall scale and its dimensions are found to be quite high according to Kılıç (2016). The research data's adherence to the assumption of normal distribution has been tested with kurtosis and skewness values. Accordingly, since the kurtosis and skewness values for the dimensions and overall scale are between -1.5 and +1.5, it is stated that the assumption of normal distribution is met (Tabachnick and Fidell, 2013).

Table 2 also presents measured values related to the Sustainable Leadership Behaviors Scale, its dimensions, and statements. According to the opinions of the participants, the levels of sustainable behavior among health managers are seen to be above the medium level (x=3.42, s:1.27). When examining the average values by dimensions, the dimension with the lowest level is found to be Behaviors Related to Institutional Functioning (BRIF), while the dimension with the highest average is related to the sensitivity of resource preservation, namely Conservation Sensitivity Behaviors (CSB). When examining the averages for the statements, the two statements with the lowest averages are "Thinks more of the well-being of everyone in the institution than their own interests" (x=3.21) and "Supports democratic governance" (x=3.22), while the statements with the highest averages are "Supports recycling practices" (x=3.64) and "Has sensitivity towards the separation of waste" (x=3.75). From this, it can be inferred that corporate and social sustainability are somewhat low, while behaviors related to environmental sustainability are somewhat high.

Table 3 presents the group averages for Sustainable Leadership Behavior and its sub-dimensions based on demographic and some other variables. However, socio-demographic variables that did not show statistically significant differences are not included in this table. The study found that female employees tend to have more negative opinions about their managers' sustainable leadership behavior levels ($p<0.05$). When examining the thoughts of participants on their managers' sustainable leadership behaviors based on their education levels,

Table 3: Group Differences in Sustainable Leadership Behavior Level

Variables	N 354	BRIF $\bar{X}$ \s	BREE $\bar{X}$\s	BRES $\bar{X}$\s	BCS $\bar{X}$\s	Sustainable Leadership $\bar{X}$\s
Gender						
Female	141	3,04\1,26	3,30\1,20	3,35\1,19	3,37\1,22	3,17\1,17
Male	213	3,51\1,36	3,65\1,29	3,65\1,28	3,67\1,29	3,57\1,30
T Test (p)		0,001	0,001	0,002	0,003	0,003
Education Level						
Primary and Secondary Education	47	3,99\1,22	4,07\1,2	4,14\1,06	4,19\1,11	4,05\1,13
Associate Degree	87	3,37\1,34	3,63\1,30	3,78\1,23	3,71\1,31	3,52\1,26
Bachelor's Degree	194	3,10\1,31	3,27\1,25	3,78\1,14	3,27\1,25	3,17\1,24
Graduate Degree	26	3,63\1,35	3,88\0,99	3,53\1,25	3,96\0,97	3,73\1,16
ANOVA Test (p)		0,001	0,001	0,001	0,001	0,001
Post Hoc (Tukey's)		(1-3)	(1-3)	(2-1,3)	(3-1,2,4)	(1-3)
Profession						
Physician	56	3,69\0,77	3,70\0,79	3,58\0,89	3,66\0,85	3,67\0,75
Nurse	93	2,93\1,29	3,37\1,15	3,36\1,21	3,41\1,19	3,13\1,17
Midwife	23	3,24\1,39	3,25\1,27	3,33\1,22	3,40\1,27	3,27\1,30
Other Health Personnel	135	3,11\1,44	3,29\1,43	3,37\1,36	3,32\1,41	3,20\1,39
Administrative Staff	47	4,33\1,07	4,34\1,09	4,41\1,05	4,41\1,06	4,35\1,04
ANOVA Test (p)		0,009	0,001	0,001	0,001	0,001
Post Hoc (Tukey's)		(2-1,5) (4-1,2) (5-2,4)	(5-2,3,4)	(5-1,2,3,4)	(5-1,2,3,4)	(5-1,2,3,4)
Experience Status of the Managers						
Inexperienced	60	1,66\0,84	2,11\0,99	2,10\1,06	2,07\1,01	1,85\0,85
Moderately Experienced	140	2,93\1,00	3,19\1,03	3,24\1,00	3,24\1,00	3,06\0,92
Experienced	154	4,33\0,85	4,35\0,89	4,40\0,87	4,40\0,87	4,35\0,82
ANOVA Test (p)		0,009	0,001	0,001	0,001	0,001
Post Hoc (Tukey's)		(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)
The Perception of Managers Acting in Accordance with Ethical Principles						
No	73	1,66\0,73	2,29\1,15	2,32\1,13	2,22\1,09	1,93\0,80
Partially	125	2,95\0,96	3,08\1,01	3,12\0,97	3,16\0,96	3,02\0,90
Yes	156	4,41\0,72	4,43\0,75	4,43\0,75	4,48\0,75	4,42\0,70
ANOVA Test (p)		0,001	0,001	0,001	0,001	0,001
Post Hoc (Tukey's)		(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)
The Perception of Managers Adopting a Philosophy of Continuous Learning						
No	74	1,69\0,80	2,14\1,05	2,16\0,99	2,11\1,00	1,89\0,80
Partially	119	2,90\0,95	3,12\0,95	3,19\0,98	3,21\0,95	3,02\0,88
Yes	161	4,39\0,71	4,43\0,73	4,42\0,73	4,46\0,75	4,41\0,68
ANOVA Test (p)		0,009	0,001	0,001	0,001	0,001
Post Hoc (Tukey's)		(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)	(1-2-3)

it was determined that those with undergraduate education have more negative thoughts. In the context of professional groups, nurses were found to have the most negative thoughts about their managers' sustainable leadership levels, while administrative staff were observed to have the most positive thoughts.

When examining sustainable leadership behavior levels based on managers' experience, it is observed that employees have more positive thoughts about experienced managers and more negative thoughts about inexperienced managers. Additionally, employees who believe their managers act according to ethical

principles have more positive thoughts about their sustainable leadership behaviors. Similarly, positive perceptions towards sustainable leadership behavior are observed for managers believed to embrace a philosophy of continuous learning. These differences are consistent across all dimensions and the overall scale.

DISCUSSION AND CONCLUSION

This study was conducted with the participation of health personnel working in public hospitals in Bitlis province and evaluated the sustainable leadership levels of hospital managers. The research explored the relationships between demographic variables and sustainable leadership behaviors. Findings indicated that the majority of participants are young, have undergraduate education, and are male. Sustainable leadership behaviors were generally assessed at a medium level, with especially high scores in dimensions related to environmental sustainability. Nurses and highly educated employees reported more negative opinions about their managers' leadership behaviors.

An interesting finding of the study is the perception that leaders who act ethically and adopt a philosophy of continuous learning are considered more sustainable leaders. The relationship between ethics and sustainability has been proposed in other studies as well. For instance, Suriyankietkaew and Kungwanpongpun (2022) found that ethical behavior is one of the most significant predictors of sustainability outcomes. Similarly, Kantabutra (2011) in his study at Theptarin Hospital in Thailand found that the ethical behavior of health managers is one of the most effective evidence of sustainable leadership.

Kantabutra (2011) similarly emphasizes that being innovation-oriented, managing and sharing knowledge, developing management, retaining staff, and exhibiting social responsibility behaviors are strong qualities of sustainable leaders. Abid et al. (2023) also argue that social and humanistic leadership elements that consider employee well-being are very important for the health sector. This study found that managers' sustainable leadership virtues in social and individual areas are somewhat lower compared to environmental and economic dimensions.

Globally, the number of healthcare personnel is not yet at the expected level (WHO, 2021), and pressures and challenges on health systems could increase due to early retirements or quitting the profession caused by poor management practices or systemic effects. Therefore, it is necessary to consider and initiate improvements towards the social dimensions of sustainability, as much as the environmental and economic dimensions. The model developed by Lewandowska et al. (2023), which suggests that organizational sustainability behaviors are positively affected when employees actively participate in corporate social sustainability activities, can contribute to this process.

Despite being at a better level compared to other dimensions, the potential for improvement in the environmental sustainability dimension is notable. The relatively good status in the environmental sustainability area can be explained by the awareness created as a result of the Ministry of Health in Turkey leading waste disposal efforts and the construction of less resource-consuming and less waste-producing institutions, with other ministries and municipalities also taking responsibility (Regulation on Medical Waste Control Practices Circular, 2010; Ministry of Health, 2024 [saglik.gov Energy Efficiency]). Akkaya (2020) found in her qualitative study with health managers that perceptions towards waste management are positively similar between private and public institution managers due to the obligations imposed by legislation. However, this study still identifies some negative perceptions regarding health managers' levels of environmental sustainable leadership. Assessing the provided health service solely by changes made to individual and community health status, without considering environmental, economic, and social impacts, brings many problems (Yeşildağ and Esatoğlu, 2023). Therefore, it is emphasized that managers should keep environmental sustainability more prominently on the agenda, include sustainability topics in health professionals' education (Shaw et al., 2021), and display lean management in supply and production processes (Zhu et al., 2018).

Managers with above-average levels in the economic sustainability dimension, which is one of the essential elements of sustainable leadership, could further enhance their skills and knowledge in this direction for individual and institutional contributions. Yılmaz et al. (2023) highlighted waste management, preference for economical products, and digitalization concepts in their qualitative study with health managers in Konya. It is considered that increasing investments in digitalization in health institutions in the region could be more efficient in the long term.

There is a limited number of measurement tools and studies on health managers' sustainable leadership skills. In the literature, a quantitative study measuring

this topic in the health sector has been encountered. Contrary to the findings of this study, Toker and Çınar (2018) determined that managers in Istanbul had below-medium level environmental sustainability skills, while their social sustainability skills were above medium.

An important contribution of this study is demonstrating that a tool measuring a broad perspective in environmental and social sustainability, as well as economic sustainable leadership areas, can be validly and reliably used in the health sector.

Sustainable leadership in health institutions, especially in the complex and dynamic environment of healthcare services, emerges as a critical element of institutional success and long-term resilience. Sustainable leadership encompasses characteristics such as adherence to ethical values, awareness of environmental and social responsibility, efficient use of resources, and a vision for the future. This leadership approach offers a structure compatible with the goals of improving the quality of patient care, enhancing employee satisfaction and loyalty, and ensuring the continuity of healthcare services. Sustainable leaders can respond quickly to the changing needs of health institutions, generate innovative solutions, and prepare the institution for the future. Additionally, these leaders support the personal and professional development of employees, providing the necessary competence and motivation for continuous improvement of healthcare services. The implementation of sustainable leadership in health institutions also positively impacts the overall health status of the community and access to healthcare services. This leadership approach allows institutions to reduce their environmental footprint, raise ethical standards, and build stronger connections with the community. Consequently, sustainable leadership in health institutions should be considered a fundamental requirement for a healthy and sustainable future at both institutional and societal levels.

Based on the findings of this study, certain recommendations have been developed. These recommendations include:

- Regular training and seminars should be organized to develop hospital managers' sustainable leadership skills.
- Policies focusing on gender equality should be developed to improve female health workers' perceptions of leadership.
- Strategies that encourage managers' ethical behaviors to enhance employees' leadership perceptions should be adopted.
- Managers who embrace a philosophy of continuous learning and development should be prioritized, and this approach should be integrated into the institutional culture.
- Mentoring and coaching programs should be implemented to increase managers' experience levels and effectively utilize these experiences.
- Special projects and initiatives should be initiated for development in institutional functioning and social sustainability areas.
- Policies that support and expand the high evaluations in the environmental sustainability area should be developed.
- Specific programs should be created to address the needs and expectations of nurses to improve their leadership perceptions.
- Special trainings should be organized for managers to support the positive leadership perceptions of administrative staff and establish effective communication with this group.
- More sophisticated leadership approaches and strategies should be developed to meet the expectations of highly educated employees.
- Comprehensive performance evaluation systems should be established to assess and improve health managers' leadership skills.
- Awareness and training campaigns should be organized across the sector to promote sustainable leadership practices in the health sector.
- Award and recognition programs should be developed to encourage health managers' sustainable leadership practices.
- Researchers interested in this area should conduct comparative studies between different health institutions or healthcare service models to examine the effectiveness and differences of sustainable leadership practices. Such comparative studies will help understand how specific leadership practices operate in different contexts and under which conditions they are more effective.

Limitations, Strengths and Future Research

An important limitation of the study is that it presents data collected in a specific period in public hospitals in only one province of Turkey. Therefore, the findings of the study cannot be evaluated beyond cross-sectional and regional estimations. However, no study was found to examine sustainable leadership in health care organizations in Turkey. It is thought that the cross-sectional and regional measurement of the study, which is unique with this strong aspect, is partially overshadowed. In addition, the presentation of a scale with validity and reliability in the health sector may pave the way for future studies on this subject. The fact that the subject is new in the literature and that there are no studies in health institutions shows that many studies can be conducted when examined from a different perspective. For this reason, studies modeling many different variables can be conducted to examine the antecedents and successors of sustainable leadership in health institutions. In this context, the findings of managerial ethics approach, continuous learning culture and experience, and the areas of low sustainability at the level of items, which are noteworthy in this study, can be instructive.

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