

Organizational Factors Influencing Nursing Personnel Participation in Long-Term Career Development Programs in Moshi District Council, Tanzania

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Abstract

Career development programs are crucial for nurses to stay updated with knowledge and skills. Therefore, this study investigated the influence of organizational factors on nursing personnel's participation in long-term career development programs in health facilities in Moshi District Council (MDC), Tanzania. The research was grounded in the Theory of Planned Behavior (TPB) and used a convergent parallel design with a mixed research approach. The target population consisted of 241 nurses from 24 health facilities in MDC, with a sample size of 121 nurses. Data was collected through questionnaires and Key informant interviews. The research instruments were validated through content and face validity, while for reliability Likert scale items were subjected to Cronbach's alpha analysis and a coefficient of 0.753 was obtained, which is considered reliable for data collection. Quantitative data analysis was conducted using descriptive statistics, and then data were presented in the form of tables, frequencies, percentages, mean and standard deviations. Further, inferential statistics were used to test the hypothesis through Confirmatory Factor Analysis (CFA) using SPSS 22. Qualitative data were analyzed through contextual analysis. Ethical considerations were adhered to throughout the research process, including confidentiality, protection from harm, data integrity, and adhering to the APA 7th edition style of referencing. Organization Support, Development Initiatives, and Culture of Career Development were statistically significant in influencing nursing personnel's participation in long-term career development programs, with a p-value of 0.000, which is below the significance level. The study concluded that organization factors had a statistical significance in influencing nursing personnel participation in long-term career development programs in MDC.

It was recommended that the Moshi District Council should prioritize and strengthen their support systems for nurses' career development programs. Further, health facilities are recommended to focus on creating an organizational culture that values and promotes continuous learning and professional advancement. Health facilities should also ensure that appropriate and sufficient resources are allocated for career development initiatives. Lastly, this study recommends that in the future, research could explore the barriers or challenges that hinder nurses' participation in long-term career development programs. This will help ensure that nurses have the necessary skills and knowledge to excel in the healthcare sector.

Keywords

Organization Factors, Nursing Personnel, Career Development Programs, Health Facilities and Participation in Long-Term Career Development

1. Introduction

Nurses play a vital role in providing healthcare, and their professional development is important for delivering high-quality care and positive patient outcomes (Chirwa et al., 2019). Career development programs are crucial for nurses to stay updated with knowledge and skills (Brown et al., 2024). However, in Moshi District Council, Tanzania, there is a problem of low participation among nurses in long-term career development initiatives (HCMIS, 2023). This lack of engagement hinders their ability to provide evidence-based care, which can have negative effects on patient outcomes. The nurse's participation in long-term career development programs can be influenced by various organizational factors. Understanding these factors is essential for healthcare organizations to design effective strategies that promote the engagement and participation of nursing staff in career development initiatives.

Organizational factors within healthcare organizations significantly influence nursing personnel's participation in long-term career development programs. Factors such as resource availability, organizational culture and climate, and leadership support play a crucial role in nursing personnel motivation and engagement in long-term career development programs. Nursing personnel form the backbone of the healthcare system, providing vital care and support to patients across a wide range of settings, including long-term care facilities. As the healthcare landscape continues to evolve, it is imperative for nursing professionals to continuously update their knowledge and skills to meet the complex demands of the profession. Therefore, long-term career development programs serve as a means to facilitate ongoing learning and growth for nursing personnel, ensuring their competence and effectiveness in delivering high-quality care.

Long-term career development programs were provided in India to update the health care providers with new knowledge and help them to provide quality care

and better patient outcomes (Silwal & Patna, 2021). For staff nurses, participation has a significant association with their designation. The major hindering factor for nurses to engage in career development programs is a shortage of staff. However, the most common organization factors which motivated nurses to participate in career development programs were availability of resources and support. Adequate funding, access to educational materials, and time for professional development are critical components for nurses to participate actively in career development programs. When these resources are lacking or insufficiently provided, nurses may face barriers to participation, leading to decreased motivation and limited opportunities for advancement.

Africa faces a significant shortage of qualified healthcare workers, including nurses, resulting in a heavy burden of disease and high mortality rates (McMahon et al., 2020; Mbunge, 2020). This shortage is partly due to factors such as inadequate allocation of resources for training, education, and career advancement opportunities. Consequently, factors like lack of investment in the development of healthcare personnel amplify the challenges faced by these countries in meeting the healthcare needs of their populations (Rakhab et al., 2021). This makes it crucial to recognize the influence of organizational factors in addressing this shortage and promoting the participation of nursing personnel in long-term career development programs. Zhao et al. (2021) found that nursing personnel benefit from a range of career development opportunities, including training and mentorship, to acquire essential skills and competences. Therefore, investigating the influence of organizational factors on nursing personnel's involvement in career development programs is vital for developing effective strategies to address the shortage of qualified healthcare workers and improve healthcare outcomes in Africa. By incorporating the organizational factors and their influence on nursing personnel's participation in long-term career development programs, the study established a clearer connection between the organizational factors and nursing personnel participation in long-term career development programs.

In Tanzania, several organizational factors have been identified as influential in nurses' engagement in long-term career development programs within health facilities. Ayalew's (2019) study highlighted that inadequate salary and lack of promotions are significant organizational factors that hinder career development for nurses. Additionally, other organizational factors included the availability of funding, staffing as well as support from management, access to training opportunities, the presence of mentorship programs, and opportunities for career advancement within the organization (Hayes et al., 2020). These organizational factors pose critical issues that influence nursing personnel's participation in long-term career development programs. Participation of nurses in long-term career development programs is important for delivering high-quality care and positive patient outcomes. The participation of nursing staff in career development programs leads to high-quality care and more positive patient outcomes. Lack of access to career development among nurses not only compromises the

effectiveness of medical interventions but also increases the burden on other healthcare professionals. In effectively addressing this problem, it's crucial to understand the organizational factors that influence nurses' participation in long-term career development programs (Boamah et al., 2021).

Organizational factors pose critical issues that affect nursing personnel's participation in long-term career development programs. Insufficient resources, limited support, and barriers to accessing necessary training and educational opportunities have demotivated nurses to engage in career development programs (Hayes et al., 2020). Furthermore, the lack of adequate salary and promotional opportunities has contributed to the low participation of nurses in long-term career development programs (Ayalew, 2019). Without understanding the organizational barriers that influence nurses' engagement in career development programs, it becomes challenging to implement strategies that promote nurse's participation in long-term career development programs. Addressing these organizational factors is essential for developing effective strategies to promote nurses' engagement in long-term career development programs and understanding the influence of organizational factors on nursing personnel in Moshi District Council. This, in turn, will contribute to improving the delivery of healthcare services and patient outcomes in Moshi District Council, Tanzania.

2. Objective of the Study

The objective of the study was to assess organizational factors influencing nursing personnel participation in long-term career development programs in Moshi District Council, Tanzania.

2.1. Research Question

To what extent do organizational factors influence nursing personnel participation in long-term career development programs in Moshi District Council, Tanzania?

2.2. Research Hypothesis

H_0 —There is no significant influence between organizational factors and long-term career development programs among nurse personnel.

3. Empirical Review

This section presents a review of empirical literature on organizational factors influencing nursing personnel participation in long-term career development programs. The empirical literature review will deliberate on relevant studies to fill the knowledge gap from other studies which were conducted globally, in African countries, and specifically in Tanzania.

Damisa et al. (2022) conducted a study to investigate the impact of organizational culture on employee engagement in manufacturing firms in Nigeria. Data

was collected from 346 participants, including both managerial and non-managerial employees, from four selected manufacturing firms in the southwest region of Nigeria using purposive sampling. The study found a positive relationship between organizational culture and employee engagement, suggesting that a strong organizational culture can contribute to higher levels of employee engagement within the workplace. However, the study mentioned nothing about nurses specifically in local context like Tanzania. To bridge this gap this study examined the influence of organizational factors on long-term career development program participation, which has not been adequately explored in the literature for nursing personnel. Hence, this study further investigated the organizational factors influencing nursing personnel participation in long-term career development programs in Moshi District Council Tanzania.

Khan & Siriwardhane (2021) conducted a study on several factors that have the potential to influence the career progression of academic level in Australia. This research provided a comprehensive understanding of the crucial factors (differentiated by gender) that had a negative impact on career progression. The study found that perspectives of factors that affect professional advancement have received significant attention among female academics and in the field of business professions. Further, on the other hand, organizational issues, particularly those that are present at the institutional level, have become important barriers to career advancement. The study by Khan & Siriwardhane (2021) investigated the potential influence on career development in Australia but nothing has been mentioned in Tanzania, specifically Moshi District Council. The study also did not mention nursing personnel; thus, this study investigated nursing personnel participation in long-term career development programs in Moshi District Council Tanzania.

Lee & Lee (2018) conducted a study to explore the link between career development and job-performance improvement, considering individual and organizational factors. They used the 2013 Human Capital Corporate Panel data set, with information from 572 employees across 61 companies. The study found that job satisfaction and organizational commitment significantly influenced job performance through career development. It also highlighted the positive impact of mentoring/coaching on job performance improvement. In addition, job rotation had a negative effect on job performance improvement through career development. However, the study focused on individual and organizational factors that influence the relationship between career development and job-performance improvement but did not specifically address the context of nursing personnel. This study further investigated the nurses as a unit analysis, specifically in Tanzania, by investigating the organizational factors influencing nurse's participation in long-term career development programs in Moshi District Council. Hence, this study addressed the gap by investigating the influence organizational factors on nurse's participation in long-term career development at Moshi District Council.

Niati et al. (2021) examined the career advancement and work performance.

The study investigated the effects of training on career development in South Labuhanbatu Regency. The study determined the effects of training on work performance and career development by mediating work motivation. The respondents in this study were 135 employees, and data collection was conducted through a questionnaire carried out online (Google form). The collected data was processed using path analysis using Amos Software Version 23. The findings of the study revealed that training and motivation can improve job performance. Further, the study showed that training, motivation, and job performance can improve career development of employees at workplaces. Lastly, it recommended that training program, motivation and work performance of employees should be improved. The study focused on the effects of training on career development and work performance, but it lacked a specific exploration of nurse personnel towards their career advancement. Therefore, this study aimed to fill this research gap by examining the other organizational factors that impact nursing personnel's engagement with career development programs in the context of the Moshi District Council in Tanzania. This study investigated the organizational factors contributing to the development of effective programs and implementation strategies for the needs of nursing personnel in Moshi District Council, Tanzania.

The study by [Mohammed et al. \(2020\)](#) aimed to identify factors influencing nursing staff career development at Port-Said governmental hospitals. It found significant correlations between personal, job-related, and organizational factors and career development. Positive personal behaviors, job satisfaction, empowerment, engagement in career development activities, autonomy, supervisor support, management support, and career developmental plans were all positively correlated with nursing career development. The study recommended the policies and plans should be developed to enhance career development and increase nursing staff performance. It also emphasized the importance of administration support through in-service training programs, resource allocation, and opportunities for further education. However, the study left out a gap that needs to be addressed in nurses in the local context of Tanzania, specifically the Moshi District Council. Hence, this study bridged this gap by investigating the organization factors that influence participation in long-term career development programs among nursing personnel in Moshi District Council Tanzania. Further, this study contributed to the existing literatures by offering practical recommendations to enhance nurses' engagement in these programs so as to advance their careers.

4. Methodology

This study employed a convergent parallel research design with a mixed research approach in which the study collected and analyzed quantitative and qualitative data at the same time, and then compared the two sets of data to draw conclusions. Convergent design allowed measurements of both independent and dependent variables at the same time ([Bhattacharjee, 2012](#)). This study used this

method since it allowed researcher to gain a more comprehensive understanding of the research problem by using the strengths of both quantitative and qualitative methods.

The target population for this study was 241 nurses located in Moshi District Council (HCMIS, 2023). MDC comprises 3 Hospitals, 9 Health Centers and 51 Dispensaries. The sample size was determined using the Yamane formula, which yielded a recommended sample size of 150 nurses (Yamane, 1967). Instead of selecting respondents, the researchers opted to involve all 150 sampled nurses working in the MDC, using a census technique. Census was used so as to provide a complete representation of the nurse population for more accurate findings. 2 Hospital, 5 Health centers, and 17 Dispensaries from the Health Facilities in MDC were sampled using Kothari authority (Kothari, 2019) which suggested that researchers should consider sample of at least 50% as representatives. The researcher labeled health facilities on pieces of paper with a number based on their category (Hospital, Health Centers, and Dispensaries) from number 1, 2, 3... For each category of health facility, papers were drawn randomly without replacement so as to obtain the required sample of health facilities which responded to the research questions.

The study used convenience sampling to select 121 nurses from hospitals, health centers, and dispensaries. Key informants including the District Medical Officer, Health Secretaries, and health facility in-charges were selected using purposive sampling. Data was collected through a structured questionnaire for quantitative data and key informant interviews for qualitative data. The research instruments were validated through content and face validity, where two research experts from MWECAU were given the research instruments to validate their relevance, and their suggestions were used to modify the research instruments. For reliability, Likert scale items were subjected to Cronbach's alpha analysis and a coefficient of 0.753 was obtained, which is considered reliable for data collection (Sekaran & Bougie, 2016). Both quantitative and qualitative data were analyzed using SPSS and by examining similarities, differences, and connections between the questionnaire and interview responses. Confirmatory Factor Analysis was used to test hypotheses on the effects of career development programs on organizational factors.

Ethical guidelines and principles were observed for this study, ensuring protection from harm and rights of the respondents. Ethical consideration for conducting research were embraced to ensure that ethical values are not violated throughout the research process. Including informed consent, confidentiality, intellectual honesty, and adhering to APA style in references and citations.

5. Results and Discussion

5.1. Response Rate

121 nurses located in Moshi Health facilities were to respond to the questionnaire. However, 110 of the nurses, which is about 90.9% of the respondents,

returned the questionnaires and were considered enough for the study to proceed.

5.2. Demographic Characteristics of Respondents

Four demographic characteristics of nurses in Moshi Municipality were assessed, including Gender, Age, Academic qualification, and working Experience. Results are presented in **Table 1**.

Table 1. Demographic information (n = 110).

Demographic variable		F	%	Total
Gender	Male	27	24.5	110
	Female	83	75.5	
Age of respondents	18 - 25 Years	13	11.8	110
	35 - 44 Years	65	59.1	
	45 - 54 Years	32	29.1	
Academic Qualification	Certificate	56	50.9	110
	Diploma	51	46.4	
	Degree	3	2.7	
Working Experience	Less than 5 years	48	43.6	110
	5 - 9 years	28	25.5	
	Over 10 years	34	30.9	

Source: Field data (2024).

The results in **Table 1** reveal that 24.5% of respondents were male and 75.5% were female. This shows that the target audience is comprised of more females than males, which means that possibilities for nurses to advance their careers could be hindered by gender-related barriers. Regarding age, 29.1% of respondents were 45 - 54 years old, 11.8% of respondents were 8 - 25 years old, and 59.1% of respondents were 35 - 44 years old. The age group with the lowest representation of nurses who responded to the influence of professional growth is 18 - 25 years old, indicating that the bulk of respondents are in the middle-aged (35 - 54) range. In terms of academic qualifications, 50.9% of the population possesses a certificate, 46.4% a diploma, and a mere 2.7% a bachelor's degree. This suggests that while some hold certificates or diplomas, a comparatively smaller percentage holds a degree, which may have an impact on their perception of participation in career development programs. Regarding work experience, 43.6% of respondents had less than 5 years' experience, 25.5% had 5 to 9 years' experience, and 30.9% had 10 or more years' experience. This suggests that a wide range of experience levels were covered in the study, with a greater proportion of respondents having fewer than 5 years' experience to address issues with career development participation among nurses.

The inclusion of demographic information is due to the fact that it provides a

clear picture of the participants' characteristics and ensures that the sample represents the broader population of nurses in the Moshi District Council. Further, it allows for assessing the applicability of findings to specific subgroups within the nursing population, such as analyzing potential gender differences in participation in career development programs. Lastly, demographic information helps to contextualize the study findings by providing insights into the background and characteristics of the participants, and it allows for subgroup analysis to explore variations across different demographic groups.

Gender composition is a crucial demographic aspect to consider as it allows for the analysis of potential gender differences in participation in career development programs. By including gender, this study uncovers any disparities or barriers that may exist in promoting equitable career development opportunities. Further, the inclusion of academic qualifications in this study allows for an evaluation of how educational attainment may influence nurses' perspectives on career development. Additionally, including working experience, it allows for an exploration of variations in career development participation across different stages of a nurse's professional journey.

5.3. Organizational Factors on Long-Term Career Development Programs

This study assessed the extent to which organizational factors influence nursing personnel participation in long-term career development programs among health facilities in Moshi District Council, Tanzania. And the following are the results revealed by nurses in Moshi District Council, Tanzania.

Results in **Table 2** indicate that 56.4% agreed with the statement that organization-working environment supports career development for nurses. These results show that most of the respondents agreed that working environment supports career development for nurses. Further, this is supported by the mean of 3.62, which indicated that respondents had agreed with the statement that organization working environment supports career development for nurses, and the statement had a standard deviation of 0.97, which indicates that the responses from the nurses tend to be close to the mean score. This implies that nurses perceive that the organization's working environment supports career development for nurses. Nurses also believe that the organization has created conditions that facilitate nurses' professional growth. These findings align with the study by [Lee & Lee \(2018\)](#) on individual and organizational factors that influence the relationship between career development and job-performance improvement. It revealed that organizational commitment significantly affects job performance through career development and growth. In addition, these findings align with the Theory of Planned behavior by Ajzen 1985 which assumes that individuals understand why they take part in programs and use that knowledge to make better future plans. This was supported by an interview with one of the health secretary. The Health Secretary 1 said this:

Table 2. Organizational factors influencing nursing personnel participation in long-term career development programs (n = 110).

Organizational factors on long-term career development programs	SD		D		U		A		SA		Mean	STD
	F	%	F	%	F	%	F	%	F	%		
My organization working environment supports career development for nurses	5	4.5	10	9.1	20	18.2	62	56.4	13	11.8	3.62	0.967
Organization leadership promotes career development for nurses	0	0.0	10	9.1	16	14.5	67	60.9	17	15.5	3.83	0.800
There is no discrimination for career development opportunities within the organization.	1	0.9	7	6.4	19	17.3	63	57.3	20	18.2	3.85	0.822
The organization promotes a culture that supports career development for nurses	1	0.9	10	9.1	30	27.3	58	52.7	11	10.0	3.62	0.824
The organizational objectives align with the career development needs and aspirations of nurses	2	1.8	12	10.9	30	27.3	60	54.5	6	5.5	3.51	0.832
The organization supports employees' participation in professional development opportunities.	0	0.0	9	8.2	21	19.1	67	60.9	13	11.8	3.76	0.765
Organization provides promotion to influence nurses' participation in career development	3	2.7	5	4.5	20	18.2	72	65.5	10	9.1	3.74	0.798
The organization allocates an appropriate budget for development initiatives.	3	2.7	17	15.5	32	29.1	40	36.4	18	16.4	3.48	1.029
My organization has requirements in order for nurses to participate in career development	2	1.8	8	7.3	27	24.5	61	55.5	12	10.9	3.66	0.838
Resources provided by the organization facilitates career development of nurses	5	4.5	5	4.5	26	23.6	63	57.3	11	10.0	3.64	0.896

Source: Field data, (2024). Key: SD = Strongly Disagree, D = Disagree, U = Undecided, A = Agree, SA = Strongly Agree.

“Yes there are many factors affecting nurse’s participation in long-term career development. One of it is the Organizational factor; further organization factor influences nurses decision to participate due to that it leads to career development (Personal Communication with Health Secretary 1, December 5, 2023)”

What was revealed by key informants supports the idea that there are organization factors do affect nurses’ participation in long-term career development. Overall, these findings imply that support systems and opportunities for career growth, have an influence on nurses’ participation in long-term career development programs in MDC.

Results revealed that 60.9% of the respondents agreed that organization leadership promotes career development for nurses. This is supported by the mean of 3.83, which supports that respondents had agreed to the statement. Also, the statement had a standard deviation of 0.80, which indicates that respondents have a moderate level of variability around the mean. This result indicates that that a majority of nurses perceive that the leadership within the organizations actively supports and encourages career growth for nurses and thus organization’s leadership is viewed as actively contributing to the growth and advancement of nurses. The findings obtained aligned with the findings obtained by [Damisa et al. \(2022\)](#), who examined organizational culture on employee’s engagement. His study revealed leadership in the organization as one of the organization culture that motivated employee engagement in Nigeria. The Health Secretary 1 through an interview supported this. The Health Secretary had this to say:

“Among the factors influencing nurses participation in long-term career development one of them is influence of the leaders. Sometimes leaders demand nurses to increase their careers to as to fit their positions (Personal Communication with Health Secretary Health Secretary 3, December 6, 2023)”

This information from the key informant supports that the leaders in organizations have an influence on career development of nurses. These findings imply that the leadership within health facilities in Moshi District Council plays an important role in influencing nurses’ career development.

Results show that 57.3% agreed that there is no discrimination for career development opportunities within the organization. This was also evident by the mean score, which showed that the same statement had a mean of 3.83, which indicated that most of the respondents agreed with the same statement that there is no discrimination in career development opportunities within the organization. Further, the statement had a standard deviation of 0.82 which indicates that the respondents had a moderate degree of spread from the mean score. These results suggest that the nurses have a positive perception regarding the organization in terms of providing equal opportunities for career growth. In addition, many nurses feel that the organization treats everyone fairly and equally when it comes to career development opportunities and this positive perception can make employees happier, more involved, and more motivated in their work. Also, these results comply with the study by [Al-Hamdan & Issa \(2021\)](#), on the role

of Organizational Support and Self-Efficacy in Work Engagement among Registered Nurses in Jordan. The study revealed that nurses at Jordanian hospitals perceived organizational support and self-efficacy as having a positive correlation with work engagement among registered nurses. These findings imply that organization's commitment to providing equal opportunities has a positive influence on the nurses' career development programs participation.

Results in **Table 2** revealed that 52.7% agreed to the statement, which asked whether organizations promote a culture that supports career development for nurses, and a mean score of 3.62, which also indicates that respondents have agreed to the same statement, supported this. In addition, the same statement was observed to have a standard deviation of 0.82, which suggests that responses exhibit a moderate level of variability around the mean. These results communicate that most nurses agree with the fact that organizations create an environment that supports nurses' career development, meaning that organizations should continue investing in and improving their efforts to support nurses' career development. Also, these results align with the data obtained by [Damisa et al. \(2022\)](#), who examined the impacts of organizational culture on employee's engagement in Nigeria. The study revealed that organizational culture is positively related to employee engagement in most of the organizations. The findings imply that the nurses acknowledge and agree that organizations create a supportive environment for nurses' career development in health facilities within MDC.

Results indicated that the statement asked whether organizational objectives aligned with the career development needs and aspirations of nurses, and 54.5% of the respondents agreed with the statement. Also, using the mean score, the statement had a mean of 3.51, which indicated that respondents agreed with the statement. Standard deviation for this statement was 0.83, which suggests that the responses deviated moderately from the mean. These results suggest that many of the respondents agreed with the statement about how well the organization's objectives align with nurses' career development needs and goals. Overall, there is a general agreement among the nurses. However, this was the opposite of what was revealed by [Mlambo et al. \(2020\)](#). The study indicated that nurses believe it is essential for professionalism and lifelong learning, but it needs to be more accessible and relevant for improved patient care standards.

Results in **Table 2** show that 60.9% of the respondents agreed with the statement that organization supports employees' participation in professional development opportunities, with a mean score of 3.76, which also supports that respondents agreed that organization supports employees' participation in professional development opportunities. Also through a standard deviation of 0.76, which indicates that, the responses in the dataset have a relatively low level of dispersion around the mean. This suggests that most of the respondents have a positive view of the organization when it comes to supporting employees' participation in professional development opportunities. Many people agreed with the statement and there is agreement among the nurses, which further supports

the perception that the organization is supportive of employees' growth and development in their careers. The Health Secretaries through an interview supported the idea that statement the organization supports employees' participation in professional development opportunities. The Health Secretary 1 had this to say: "*The organizations collaborating with the government provide financial support like sponsorship to nurses so as to participate in professional development opportunities (Personal Communication with Health Secretary Health Secretary 2, December 4, 2023)*"

Further, the Health Secretary 2 Added this: "*Yes the organization provides nurses with support so as to participate in professional career development programs, through financial support and also providing training programs for them (Personal Communication with Health Secretary Health Secretary 3, December 6, 2023)*"

This information from the key informant supports that organization, together with the government, values the career development of nurses and plays a significant role in supporting the nurses to participate where necessary. These findings imply that the organization, in collaboration with the government, places value on nurses' career development and actively supports their participation in professional development programs.

Also, **Table 2** revealed that 65.5% of the respondents agreed to the statement that organization provides promotion to influence nurses' participation in career development, with a mean score of 3.74, which also indicates that respondents agreed to the statement. Further, a standard deviation of 0.79 indicates that there is a low level of variability, suggesting that the responses are closely clustered around the mean. These interpretations suggest that the organization's promotion initiatives are well received and have a positive impact on nurses' participation in career development. In addition, the interpretations reveal agreement among the respondents regarding the effectiveness of promotion in facilitating their career growth within the organization. This finding complies with the study by [Bleier et al. \(2023\)](#) on organization facilitators and barriers to participation in healthcare. Whereby the study revealed that organizational factors can hinder nurses' participation in workplace health promotion activities. Further, this was supported by an interview. Whereby the Hospital In charge has this to say: "*The organizations offer promotion opportunities after completion of further studies, most of the jobs require specific qualification so promotion is offered only for those who deserve (Personal Communication with Health Secretary Health Secretary 2, December 4, 2023).*"

This informant's supports the interpretation indicated that a majority of respondents agreed that the organization provides promotion to influence nurses' participation in career development. This suggests that the promotion initiatives are well-received and have a positive impact on nurses' career growth within the organization. These results reinforce [Bleier et al.'s \(2023\)](#) study on organization facilitators and barriers to nurses' participation in healthcare, who indicated that the organization's promotion opportunities are viewed positively by nurses and

align with their aspirations, encouraging their active participation in career advancement. Additionally, the results imply that promotions are merit-based, fostering a sense of fairness and motivation among nurses.

On the statement that organization allocates an appropriate budget for development initiatives, 36.4% of respondents agreed to the statement, while 29.1% of respondents were neutral regarding allocation of budgets for development. Through the mean score of 3.48 indicates that some individuals are not sure as to whether or not the organization budgets for development initiatives. Additionally, the statement had a standard deviation of 1.03, suggesting that the responses are moderately spread out from the mean score for this statement. These results show that the nurses have different opinions and do not agree about whether the organization allocates an appropriate budget for development initiatives. There is uncertainty and lack of clarity among them, which means that some nurses are not sure about the budget allocation for career development initiatives. These findings are opposite to what was obtained by [Smith & Yonkaitis \(2022\)](#), who revealed that nurses' education budgeting program could be a friend solution towards professional career development.

Results on the statement that organization has requirements in order for nurses to participate in career development, 55.5% agreed to it; the statement had a mean score of 3.66, which indicates that most of respondents agreed to the statement. Further, the statement had a standard deviation of 0.83, which means that the responses of the nurses are moderately spread out from the mean score. These results communicate that a considerable proportion of nurses agreed with the statement regarding the organization having requirements for nurses to participate in career development. However, there is variability in the responses, indicating that not all nurses share the same perspective regarding the necessity of these requirements for career development participation. This supports the findings revealed by [Lukewich et al. \(2020\)](#), which revealed that nurses with primary care experience agreed that organizations should require nurses to participate in career development. Further, this was supported by one of the Health Secretaries who said that:

“There is a big necessity for organizations to require nurses career development programs, the government requirements such as age, number of staffs in the organization, and self-attitude towards career development as the necessary requirement for career development among nurses (Personal Communication with Health Secretary District Medical Officer, December 4, 2023).”

This finding from key informant communicates that health facilities are aware of the necessity of career development programs for nurses. The government has requirements to consider for nurses to participate in career development programs. Overall, these findings imply that there is recognition among health facilities and the government of the necessity of career development programs for nurses in MDC.

Table 2 indicated that 57.3% of the respondents agreed with the statement that Resources provided by the organization facilitate the career development of

nurses, sportingly, this statement had a mean score of 3.64, which further supports that most of respondents are agreeing to the same statement. Further, the statement had a standard deviation of 0.89, which indicates that the nurses' responses have a moderate level of variability from the mean score for the statement. These results suggest that a significant portion of the nurses agreed with the statement about the organization's resources facilitating career development for nurses. However, there is some degree of variability in the responses, indicating that not all nurses feel the same way about career development for nurses. These data support the study by Broetje et al. (2020), who revealed that organizational resources facilitating career development included fair and authentic management, transformational leadership, interpersonal relations, and professional resources. These findings imply that a portion of the nurses agree that the organization's resources facilitate career development for nurses. It was suggested that the organization's resources facilitate career development for nurses. This suggests that they perceive the organization as providing the necessary support and tools to help nurses grow and advance in their careers.

5.4. Hypothesis Testing Results

Before running the regression model, various assumptions and tests were conducted, including tests of normality, CFA, and ANOVA. The hypothesis was tested through Confirmatory Factor Analysis (CFA). The hypothesis was tested at a significant level of 0.05 accepted in social sciences. The null hypothesis (H_0) was that there is no significant influence between organizational factors and long-term career development programs among nurse personnel in MDC.

Results from **Table 3** showed that the KMO (Kaiser-Meyer-Olkin) measure of sampling adequacy is 0.773, which indicates that the data is moderately suitable for conducting factor analysis. A KMO value above 0.5 is generally considered acceptable. The matrix of population correlations is different from the identity matrix. Thus, it is concluded that factor analysis is appropriate for our data.

Table 3. KMO and Bartlett's test.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.773
	Approx. Chi-Square	258.811
Bartlett's Test of Sphericity	Df	45
	Sig.	0.000

Source: Field data (2024).

In addition, **Table 3** shows a significance level of 0.000, which is less than 0.05, which indicates that there is a significant influence between organizational factors and long-term career development programs among nurse personnel. Hence, we accept the alternative hypothesis and reject the null hypothesis. Further, Bartlett's test reveals that the correlation matrix is not an identity matrix, indicating that there is a significant relationship among the variables. This data

aligns with the findings by [Damisa et al. \(2022\)](#), who found that there is a positive connection between organizational culture and employee engagement in Nigeria. This supports the idea that organizational factors influence nurses' participation in career development programs within health facilities in Moshi District Council, Tanzania.

Results in [Table 4](#) display the commonalities of the variables related to organizational support for career development. Communalities represent the extent to which each variable shares a common variance with other variables. The values range from 0 to 1, with higher values indicating a higher proportion of shared variance. In this case, all variables have communalities greater than 0.5, which suggests that they contribute significantly to the shared variance. The high communalities for all variables indicate that each variable contributes significantly to the shared variance. This result suggests that all the organizational factors related to career development for nurses play a meaningful role in influencing their participation in career development programs.

Table 4. Communalities.

Statement	Initial	Extraction
My organization working environment supports career development for nurses.	1.000	0.706
Organization leadership promotes career development for nurses.	1.000	0.621
The organization promote a culture that supports career development for nurses.	1.000	0.811
There's no discrimination for career development opportunities within the organization.	1.000	0.560
The organizational objectives align with the career development needs and aspirations of nurses.	1.000	0.323
The organization supports employees' participation in professional development opportunities.	1.000	0.486
Organization provides promotion to influence nurses' participation in career development.	1.000	0.648
The organization allocates an appropriate budget for development initiatives.	1.000	0.711
My organization has requirements in order for nurses to participate in career development.	1.000	0.408
Resources provided by the organization facilitate career development of nurses.	1.000	0.539

Source: Filed data (2024). Extraction method: Principal component analysis.

Results in [Table 5](#) present the initial eigenvalues and the variance explained by each component extracted through principal component analysis. The first component explains 34.88% of the variance and the second component explains

an additional 12.58%. Together, the extracted components explain a total of 58.12% of the variance. The extracted components of (58.12%) variance indicate that the identified components capture a significant portion of the variability in the data. It was suggested that the selected variables effectively represent the underlying constructs related to organizational factors and career development. The factor analysis identified three factors, namely, organizational support, development initiatives, and career development culture. These factors are explained using the Rotated factor matrix in **Tables 6-8**.

Table 5. Total variance explained.

Comp	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	T	% of Variance	Cumulative %	T	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.49	34.88	34.88	3.49	34.88	34.885	2.487	24.872	24.872
2	1.26	12.58	47.47	1.26	12.58	47.470	1.844	18.439	43.311
3	1.07	10.65	58.12	1.07	10.65	58.125	1.481	14.815	58.125

Source: Filed data (2024). Extraction method: Principal component analysis.

Table 6. Rotated component matrix^a.

Organization Support	
My organization working environment supports career development for nurses.	0.784
Organization leadership promotes career development for nurses.	0.760
There's no discrimination for career development opportunities within the organization.	0.741
Resources provided by the organization facilitate career development of nurses.	0.637

Source: Filed data (2024). Extraction method: Principal component analysis. Rotation method: varimax with kaiser normalization. a. Rotation converged in 5 iterations.

Table 7. Rotated component matrix^b.

Development Initiatives	
The organization allocates an appropriate budget for development initiatives.	0.822
The organization supports employees' participation in professional development opportunities.	0.661
My organization has requirements in order for nurses to participate in career development.	0.568

Source: Filed data (2024). Extraction method: Principal component analysis. b. Rotation method: Varimax with kaiser normalization.

Table 8. Rotated component matrix^c.

Culture of Career development	
The organizational objectives align with the career development needs and aspirations of nurses.	0.770
The organization promote a culture that supports career development for nurses.	0.893
Organization provides promotion to influence nurses' participation in career development.	0.730

Source: Filed data (2024). Extraction method: Principal component analysis. Rotation method: Varimax with kaiser normalization. c. Rotation converged in 5 iterations.

Results in **Table 6** show the rotated component matrix for variables related to organization support for career development. The variable load highly on the first component indicates a strong association. This result suggests that creating a supportive working environment, promoting career development through leadership, and ensuring a discrimination-free culture are crucial factors in facilitating nurses' participation in long-term career development programs.

Results in **Table 7** present the rotated component matrix for variables related to development initiatives. The variables load strongly on the first component, suggesting a significant relationship. This suggests that allocating appropriate budgets for development initiatives and supporting employees' participation in professional development opportunities are important considerations for organizations aiming to enhance nurses' engagement in career development.

Results in **Table 8** show the rotated component matrix for variables related to the culture of career development. It displays that the variables load highly on the first component, indicating a strong association. These results highlight the importance of organizational culture in supporting career development. Organizations that prioritize aligning their objectives with nurses' career needs are more likely to have higher participation in career development programs.

Hypotheses Testing

From the factors identified by the Confirmatory Factor Analysis (CFA), namely, Organization support, Development Initiatives, and Culture of career development, hypotheses were tested using a Regression analysis to identify whether the factors are statistically significant for the study in assessing the organizational factors influencing nursing personnel participation in long-term career development programs in Moshi District Council, Tanzania. Null hypothesis (H_0) for this study stated that there is no significant influence between organization factors and long-term career development programs among nurse personnel.

Results in **Table 9** indicate that there is a moderate positive relationship between the predictors (Culture of Career development, Development Initiative and Organization Support) and the nursing personnel participation in long-term career development programs. Approximately 70.6% of the variance in the career development programs can be explained by these predictors. These results

suggest that these factors have influenced nursing personnel participation in long-term career development programs.

Table 9. Model summary^b.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.840 ^a	0.706	0.698	0.531

Source: Filed data (2024). a. Predictors: (Constant), culture of career development, development initiative, organization support. b. Dependent variable: Participation in career development programs.

Results in **Table 10** show the ANOVA results; the regression sum of squares is 72.029, indicating the amount of variation in the dependent variable explained by the predictors. There are 3 degrees of freedom for the predictors and 106 degrees of freedom for the residual. The mean square for the regression model is 24.01, and for the residual, it is 0.282. The F-value is 85.020, and the significance value is reported as 0.000, indicating a very low probability of obtaining the observed F-value by chance alone. These results indicate that the regression sum of squares is significantly larger than the residual sum of squares, indicating that the predictors are able to explain a substantial portion of the variance in the dependent variable. Further, the F-value of 85.020 is statistically significant, suggesting that the predictors together have a significant influence on nurses' perception of support for career development. The significance value (p-value) indicates that the predictors (Culture of Career Development, Development Initiative and Organization Support) are statistically significant in the nursing personnel's participation in long-term career development programs. Hence, since the p-value is less than 0.05, we reject the null hypothesis, and we accept the alternative hypothesis. Therefore, this indicates that there is a significant influence between organizational factors and nursing personnel participation in long-term career development programs. These findings aligned with the findings by [Damisa et al. \(2022\)](#), who found that there is a positive connection between organizational culture and employee engagement in Nigeria. This supports the idea that organizational factors influence nurses' participation in career development programs within health facilities in Moshi District Council, Tanzania.

Table 10. ANOVA^a.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	72.029	3	24.010	85.020	0.000 ^b
1 Residual	29.935	106	0.282		
Total	101.964	109			

Source: Filed data (2024). a. Dependent variable: Participation in career development programs. b. Predictors: (Constant), culture of career development, development initiative, organization support.

The results in **Table 11** show that all three predictors have statistically significant coefficients, as indicated by their low p-values (<0.001). This suggests that each predictor makes a significant contribution to explaining the variation in the dependent variable. The standardized coefficients (Beta) show that Organization Support has the highest Beta value of 0.784, suggesting the strongest positive association with nurses' perception of organizational support for career development. Development Initiative and Culture of Career Development have moderate Beta values 0.222 and 0.207 respectively, indicating a positive but weaker association compared to Organization support. The unstandardized coefficients (B) represent that for every one-unit increase in Organization Support, nurses' perception of their organization's support for career development increases by 0.758 units. Similarly, a one-unit increase in Development Initiative and Culture of Career Development leads to increases of 0.215 and 0.200 units in the dependent variable, respectively. These results imply that predictor (Culture of Career Development, Development Initiative, Organization Support) significantly contributes to explaining the variation in nurses' perception of their organization's support for career development. The highest beta value for organizational support suggests that it has the strongest positive association with nurses' perception of organizational support for career development. Development Initiative and Culture of Career Development with moderate Beta indicates a positive but relatively weaker association compared to Organization Support.

Table 11. Coefficients^a.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.618	0.051		71.40	0.000		
Organization Support	0.758	0.051	0.784	14.89	0.000	1.000	1.000
¹ Development Initiative	0.215	0.051	0.222	4.23	0.000	1.000	1.000
Culture of Career development	0.200	0.051	0.207	3.94	0.000	1.000	1.000

Source: Filed data (2024). a. Dependent variable: My organization working environment supports career development for nurses.

Table 12 reveals that the minimum predicted value is 0.91, the maximum is 5.16, the mean is 3.62, and the standard deviation is 0.813. The residual is the difference between the actual and predicted values, with a minimum of -1.464, maximum of 1.217, mean of 0.000, and standard deviation of 0.524. The standardized predicted value has a minimum of -3.337, maximum of 1.893, mean of 0.000, and standard deviation of 1.000. The standardized residual has a minimum of -2.754, maximum of 2.290, mean of 0.000, and standard deviation of

0.986. These results suggest that the model predicts a wide range of perceptions, with a central tendency around 3.62. Further, the standard deviation of the residuals (0.524) reflects the variability or dispersion of the model's predictions around the observed values. The mean standardized residual allows for a standardized comparison of the predictions and residuals, facilitating further analysis and interpretation for the study.

Table 12. Residuals statistics^a.

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	0.91	5.16	3.62	0.813	110
Residual	-1.464	1.217	0.000	0.524	110
Std. Predicted Value	-3.337	1.893	0.000	1.000	110
Std. Residual	-2.754	2.290	0.000	0.986	110

Source: Filed data (2024). a. Dependent variable: Participation in career development programs.

Results in **Table 13** reveal that the Kolmogorov-Smirnov test yielded a test statistic of 0.121 with 110 degrees of freedom, and a significance value of 0.000, indicating a significant deviation from a normal distribution. Further, the Shapiro-Wilk test resulted in a test statistic of 0.962 with 110 degrees of freedom, and a significance value of 0.003, also indicating a significant departure from a normal distribution. These results indicate that the distribution of the unstandardized residuals in the regression model significantly deviates from a normal distribution. Both the Kolmogorov-Smirnov test and the Shapiro-Wilk test yield small p-values (less than 0.05), indicating that the null hypothesis of normality is rejected. This suggests that the assumption of normality for the unstandardized residuals is violated.

Table 13. Tests of normality.

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	0.121	110	0.000	0.962	110	0.003

Source: Filed data (2024). a. Lilliefors Significance Correction.

6. Conclusions and Recommendations

Based on the findings of the study, it can be concluded that nurses perceive the organization's working environment as supportive of their career development. Nurses have a positive perception of the organization's provision of equal opportunities for career advancement, and they feel that everyone is treated fairly and equally in terms of career development opportunities. Further, the predictors (Culture of Career Development, Development Initiatives, and Organiza-

tion Support) were statistically significant in influencing nursing personnel participation in long-term career development programs in MDC.

Based on these conclusions, it was recommended that health facilities in Moshi District Council should empower nurses to participate in long-term career development. Further, health facilities are recommended to allocate sufficient resources, including budgetary allocations for training programs and professional development opportunities. It is also recommended that the same study should be replicated in other health facilities in Tanzania for a broader perspective and generalizability of the findings. Lastly, this study recommends that in the future, further research could be conducted on the barriers or challenges that hinder nurses' participation in long-term career development programs.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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