



THE EFFECT OF LEADERSHIP AND MANAGEMENT TRAINING ON TEAM LEADERS' MANAGERIAL COMPETENCE AND JOB SATISFACTION OF STAFF NURSES IN THE INPATIENT UNITS

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ABSTRACT

The managerial competence of team leaders as first-line managers plays a crucial role in determining service quality, hospital performance, and staff nurses' job satisfaction; however, available data indicate that this competence remains at a moderate level, highlighting an urgent need for improvement. This study aimed to examine the effect of leadership and management training on team leaders' managerial competence and staff nurses' job satisfaction. A quasi-experimental study with a pretes–postes control group design was conducted involving 106 respondents (53 in each group) which were selected using a purposive sampling technique. The data were analyzed using univariate and bivariate analysis. Team leaders in the intervention group received leadership training focused on the roles and competencies of first-line managers, while the control group did not receive any training. The study employed the Indonesian First-Line Nurse Managers' Managerial Competence Scale (I-FLNMMCS) and the Job Satisfaction Survey (JSS). The results showed that leadership training significantly improved team leaders' managerial competence in the intervention group from 47.2% in the good category to 100% ($p < 0.001$), as well as staff nurses' job satisfaction from 41.5% to 98.1% ($p < 0.001$). In conclusion, leadership and management training is effective in enhancing team leaders' managerial competence and staff nurses' job satisfaction.

Keywords: job satisfaction; managerial competence; team leader; training

INTRODUCTION

Nurse managers have an important role in the success of healthcare service organizations because they influence staff retention, patient outcomes, and hospital profitability (Kuraoka, 2022). Nurse managers consist of first line managers, middle managers, and top managers (Cherie & Gebrekidan, 2005). Currently, top managers in hospitals are striving to improve human resources by focusing on enhancing the managerial competencies of first line nurse managers through planning, training, rewarding, and career development processes (Gunawan et al., 2019). These efforts are driven by the need for quality unit services to achieve the hospital's vision and mission (Gunawan et al., 2020).

First line managers are individuals responsible for organizational aspects, human resource management, and the formation of collaborative teams to promote good service delivery (Dahlkvist et al., 2023). In nursing, those included as first line managers are head nurses and team leaders (Cherie & Gebrekidan, 2005). Previous studies have extensively highlighted the role and competencies of head nurses as first-line managers, particularly in the context of unit management and improving the quality of nursing care (Fekry Ahmed & Moustafa Abd-ElGhani, 2021; Fjordkvist et al., 2024; Rezaei et al., 2024). However, studies specifically addressing team leaders remain relatively limited, even though this position also plays a strategic role in bridging communication between staff nurses and management, as well as ensuring the effective implementation of nursing care at the team level.

The nursing team leader is a professional nurse who acts as a leader and coordinator within a group (Marquis & Huston, 2021). As an operational leader in the service unit, the team leader is responsible for ensuring that nursing care is carried out in accordance with standard operating procedures and for facilitating effective communication among team members and other professions (Weiss et al., 2019). Team leaders as first line managers in Indonesia are required to possess competencies such as leadership skills, facilitating spiritual nursing care, self-management, staffing and professional development, utilization of informatics, financial management, and the application of quality improvement in nursing services (Gunawan et al., 2020). However, the managerial competence of nursing team leaders in hospitals still needs improvement.

A study in Ghana showed that the managerial competence of team leaders was still in the moderate category (mean 3.47, SD 0.97) (Paarima et al., 2022). In Vietnam, the score of team leaders' managerial competence in its application was around 2.95 ± 0.48 (moderate category) (Bui et al., 2024). In Korea, it was also found that the managerial competence of nurse team leaders was in the moderate category, with the domains considered most important being managerial administrative domains (such as ensuring a safe work environment) and leadership domains (fostering a positive workplace atmosphere) (Lee et al., 2024).

A study by Gunawan et al. in Indonesia showed that the average managerial competence of first line managers was 3.64 ± 0.62 (fair category), with the strongest aspect being the application of quality improvement in care, while the lowest was financial management (Gunawan et al., 2020). The results of a study by Ginting et al. showed that the managerial competence of primary nurses based on self-evaluation was generally still in the low category across almost all components of clinical leadership, with the most prominent problem domain being service improvement (Ginting et al., 2022). In contrast, another study revealed that 45% of nurses were considered less optimal in implementing nursing care management, while 30% were less adequate in the aspect of nursing service development (Yusnaini et al., 2021).

Poor managerial competence can affect the quality of nursing services, which indirectly poses serious risks to patient safety, patient satisfaction, and overall health outcomes (Lucas et al., 2023). Suboptimal services, such as delays in responding to patient needs, less effective communication, and procedural inaccuracies, can increase the risk of patient safety incidents such as medication errors, nosocomial infections, and deterioration of clinical conditions (Schultz et al., 2024). The managerial competence of team leaders plays an important role in creating a conducive work environment, increasing job satisfaction, and reducing turnover intention. When team leaders perform their leadership roles well, it also impacts nurses' job satisfaction (Specchia et al., 2021). Staff nurse satisfaction is a positive feeling toward their work influenced by the work environment, relationships with colleagues, supervisor support, and recognition of their performance (Nurmekselä et al., 2024). Staff nurse satisfaction is a crucial element in maintaining the quality of nursing services as well as the continuity of the nursing workforce in hospitals (Wong, 2024). Job satisfaction can be assessed from various aspects such as satisfaction with supervision, contingent rewards, operating procedures, colleagues, nature of work, and communication (Pirino et al., 2023). However, job satisfaction still shows relatively low levels.

Based on a survey by AMN Healthcare involving more than 18,200 nurses in the United States, the level of nurse job satisfaction, which previously ranged from 80%–85%, decreased to 71% in 2023, indicating a significant decline in enthusiasm and professional satisfaction among staff nurses (Healthcare, 2023). Mirzaei et al. reported that only 25.7% of nurses were satisfied with managers' competence in supporting staff (Chin et al., 2024; Choi et al., 2022; Mirzaei et al., 2024). A study in Bengkulu General Hospital found that more than half of staff nurses (51.9%) were dissatisfied in performing their duties (N. Sari et al., 2023).

In Indonesia, understanding of the managerial competence of team leaders in improving the quality of nursing services is still not optimal. Studies show that competencies such as performance evaluation of staff nurses, mentoring, and supervision by team leaders have not been carried out effectively, thereby negatively impacting the quality of nursing services (Silaen & Pardede, 2020). Qualitative research also revealed that many nurses perceive leadership and management as the same, and feel that opportunities to take on leadership roles are still very limited (Suhonen et al., 2021). Therefore, efforts are needed to improve the understanding and managerial competence of team leaders in carrying out their roles and functions.

One effort that can be undertaken to improve the managerial competence of team leaders is by conducting training. According to the Ministry of Health, training is a planned and systematic process to develop the knowledge, attitudes, and skills needed to perform tasks, which is ultimately expected to have a positive impact on individual and organizational performance (Kemenkes, 2024). Leadership training has been proven effective in improving managerial competence, communication skills, and decision-making of nurse managers, which ultimately impacts increased nurse job satisfaction and the quality of nursing services (Rondonuwu et al., 2019).

In this study, the researchers attempt to integrate nursing theory into leadership training, particularly through the application of the Goal Attainment Theory by Imogene King on the managerial competence of team leaders in improving staff nurse satisfaction. This theory emphasizes the importance of interaction between individuals and the environment through three systems: personal, interpersonal, and social (Alligood, 2018). In the context of training managerial competence to improve nurse satisfaction, King's theory is highly relevant because it supports the importance of effective and collaborative personal, interpersonal, and social interactions (Karota & Anwar, 2020).

Leadership training is associated with the personal system of the team leader in enhancing capacity and managerial competence, followed by the interpersonal system in which the team leader applies these competencies in nursing services to team members and in daily working relationships. Furthermore, in the social system, the team leader plays a role in building networks and interprofessional collaboration, creating a positive work culture, and contributing to the achievement of organizational goals through effective interaction with other units, hospital management, and relevant external parties.

Hospital X is one of the hospitals in Sumatra with 356 beds, with a Bed Occupancy Rate (BOR) in 2023 of 90.9% and in 2024 of 91%. The inpatient unit applies a team assignment method with 35 team leaders and 541 staff nurses. The qualifications for nursing team leaders include a minimum education level of a diploma (D3), a minimum of 3 years of clinical experience with PK2, possession of SIPP, STR, BLS/BTCLS certification, and understanding of the hospital system. However, managerial training requirements have not yet been established as a basis for becoming a nursing team leader.

The results of a preliminary survey conducted at Hospital X showed that there has been no specific training aimed at nurse team leaders. Based on interviews with 10 staff nurses, it was found that in the leadership domain, seven nurses assessed that team leaders had demonstrated good leadership, particularly in providing direction and being role models, while three nurses mentioned that positive feedback and decision-making speed still need improvement. In the domain of facilitating spiritual nursing care, six nurses stated that team leaders adequately supported spiritual activities such as joint prayers before shifts, but four nurses noted that assistance in meeting the spiritual needs of patients and families was still rarely provided. Meanwhile, in the self-management domain, eight nurses mentioned that team leaders were fairly disciplined and active in attending training, although two nurses considered involvement in research and policy development to be low.

In the domain of staffing and professional development, seven nurses assessed that team leaders were fair in scheduling and adjusting workloads according to staff competence, but three nurses stated that career development opportunities were not evenly distributed. In utilizing informatics, six nurses reported that team leaders were quite capable of using information systems for documentation, while four others considered their use still limited. The financial management domain received the lowest rating, with only three nurses stating that team leaders played a role in resource efficiency, while seven others considered their involvement in unit budget planning to be minimal. In applying quality care improvement, eight nurses stated that team leaders were active in monitoring service quality and auditing documentation, but two nurses considered staff involvement in quality evaluation to be limited.

Based on staff nurse job satisfaction data from January to April 2025, it was found that 10% of staff nurses in the inpatient unit had complaints regarding team leader performance. Interviews with 10 staff nurses revealed that three nurses felt that team leader supervision was still inconsistent, especially during night shifts or high workload situations, such as when team leaders did not always follow up on issues reported by staff nurses. Six nurses expressed that rewards were rarely given and appreciation was often not conveyed directly. Three nurses felt that operational procedures still needed improvement to be more efficient, and two nurses felt that coordination among team members was still lacking. Four nurses felt that the workload was high and that support from team leaders was insufficient. Based on the above description, the objective of this study is to determine the Effect of Leadership and Management Training on the Managerial Competence of Team Leaders and the Job Satisfaction of Staff Nurses in the Inpatient Units.”

METHOD

This study used a quasi-experimental design with a control group. The sample used in this study consisted of staff nurses in the inpatient unit of Hospital X as the intervention group and the inpatient unit of Hospital Y as the control group, totaling 53 respondents selected using a purposive sampling technique. This study was declared ethically feasible by the School of Health Sciences Sint Carolus Jakarta on December 5, 2025, with number 191/KEPPKSTIKSC/XII/2025. The managerial competence of team leaders was assessed using the Indonesian First-Line Nurse Managers' Managerial Competence Scale (I-FLNMMCS) developed by Gunawan et al. and modified by the researchers, consisting of 35 items and 7 domains of managerial competence (Leadership, Facilitating spiritual nursing care, Self-management, Staffing and professional development, Utilizing informatics, Financial management, and Applying quality care improvement). Meanwhile, job satisfaction was assessed using the Job Satisfaction Survey (JSS) questionnaire, which was modified by the researchers and consists of 6 domains: Supervision, Contingent rewards, Operating procedures, Colleagues, Nature of work, and Communication. The I-FLNMMCS questionnaire is a standardized instrument that has undergone validity and reliability testing with a Cronbach's α value of 0.89 (>0.60) (Gunawan et al., 2020), and the Job Satisfaction Survey (JSS) questionnaire has also been tested for validity and reliability with a Cronbach's α value of 0.78 (>0.60) (Pirino et al., 2023).

This study consisted of three stages: pre-intervention, intervention, and post-intervention. In the pre-intervention stage, the researchers selected respondents in each inpatient unit from December 10–14, 2025, followed by an initial measurement (pre-test) of team leaders' managerial competence and staff nurse satisfaction in both the intervention and control groups on December 15–16, 2025, using a Google Form-based questionnaire. The intervention stage was conducted through leadership training delivered by Ns. Umi Eliawati, S.Kep., MARS, FISQua, who is certified in Training of Trainers (TOT) in nursing management. The training was attended by 35 team leaders of Hospital X on December 17, 2025, in the hospital hall, lasting for one day (6 effective hours) and divided into five sessions, followed by the implementation of the team leader role in daily practice for three weeks (Lacerenza et al., 2017).

Furthermore, in the post-intervention stage, a follow-up measurement (post-test) of team leaders' managerial competence and staff nurse satisfaction was conducted in both the intervention and control groups after three weeks, on January 8–9, 2026, along with the provision of training modules to the control group after the completion of the study as part of research ethics.

RESULT

The results of this study are presented in the following table.

Table 1.

The frequency distribution of education level, years of service, and career level of staff nurses in the intervention and control groups in the inpatient units

Variable	Intervention (n=53)		Control (n=53)	
	f	%	f	%
Education Level				
Diploma	1	1.9	5	9.4
Ners	52	98.1	48	90.6
Career Level				
PK1	41	77.4	40	75.5
PK2	9	17.0	12	22.6
PK3	2	3.8	1	1.9
PK4	1	1.9	0	0.0
Years of Service				
6 Mounths - 3 Years	32	60.4	37	69.8
>3 - 6 Years	18	34.0	15	28.3
>6 Years	3	5.7	1	1.9
Total	41	100	48	100

Based on Table 1, the majority of respondents in both groups were Ners, with 52 nurses (98.1%) in the intervention group and 48 nurses (90.6%) in the control group, while those with a diploma level were 1 nurse (1.9%) in the intervention group and 5 nurses (9.4%) in the control group.

In terms of career level, most respondents were at PK1, with 41 nurses (77.4%) in the intervention group and 40 nurses (75.5%) in the control group. This was followed by PK2 with 9 nurses (17.0%) in the intervention group and 12 nurses (22.6%) in the control group. A small proportion were at PK3, with 2 nurses (3.8%) in the intervention group and 1 nurse (1.9%) in the control group, while PK4 was only found in the intervention group with 1 nurse (1.9%) and none in the control group. Based on years of service, the majority of respondents had 6 months to 3 years of experience, with 32 nurses (60.4%) in the intervention group and 37 nurses (69.8%) in the control group. Respondents with more than 3 to 6 years of service were 18 nurses (34.0%) in the intervention group and 15 nurses (28.3%) in the control group, while those with more than 6 years were 3 nurses (5.7%) in the intervention group and 1 nurse (1.9%) in the control group.

Table 2.

The frequency distribution of team leaders' managerial competence in the intervention and control groups before and after the intervention in the inpatient units

Variabel	Intervention (n=53)				Control (n=53)			
	Pre		Post		Pre		Post	
	f	%	f	%	f	%	f	%
Team leaders' managerial competence								
Poor	0	0.0	0	0.0	1	1.9	1	1.9
Moderate	28	52.8	0	0.0	37	69.8	39	73.6
Good	25	47.2	53	100.0	15	28.3	13	24.5

Based on Table 5.2, in the intervention group, before the intervention was given, most team leaders had managerial competence in the fair category with 28 individuals (52.8%) and in the good category with 25 individuals (47.2%). After the intervention was given, all team leaders in the intervention group showed an improvement in managerial competence to the good category, totaling 53 individuals (100%). In contrast, in the control group, before the intervention, most team leaders were in the fair category with 37 individuals (69.8%), and after the observation period, it

was still dominated by the fair category with 39 individuals (73.6%).

Table 3, in the intervention group, before the intervention, most staff nurses were in the dissatisfied category, totaling 31 individuals (58.5%). After the intervention was given, almost all staff nurses were in the satisfied category, with 52 individuals (98.1%). Meanwhile, in the control group, before the intervention, job satisfaction was dominated by the dissatisfied category (58.5%), and after the observation period, no significant change was observed, with most nurses still in the dissatisfied category, totaling 29 individuals (54.7%).

Table 3.

The frequency distribution of staff nurses' job satisfaction in the intervention and control groups before and after the intervention in the inpatient units

Variabel	Intervention (n=53)				Control (n=53)			
	Pre		Post		Pre		Post	
	f	%	f	%	f	%	f	%
Nurses' job satisfaction								
Dissatisfied	31	58.5	1	1.9	31	58.5	29	54.7
Satisfied	22	41.5	52	98.1	22	41.5	24	45.3

Table 4.

The effect of leadership training on team leaders' managerial competence in the intervention and control groups before and after the intervention in the inpatient units

Team leaders' managerial competence	Intervention (n=53)			Control (n=53)		
	Mean ± SD	Min- Max	P value	Mean ± SD	Min - Max	P value
Pre-test	115,74 ± 14,86	103 - 140	0,000	105,58 ± 10,81	70 - 140	0,482
Post-test	127,64 ± 2,60	123 - 135		103,98 ± 12,12	70 - 140	

Table 4, the results of the paired sample t-test showed that in the intervention group there was a significant difference in the mean managerial competence of team leaders between before and after the intervention (p value = 0.000). The mean score increased from 115.74 ± 14.73 to 127.64 ± 2.60. In contrast, in the control group, there was no significant difference in the mean managerial competence of team leaders between the pre-test and post-test (p value = 0.482).

Table 5.

The difference in the mean change of team leaders' managerial competence between the intervention group and the control group after the intervention following training in the inpatient units

Team leaders' managerial competence	Mean	SD	p value
Intervention	127,64	2,60	0,000
Control	103,98	12,12	

Table 5, there is a significant difference in the mean managerial competence of team leaders between the intervention group and the control group after the intervention (p value = 0.000). The mean score of the intervention group is higher than that of the control group, therefore it can be concluded that leadership training has a significant effect on the managerial competence of team leaders.

Table 6.

The effect of team leader leadership training on nurses' job satisfaction in the intervention and control groups before and after the intervention in the inpatient units

Nurses' job satisfaction	Intervention (n=53)			Control (n=53)		
	Mean ± SD	Min- Max	P value	Mean ± SD	Min - Max	P value
Pre-test	61,13 ± 4,71	50 - 72	0,000	55,62 ± 3,39	48 - 72	0,528
Post-test	71,09 ± 4,28	61 - 82		55,98 ± 4,93	41 - 71	

Table 6 above, in the intervention group there was a significant difference in the mean nurses' job satisfaction before and after the intervention (p value = 0.000), with an increase in the mean score from 61.13 ± 4.71 to 71.09 ± 4.28. In contrast, in the control group, there was no significant difference in the mean nurses' job satisfaction between the pre-test and post-test (p value = 0.528).

This indicates that leadership training for team leaders has an effect on improving staff nurses' job satisfaction.

Table 7.

The difference in the mean change of nurses' job satisfaction between the intervention group and the control group after the intervention following training in the inpatient units

Nurses' job satisfaction	Mean	SD	<i>p value</i>
Intervention	71,09	4,28	0,000
Control	55,98	4,93	

Table 7 shows that there is a significant difference in the mean nurses' job satisfaction between the intervention group and the control group after the intervention (p value = 0.000). The mean job satisfaction score in the intervention group is higher than in the control group.

DISCUSSION

The results of the study indicate that leadership and management training has an effect on improving the managerial competence of team leaders. This finding is supported by a quasi-experimental study that implemented a specialized learning program for nurse managers using a two-group pretest–posttest design, and found that managerial competence increased significantly after the intervention in the group that participated compared to those who did not receive the program (Kuraoka, 2022). In addition, a study on the effect of leadership training on Clinical Leadership Competency reported a significant effect (0.000) in the intervention group and no effect in the control group (0.219) (Rembet et al., 2023).

These findings are consistent with results from quantitative studies and intervention research stating that leadership development programs, managerial training, and coaching can significantly improve nurses' leadership competencies in hospitals (Huang et al., 2022). The improvement in managerial competence in the intervention group shows important implications for the management of nursing resources in inpatient units, as team leaders with strong managerial competence play a role in improving team coordination, nurses' job satisfaction, and the quality of nursing services (Hu et al., 2024).

Based on King's nursing theory concept of dynamic systems—personal, interpersonal, and social systems—the results of this study show that leadership training has a significant effect on improving the managerial competence of team leaders, even after being controlled for years of service and career level. This finding is in line with the personal system component of the theoretical framework, which emphasizes changes at the individual level in the form of increased knowledge, attitudes, perceptions, and internal abilities. Leadership training functions as a learning stimulus that strengthens the cognitive and affective capacity of team leaders, thereby improving the seven domains of managerial competence. The significant effect of education level reinforces the assumption that personal readiness to receive learning influences training effectiveness, as education plays a role in shaping critical thinking and the ability to internalize competencies.

In relation to the interpersonal system, the findings showing that training remains significant even though work experience is not influential confirm that the quality of team interaction is not solely determined by length of service, but by interpersonal competence developed through training. The improvement in team leaders' leadership abilities strengthens coordination, communication, supervision, and collaboration functions within the work unit. Thus, leadership training directly contributes to strengthening the interpersonal system, which is reflected in staff nurses' job satisfaction.

Based on the social system, the Adjusted R Square value of 69.1% indicates that most of the variation in managerial competence can be explained by the training model and individual factors, suggesting a systemic impact on the organization. In the context of the social system, leadership training not only improves individual competence but also strengthens work structures, quality culture, and the nursing service system. The non-significance of years of service and career level

indicates that organizational systems require structured training-based interventions rather than relying solely on work experience. This supports the concept that changes in the organizational social system occur through strengthening standardized leadership competencies. This study also shows that team leader leadership training has an effect on improving staff nurses' job satisfaction. This is in line with a quasi-experimental study by Kuraoka, which implemented a specialized learning program for nurse managers using a two-group pretest–posttest design, and found that managerial competence increased significantly after the intervention in the participating group compared to those who did not receive the program, and had an effect on job satisfaction (Kuraoka, 2022).

The finding of a positive relationship between managerial competence and job satisfaction is also supported by research results at a more specific competency level. An analysis of perceived nurse manager competence reported that competencies in team communication, staff advocacy, and quality supervision are significant predictors of staff nurses' job satisfaction. This indicates that team leaders who improve their managerial skills, including effective communication and staff support, will directly impact a more positive work experience perceived by nurses (Choi et al., 2022).

Based on the analysis of job satisfaction questionnaire scores after the training, there are still components that need improvement. In the Supervision domain, the perception of supervisor fairness is the weakest point (item 2), as respondents still perceive inequity in treatment or decision-making, which can affect job satisfaction and staff motivation. In the Contingent Rewards domain, the system of rewards and work recognition is not yet optimal (item 6). Lack of appreciation may reduce work motivation and sense of belonging to the organization. In the Operating Procedures domain, workload is identified as the main issue (item 11), as the perception of excessive workload may lead to fatigue, work stress, and decreased quality of care. In the Colleagues domain, conflicts among coworkers need attention to maintain a healthy work environment (item 16). In the Nature of Work domain, respondents still perceive a lack of meaning in their work (item 17), which is important because the sense of meaningful work is closely related to job satisfaction and professional commitment. Meanwhile, in the Communication domain, low scores indicate barriers in information transparency (item 23), suggesting that organizational communication needs to be strengthened so that staff feel involved and well-informed.

Overall, the level of nurses' job satisfaction shows variation across domains, with most aspects in the fairly good category, particularly in relationships with colleagues and the nature of work. However, several important areas still require managerial attention. The lowest scores were found in the operating conditions domain, particularly related to the perception of excessive workload, followed by the reward system and organizational communication, which are considered not yet optimal. In addition, the perception of fairness in supervision is also an important concern. These findings indicate that nurses' job satisfaction is not only influenced by interpersonal relationships and the meaning of work, but also highly dependent on managerial fairness, workload distribution, performance recognition, and openness of organizational communication. Improvements in these aspects have the potential to enhance staff well-being as well as the quality of nursing services.

The researchers assume that the significant changes in the intervention group are not only caused by individual nurse factors, but are more dominantly influenced by changes in the style and quality of team leaders' management in managing the work unit. Team leaders with better managerial competence tend to be more capable of understanding staff needs, providing constructive feedback, and accommodating staff nurses' aspirations, which ultimately increases the sense of being valued and job satisfaction.

CONCLUSION

In conclusion, this study demonstrates that leadership and management training has a significant effect on improving team leaders' managerial competence and increasing staff nurses' job satisfaction. The improvement in managerial competence contributes to better coordination, communication, supervision, and overall management within the inpatient unit. Furthermore, enhanced leadership capacity of team leaders creates a more supportive and conducive work environment, which positively influences nurses' perceptions of their work. Therefore, structured leadership training is an effective strategy to strengthen managerial capacity and improve both staff well-being and the quality of nursing services.

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