Academic Ambidextrous Leadership: Faculty Members' Ambidexterity and Innovative Performance

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Abstract

Background: The ever-changing world, specifically the healthcare system, makes an urgent need for academically ambidextrous leaders who drive innovation among faculty members through promoting both explorative and exploitative behaviors. **Aim:** Explore the relationship between academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance. **Design:** Descriptive correlational study design. **Setting**: This study was conducted at the Faculty of Nursing of Tanta University. **Subjects:** All available (n = 150) faculty members, including demonstrators, assistant lecturers, and lecturers. **Tools:** Three tools were utilized: Ambidextrous Leadership Questionnaire, Faculty Members' Ambidexterity Behaviors Questionnaire, and Faculty Members' Innovative Performance Self-Report Questionnaire. **Results:** A high percent (68.7%) of faculty members perceived a high academic ambidextrous leadership level. Also, the majority (88.7% & 78.7%) of them showed high levels of ambidexterity and innovative performance, respectively. **Conclusion:** There were statistically significant positive correlations between academic ambidextrous leadership, faculty members' ambidexterity and their innovative performance. **Recommendations:** Academic leaders' continuous adoption of ambidextrous leadership behaviors as a philosophy that promotes work values, ethics, and academic innovation.

Key words: Academic leadership, Ambidextrous leadership, Ambidexterity, Faculty members & Innovative performance.

Introduction

Effective leadership is a critical element in shaping the performance, culture, as well as flexibility of groups and organizations. In today's competitive world and quickly evolving healthcare landscape, academic health organizations must be dexterous and adaptable, putting academic leaders under pressure to nurture the culture of innovation and adaptation for nursing education reform and remaining competitive **(Horton, 2020; Jerab & Mabrouk, 2023)**.

Ambidextrous leadership is a new paradigm that has emerged as a powerful concept in the dynamic management landscape **(Ali, Ahmed, & Bashandy, 2023)**. Ambidextrous leadership is a dynamic and varied strategy that the academic leaders use to handle the varying demands of innovation and stability, which becomes increasingly recognized as a major factor in fostering faculty members' ambidexterity, creativity, and organizational success (**Mutonyi, Slatten, & Lien, 2020)**.

Literally, ambidexterity implies the capacity of an individual to use both hands equally or, in other words, to blend two very different traits simultaneously **(Slatten, Mutonyi, Nordli, & Lien, 2023)**. Academically ambidextrous leaders take an imperative role in increasing the effectiveness and educational quality in universities. They are in charge of creating a vision and mission based on research and data, developing a safe and collaborative educational environment, as well as inspiring innovation, creativity, and target goals among faculty members **(Mukhopadhyay, 2023)**.

Academic leaders are categorized to include deans, department heads, senior faculty members, and other professional support personnel who oversee the processes of making decisions and taking actions in tutoring, curriculum, and students' learning assessment **(Ervay, 2006; Karadağ, 2017)**.

Academic leaders frequently come from within faculty ranks, moving up the ranks from assistant to associate to full professor. Senior-level faculty members are frequently chosen to serve as department chairs or other department leaders and continue to show success to the next. Those leaders may transition back to their positions as faculty peers after completing their terms as leaders **(Beronda &Montgomery, 2020)**.

Faculty members are considered to be among the most prominent individuals on higher education campuses. They determine what should be included in the nursing curriculum, which experiences are crucial for nursing students to have, and what information should be added or removed. They teach more conceptually and emphasize the development of clinical reasoning skills instead of concentrating as much on content coverage **(Labrague, McEnroe-Petitte, D'Souza, Hammad, & Hayudini, 2020; Westerdah, Carlson, Wennick, & Borglin, 2022).**

Additionally, faculty members work together with their colleagues in practice to identify their needs, resulting in health care reform **(Abd-Elhady, Abdelhalim, Abd El Reheem, & Elghabbour, 2022)**. Those professionals are playing a critical role in determining the upcoming generations' future **(Sezer & Şahin, 2021)**. In particular, nursing faculty members who have more contact with nursing students in clinical areas are regarded as the most crucial elements in accomplishing clinical objectives and helping learners attain the information, abilities, and attitudes expected for professional nursing practice. So, their ability to develop, implement, and assess more creative teaching methods should be part of their' core competencies to produce highly qualified nursing students, handle their jobs' demands and compete in marketing **(Soroush, Andaieshgar, Vahdat & Khatony, 2021)**.

Academic ambidextrous leadership holds a crucial role in enforcing faculty members to embrace change, incorporate technology, and use innovative teaching techniques when instructing nursing students **(Ali, Ahmed, & Bashandy, 2023)**. Academic ambidextrous leadership switches the balance of academic leaders amongst opening and closing leadership behaviors for fostering faculty members' innovation through integration in exploratory and exploitative actions, which are essential components of the innovation process. Furthermore, it entails simultaneously managing the present and future, looking for new opportunities, while maximizing ongoing operations **(Kafetzopoulos, 2021)**.

Two divergent dimensions of ambidextrous leadership include opening and closing behaviors **(Asif, 2020)**. Opening leadership behaviors broaden followers' exploratory actions by allowing independent thinking, encouraging challenging the status quo, enhancing experimentation and risk-taking, accepting mistakes, and learning from error. On the other side, closing leadership behaviors reflect followers' exploitative actions by following rules and values, keeping a close eye on, managing goal achievement, planning tasks in advance, establishing work objectives, striving for uniform task completion, and taking corrective actions **(Ceri Booms, 2020; Babu, Prasad, & Prasad, 2024)**.

In this context, academically ambidextrous leaders utilize open and close leadership behaviors, flexibly alternating between them according to situations that showcase faculty members' ambidexterity, and include their capacity to combine both explorative and exploitative activities **(Usman, Ghani, Islam, Gul, & Mahmood, 2022).** Exploratory activities include looking for new opportunities, trying new experiences, seeking different approaches to a task, being adaptable when making mistakes and learning from them. Conversely, exploitative activities involve applying prior knowledge, experiences, and skills while adhering to existing rules, and policies **(Rosing & Zacher, 2017;**

Alghamdi, 2018). It is evident that both ambidexterity dimensions are paradoxical, divergent, and opposite. Exploitation activities rely on defined standards and routines, whereas expanding exploration activities requires continuous searching to establish variation and doing something new. Faculty members' ambidexterity entails relieving tension and accomplishing balance between those contradictory behaviors **(Slatten, Mutonyi, Nordli, & Lien, 2023)**. This balance suggests that both types of closing and opening behaviors should exist simultaneously, but at varying degrees depending on the situation or the needs of innovation task (**Kafetzopoulos, 2021; Jia, Hu, & Li, 2022)**. Academic ambidextrous leadership can positively motivate and encourage faculty members' feelings of being significant contributors to organizational growth when they have space to make innovative ideas and solutions which increase educational quality **(P. Pukkeeree, & N. Wongsuwan, 2020).**

Significance of the study

Academic faculty members' innovative performance is crucial for improving teaching quality for nursing students, driving research, and development **(Farzana & Charoensukmongkol, 2023; Jiang, Asante, Zhang, & Ampaw, 2023).** Dynamic-ambidextrous academic institutions that encourages faculty members to think creatively and generate novel ideas are conducive to ambidexterity, innovation, and succeeding in obtaining funding, drawing sponsorships, and strategic alliances that advance their reputation and financial stability **(Kebede, Terefe, & Ijigu, 2024; Qi & Wang, 2020)**. Therefore, this study sheds light on the relationship between academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance.

Aim of the study:

Explore the relationship between academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance

Operational definition:

Faculty members who are intended in this study are individuals employed by a university as academicians and often involved in teaching and research activities, including demonstrators, assistant lecturers, and lecturers based on their degree of qualifications and experiences (**Burchill & Anderson, 2019)**.

Research questions

- What are the levels of academic ambidextrous leadership at the Faculty of Nursing of Tanta University?
- What are the levels of faculty members' ambidexterity at the Faculty of Nursing of Tanta University?
- What are the levels of faculty members' innovative performance at the Faculty of Nursing of Tanta University?
- What are the correlations between academic ambidextrous leadership, faculty members'

ambidexterity, and their innovative performance?

Research design:

A descriptive-correlational study design was adopted

Subjects and Method

Setting

The current study was conducted at the Faculty of Nursing of Tanta University. It consists of seven academic departments, including critical care and emergency nursing, medical-surgical nursing, obstetric and gynecological nursing, pediatric nursing, community health nursing, nursing administration, and psychiatric and mental health nursing.

Subjects

All available (n =150) faculty members, including demonstrators, assistant lecturers, and lecturers. The exclusion criteria included faculty members with less than one year of experience as well as those who were not accepted to share.

Data Collection Tools:

Three tools were utilized as follows:

Tool I: Ambidextrous Leadership Questionnaire:

It was adopted by **Schindler, (2015**) and modified by the researcher guided by **Mahmood (2022) & Alghamdi, (2018)**. It involved two parts: **Part I: Faculty Members' Personal Data:** It included gender, age, marital status, academic position, academic department, and work experience years.

Part II: Faculty Members' Perceptions of Academic Ambidextrous Leadership: It was used to assess the ambidextrous leadership behaviors of academic leaders, including heads and supervisors of work as perceived by faculty members. It included 18 items categorized into two dimensions: opening leadership behaviors (8 items) and closing leadership behaviors (10 items).

Scoring system

Faculty members' responses were measured on a five-point Likert scale (1-5) where (1) never, (2) rarely, (3) sometimes, (4) often, and (5) always. Levels of academic ambidextrous leadership represented statistically based on the cut-off points as high level ≥ 75%, moderate level 60 %–< 75%, and low level <60%.

Tool II: Faculty Members' Ambidexterity Behaviors Questionnaire:

It was originally developed by **Mom, Van Den Bosch, & Volberda, (2007)** and modified by the researcher guided by **Ijigu, Alemu, & Kuhil, (2022) and Zacher, Robinson, & Rosing, (2016)** to assess faculty members' ambidexterity behaviors. It included 11 items categorized into exploration behaviors (5 items) and exploitation behaviors (6 items).

Scoring system

Faculty members' responses were measured on a five-point Likert scale (1-5) where (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. Levels of faculty

members' ambidexterity were categorized statistically based on the cut-off points as high level ≥ 75%, moderate level 60 %–< 75%, and low level <60%.

Tool III: Faculty Members' Innovative Performance Self-Report Questionnaire:

It was developed by the researcher guided by **Alghamdi, (2018) and Zacher, Robinson, & Rosing, (2016)** to assess faculty members' innovative performance from themselves using 4 items as follows; generating new ideas, working on implementing the new ideas, finding better methods of doing things, and establishing improved procedures and practices.

Scoring system

Faculty members' responses were measured on a five-point Likert scale (1-5) where (1) poor, (2) fair, (3) good, (4) very good, and (5) excellent. Levels of faculty members' innovative performance categorized statistically based on the cut-off points as high level ≥ 75%, moderate level 60 %–< 75%, and low level <60%.

Method

Tools Validity and Reliability: the three tools had been converted into Arabic and delivered to 5 experts in the nursing administration field to evaluate tools appropriateness and relevance, and changes were made in response to their comments. The values of content validity were 96%, 94%, and 97% for tools I, II, and III, respectively. **A pilot study** was conducted on 10% (n=17) of faculty members to assess the applicability and reliability of the study's tools. They weren't excluded from the entire study because nothing was altered. The Cronbach's alpha coefficient factor was employed to verify tools' internal consistency, with values of 0.857 for tool I, 0.913 for tool II, and 0.925 for tool III that indicated trustworthy internal consistency.

Ethical Considerations

With a code number of 427-3-2024, the Scientific Research Ethical Committee at the Faculty of Nursing of Tanta University granted approval for conducting the study. Moreover, approval was obtained from the Dean of the Faculty of Nursing to collect data. The participants in the study were given an explanation of its purpose, and then informed consent was gained to participate. They were guaranteed data privacy and the freedom to participate or leave at any time.

Data Collection Phase: Data was collected from faculty members, including demonstrators, assistant lecturers, and lecturers, via self-administered questionnaires. Three months, from July 2024 to September 2024, data was collected.

Data Analysis:

The version 20.0 of IBM SPSS software (IBM Corp., Armonk, NY) was utilized for analyzing data. The Percentages and numbers were employed to represent qualitative data. The distribution's normality was proven by the test of Kolmogorov-Smirnov. The terms of maximum, minimum, mean, median, and

standard deviation were employed to illustrate quantitative data. The Pearson coefficient was the test utilized to correlate between two quantitative variables that are normally distributed.

Results

Table 1 displays faculty members' personal data in the Faculty of Nursing of Tanta University. About half (48.7%) of faculty members belonged to the age range 25-<30, with a mean score of 30.47±3.99. The vast majority (96.7%) of faculty members were females and most (78.7%) of them were married. In addition, 44.7% of faculty members were demonstrators, while one-third (33.3%) of them were assistant lecturers, and 22.0% of them were lecturers. Concerning work experience years, around half (51.3%) of faculty members had <5 years with a mean score of 5.95 ± 4.55.

Figure 1 reveals overall levels of academic ambidextrous leadership as perceived by faculty members. As shown in the figure, the highest percent (68.7%) of faculty members perceived a high academic ambidextrous leadership level, and 20.7% of them had a moderate academic ambidextrous leadership level, but the minority (10.7%) had a low level.

Table 2: shows levels of academic ambidextrous leadership behaviors as perceived by faculty members. As noticed in the table, high percent (74.7% and 68.0%) of faculty members perceived high levels of closing and opening leadership behaviors among academic leaders, respectively.

Figure 2: depicts overall levels of faculty members' ambidexterity. It reveals that the majority (88.7%) of faculty members showed a high ambidexterity level, while only 7.3% and 4.0% of them showed moderate and low ambidexterity levels, respectively.

Table 3: represents levels of faculty members' ambidexterity behaviors. It clears that an equal and highest percentage (88.0%) of faculty members had high explorative and exploitative behaviors, with a mean score of 22.04±2.67 and 26.61 ± 3.61, respectively.

Table 4: presents overall levels of faculty members' innovative performance. The majority (78.7%) of faculty members had a high innovative performance level, while only 11.3% and 10.0% of them had moderate and low innovative performance levels, respectively with a total mean score of 17.22±2.91.

Table 5: declares correlations between academic ambidextrous leadership, faculty members' ambidexterity, and their innovative performance. The table reveals statistically significant positive correlations between academic ambidextrous leadership, faculty members' ambidexterity and their innovative performance at $p \leq 0.05$.

Table 6: states the relation among faculty members' personal data, levels of academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance. The table shows no

statistically significant relations among faculty members' personal data (including age, academic position, and years of experience), levels of academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance.

Table (1): Distribution of faculty members' personal characteristic in Tanta University, Faculty of Nursing (n = 150)

Personal Characteristics	No.	%
Age		
25-<30	73	48.7
30-<35	44	29.3
≥35	33	22.0
Min. – Max.	25.0 – 41.0	
Mean ± SD.	30.47 ± 3.99	
Sex		
Male	5	3.3
Female	145	96.7
Marital status		
Married	118	78.7
Not Married	32	21.3
Academic Position		
Demonstrator	67	44.7
Assistant lecturer	50	33.3
Lecturer	33	22.0
Academic Department		
Medical-surgical nursing	28	18.7
Critical care and emergency nursing	16	10.7
Psychiatric and mental health nursing	17	11.3
Nursing administration	23	15.3
Obstetrics and gynelogical nursing	22	14.7
Community health nursing	19	12.7
Pediatric nursing	25	16.7
Years of experience		
<5	77	51.3
5-<10	35	23.3
10- ≥15	38	25.4
Min. – Max.	1.0 – 17.0	
Mean ± SD.	5.95 ± 4.55	
Median	4.0	

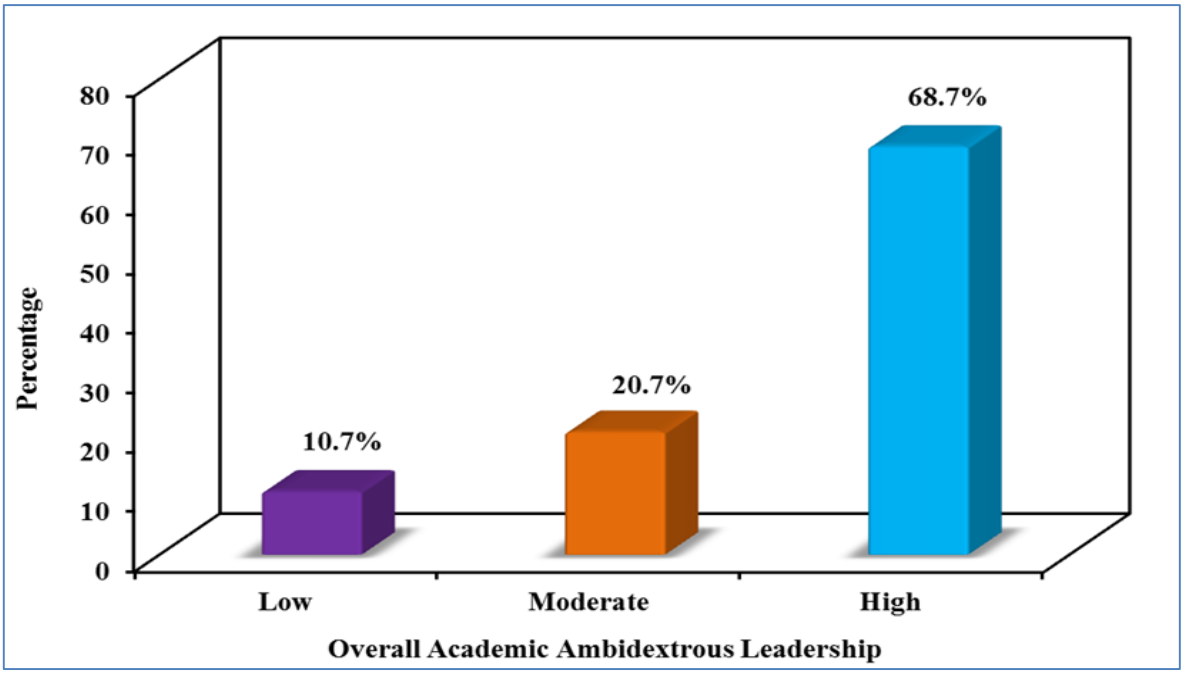

Figure (1): Overall levels of academic ambidextrous leadership as perceived by faculty members (n = 150)

Table (2): Levels of academic ambidextrous leadership behaviors as perceived by faculty members (n = 150)

Academic Ambidextrous Leadership Behaviors	Low (<60%)		Moderate (60 % – < 75%)		High (≥75%)		Total score
	No.	%	No.	%	No.	%	Mean ± SD.
Opening leadership behaviors	20	13.3	28	18.7	102	68.0	33.28 ± 5.58
Closing leadership behaviors	14	9.3	24	16.0	112	74.7	42.89 ± 6.04

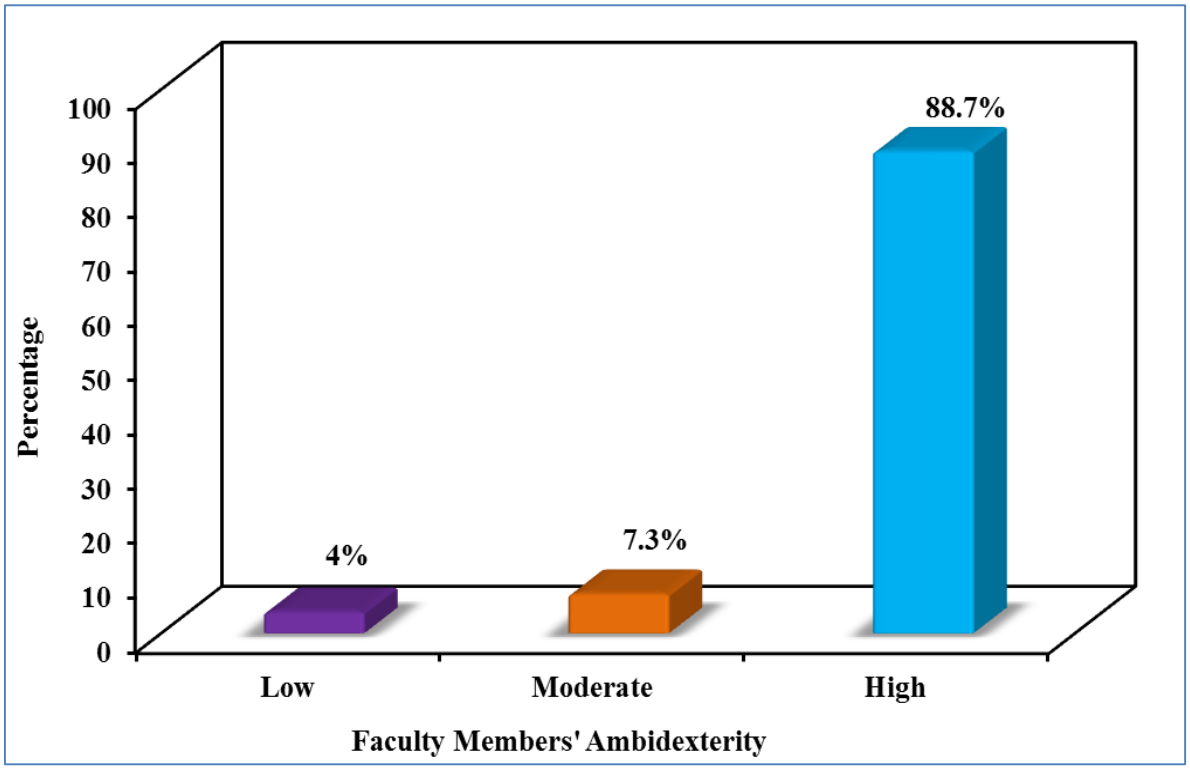

Figure (2): Overall levels of faculty members' ambidexterity (n = 150)

Table (3): Levels of faculty members' ambidexterity behaviors (n = 150)

Faculty Members' Ambidexterity Behaviors	Low (<60%)		Moderate (60 % – < 75%)		High (≥75%)		Total score
	No.	%	No.	%	No.	%	Mean ± SD.
Exploration behaviors	6	4.0	12	8.0	132	88.0	22.04 ± 2.67
Exploitation behaviors	7	4.7	11	7.3	132	88.0	26.61 ± 3.61

Table (4): Overall levels of faculty members' innovative performance

Innovative Performance Self-Report	No.	%
Low (<60%)	15	10.0
Moderate (60 % – < 75%)	17	11.3
High (≥75%)	118	78.7
Total score		
Mean ± SD.	17.22 ± 2.91	

Table (5): Correlation between academic ambidextrous leadership, faculty members' ambidexterity, and their innovative performance (n = 150)

Variables	r	p
Academic Ambidextrous Leadership vs. Faculty members' Ambidexterity	0.659*	<0.001*
Academic Ambidextrous Leadership vs. Innovative Performance	0.592*	<0.001*
Faculty members' Ambidexterity vs. Innovative Performance	0.688*	<0.001*

r: Pearson coefficient ***: Statistically significant at p ≤ 0.05**

Table (6): Relation between faculty members' personal data, levels of academic ambidextrous leadership, faculty members' ambidexterity and innovative performance (n = 150)

Personal data		Academic Ambidextrous Leadership						Faculty members' Ambidexterity						Innovative Performance Self-Report					
		Low (n = 16)		Moderate (n = 31)		High (n= 103)		Low (n = 6)		Moderate (n = 11)		High (n =133)		Low (n = 15)		Moderate (n = 17)		High (n= 118)	
	N	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Age																			
25-<30	**73**	7	9.6	21	28.8	45	61.6	4	5.5	5	6.8	64	87.7	7	9.6	10	13.7	56	76.7
30-<35	**44**	6	13.6	3	6.8	35	79.5	1	2.3	3	6.8	40	90.9	3	6.8	4	9.1	37	84.1
≥35	**33**	3	9.1	7	21.2	23	69.7	1	3.0	3	9.1	29	87.9	5	15.2	3	9.1	25	75.8
FET (p)		**8.831 (0.060)**						**1.055 (0.961)**						**2.157 (0.722)**					
Academic position																			
Demonstrator	**67**	6	9.0	18	26.9	43	64.2	2	3.0	5	7.5	60	89.6	6	9.0	10	14.9	51	76.1
Assistant lecturer	**50**	7	14.0	6	12.0	37	74.0	3	6.0	3	6.0	44	88.0	5	10.0	4	8.0	41	82.0
Lecturer	**33**	3	9.1	7	21.2	23	69.7	1	3.0	3	9.1	29	87.9	4	12.1	3	9.1	26	78.8
Test of Sig. (p)		**χ^2 = 4.258 (0.372)**						**FET=1.240 (0.938)**						**FET = 1.734 (0.799)**					
Years of experience																			
<5	**77**	9	11.7	21	27.3	47	61.0	3	3.9	6	7.8	68	88.3	8	10.4	10	13.0	59	76.6
5-<10	**35**	3	8.6	4	11.4	28	80.0	1	2.9	2	5.7	32	91.4	1	2.9	3	8.6	31	88.6
10-≥15	**38**	4	10.5	6	15.8	28	73.7	2	5.3	3	7.9	33	86.8	6	15.8	4	10.5	28	73.7
FET(p)		**4.905 (0.291)**						**0.712 (1.000)**						**3.985 (0.414)**					

χ^2: **Chi square test** **FET: Fisher Exact test**

p: p value for comparison between the studied categories

Discussion

Faculty members are the building blocks of any college. Those professionals are the key source of information for nursing students and future practitioners to construct their professional identities. That's why colleges and universities seek and enforce more skilled and innovative nursing educators to increase nursing students' scientific levels **(Mohamed, Abdelrahman, Ali, & Ahamed, 2021)**. For innovation to occur, both organizational culture and structure, including the availability of resources and support for innovation, must be able to accommodate change **(Joseph, Huber, Bair, Moorhead, & Hanrahan, 2019)**.

Nursing academic leaders are crucial in helping faculty members be innovative, achieve their goals, and have the capacity to integrate various leadership behaviors. Ambidextrous leadership has become a crucial component in increasing faculty members' ambidexterity and innovative performance through maintaining balance between maximizing efficiency and adapting to new situations simultaneously, that drive innovation **(Nasution, Soemaryani, Yunizar, & Hilmiana, 2024).**

Academic ambidextrous leadership

As revealed from the study's results, a high percent of faculty members perceived a high academic ambidextrous leadership level, as well as high levels of opening and closing leadership behaviors among academic leaders. This may be justified by ambidextrous leadership that can benefit the educational facility to achieve its vision and mission, including graduating excellent professional students and keeping pace with global developments. Furthermore, the survival of an organization hinges on its ability to innovate through reconstruction and ongoing change. That's why academic leaders tend to be ambidextrous, holding open and closed behaviors for creating a supportive climate for faculty members to achieve daily operations, similarly coping with world advancements.

In line with these findings, **Qahtan Muhammad Ali & Dawood, (2023),** who found that ambidextrous leadership was at a higher percentage among senior leaders who represented interest in their behaviors. They indicated that ambidextrous leadership is considered a human asset and plays a core value in strengthening modern strategic foundations and achieving organizational goals and success. In this regard, **Mueller, Renzl, & Will, (2020)** stated that achieving organizational ambidexterity is a crucial requirement for preserving a competitive edge, which aims to expand organization outcomes on a macro level through micro-level leadership behaviors.

Additionally**, Boden, (2019)** indicated that in this changing landscape of higher education, faculty members who revolutionize the teaching process to address challenges of 21st century developments may very well thrive.

So, leaders of higher education institutions who value teaching need to develop and support faculty members' innovation in their work as teachers. Furthermore, **Mohammadi, Marzooghi, & Dehghani, (2017)** clarified that university management and leadership ought to consider academic innovation as a culture and an inherent component of university operations. Actually, academic innovation is higher education's response to fulfilling the needs of changing times.

Faculty members' ambidexterity

As represented in the study's results, the majority of faculty members exhibited a high level of ambidexterity in both explorative and exploitative behaviors. This can be explained by academic ambidextrous leaders support for both faculty members' explorative behaviors by holding open leadership behaviors and exploitative behaviors by holding closed leadership behaviors. These behaviors foster an organizational culture that encourages learning, experimentation, and adapting to varying circumstances, as well as drives faculty members' ambidexterity and innovation.

In this scene, the study of **Susilo, Yudiono, & Priambada, (2024)** supports this finding and found that the respondents showed a high ambidexterity level and explained that organizational climate, including providing an open atmosphere, support, and training, act as supporting factors for those ambidextrous behaviors and improve their capacity for both exploration and exploitation ambidexterity behaviors.

Also, **Veries, (2020)** found increased participants' innovative work behaviors and related that to the ambidextrous leaders' opening and closing behaviors. This study explained that leaders' opening and closing behaviors foster followers' autonomy and encouragement, which in turn enhance their innovative behaviors.

Faculty members' innovative performance

It was seen that the majority of faculty members had a high innovative performance level. This can be rationalized by availability of an open atmosphere for faculty members to discuss, communicate, think creatively, and try new things, similarly committed to organizational rules and available resources. These facilities allowed them to come up with fresh ideas and put them into practice using improved procedures.

In line with this finding, **Mutonyi, González-Piñero, Slåtten, & Lien, (2024)** found high creative performance among the frontline health professionals and explained that there was a positive relation between creative performance and ambidextrous leadership. Also, **Mohamed, Abdelrahman, Ali, & Ahamed, (2021)** supported this result in which the innovation among nursing educators was at a higher percentage. In addition, **Faulks, Song, Waiganjo, Obrenovic, & Godinic, (2021)** clarified that encouraging staff thinking outside the box and generate contemporary ideas

would enhance work environment which inspires innovation and pioneering discoveries. Moreover, **Gerlach, Hundeling, & Rosing, (2020)** verified that ambidextrous behaviors of leaders help subordinates to accomplish high innovation performance.

On the contrary, **Mohammadi-Mehr & Araei, (2020)** found that innovation among faculty members of Medical Sciences University was at a lower level and recommended the necessity of effective usage and managing faculty members' knowledge and available resources which empower them to innovate and survive.

Correlation between academic ambidextrous leadership, faculty members' ambidexterity and their innovative performance

Results revealed statistically significant positive correlations between academic ambidextrous leadership, faculty members' ambidexterity, and their innovative performance. This can be explained by the nursing academic ambidextrous leadership fostering a supportive climate for enforcing explorative and exploitative behaviors of faculty members' ambidexterity that consequently reflects on their innovative performance.

Similar findings of **Kebedea, Terefeb, & Ijigua, (2024)** who explored a good and significant impact of ambidextrous leadership on academic staff's innovation. Also, **Wahab, Subramaniam, Ho, & Bali Mahomed, (2024)** explored a positive relation between ambidextrous leadership and academic staff innovative performance, which indicated that initiative universities can improve the innovative performance of their academic staff through effective leadership styles.

In addition to, **Zhao, Hu, Ahmed, & Huang, (2023**) discovered a positive correlation between ambidextrous leadership and participants' innovative behaviors. Furthermore, **Akıncı, Alpkan, Yıldız, & Karacay, (2022)** found a significant a positive relationship between ambidextrous leadership and innovative performance, which mediated by a supportive climate for innovative behaviors. Moreover, **Guijarro-García, Ribeiro-Soriano, Pérez-Ruiz, & Martínez-Climent, (2020)** emphasized that ambidextrous leadership combines both open and closed leadership styles to increase innovation. While, closing leadership behaviors impose rules and restrictions that must be followed, open leadership behaviors encourage experimentation and exploring new ideas. This interaction leading to a rise in academic innovation performance.

More, **Kung, Uen, & Lin, (2020); Ma, Zhou, Chen, & Dong, (2019)** support this finding and explored that ambidextrous leaders significantly affect positively staff innovative performance.

Relation between faculty members' personal data, levels of academic ambidextrous leadership, faculty

members' ambidexterity and innovative performance

Results revealed no statistically significant relations among faculty members' personal data (including age, academic position, and years of experience), levels of academic ambidextrous leadership, faculty members' ambidexterity, and innovative performance. This can be justified by the whole faculty experiencing similar supportive, ambidextrous leadership practices at the workplace. Also, along with the academic career, faculty members are under growing pressure to adopt new technologies and pedagogies while developing and publishing as early career academics. Furthermore, early career academics are always striving to prove themselves, looking for new opportunities and new futures, and picking up skills from their leaders, reflecting their ambidexterity if the work climate facilitates these efforts.

In the same line, **Yunusova & Panahli, (2024)** who declared that junior faculty members with doctorates or master's degrees are essential to higher education institutions. They are the primary determinants of the quality of higher education. They must adopt new pedagogies and technologies. So, they struggle to be more innovative, gaining professional skills which supported by their academic institution administration to continue in the academic profession.

In this aspect, **Oke & Fernandes, 2020; Janib et al., 2021** declared that faculty members' innovative performance is essential in the higher education sector to perform a variety of tasks, including teaching, directing, publishing competitive research, and handling administrative responsibilities. Therefore, their creativity is essential for bringing fresh and creative ideas, methods, tools, and processes to the classroom, which will benefit students, colleges, and the university.

Conclusion

In conclusion, the faculty members perceived a high level of academic ambidextrous leadership. The majority of faculty members showed high ambidexterity and innovative performance levels. Furthermore, there were statistically significant positive correlations between academic ambidextrous leadership, faculty members' ambidexterity, and their innovative performance.

Recommendation

For academic leaders

- Continuous adoption of ambidextrous leadership behaviors as a philosophy to promote work values, ethics, and innovation.
- Effective management of faculty members' knowledge through organization learning and human resources management to promote their creativity and innovation.
- Conduct development training programs about faculty members' innovative behaviors, e.g., pedagogical innovations and improving student learning.
- Conduct periodic evaluations regarding faculty members'

innovations and incorporate those changes with current procedures.
- Establish a reward system that encourages faculty members' ambidextrous performance and increases the likelihood of achieving goals at both research and educational levels.

For faculty members

- Being open to recent ideas, continuous innovation, and pedagogical improvement.
- Integrate the ambidextrous leadership in undergraduates' and postgraduates' curriculum.
- Periodic self-assessment of their teaching process and creating a plan to enhance their methods, which would promote their pedagogical innovation.

Further research

- Conduct further research to assess the relation between academic ambidextrous leadership and organizational competitive advantage, organizational excellence, or nursing work welfare.

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