

## OCCUPATIONAL STRESS, MOTIVATION, AND WORK ENGAGEMENT OF RADIOLOGIC TECHNOLOGISTS IN SELECTED HOSPITALS IN LAGUNA

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### ABSTRACT

As part of the healthcare sector, Radiologic Technologists often experience a lot of pressure, leading to stress and burnout. Physical and emotional manifestations of the stress are evident in the way these professionals handle patient care. Motivation is required in providing good quality patient care and radiographs, which in turn results in accurate diagnosis. Motivation has a direct link to turnover rates among Radiologic technologists; the more unsatisfied they are with their workplace, the less motivation they have. Work engagement involves being enthusiastic, mentally and physically present at work, and having a vision to provide care beyond one's limitations. Being a care provider means loving the job and having a positive mindset, as well as being deeply involved and invested in their role within the healthcare team for the improvement of patient care and organizational outcomes.

Work engagement and the desire for a better policy influencing occupational stress and motivation are the purpose of the study. Managing conflict is critical for effective leadership and fostering positive workplace dynamics. Therefore, it is essential to evaluate the level of occupational stress, motivation, and work engagement of radiologic technologists across selected hospitals in Laguna. A descriptive-correlational study design will involve 63 radiologic technologists chosen through stratified random sampling technique.

To alleviate occupational stress and improve motivation and work engagement, radiologic technologists should voice out concerns and feedback to the department head and administrator. This would help administrators and department heads to review policies and programs crucial for the improvement of their working conditions. Hospital administrator should recognize their contributions and emphasize their personal growth by providing career enhancement training to increase respondents' understanding of their line of work. Chief Radiologic Technologists should be able to listen to their subordinates' opinions and feedback, and be an effective support system and leader. Finally, future researchers are encouraged to extend and broaden the research to understand more about occupational stress, motivation, and work engagement, and to conduct a comparable survey with a wide number of respondents from different regions.

**Keywords:** Occupational Stress, Motivation, Work Engagement, Radiologic Technologist.

### 1. INTRODUCTION

Being a healthcare worker, Radiologic Technologists experience high levels of occupational stress and recurrent burnout to the point that they lose motivation in doing their job. In the allied field, having knowledge of doing procedures and practicing good quality patient care is not the

only responsibility of a Radiologic Technologist, it also involves administrative procedures and collaboration with colleagues. Due to instances that cause demotivation, such as a low radiographer-patient ratio and low organizational support, which add to the stress, there might be an effect on the radiologic technologists' work engagement.

There has been a considerable insufficiency when it comes to relevant research in this subject to substantiate medical practitioners' worries. In pursuit of this study, the researcher found that there was a correlation to the high rate of decreased work engagement of health workers. So far, there has been minimal research undertaken among health professionals regarding their perceptions of occupational stress, motivation, and work engagement. Managing conflict is critical for effective leadership and fostering positive workplace dynamics. For these reasons, the researcher conducted a study to identify the relationship between occupational stress, motivation, and work engagement of radiologic technologists in selected hospitals in Laguna. The findings of this study will help in policy formulation for decision-makers in alleviating occupational stress and improving motivation and work engagement in healthcare settings.

## 2. METHODOLOGY

The researcher used a descriptive correlational research design to know the relationship between variables and to analyze occupational stress, motivation, and work engagement. The data was collected from 63 radiologic technologists working in hospitals in Laguna, namely, New Sinai MDI Hospital, Unihealth Southwoods Hospital and Medical Center, Sta. Rosa Community Hospital, Ospital ng Biñan, and Perpetual Help Medical Center – Biñan. The respondents were selected using a stratified random sampling procedure.

The researcher utilized a self-made questionnaire to gather the needed data, dividing it into three sections, which were constructed to evaluate occupational stress, motivation, and work engagement of Radiologic Technologists and their relationship. The questionnaire was then submitted to a panel of experts for validation and using a statistical tool (Cronbach Alpha) to test for internal consistency, which showed a great internal consistency. After obtaining the approvals of the adviser and the head of the department, questionnaires were distributed personally and electronically to the respondents and collected under strict confidentiality. Statistical tools were then used to tabulate, analyze, and interpret the data collected.

## 3. RESULTS AND DISCUSSIONS

Discussion on the occupational stress, motivation, and work engagement of radiologic technologists was presented in the succeeding tables and textual presentations:

**Table 1. The Level of Occupational Stress Present within the Workplace of the Respondents**

Indicator	Weighted Mean	Verbal Interpretation	Rank
1. Additional work causes pressure in the workplace.	3.41	Very High	1
2. Having additional tasks unrelated to my work adds pressure to my job.	3.37	Very High	2
3. I believe that I have insufficient control or input over my work responsibilities.	2.70	High	8
4. I am unable to utilize my skills and talents at work.	2.56	High	9
5. Working irregular hours, including night shifts, weekends, and holidays is taking a toll on my emotional, mental, and physical well-being.	2.98	High	4
6. I observed difficulty in sleeping because of the shifting schedule.	3.24	High	3
7. I had trouble expressing my opinions regarding work-related matters to my superior.	2.78	High	6
8. I am anxious about my health because of repeated exposure to radiation.	2.75	High	7
9. I was not able to receive adequate recognition or rewards for good performance.	2.94	High	5
10. I observed a hard time getting along with my colleagues and supervisors due to communication issues or conflicts.	2.32	Low	10
Average	2.90	High	

Legend: Strongly Agree/Very high -4, agree/high-3, disagree/low-2, strongly disagree/very low-1

Table 1 shows that Indicator 1, "Additional work causes pressure in the workplace," was placed first with a weighted mean of 3.41 and orally assessed as Very High. Indicator 2, "Having additional tasks unrelated to my work adds pressure to my job," came in second with a weighted mean of 3.37 and was verbally assessed as Very High. Indicator 6, "I observed difficulty in sleeping because of the shifting schedule," rated third with a weighted mean of 3.24 and was vocally assessed as High. Indicator 5, "Working irregular hours, including night shifts, weekends, and holidays, is taking a toll on my emotional, mental, and physical well-being," was rated fourth with a weighted mean of 2.98 and verbally assessed as High. Indicator 9 "I was not able to receive adequate recognition or rewards for good performance" placed fifth with a weighted mean of 2.94 and was verbally assessed as High.

For the rank 6th, 7th, 8th, and 9th respectively, Indicator 7 "I had trouble expressing my opinions regarding work-related matters to my superior", Indicator 8 "I believe that I have insufficient

control or input over my work responsibilities", Indicator 3 "I believe that I have insufficient control or input over my work responsibilities", and Indicator 4 "I am unable to utilize my skills and talents at work" which were verbally interpreted as high, and received a weighted mean of 2.56 - 2.78.

Ranked as #10, Indicator 10 (I observed a hard time getting along with my colleagues and supervisors due to communication issues or conflicts), had a weighted mean of 2.32 and was orally evaluated as Low.

To summarize, the overall weighted mean was 2.90, which was verbally perceived as high. This demonstrates that radiologic technologists have a high level of occupational stress in their profession. They are especially prone to work-related stress and overload. Shifting schedules have also been identified as a contributing cause to radiologic technologists' work stress, which results in disrupted sleeping patterns.

The findings of the study were supported by Varsha (2024), having a highly demanding work, radiologic technologists experience a large amount of stress, leading to burnout. This not only affects their mental health but is also evident in their emotional and physical health. Another factor that contributes to their stress is a lack of support from colleagues and organizations, and a lack of recognition for their hard work. Similarly, the data in Table 1 shows that radiologic technologists have a high level of occupational stress. These findings emphasized the need for better policies to alleviate the suffering from occupational stress among radiologic technologists. Managing workloads, properly distributed schedules, awards and recognitions, enhanced communication, and training should be implemented.

**Table 2. The Respondents' Level of Motivation within the Workplace**

Indicator	Weighted Mean	Verbal Interpretation	Rank
1. My motivation at work increases when my contributions and efforts are recognized and rewarded.	3.46	Very High	1
2. My institution's fringe benefits and incentives, like health insurance and hazard pay, increase my dedication and motivation at work.	3.10	High	7
3. My institution encourages the use of paid time off and provides adequate leaves for employees which allows me to rest and be motivated.	2.87	High	10
4. I observed the good values of my co-workers in our department which motivates me to go to work.	3.17	High	3
5. My institution ensures that employees have necessary tools, equipment, and proper safety protocols that establish my motivation.	3.13	High	5

6. Our department provides opportunities for employees to enhance their skills and knowledge through formal training programs.	3.11	High	6
7. Our department implements recognition programs to acknowledge and reward employees for their contributions which encourages me to work.	2.92	High	9
8. I am motivated to work when our department organizes stress management training and workshops, and provide access to mental health support.	3.03	High	8
9. I am continually advancing when my department conducts regular feedback sessions to provide constructive criticism and improvement of employees.	3.16	High	4
10. My collaboration and communication skills are enhanced when my department implements team-building exercises, games, or challenges.	3.24	High	2
Average	3.12	High	

Legend: Strongly Agree/Very high -4, agree/high-3, disagree/low-2, strongly disagree/very low-1

As shown in Table 2, indicator 1 that ranked as #1, which states that “My motivation at work increases when my contributions and efforts are recognized and rewarded,” got a weighted mean of 3.46, and had a verbal interpretation of Very High. Indicator 10, rank #2, which states “My collaboration and communication skills are enhanced when my department implements team-building exercises, games, or challenges,” garnered a weighted mean of 3.24 and had a verbal interpretation of High. The indicator 4 was ranked as #3, which states that “I observed the good values of my co-workers in our department which motivates me to go to work” had a weighted mean of 3.17, and verbally interpreted as High, and indicator 9 “I am continually advancing when my department conducts regular feedback sessions to provide constructive criticism and improvement of employees”, which ranked #4 was verbally interpreted as high and has a weighted mean of 3.16. Indicator 5, rank #5, “My institution ensures that employees have necessary tools, equipment, and proper safety protocols that establish my motivation” garnered a weighted mean of 3.13 and was verbally interpreted as High. For the rank 6<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup>, Indicator 6 “Our department provides opportunities for employees to enhance their skills and knowledge through formal training programs”, Indicator 2 “My institution's fringe benefits and incentives, like health insurance and hazard pay, increase my dedication and motivation at work”, Indicator 8 “ I am motivated to work when our department organizes stress management training and workshops, and provide access to mental health support”, Indicator 7 “Our department implements recognition programs to acknowledge and reward employees for their contributions which encourages me to work”, and Indicator 3 “My institution encourages the use of paid time off and provides adequate leaves for employees which allows me to rest and be motivated” gathered the weighted mean of 2.87 – 3.11 and verbally interpreted as High.

To summarize, the overall weighted mean was 3.12 and was had a high verbal interpretation. This demonstrates that radiologic technologists are motivated to work. They were appropriately compensated and recognized for their job, and they enjoy being a part of the department. They have a place to hone their abilities and work effectively with the team.

The findings of the study were supported by Karaferis et al. (2022), doctors, nurses, and other healthcare personnel are motivated to work hard when they perceive themselves as competent and more knowledgeable through pieces of training provided by the organization, in turn, provides the company with better efficiency and patient satisfaction. The same findings can be shown in Table 2: The Respondents' Level of Motivation within the Workplace, which shows that radiologic has a high level of motivation. It is essential for companies to know their employees' wants, expectations, and attitudes towards work to boost their motivation. Organizations should invest in training, retention, recognition, and sustenance of professional healthcare.

**Table 3. The Level of Work Engagement that Respondents Have**

Indicator	Weighted Mean	Verbal Interpretation	Rank
1. Having sufficient leave incentives increases my job motivation and performance.	3.65	Highly Engaged	1
2. I can manage workloads and work hours in a day-to-day routine.	3.32	Highly Engaged	4.5
3. I experienced happiness when working with the team.	3.32	Highly Engaged	4.5
4. I feel that my department is trying to discover new innovations for improvement in our unit.	3.06	Engaged	7.5
5. I feel that my institution is keen on listening to employees' feedback and implementing improvements.	2.89	Engaged	10
6. The institution offers opportunities to learn from other departments such as being trained to operate other modalities which enhances my skills.	3.02	Engaged	9
7. I am more engaged to perform better when the institution provides complimentary health check-ups to employees to maintain their physical well-being.	3.25	Highly Engaged	6
8. My institution positively promotes employees' lives wherein I feel valued and appreciated which in turn elevates my work engagement.	3.06	Engaged	7.5
9. I am more enthusiastic to work when the institution offers training or mentorship programs aimed at career progression, such as becoming a chief radiologic technologist.	3.33	Highly Engaged	3



10. I enjoy collaborating and working with my colleagues and supervisors in doing procedures and decision-making processes.	3.37	Highly Engaged	2
Average	3.23	Engaged	

Legend: Strongly Agree/Highly engaged -4, agree/engaged-3, disagree/slight engaged-2, strongly disagree/not engaged-1

Table 3 shows that Indicator 1, "Having sufficient leave incentives increases my job motivation and performance," was placed first and received a 3.65 as its weighted mean, and had a verbal evaluation of as Highly Engaged. Indicator 10, "I enjoy collaborating and working with my colleagues and supervisors in doing procedures and decision-making processes," came second, had 3.37 as its weighted mean, and was verbally characterized as Highly Engaged. Indicator 9, "I am more enthusiastic to work when the institution offers training or mentorship programs aimed at career progression, such as becoming a chief radiologic technologist," was scored third with a weighted mean of 3.33 and verbally assessed as Highly Engaged. Indicator 2, "I can manage workloads and work hours in a day-to-day routine," and Indicator 3, "I experienced happiness when working with the team" both ranked #4.5 with a weighted mean of 3.32 and were regarded as Highly Engaged. Indicator 7 "I am more engaged to perform better when the institution provides complimentary health check-ups to employees to maintain their physical well-being" placed sixth with a weighted mean of 3.25 and was verbally assessed as Highly Engaged.

Indicator 4 "I feel that my department is trying to discover new innovations for improvement in our unit", Indicator 8 "My institution positively promotes employees' lives wherein I feel valued and appreciated which in turn elevates my work engagement", Indicator 6 "The institution offers opportunities to learn from other departments such as being trained to operate other modalities which enhances my skills", and Indicator 5 "I feel that my institution is keen on listening to employees' feedback and implementing improvements" ranked 7.5<sup>th</sup>, 9<sup>th</sup> and 10<sup>th</sup> respectively, and received a weighted mean of 2.89 – 3.06 and had a verbal interpretation of Engaged.

In summary, the general weighted mean was 3.23 and had a verbal interpretation of Engaged. This shows that radiologic technologists have a good level of work engagement. They experience joy in working and enjoy collaboration with colleagues. They are provided with leave benefits. They view the institution positively and are motivated to work better when the organization provides a platform for them to be better as radiologic technology personnel, such as training and learning opportunities.

The results of the study were supported by the study of Ginbeto et al. (2023), co-worker support and low patient flow have significantly increased the work engagement of healthcare workers. Having knowledge of their job responsibilities and acting according to it also increases their work engagement and productivity as they are knowledgeable on what to expect of them when it comes to their job and avoid having plenty of workloads. Positive rewards and benefits also contribute to the motivation of healthcare workers, which in turn increases their work engagement. Similarly, the data in Table 3 shows that radiologic technologists are engaged in their work. The organization

must have a strong policy regarding benefits, colleague collaboration, training, and rewards to increase and retain positive employee engagement.

**Table 4. Relationship between the Level of Occupational Stress and the Level of Motivation of Radiologic Technologists**

	Pearson r value	p-value	Interpretation
The Level of Occupational Stress and the Level of Motivation of Radiologic Technologists	0.125 Low correlation	0.331	Not Significant
Significance level @ 0.05			

The table results showed that the association between occupational stress and motivation was not significant, with a Pearson r-value of 0.125 and a p-value of 0.331, which exceeded the significance level. This indicates that there was no significant relationship between respondents' work stress and motivation levels. As a result, work stress and motivation among radiologic technologists remained unaffected.

To support this study, according to research by Shubayr et al. (2022), it was found that burnout and job satisfaction have negative and moderate relationships among radiologic technologists. These were manifested by anxiety, feeling of stress and burnout, unhealthy diet, and lack of motivation. The findings of the study suggest that wellness programs should be implemented to reduce the effects of stress, and for administrators to conduct assessments of radiologic technologists' welfare.

**Table 5. Relationship between the Level of Occupational Stress and the Level of Work Engagement of Radiologic Technologists**

	Pearson r value	p-value	Interpretation
The Level of Occupational Stress and the Level of Work Engagement of Radiologic Technologists	0.152 Low correlation	0.234	Not Significant
Significance level @ 0.05			

The table shows that there was no significant relationship between radiologic technologists' levels of occupational stress and work engagement. A Pearson r value of 0.152 was evaluated as a low correlation, with a probability value of 0.234 that is above the 0.05 significance level. As a



result, occupational stress and work engagement among radiologic technologists had no effect on one another.

According to a study conducted by Akyurt (2021), job satisfaction, including the theme of work engagement, and occupational stress among radiologic technologists are moderate and negatively connected. Training and continuing education, balanced workload, benefits and incentives, and safety regulations are found to be what would help radiologic technologists alleviate their workplace stress and improve work engagement.

**Table 6. Relationship between the Level of Motivation and the Level of Work Engagement of Radiologic Technologists**

	Pearson r value	p-value	Interpretation
The Level of Motivation and the Level of Work Engagement of Radiologic Technologists	0.608** Moderate correlation	0.000	Significant
**Significant @ 0.01			

The table shows a substantial association between radiologic technologists' levels of motivation and professional engagement. A Pearson r value of 0.608, which represents a moderate correlation with a probability value of 0.000, was less than the 0.01 significance level. This means that the higher the radiologic technologists' level of work motivation, the more engaged they are at work.

A study by Karaferis et al. (2022) called Factors Influencing Motivation and Work Engagement of Healthcare Professionals revealed that motivation, with many subtopics like salary, organizational policies, growth, and job security, positively influences the work engagement of healthcare professionals. Effective and efficient employees not only attain skills, but motivation is also important in workplace dynamics and having a positive work engagement. Therefore, the organizations should provide a platform for open communication and provide training to enhance motivation and work engagement.

## CONCLUSION

Radiologic technologists in selected hospitals in Laguna demonstrate a high level of occupational stress and motivation and are engaged in their work. High level of occupational stress denotes a negative implication on radiologic technologists' perception of their working conditions, while a high level of motivation and work engagement implies that radiologic technologists find joy and enthusiasm in serving patients and giving quality patient care. Therefore, the proposed action plan focuses on alleviating the suffering of radiologic technologists with occupational stress and improving and maintaining their motivation and work engagement.

**Action Plan to alleviate Radiologic Technologists' occupational stress and improve motivation and work engagement**

Areas of concern	Program	Time frame	Persons involved	Expected outcome	Success Indicator
Radiologic technologists' Occupational Stress	<ul style="list-style-type: none"> <li>• Categorize procedures based on difficulty.</li> <li>• Workshops in specific areas of radiologic technology, such as MRI</li> <li>• Review of benefits and compensation</li> </ul>	First/ Fourth quarter of the year	Department head, Chief RT, RTs, Human Resource Management	Alleviate occupational stress and enhance physical, emotional, and psychological health	98% fair task allocation, attendance in workshops, and better benefits and compensation
Radiologic technologists' Motivation	<ul style="list-style-type: none"> <li>• Stress management training and workshops</li> <li>• Awarding for outstanding employees</li> <li>• Review of benefits regarding leaves, health insurance and hazard pay</li> </ul>	First/ Fourth quarter of the year	Department head, Chief RT, RTs, Human Resource Management	Increase motivation and job performance	98% attendance for training and workshops, awards for employees, better benefits
Radiologic technologists' Work engagement	<ul style="list-style-type: none"> <li>• Survey and feedback forms</li> <li>• Review of company policy and programs</li> <li>• Opportunities to learn from other departments</li> <li>• Complimentary health check up</li> </ul>	First/ Fourth quarter of the year	Department head, Chief RT, RTs, Human Resource Management	Sustain positive work engagement and efficiency.	98% positive feedback from employees, knowledge building, and healthy body

**Rationale:**

The action plan is designed to alleviate occupational stress, and to improve the level of motivation and work engagement of radiologic technologists in Laguna's selected hospitals. This would be accomplished by identifying the areas of concern, defining a specific program and timeline, identifying the persons involved in program implementation, and determining the desired objectives.

**4. RECOMMENDATION**

Radiologic Technologists are encouraged to voice out concerns and feedback to the department head and administrator. They are encouraged to communicate with colleagues, to attend training and skills development workshops, and to use their leave incentives. Hospital administrators should prioritize the mental health of their employees by recognizing their contributions and emphasizing their personal growth, as well as providing career enhancement training to increase respondents' understanding of their line of work. They should give equal salary to the employees in exchange for their service, and any incentives, especially leave incentives, to satisfy and contribute more to the company. The head of the department should encourage administrators to provide training to enhance employees' knowledge and credibility, and encourage the use of leave incentives to help them rest and relax. Radiologic technologists' workload should be distributed equally and fairly. They should be able to listen to their subordinates' opinions and feedback, and be an effective support system and leader. Lastly, future researchers should perform qualitative research on the subject. To ensure inclusivity, it is also proposed that they do a comparable survey with a wide number of respondents from different regions.

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