Tomorrow's Physicians' Perceptions of How Physicians Should Be Led and Their Interest in Pursuing Leadership Positions

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Abstract

This qualitative study investigated tomorrow's physicians' - medical students' - perceptions of how physicians should be led and their interest in pursuing leadership positions as these issues have never been studied in Finland. In 2020, an online questionnaire was distributed to final-year medical students (n = 162, response rate 110/68%). Students' level of interest in working as physician leaders in the future was also investigated. An inductive content analysis by thematization was the chosen method. To make leadership successful in the medical profession, both leadership and management skills are required. Physicians should be seen as individuals and should be led by a trustable, reachable, innovative, and visionary physician leader who participates in patient work in addition to leadership work with good social, communication, and problem-solving skills as well as common sense and emotional intelligence. Furthermore, a good leader ensures that physicians can focus on their medical work with appropriate resources in well-functioning conditions. Our study revealed three novel results: (1) A good physician leader reflects the virtues of a good physician; (2) physicians' workload should be customized according to factors such as physicians' diversity and work competence; and (3) the interest in future leadership among medical students was greater compared to the findings of previous literature.

Key Words: Physician, physician leadership, medical student, medical education

Introduction

Leadership competence is expected to become a great priority for physicians in medical education as well as healthcare settings (Lindgren and Gordon, 2016; Rotenstein et al., 2019, 2021). Furthermore, physician engagement in healthcare leadership has been associated with improved organizational performance and patient care (Goodall, 2011; Sarto and Veronesi, 2016; Tasi et al., 2019) and demonstrated to have a positive impact on workforce and patient outcomes (Onyura et al., 2019) as well as staff well-being (Päätalo and Kauppi, 2016).

Even though not every physician will pursue a formal leadership position in health organizations, most will likely serve as informal leaders in their community or practice (Maddalena, 2016) and will consequently influence their organizations as informal leaders (Huikko-Tarvainen, 2022; Wilson et al., 2020). Surprisingly, however, it has been found that numerous medical students are not particularly interested in leadership work (Abbas et al., 2011). Moreover, resident physicians do not consider formal leadership positions as very appealing, primarily due to the competing duties of physicians and leaders, as they feel that one can be either a skilled physician or a skilled leader, but not both. Such contradictory logic may lead to situations in which promising younger physicians with leadership qualities turn down offers of taking on leadership positions as they are a threat to the identity of a practicing physician. (Styhre et al., 2016.)

Nevertheless, medical students have emphasized the need to incorporate leadership and management into undergraduate education (Abbas et al., 2011; Alzahrani et al., 2021) but simultaneously, they have identified associated obstacles, such as a lack of given time, competing educational demands, and a potential disinterest in leadership skills and training by some students and faculty (Abbas et al., 2011). These results are in line with the study on working-age physicians (n = 1,233), which revealed that although 22% of women and 25% of men were in-

terested in leadership, more leadership training was required (Ministry of Social Affairs and Health., 2020). To inform and improve the leadership curriculum in medical education, considering that generational perceptions change over time, the voices of medical students—tomorrow's physicians and leaders—should be heard in terms of how they expect themselves to be led and what they expect from their leaders.

Theoretical Framework

Good physician leadership in light of previous literature

Numerous leadership studies reveal the importance of both leadership and management in the leadership work. The goal of managing is to achieve efficiency, predictability, and order, while that of leading is to achieve change—the importance of each also depends on the case. In leadership, subordinates are influenced by a leader to understand and accept what needs to be done as well as to make concerted efforts to accomplish it. (Kotter, 1990, pp. 4-5; Yukl, 2013, pp. 22–26.)

Nevertheless, in physician leadership, the leader's role is often a hybrid role that combines not only leadership and management work but also requires a knowledge of medicine (Berghout et al., 2017, 2020; Huikko-Tarvainen, 2022; Huikko-Tarvainen et al., 2021; Quinn and Perelli, 2016; Sartirana et al., 2019; Spehar et al., 2015). Physicians who possess an appropriate balance of medical skills and a proper work ethic and etiquette have been seen to succeed more in the role of a physician leader. Further, physician leaders are also expected to be trustworthy, fair, empathic, sociable, and communicative, with a capacity to provide proper feedback, show collegial respect, and display emotional intelligence. Beyond this, they must be familiar with the impacts that the daily work of physicians has on physicians' lives. (Alzahrani et al., 2021; Huikko-Tarvainen, 2022). In addition, good physician leaders must master a wide variety of leadership styles as well as have sufficient knowledge to select which leadership approach is appropriate in each situation (Huikko-Tarvainen, 2022; Saxena et al., 2017).

In most professional organizations, the people being led and those who are leading them are both experts (Mintzberg, 1998). Consequently, working-age physicians prefer leaders who are also physicians (Berghout et al., 2017; Goodall, 2011; Huikko-Tarvainen, 2022), and numerous medical students state that physicians should be leaders of multi-professional teams in the health care (Abbas et al., 2011). The characteristics of good physicians—as perceived by physicians, medical students, medical teachers, and patients—include good social communication and leadership skills as well as a strong and consistent moral character. Furthermore, physicians ought to be compassionate, empathic, honest, humble, responsive, persistent, trustworthy, and inspirational. Additionally, they must be those who employ clinically sound practices, are good listeners, are patient-oriented, contribute to scientific knowledge of medicine, and possess the most current knowledge in their general and specialized fields. (Chen et al., 2017; O'Donnabhain and Friedman, 2018; Schattner et al., 2004; Sehiralti et al., 2010; Warm et al., 2022.)

To succeed in fast-paced work and, simultaneously, be capable of accomplishing long-term goals, physicians with leadership intentions must possess interpersonal skills (team leading, active listening, conflict resolution, and the capacity to provide constructive yet fair feedback), systems management skills (the abilities to analyze processes and improvements, oversee logistics and supply chains, offer incentives, administer organizational planning, and perform measurements and data analytics), and effective communication and planning skills (the abilities to communicate, plan, discuss, make decisions, devise strategies, cultivate a beneficial work culture, and handle contingencies). (Rotenstein et al., 2021.)

However, research on medical students' perceptions of physician leadership is rare and partially controversial. On one hand, medical students have been found to have a traditional understanding of leadership and followership, according to which followers—as receivers of leadership—operate in accordance with the leader's vision and goals. (Gordon et al., 2015). Similarly, hospital-based second-year medical residents have been found to perceive a clear separation between leadership and management as well as consider management inferior to leadership, which reflects a more traditional perception of the two domains (Barrow et al., 2011). On the other hand, medical students consider communication, ethics, conflict resolution, time organization, managed care, management priorities, bookkeeping, quality development, public speaking, and risk control to be more important in determining good physician leadership than the capacity to negotiate, write proposals, and investment principles (Abbas et al., 2011; Mintz and Stoller, 2014; Varkey et al., 2009).

Methods

An online questionnaire was sent to 162 final-year medical students at the University of Oulu, Finland in November 2020. The response rate was 68% (n =110). We also collected relevant background information (Table 1, p. 25). Initially, the potential participants received an invitation letter, which provided detailed information on the purpose of the study. The letter clearly indicated that their participation would be entirely voluntary and that they had the right to withdraw from the study at any time as well as deny access to the use of their data. Anonymity was also guaranteed. All the participants gave permission for their data to be collected and used for research purposes. This study was conducted in accordance with the instructions of the Finnish Advisory Board on Research Integrity and in compliance with European Union's data protection regulations as well as the established research practices of the University of Oulu and its Faculty of Medicine. Full consideration was given to matters related to data protection in accordance with the ethical principles applicable to research subjects (Finnish Advisory Board on Research Integrity, 2012).

A qualitative approach (Gibbs, 2018) was employed because the goal of the research was to further our understanding of what constitutes good leaders and good physician leadership according to final-year medical students. The participants were asked to freely respond to three main questions: (1) How should physicians be led? (2) How would you describe a good physician leader? (3) Would you be interested in working as a physician leader in the future? The answers to these questions were digitally saved and coded to make the data more analytically accessible. The answers yielded data that was equivalent to nine A4-sized pages (Arial font, 12 point, single spacing).

An inductive content analysis utilizing thematization was selected, as this method is well suited for qualitative research. The purpose of the content analysis was to obtain descriptions of the phenomenon that would enable us to connect the findings to a wider context and compare them to those of prior studies. The analysis was based on the systematic examination of the collected data and focused on relevant themes and patterns by selecting common or exceptional statements or viewpoints. (Eriksson and Kovalainen, 2008.)

The analysis was conducted sequentially. First, we familiar-

ized ourselves with the data by iteratively reading the content until we were confident that we had gained a thorough understanding of it. The elemental codes (words and phrases)—which represented the most basic form of the raw data—were grouped, combined, and organized into categories that indicated the expectations of (1) a good physician leader and (2) good physician leadership. In the next step, these findings were categorized to create potential subcategories. Then, the subcategories were reviewed and refined until they became consistent and identifiable distinctions appeared between them. Next, the sub-themes were named: (1) traits, (2) education, (3) communication and support, (4) working culture, and (5) workload. These sub-themes were combined into main themes to create a unifying concept: (1) virtues of a good physician leader and (2) working conditions. These themes were analyzed both separately and in the context of the overall thematic structure. Our data-driven analysis was repeated twice by the first author and then evaluated by all the authors to avoid bias. During the analysis and coding phases, the first author met regularly with the other authors to receive feedback on the coding system. At the end of the process, we added the carefully selected and anonymized excerpts to the findings to illustrate our interpretations (Eriksson and Kovalainen, 2008) and arranged the material in tabular format (see Table 2, pp. 26-27).

Results

The information of the participants is provided in Table 1 (p. 25).

Female	53% (n=58)
Male	46% (n=51)
No indication of gender	1% (n=1)
Worked as a doctor during medical studies	98% (n=108)
<25 years of age	8% (n=9)
25-30 years of age	65% (n=71)
31-35 years of age	14% (n=16)
36-40 years of age	4% (n=4)
>41 years of age	9% (n=10)
High school as the highest educational background	70% (n=77)
A prior higher educational background	30% (n=33)
Interested in working as a physician leader	32.0% (n=33)
Might be interested in working as a physician leader	20.4% (n=21)
Not interested in working as a physician leader	47.5% (n=49)
Did not expressed interested in working as a physician leader	0.1%% (n=7)

Table 1. The information of participants.

Our study generated two main thematic categories: (1) virtues of a good physician leader and (2) working conditions. The virtues of a good physician leader were divided into three subthemes: (1) traits, (2) education, and (3) communication and support. The main theme of the working conditions was divided into two sub-themes: (1) working culture and (2) workload (Table 2, pp. 26-27).

The results pertaining to what makes leadership successful in the medical profession reveal that both leadership and management skills are required. The led physicians should be seen as individuals and be led by a trustworthy, approachable, innovative, and visionary physician leader who participates in patient work alongside leadership work and possesses good social, communication, and problem-solving skills as well as common sense and emotional intelligence. Furthermore, a good leader ensures that physicians can focus on their medical work by providing them with appropriate resources in well-functioning conditions. Thus, a good physician leader reflects the virtues of a good physician.

Discussion

In the following account, the results of our study are discussed in more detail in the light of the three novel findings of the study.

Virtues of a good physician leader

According to our findings, when good physician leadership is in place, the led physicians should be viewed as individuals and should be led by a trustworthy, approachable, and visionary physician leader who possesses good social, communication, and problem-solving skills as well as emotional intelligence, common sense, and an innovative mindset. The leader participates not only in leadership work but also in clinical patient work. A good physician leader is visible without drawing attention to themselves and voluntarily pursues leadership positions. Moreover, the participants considered collegiality and professionalism as mandatory. These findings are in line with those of previous literature (see e.g., Abbas et al., 2011; Alzahrani et al., 2021; Huikko-Tarvainen, 2022; Mintz and Stoller, 2014).

Although a medical background and participation in patient work were seen as requirements for leaders, they were not considered sufficient on their own; an additional leadership training was considered necessary. Leaders understand the functioning of healthcare organizations, economics, and law and know how to prioritize but do not lead only by looking at costs. Leadership work is based on evidence-based information, and the culture of work is built on trust. These findings resemble those of previous studies, which have found that good physician leaders need to possess the capability of mastering a wide variety of leadership styles as well as to select the appropriate approach for every situation (Huikko-Tarvainen, 2022; Saxena et al., 2017).

Considering that the participants were medical students with limited experience of working as physicians, their expectations regarding the virtues of good leaders were, interestingly, rather similar to those expressed by more experienced physicians (Abbas et al., 2011; Huikko-Tarvainen, 2022; Mintz and Stoller, 2014) and partially comparable to those revealed in studies of general leadership (see e.g., Yukl, 2013, p. 18). In all these contexts, the expectation was that (good) leaders should possess good communication and social skills and should be honest, fair, and empathic; they should also provide constructive feedback, maintain a collegial attitude, and possess emotional intelligence (see e.g., Abbas et al., 2011; Huikko-Tarvainen, 2022; Mintz and Stoller, 2014).

It is already well known that physicians prefer their leaders to be physicians (Berghout et al., 2017; Goodall, 2011; Huikko-Tarvainen, 2022) and that medical ethic and work etiquette, combined with the appropriate balance of medical skills, are a good foundation for success in physician leadership (Huikko-

MAIN THEMES	SUB-THEMES	RESULTS	EXCERPTS
VIRTUES OF A GOOD PHYSICIAN LEADER	Traits	Good leaders are trustworthy, honest, empathetic, easy to approach, reachable, open-minded, collegial and have good social and problem-solving skills. They also possess proper etiquette, are visible without drawing attention to themselves and pursue leadership positions voluntarily.	- [The leader] makes himself/herself visible… asks how employees are doing, and about the work situation – for example, are there enough appointment times and enough time for office work? - [The leader] is interested in the well-being of employees and occasionally appears, even in the coffee room, without isolating herself/himself in her/his office. - Expert, good role model, approachable, well behaving, reliable, collegial. - The leader should voluntarily approach [the leading position] and not be forced [to be a leader].
	Education	The classic characteristics of a good physician are a model for a good physician leader. Most participants believed that to understand subordinates better and be able to teach and coach, physician leaders should have both a medical education and work experience as physicians in addition to possessing updated medical knowledge. Leaders' medical background and participation in patient work were seen as mandatory but not sufficient solely; leadership training was also expected. Good leaders have a good knowledge of economics, law and research, and their work must be both effective and efficient in terms of costs to the public. Knowledge of how to prioritise healthcare costs is expected, but leading only with cost in mind is not accepted; evidence-based information should be used. Good leaders act both as role models and peers for physicians, but they are also expected to serve as a bridge between physicians and the administration of the healthcare organisation. This requires an understanding of the healthcare organisation not only as a whole but also in terms of its multiple levels and professional features.	- [A good leader has] pretty much the same qualities as a good doctor. They listen and strive to solve problems and do not avoid difficulties. - [A good leader leads] with determination and professionalism. - The leader must understand the peculiarities of doctors' work but also possess leadership training. - [A good leader] understands both medicine and economics. -Leading is not driven only by saving from the costs and leading is not separated from reality. - [A leader is] thorough, endowed with good social skills, fair and efficient, but they do not lead only based on financial considerations. - In healthcare, the supervisor/leader must understand not only jurisprudence and economics but also leadership and management. - [A leader] understands economics, medicine and how things work in real life. - In addition to leadership work, leaders also participate in clinical work. This way, they know how the work community and workplace operate and how to relate doctors' development proposals to the administration.
WORKING CONDITIONS	Communication and support	Good leaders use communication, facts, common sense, and evidence-based information as the foundations of their decisions and do not lead just by feelings. Responsibility and readiness to explain one's decisions are required. In certain situations, it might be advisable for leadership to be shared with peers. Even though physician leaders should respect their peers as human beings and experts – that is, respect their autonomy and opinions – they should also provide clear and confident guidance and supervision when and if asked by them. Leaders should give their subordinates sufficient time to complete their work and show an interest in their well-being and success. Good leaders do not just hear their employees – they listen to them. This encourages employees to feel heard and valued. Good leaders support subordinates in their work and careers and back them in tough situations.	- Leadership based on facts and wisdom rather than emotions. Leaders must be able to justify their opinions. - By listening to doctors, the leader gains a (preferably personal) comprehensive understanding of the realities of their work. - [A leader is] part of the team, an experienced clinician with up-to-date knowledge and a background in research work. - [A leader] leads with evidence-based management and actively participates in necessary research. - Adequate resources must be allocated to workplace well-being, the rational pace of work and, especially, the training and guidance of young colleagues. Therefore, it would be good if the leader was also a doctor.

WORKING CONDITIONS	Working culture	The development of a well-functioning work community and working culture built on trust – including understanding physicians' autonomy – was expected. This could be achieved by taking the lead in operations but also respecting other people by understanding each person's mindset and capability to work. The leadership approach should be flexible and patient but also firm when needed. Alongside respecting others and their ideas, leaders must retain and enforce their authority; thus, their leader role should be strengthened in tight or demanding situations.	- [Leadership work should be done] collegially but firmly. Fair manner. Purposefully. Innovatively. By listening to others. - There must be certain common rules for the work; however, at the same time, doctors must be given an autonomy in their decision-making. - [A leader] strives to create an organisation that works as smoothly and cost-effectively as possible without burdening the employees.
	Workload	Good leaders organise working conditions in ways that properly allocate time, resources, and tasks, thereby bolstering organisational performance and outcomes. Physicians must be allowed to focus on their own specialised work; that is, physicians should not be assigned duties related to other fields or departments of the healthcare organisation (e.g., the work of secretaries, nurses, cleaners, or IT staff). It is necessary for good leaders to appreciate and to take into account physicians' diversity and work competence. In practice, this means considering each employee's workload and educational needs. Consequently, a fair and equal workload allocation is the preferred aim, as is correcting imbalances.	- In physician leadership, frameworks for the work must be provided, development ideas must be heard, and operations must be developed. - [A good leader] does not tolerate physicians being burdened with the work of others (nurses, practical nurses, secretaries, cleaners, and IT staff). - [A good leader should treat] everyone equally, but the characteristics of individuals should be taken into account. - Every doctor is different. Not everyone should be required exactly the same, e.g., have the same schedule. - A good physician leader takes into account employees' personal preferences for the job and is able to offer different job descriptions while always considering the legal obligations.

Table 2. The perceptions of the participants.

Tarvainen, 2022). But when results of the current study are compared to those of the previous literature, it is a novel finding of our study that expected virtues of a good physician leader resemble the classic characteristics of a good physician (see e.g., Chen et al., 2017; O'Donnabhain and Friedman, 2018; Schattner et al., 2004; Sehiralti et al., 2010; Warm et al., 2022). In practice, this implies that when medical students are being taught how to be good physicians, they are simultaneously being educated on those elements that are vital to serving as a good leader.

Going beyond the general definition of leadership as "an influential process for facilitating the performance of a common task" (Yukl, 2013, p. 36), the participants believed that good physician leaders (1) participate in clinical patient work, (2) provide them with teaching and coaching, and (3) respect them as both individuals and peers, which aligns with the previous definition of physician leadership, according to which physician leadership combines general leadership and management with medical expertise (see e.g., Berghout et al., 2017; Huikko-Tarvainen, 2022; Quinn and Perelli, 2016; Spehar et al., 2015).

Moreover, the finding that physician leaders should have not only a medical education but also experience working as a physician appears to be a universal, intrinsic requirement for all physicians, regardless of the length of their medical career (see e.g., Berghout et al., 2017; Huikko-Tarvainen, 2022); therefore, as a common demand, must be associated with the medical profession. This is not entirely surprising because, in most professional organizations, the people being led and those who are leading them are both experts (Mintzberg, 1998).

Further, the finding of our study for that leaders must master both leadership work and physician work resembles the previous studies on the hybrid roles of physician leaders (see e.g., Berghout et al., 2020; Huikko-Tarvainen, 2022; Huikko-Tarvainen et al., 2021; Sartirana et al., 2019) and emphasizes the need to possess both leadership and management skills, which is also supported by previous literature (see e.g., Yukl, 2013, pp. 22–26).

A physician's work with a customized workload

Based on our study, flexible and functional working conditions are expected, and the led physicians should be allowed to focus on their own specialized work. In other words, physicians should not be assigned duties related to other fields or departments of the healthcare organization (e.g., the work of secretaries, nurses, cleaners, or IT staff). In addition, the workload should be customized to respect the diversity and work competence of the led physicians, which represents the second novel finding of our study.

These results are contradictory to the previous findings in which residents made a clear distinction between management and leadership or considered management as inferior to leadership (see e.g., Barrow et al., 2011), and had a traditional understanding of leadership where followers, as receivers of leadership, act in accordance with the leader's vision and goals (see e.g., Gordon et al., 2015) Instead, the medical students in this study wanted the voices of the led physicians to be heard and heeded. That is, our study emphasizes the need for leaders to possess both leadership and management skills to maximize the likelihood that their work as leaders will be successful, which is supported by previous literature on the perceptions of more experienced physicians (see e.g., Huikko-Tarvainen, 2022; Rotenstein et al., 2019, 2021).

Greater interest in physician leadership

A majority of the participants (98%, n = 108) had already worked as physicians during medical school, thereby implying that they were exposed to leadership and met physician leaders in person and, thus, had an informed perspective on what to expect from a leader and leadership in general. Unlike in most prior studies (see e.g., Abbas et al., 2011; Styhre et al., 2016),

a significantly high proportion (52%) of the medical students in our study were interested in or might consider a formal leadership position in the future, which was the third novel finding of our study. Greater interest in leadership is a desirable trend among medical students because, as noted by most of the participants, one foundation of successful physician leadership is that the physician leaders are also physicians themselves. Greater interest in future leadership may also help overcome, or at least mitigate, possible challenges confronting the hybrid work of physician leaders (see e.g., Berghout et al., 2020; Huikko-Tarvainen et al., 2021; Sartirana et al., 2019)

Based on our study, it is recommended that—even though an education of a good physician provides a good role model for a good physician leader—leadership education (including leadership and management skills) should be provided in medical school, as has also been noted in previous literature (see e.g., Abbas et al., 2011; Alzahrani et al., 2021; Gordon et al., 2015; Huikko-Tarvainen et al., 2021). This indicates that good leaders and leadership skills will continue to be valued in the future. Thus, leadership education should play a prominent role in the medical curriculum.

Limitations and future research

The findings of our study are limited because our sample was derived from a single cohort of Finnish final-year medical students. However, the sample was sufficiently large, and the response rate was excellent. In the future, it would be worthwhile to repeat our study every year and compare the results over a long period of time. It would also be useful to compare the perceptions of medical students from different grades as well as of physicians at different career stages and from different specializations. This would enable a broader, more comprehensive understanding of the phenomenon coupled with more in-depth insights into the perceptions of medical students who are also digital natives. Finally, even though the foundations of healthcare organizations worldwide are similar, contextual effects may influence the transferability and/or generalizability of our findings on leadership practices (Onyura et al., 2019).

Conclusion

Our study reveals that the perceptions of what constitutes a good leader and good leadership among final-year medical students are wide-ranging and somewhat similar to the findings of previous studies on the topic. Beyond this, our study also produced three novel results. Although it is well known that physicians prefer their leaders to come from the medical profession (see e.g., Berghout et al., 2017; Goodall, 2011; Huikko-Tarvainen, 2022), the notion that the classic characteristics of a good physician can serve as a model for a good physician leader—our first novel finding—has thus far received little or no attention.

Our second novel finding was that good leadership entails tailoring workloads to the individual strengths and skills of physicians, which requires considering physicians' diversity and work competence. Therefore, the medical students who participated in this study were not traditional followers—receivers of leadership—who act only in accordance with their leaders' visions and goals (Gordon et al., 2015); instead, they wanted physicians' voices to be heard. Finally, the third novel finding of our research was a greater interest in leadership work among medical students compared to that in earlier studies (see e.g., Abbas et al., 2011; Ministry of Social Affairs and Health., 2020; Styhre et al., 2016).

Ethics approval and consent to participate

The research was carried out in accordance with the instructions of the Finnish Advisory Board on Research Integrity, in compliance with EU data protection regulations and the research practices of the University of Oulu and the Faculty of Medicine. The permission for the study was granted by the Faculty of Medicine in accordance with current policies.

Availability of data and materials

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

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References

Abbas, M.R., Quince, T.A., Wood, D.F. and Benson, J.A. (2011), "Attitudes of medical students to medical leadership and management: A systematic review to inform curriculum development", BMC Medical Education, doi: 10.1186/1472-6920-11-93.

Alzahrani, S.H., Baig, M., Omer, A.R. and Algethami, M.R. (2021), "Medical students' perceptions and attitudes toward medical leadership and management", Pakistan Journal of Medical Sciences, Professional Medical Publications, Vol. 37 No. 1, pp. 223–228, doi: 10.12669/pjms.37.1.2406.

Barrow, M., McKimm, J. and Gasquoine, S. (2011), "The policy and the practice: Early-career doctors and nurses as leaders and followers in the delivery of health care", Advances in Health Sciences Education, Vol. 16 No. 1, pp. 17–29, doi: 10.1007/s10459-010-9239-2.

Berghout, M.A., Fabbricotti, I.N., Buljac-Samardžić, M. and Hilders, C.G.J.M. (2017), "Medical leaders or masters? - A systematic review of medical leadership in hospital settings", PLoS ONE, Public Library of Science, Vol. 12 No. 9, doi: 10.1371/journal.pone.0184522.

Berghout, M.A., Oldenhof, L., van der Scheer, W.K. and Hilders, C.G.J.M. (2020), "From context to contexting: professional identity un/doing in a medical leadership development programme", Sociology of Health and Illness, Blackwell Publishing Ltd, Vol. 42 No. 2, pp. 359–378, doi: 10.1111/1467-9566.13007.

Chen, J.G., Zou, B. and Shuster, J. (2017), "Relationship Between Patient Satisfaction And Physician Characteristics", Journal of

Patient Experience, SAGE Publications Inc., Vol. 4 No. 4, pp. 177–184, doi: 10.1177/2374373517714453.
Eriksson, P. and Kovalainen, A. (2008), Qualitative Methods in Business Research, SAGE Publications Ltd, doi: 10.4135/9780857028044.
Finnish Advisory Board on Research Integrity. (2012), "Responsible conduct of research and procedures for handling allegations of misconduct in Finland", Https://Www.Tenk.Fi/Sites/Tenk.Fi/Files/HTK_ohje_2012.Pdf.
Gibbs, G.R. (2018), Analyzing Qualitative Data, SAGE Publications Ltd, 1 Oliver's Yard, 55 City Road London EC1Y 1SP , doi: 10.4135/9781526441867.
Goodall, A.H. (2011), "Physician-leaders and hospital performance: Is there an association?", Social Science and Medicine, Vol. 73 No. 4, pp. 535–539, doi: 10.1016/j.socscimed.2011.06.025.
Gordon, L.J., Rees, C.E., Ker, J.S. and Cleland, J. (2015), "Dimensions, discourses and differences: Trainees conceptualising health care leadership and followership", Medical Education, Vol. 49 No. 12, pp. 1248–1262, doi: 10.1111/medu.12832.
Huikko-Tarvainen, S. (2022), "Elements of perceived good physician leadership and their relation to leadership theory", Leadership in Health Services, Emerald Group Holdings Ltd., Vol. 35 No. 1, pp. 14–29, doi: 10.1108/LHS-01-2021-0002.
Huikko-Tarvainen, S., Sajasalo, P. and Auvinen, T. (2021), "Just a leader? Leadership work challenges and identity contradiction experienced by Finnish physician leaders", Journal of Health Organization and Management, Emerald Publishing, Vol. 35 No. 9, pp. 195–210, doi: 10.1108/JHOM-10-2020-0421.
Kotter, J.P. (1990), A Force for Change: How Leadership Differs from Management, Free Press, New York.
Lindgren, S. and Gordon, D. (2016), "The role of the doctor and the competencies expected from the doctor of the future", in Abdulrahman Khalid A Bin, Mennin Stewart, Harden, R. and Kennedy, C. (Eds.), Routledge International Handbook of Medical Education, Routledge, New York, pp. 18–26.
Maddalena, V. (2016), "Leadership training for undergraduate medical students", Leadership in Health Services, Emerald Group Publishing Ltd., Vol. 29 No. 3, pp. 348–351, doi: 10.1108/LHS-05-2016-0019.
Ministry of Social Affairs and Health. (2020), "Lääkäri 2018 Kyselytutkimus vuosina 2007-2016 valmistuneille lääkäreille (Physician 2018 Survey for Physicians Licensed in 2007-2016), Reports and Memoranda of the Ministry of Social Affairs and Health 2019: 69", Reports and Memoranda of the Ministry of Social Affairs and Health 2019: 69, available at: http://urn.fi/URN:ISBN:978-952-00-4128-1 (accessed 25 September 2023).
Mintz, L.J. and Stoller, J.K. (2014), "A Systematic Review of Physician Leadership and Emotional Intelligence", Journal of Graduate Medical Education, Journal of Graduate Medical Education, Vol. 6 No. 1, pp. 21–31, doi: 10.4300/jgme-d-13-00012.1.
Mintzberg, H. (1998), "Covert leadership: notes on managing professionals. Knowledge workers respond to inspiration, not supervision.", Harvard Business Review, Vol. 76 No. 6.
O'Donnabhain, R. and Friedman, N.D. (2018), "What makes a good doctor?", Internal Medicine Journal, Blackwell Publishing, Vol. 48 No. 7, pp. 879–882, doi: 10.1111/imj.13942.
Onyura, B., Crann, S., Freeman, R., Whittaker, M.K. and Tannenbaum, D. (2019), "The state-of-play in physician health systems leadership research: A review of paradoxes in evidence", Leadership in Health Services, Emerald Group Holdings Ltd., 15 October, doi: 10.1108/LHS-03-2019-0017.
Päätalo, K. and Kauppi, S. (2016), "Työhyvinvointi lääkärin työssä – systemaattinen kirjallisuuskatsaus työkykyjohtamisen tueksi terveydenhuollon organisaatioihin", Sosiaalilääketieteellinen Aikakauslehti, Vol. 53 No. 1, pp. 30–43.
Quinn, J.F. and Perelli, S. (2016), "First and foremost, physicians: the clinical versus leadership identities of physician leaders", Journal of Health Organization and Management, Emerald Publishing, Vol. 30 No. 4, pp. 711–728, doi: 10.1108/JHOM-05-2015-0079.
Rotenstein, L., Perez, K., Wohler, D., Sanders, S., Im, D., Kazberouk, A. and Phillips, R.S. (2019), "Preparing health professions students to lead change", Leadership in Health Services, Emerald Group Holdings Ltd., Vol. 32 No. 2, pp. 182–194, doi: 10.1108/LHS-02-2018-0011.
Rotenstein, L.S., Huckman, R.S. and Cassel, C.K. (2021), "Making Doctors Effective Managers and Leaders: A Matter of Health and Well-Being", Academic Medicine, Lippincott Williams and Wilkins, Vol. 96 No. 5, pp. 652–654, doi: 10.1097/ACM.0000000000003887.
Sartirana, M., Currie, G. and Noordegraaf, M. (2019), "Interactive identity work of professionals in management: a hospital case study", Public Management Review, Taylor and Francis Ltd., Vol. 21 No. 8, pp. 1191–1212, doi: 10.1080/14719037.2018.1549269.
Sarto, F. and Veronesi, G. (2016), "Clinical leadership and hospital performance: Assessing the evidence base", BMC Health Services Research, BioMed Central Ltd., 24 May, doi: 10.1186/s12913-016-1395-5.
Saxena, A., Desanghere, L., Stobart, K. and Walker, K. (2017), "Goleman's Leadership styles at different hierarchical levels in medical education", BMC Medical Education, BioMed Central Ltd., Vol. 17 No. 1, doi: 10.1186/s12909-017-0995-z.
Schattner, A., Rudin, D. and Jellin, N. (2004), "Good physicians from the perspective of their patients", BMC Health Services Research, 12 September, doi: 10.1186/1472-6963-4-26.
Sehiralti, M., Akpinar, A. and Ersoy, N. (2010), "Attributes of a good physician: What are the opinions of first-year medical students?", Journal of Medical Ethics, Vol. 36 No. 2, pp. 121–125, doi: 10.1136/jme.2009.032854.
Spehar, I., Frich, J.C. and Kjekshus, L.E. (2015), "Professional identity and role transitions in clinical managers", Journal of Health Organization and Management, Emerald Publishing, Vol. 29 No. 3, pp. 353–366, doi: 10.1108/JHOM-03-2013-0047.
Styhre, A., Roth, A. and Roth, J. (2016), "Who will lead the physicians unwilling to lead? Institutional logics and double-bind situations in health care leadership", Leadership and Organization Development Journal, Emerald Group Publishing Ltd., Vol. 37 No. 3, pp. 325–340, doi: 10.1108/LODJ-10-2012-0137.
Tasi, M.C., Keswani, A. and Bozic, K.J. (2019), "Does physician leadership affect hospital quality, operational efficiency, and financial performance?", Health Care Management Review, Lippincott Williams and Wilkins, Vol. 44 No. 3, pp. 256–262, doi: 10.1097/HMR.0000000000000173.
Varkey, P., Peloquin, J., Reed, D., Lindor, K. and Harris, I. (2009), "Leadership curriculum in undergraduate medical education: A study of student and faculty perspectives", Medical Teacher, Vol. 31 No. 3, pp. 244–250, doi:

10.1080/01421590802144278.
Warm, E.J., Kinnear, B., Lance, S., Schauer, D.P. and Brenner, J. (2022), "What Behaviors Define a Good Physician? Assessing and Communicating About Noncognitive Skills", Academic Medicine, Lippincott Williams and Wilkins, Vol. 97 No. 2, pp. 193–199, doi: 10.1097/ACM.0000000000004215.
Wilson, S., Rixon, A., Hartanto, S., White, P. and Judkins, S. (2020), "Review article: Systematic literature review of leadership in emergency departments", EMA - Emergency Medicine Australasia, Blackwell Publishing, 1 December, doi: 10.1111/1742-6723.13658.
Yukl, G. (2013), Leadership in Organizations, global edition., ProQuest Ebook Central, Pearson Education UK.

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