

Perceptions Of Interprofessional Communication: Impact On Patient Care, Occupational Stress, And Job Satisfaction

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Abstract

Poor interprofessional communication has been linked to decreased quality of patient care and increased numbers of medical errors. Increased occupational stress due to lack of effective interprofessional communication can lead to poor job satisfaction and burnout. The purpose of this study was to identify barriers to interprofessional communication as perceived by radiologic technologists. In particular, how did demographic data influence these perceptions? The research was conducted during June of 2009. The population for this survey consisted of registered radiologic technologists employed at hospitals in Northeast Tennessee. A locally developed survey questionnaire covering the subject of interprofessional communication was distributed to a cluster sample directly involved in patient care. Participants indicated that interprofessional communication affects their occupational stress and job satisfaction in addition to the quality of patient care. This analysis revealed that radiographers experienced the most difficulty communicating with nurses.

INTRODUCTION

Shuster and colleagues in a policy paper of healthcare quality concluded that “more information is available on the quality of airlines, restaurants, cars, and VCRs than on the quality of health care.”¹ This lack of information is not from lack of concern or interest in the subject. A 2001 study revealed that 56% of general care physicians and 60% of specialty physicians believed that the quality of care provided in the United States had deteriorated over the five year period prior to the study.² Likewise, Americans have expressed dissatisfaction with the current health care system for over twenty years.³ In 2004, nearly half of those surveyed indicated that they were concerned about the safety of the medical care that they and their families received.³ This dissatisfaction was attributed to heavy workload, inadequate staffing, and poor communication among health care providers.

The general nature of a fast-paced radiology environment attributes to patients moving through the department quickly without adequate communication between radiology staff and the physicians and nurses who have been providing their care. The United States Pharmacopeia found this breakdown in communication can lead to various errors.⁴ Between the years of 2000 and 2004, 2,032 medication errors associated with radiology procedures in 315 hospitals and clinics were

voluntarily reported, with an average of 406 errors per year.⁴ In 2006 it was reported that 12%, more than seven times the percentage of the general data set, resulted in patient harm.⁴ In order to decrease the number of errors in the radiology department the American Society of Radiologic Technologists has called for further education for radiologic technologists in “communication skills as members of an interdisciplinary health care team.”⁵

Despite recent improvements in interprofessional understanding, conflict and confusion regarding the scope of practice of various disciplinary delineated roles persist and continue to hamper interprofessional communication between radiologic technologists and other healthcare professionals. Ultimately, good interprofessional communication is important because conflicts within the healthcare team negatively affect the quality of patient care.⁶

This study sought to determine which barriers to open and effective communication, such as poor interprofessional understanding and respect, were most commonly experienced by radiologic technologists and also to identify the healthcare professional groups with which communication was the most difficult. Once these barriers have been identified, the information gained could be used to increase the quality and quantity of interprofessional communication between radiologic technologists and other

healthcare professionals with the ultimate goal of providing the highest quality of care to patients and achieving maximum patient satisfaction.

LITERATURE REVIEW

INTERPROFESSIONAL COMMUNICATION AND COLLABORATION

Values, beliefs, attitudes, customs, and behaviors form the unique culture of each health care profession and evolve over time, reflecting historic factors, as well as the current environment and educational requirements.⁷ This culture is reinforced through educational experiences and the socialization process. The common values, problem-solving approaches and language/jargon of each profession begins while training and transcends into the workplace after graduation.⁷

Increasing levels of complexity of knowledge and skills required to care for the aging population and patients with chronic illnesses has led to an increase in specialization of health care disciplines and decreased interdisciplinary exchange. It is more comfortable to remain in one's own discipline where communication is facilitated by specialized vocabulary, similar approaches to problem solving, common interests, and understanding of issues.⁸

Communication with other members of other health care disciplines becomes increasingly difficult as the cognitive map developed through professional education and socialization becomes more ingrained.⁸ Three problem areas were identified that hinder interprofessional communication:⁶

- Role stress
- Lack of interprofessional understanding
- Struggle for autonomy

Anxiety brought on by the basic nature of working in health care and by difficulty in carrying out professional roles is termed role stress. Role stress can also be delineated into role conflict and role overload. Health professionals who are socialized to carry out one role but are expected to fit another in the workplace experience role conflict. This type of role stress is caused primarily by a gap between education and service. New graduates quickly find out that their ideals and aspirations are not matched with the same values that are praised in the workplace.⁶ However, more seasoned

professionals can experience this type of role stress as result of being expected to perform tasks that are not related to their professions. Role overload is brought on by a situation in which a health professional becomes responsible for more than he or she can reasonably achieve in a given period of time.⁶

Lack of interprofessional understanding has been linked to role confusion and territorial disputes. Although one would expect health providers to be knowledgeable in reference to the different professional roles, this is often a false assumption.⁶ Some progress has been made in this area; nonetheless, confusion about the unique expertise and knowledge of each profession still exists. The major cause of this problem is the fact that professional education takes places in virtual isolation from other health care disciplines.

The struggle for autonomy is the last identified area that hampers interprofessional communication. The freedom to self-govern is vital for professionals to fulfill their roles. Today's health care system is continually changing and this places health professionals in a position of greater need for autonomy so they can shape changes rather than simply responding to them.⁶ Possessing the knowledge and skills to work independently is equally important as having the capacity to function as a member of a team.

The ability to communicate and function effectively as part of a team is, for most, a learned skill. In a study conducted at an Australian university, 81 allied health students participated in a four-hour interprofessional workshop designed to enhance teamwork. The important role of interprofessional education in increasing students' positive attitudes toward their own and other professional groups and in minimizing negative professional stereotypes was highlighted. The majority of students reported that the most significant insight gained through the workshop was understanding the roles of different professionals.⁹ Implementing components of interprofessional education in healthcare curricula is a much needed step in improving interprofessional communication.

Many researchers have called for the implementation of interprofessional education (IPE), however this is not as simple as it may seem. Obstacles to employing IPE within the educational system extend beyond difficulties in scheduling across curricula. Opinions of faculty members are also crucial points to consider. Some of the fundamental barriers to interprofessional teaching and learning

experienced by health sciences faculty members include diverse attitudes along with a lack of respect and knowledge of each other.¹⁰

In a study conducted at the Memorial University of Newfoundland, a survey was completed by faculty members from the medicine, nursing, pharmacy, and social work departments. A positive attitude regarding interprofessional education and teamwork was found to be related to the profession, gender, and prior experience with IPE.¹⁰

Interprofessional collaboration within the multidisciplinary health care team is vital to its success in achieving the objective of delivering the highest quality of care to the patient. Nurses form an important connection between allied health professionals and physicians. In a study of nurses' perceptions of multidisciplinary teamwork, Atwal and Caldwell interviewed 19 nurses and conducted direct observation to study nurses' interactions while participating in multidisciplinary teams.¹¹ Three barriers that hindered teamwork were identified in this study:

- Conflicting perceptions of teamwork;
- Varying skill levels; and
- The dominating influence of medical power on team interaction.¹¹

Thus, responsibility lies with educators and administrators to ensure that the attainment of team building skills be implemented into training programs and professional development activities.¹¹

Although radiologic technologists and nurses encounter each other frequently, strained interaction persists. A 2003 article published by two registered nurses offered suggestions for improving relations between radiologic technologists and nurses. Poor interprofessional understanding between these two health professional groups is a source of misconceptions.

Perception is everything. ...The radiologic technologist may think the nurse does not want to help. The nurse may think it is his/her job to stay out of the way of the radiologic technologist. ...Nurses often perceive that the radiologic technologist does not worry about tubes becoming dislodged or causing the patient discomfort. It is all perception, and the radiologic technologist will have to find a strong voice and speak up.¹²

To reduce misconceptions, Feaster and Joy recommended that radiographers take every opportunity to educate their nursing colleagues by explaining procedures and rationale behind the process because nurses receive very little education about radiologic procedures. They further advocate that radiographers take the time to understand the nurse's viewpoint that portable procedures are a disruption to the patient.¹²

Collaborative practice involving good interprofessional communication and teamwork is hardly a new concept. Crowley and Wollner outlined the benefits of implementing collaborative practice which include:

- Improvements in communication, trust, and respect;
- Increased understanding of each other's professional cultures and responsibilities;
- Greater consideration of each other's time and effort;
- A more collegial atmosphere which leads to improved job satisfaction;
- Joint development of consistent policies and standards of practice;
- Implementation of changes before they are induced by crises;
- Consideration of all team member opinions and suggestions; and
- Reduced tension at all levels within the healthcare community.¹³

OCCUPATIONAL STRESS AND BURNOUT

An occupational stressor may be identified as any demand, physical or psychological, experienced in the workplace.¹⁴ Raj outlined organizational stress, work overload, boundary extensions, career developments, leadership style, and role ambiguity and role conflict as categories of occupational stressors. Of these six categories, five can easily be related to interprofessional communication and collaboration.

Burnout may occur when stress coping skills are not adequate.¹⁵ Burnout is a result of continued involvement in work situations that are emotionally demanding eventually leading to a state of physical, emotional, and mental

exhaustion.¹⁶

The elemental quality and the most palpable manifestation of burnout is exhaustion. In order to cope with exhaustion and overload, an exhausted employee then takes action to distance himself or herself from the job both emotionally and cognitively. Feelings of exhaustion or job detachment, in turn, lead to a feeling of inefficacy. When working with those to which one is indifferent, a feeling of detachment and difficulty gaining a sense of accomplishment exists.¹⁷ If not addressed, burnout can have negative implications for health care workers and their patients.¹⁸

In 2002, Akroyd et al. conducted a study on patterns of burnout among radiographers in the United States. When compared with national norms, the study found that radiographers exhibit high levels of the initial stage of burnout.¹⁸ The 2002 study also researched the predictors of burnout among radiographers. Regardless of the stage of burnout, reassurance of worth, leadership, and workload had a significant effect on the study's results. These findings signify how important it is to radiographers to be recognized as valuable members of the work team.¹⁸

After reviewing the comparative literature and research studies, the importance of effective interprofessional communication to health care in general, and the profession of radiologic technology in particular, is obvious. This study is delimited to six hospitals in Northeast Tennessee. Results are not transferrable to other geographic locations.

ASSUMPTIONS

The following assumptions were made:

- Poor interprofessional communication existed within the six hospitals surveyed.
- Participants were experienced registered radiologic technologists.
- Participants were honest and based responses on overall experience throughout their careers and not a single incident.

METHOD

The purpose of this study was to identify the perceptions of radiologic technologists regarding interprofessional communication. This study also determined which barriers to interprofessional communication radiologic technologists

perceived as the most influential. Lastly, this study determined what, if any, difference existed between these perceptions based upon demographic data. A quantitative study using a survey research design facilitated by a locally developed questionnaire was selected as the basic methodology. The study was approved by the East Tennessee State University Institutional Review Board for the Protection of Human Subjects. Additionally, approval from participating hospitals was granted.

A survey research design was used in order to provide data regarding Registered Radiologic Technologists' perceptions of interprofessional communication at a specific point in time that could be analyzed quantitatively. This design allowed for participant anonymity and confidentiality. The survey questionnaire included questions addressing interprofessional communication and the barriers to effective interprofessional communication experienced by radiographers. Demographic data was collected so that differences among demographic groups could be evaluated.

POPULATION

The population for this study consisted of registered radiologic technologists currently employed at hospitals located in three counties in the Northeastern region of Tennessee. Radiographers working in both rural and urban facilities ranging in size from less than 100 beds to over 500 beds were included. A cross-sectional research design included a cluster sample of respondents.

Data were collected by personally delivering the questionnaires to the hospitals. Respondents were asked to seal their responses in provided envelopes and then return the sealed envelope to the principal investigator via on-site radiography professionals. Each respondent was presented with a letter detailing the same instructions and tasks, reducing the possibility of researcher introduced bias.

SURVEY INSTRUMENT

Participants responded to statements regarding interprofessional communication within the health care setting. Questions were developed to identify which groups of radiologic technologists experienced the most difficulty communicating with and the most significant barriers to effective interprofessional communication. Questions also addressed the impact of interprofessional communication on the quality of patient care. Items were developed to determine the effect of interprofessional communication on sources of occupational stress and degree of job satisfaction.

In addition, participants provided demographic information regarding their facility size, age, years of experience in radiography, current position (job title), shift worked the majority of the time, gender, type of radiography degree, and interdisciplinary education experiences. This information was used to analyze the data to increase understanding of the types of individuals employed in diagnostic radiography. The survey was administered in a two page paper format and consisted of 33 questions: 24 modified Likert responses, one single choice, and eight multiple choice. Space for additional comments was provided. Data were used to determine what differences, if any existed, between variables.

INSTRUMENT VALIDITY

Because this survey instrument was developed specifically for this study and had not been previously implemented, the instrument was evaluated by East Tennessee State University allied health faculty experienced in research design. Suggestions from these professionals were considered, and the survey instrument was altered to incorporate their recommendations. Additionally, a pilot study was administered to radiologic technologists working in a hospital system located in the Northeastern United States. Feedback and recommendations from pilot study participants were used to improve the instrument.

DATA ANALYSIS

In this study, once the requisite number of completed surveys were obtained, the researcher processed the information using the Statistical Package for the Social Sciences (SPSS) version 16.0. Comments of the respondents were reviewed and summarized.

This study treated data gained from questions formatted in a Likert response format (1-17 and 19-25) as interval data. The level of confidence selected was 95%. Demographic questions were scrutinized using univariate analysis of descriptive statistics. Information gathered through this section provided valuable background data that was considered when tabulating the statistical results in the findings of this study and also in recommendations for future research.

RESULTS

RESPONDENT CHARACTERISTICS

The initial survey collection resulted in 51 (60%) responses of the target population of radiologic technologists employed at selected hospital facilities. The radiologic technologists

responding were representative of the population. In a 2004 study, the ASRT reported that 76.7% of radiographers were female and 23.3% were male. Similar to the ASRT study, 70.6% of respondents in this study were female and 25.5% were male. Two respondents elected not to provide information regarding gender.

MOST DIFFICULT GROUP

Greater than 37% indicated that nurses were the professional group with whom they experienced the most difficulty communicating. Surgeons followed with 17.6%. Surprisingly, 17.6% of respondents chose not to answer this question (see Table 1). One of the participant's survey comments sums up the radiologic technologist's perception quite well: "Sometimes nurses resent when we try to communicate. They are busy and [it] seems like trying to explain the situation interferes with their routine." Another participant stated, "Nurses don't know what happens in x-ray and thus don't understand patient preparation."

COMMUNICATION BARRIERS

Ninety-two point seven percent of radiologic technologists agreed or strongly agreed that other professional groups' poor understanding of the scope of practice of radiographers is a barrier to interprofessional communication. Less than 6% disagreed or strongly disagreed and only 2% indicated the absence of opinion (see Table 2).

The second most perceived barrier to interprofessional communication was job stress. Over 82% of respondents agreed or strongly agreed that job stress was a barrier. The third most recognized barrier pertained to professional respect (78.4%) and a close fourth was understaffing (76.5%). This is followed by territorial disputes (70.6%). The sixth most recognized barrier was intimidation (54.9%) and lastly, was radiographers' limited understanding of other professions (43.1%).

INTERPROFESSIONAL COMMUNICATION & PATIENT CARE

Radiologic Technologists agreed or strongly agreed that patient care would be improved by increasing the level of interprofessional communication (90.2%). Two percent disagreed and 7.8% strongly disagreed that increasing interprofessional communication would improve patient care (see Table 3).

OCCUPATIONAL STRESS & JOB

SATISFACTION

Participants agreed (45.1%) or strongly agreed (47.1%) that poor interprofessional communication is a source of occupational stress. Only 7.9% disagreed or strongly disagreed that occupational stress can be caused by poor communication between professional groups (see Table 4).

Forty-five point one percent strongly agreed and 43.1% agreed that improving the quality of interprofessional communication would increase their job satisfaction (see Table 5). When considering the quantity of communication, 17.6% strongly agreed and 58.8% agreed that an increase would improved their job satisfaction (see Table 6).

INTERPROFESSIONAL EDUCATION & PERCEPTIONS OF COMMUNICATION

Forty-three point one percent of respondents indicated that their radiography education included information about the roles of other healthcare professions. An ANOVA was performed and the effect of interprofessional education on radiographers' perceptions of interprofessional communication was found to be statistically significant ($\alpha=.05$) in two of the 25 elements analyzed: (1.) radiographers respect other healthcare disciplines ($p = 0.012$) and (2.) ease of communication with nurses ($p = 0.020$) (see Table 7).

PERCEPTION OF UNDERSTANDING & RESPECT

Participants disagreed (62.7%) or strongly disagreed (31.4%) that other healthcare professionals understand radiologic technology (see Table 8). Additionally, radiologic technologists disagreed (43.1%) or strongly disagreed (29.4%) that other healthcare professionals respect the profession of radiologic technology (see Table 9).

The majority of participants agreed (62.7%) or strongly agreed (9.8%) that radiologic technologists understand other healthcare disciplines (see Table 10). When asked if radiographers respect other healthcare disciplines, 88.3% agreed or strongly agreed (see Table 11).

DEMOGRAPHICS

The variables of age, educational degree, and facility size did not affect radiologic technologists' perceptions in a statistically significant manner. A significant association ($\alpha=.05$) was found between the perception of the degree to which radiologic technologists respect other healthcare disciplines when the grouping variable years of work

experience the participant possessed was evaluated using ANOVA testing ($p = 0.008$) (see Table 12). Using an independent sample t-test, gender was found to have a significant ($\alpha=.05$) association with perceptions of ease of communication with surgeons ($p = 0.030$) and nurses ($p = 0.036$) (see Table 13).

Figure 1

Table 1 - Group With Whom Radiologic Technologists Experience the Most Difficulty Communicating

	<i>f</i>	%
Nurses	19	37.3
Surgeons	9	17.6
No Response	9	17.6
Other Physicians	4	7.8
NPs/PAs	4	7.8
Laboratory Technicians	3	5.9
ER Physicians	2	3.9
Radiologists	1	2
Respiratory Therapists	-	-

Figure 2

Table 2 - Barriers to Interprofessional Communication

	Agree or Strongly Agree		Disagree or Strongly Disagree	
	<i>f</i>	%	<i>f</i>	%
Other professionals groups poor understanding of radiographers scope of practice	47	92.7	3	5.9
Job stress	42	82.4	6	11.8
Lack of respect for radiography	40	78.4	9	17.7
Understaffing	39	76.5	9	17.7
Territorial disputes	36	70.6	10	19.6
Intimidation	28	54.9	21	41.2
Radiographers' limited understanding of other professions' scopes of practice	22	43.1	24	47.1

Figure 3

Table 3 - Patient Care Would be Improved by Increasing Interprofessional Communication

Table 3 Patient Care Would be Improved by Increasing Interprofessional Communication		
	<i>f</i>	%
Strongly Agree	31	60.8
Agree	15	29.4
Disagree	1	2.0
Strongly Disagree	4	7.8
No Opinion	-	-

Figure 4

Table 4 - Poor Interprofessional Communication Causes Occupational Stress

Table 4 Poor Interprofessional Communication Causes Occupational Stress		
	<i>f</i>	%
Strongly Agree	24	47.1
Agree	23	45.1
Disagree	1	2.0
Strongly Disagree	3	5.9
No Opinion	-	-

Figure 5

Table 5 - Increase in Job Satisfaction Due to Improved Quality of Interprofessional Communication

Table 5 Increase in Job Satisfaction Due to Improved Quality of Interprofessional Communication		
	<i>f</i>	%
Strongly Agree	23	45.1
Agree	22	43.1
Disagree	2	3.9
Strongly Disagree	3	5.9
No Opinion	1	2.0

Figure 6

Table 6 - Increase in Job Satisfaction Due to Increased Quantity of Interprofessional Communication

Table 6 Increase in Job Satisfaction Due to Increased Quantity of Interprofessional Communication		
	<i>f</i>	%
Strongly Agree	9	17.6
Agree	30	58.8
Disagree	6	11.8
Strongly Disagree	3	5.9
No Opinion	2	3.9

Figure 7

Table 7 - Interprofessional Education and Perceptions of Communication

Table 7 Interprofessional Education and Perceptions of Communication						
		Sum of Squares	df	Mean Square	<i>F</i>	<i>P</i>
Radiographers respect other healthcare disciplines.	Between Groups	4.604	1	4.604	6.938	.012
	Within Groups	29.864	45	.664		
	Total	34.468	46			
Ease of communication with nurses	Between Groups	6.824	1	6.824	5.784	.020
	Within Groups	53.091	45	1.180		
	Total	59.915	46			

Figure 8

Table 8 - Other Healthcare Professionals Understand Radiologic Technology

Table 8 Other Healthcare Professionals Understand Radiologic Technology		
	<i>f</i>	%
Strongly Agree	2	3.9
Agree	-	-
Disagree	32	62.7
Strongly Disagree	16	31.4
No Opinion	1	2.0

Figure 9

Table 9 - Other Healthcare Professionals Respect Radiologic Technology

Table 9 Other Healthcare Professionals Respect Radiologic Technology		
	<i>f</i>	%
Strongly Agree	2	3.9
Agree	9	17.6
Disagree	22	43.1
Strongly Disagree	15	29.4
No Opinion	3	5.9

Figure 10

Table 10 - Radiographers Understand Other Healthcare Disciplines

Table 10 Radiographers Understand Other Healthcare Disciplines		
	<i>f</i>	%
Strongly Agree	5	9.8
Agree	32	62.7
Disagree	12	23.5
Strongly Disagree	1	2.0
No Opinion	1	2.0

Figure 11

Table 11 - Radiographers Respect Other Healthcare Disciplines

Table 11 Radiographers Respect Other Healthcare Disciplines		
	<i>f</i>	%
Strongly Agree	6	11.8
Agree	39	76.5
Disagree	2	3.9
Strongly Disagree	-	-
No Opinion	4	7.8

Figure 12

Table 12 - Years of Work Experience and Perception of Respect

Table 12 Years of Work Experience and Perception of Respect					
	Sum of Squares	df	Mean Square	<i>F</i>	<i>P</i>
Between Groups	9.338	3	3.113	4.379	.008
Within Groups	33.407	47	.711		
Total	42.745	50			

Figure 13

Table 13 - Gender and Perception of Ease of Communication

Table 13 Gender and Perception of Ease of Communication										
		Levene's Test		t-test for Equality of Means						
		<i>F</i>	Sig.	<i>t</i>	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval	
Surgeons	Equal variances assumed	5.045	.030	2.238	46	.030	.914	.408	.092	1.736
	Equal variances not assumed			2.675	32.176	.012	.914	.342	.218	1.610
Nurses	Equal variances assumed	.737	.395	2.164	47	.036	.761	.351	.054	1.468
	Equal variances not assumed			2.325	24.552	.029	.761	.327	.086	1.435

SUMMARY

On the whole, this study found that radiologic technologists experience the most difficulty communicating with nurses and surgeons. Respondents perceived the most significant barrier to interprofessional communication to be other professional groups' poor understanding of the scope of practice of radiographers. Over 50% respondents agreed that job stress, lack of respect for radiography, understaffing, territorial disputes, and intimidation were barriers. Participants agreed that improving interprofessional communication would have a positive impact on patient care and job satisfaction. Additionally, poor interprofessional communication was perceived to be a cause of occupational stress and there would be an increase in job satisfaction if communication was increased in quality and quantity. The effect of interprofessional education was limited, but no conclusions can be drawn because the study did not address the quality or quantity of the educational experience. Respondents perceived that other healthcare professions neither respected nor understood radiography. In contrast, radiographers believed they respected and understood other disciplines. Demographic variables had a very limited influence on perceptions.

LIMITATIONS

This study is delimited or limited by the following:

This study is delimited to 6 hospitals within the Northeast region of Tennessee.

Results of the study are not transferable to other geographic locations.

This study is limited to the perceptions of registered radiologic technologists employed as diagnostic radiographers at the selected hospitals.

DISCUSSION/CONCLUSION

Of the disciplines listed on the survey, study participants experienced the most difficulty communicating with nurses and surgeons. A major barrier to effective communication was the lack of interprofessional understanding and respect between radiologic technologists and other healthcare professional groups. The strained communication between radiologic technologists and nurses can be a major hurdle for both groups. Participants recognized the effect of communication on quality of patient care and agreed that increasing the level of interprofessional communication would have a positive impact. Participants felt that the profession of radiologic technology was neither understood nor respected by other healthcare professional groups. However, they felt that radiologic technologists understood and respected other healthcare disciplines. It is a mistake for radiologic technologists to place all the blame on other professional groups. Perhaps this attitude is truly the most significant barrier.

Poor interprofessional communication was found to be a source of occupational stress. Furthermore, participants perceived that increasing both the quality and quantity of communication would increase their job satisfaction. The localized group of radiologic technologists perceptions varied very little based on age, educational degree, facility size, gender, and years of work experience.

Radiologic technologists surveyed in this study work in the hospitals, but results may vary if the study was repeated including other work environments such as outpatient diagnostic centers and physician's offices.

These issues must be addressed and cross disciplinary communication training integrated into health professions

certification and degree programs. If allied health professionals in other disciplines experience similar feelings of lack of respectful communication and understanding this would benefit healthcare providers as a whole.

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