Faculty of Medicine and Health Sciences

BACHELOR OF NURSING WITH HONOURS

Year 4, Semester 2, 2024/2025

Course	:	MDJ 4664 Final Year Project II
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Research title	:	Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students
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Matric number	:	80720
Date of submission	:	3rd July 2024

Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students

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This project is submitted
In partial fulfilment of the requirements for degree of
Bachelor of Nursing with Honours

Faculty of Medicine and Health Sciences
UNIVERSITY OF MALAYSIA SARAWAK
2025

DECLARATION

I hereby declare that this Final Year Project, titled "Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students" is my original work, conducted under supervision at the Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS). All sources of information and references have been properly cited and acknowledged. This research has not been submitted for any other degree or diploma at any university or institution.

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Signature

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ACKNOWLEDGEMENT

In the name of Allah, the Most Compassionate and Most Merciful, I begin by praising Allah, the Lord of all worlds, and sending peace and blessings upon His Messenger. I wish to express my deepest gratitude to Allah for His endless guidance and blessings throughout the completion process of conducting my final year project.

I extend heartfelt thanks and express my deepest gratitude to my supervisor, Mr. Dev Nath Kaushal, for his invaluable guidance, continuous support, and insightful feedback throughout the completion of this research. His dedication and expertise have been instrumental in the success of this study.

Next, I would also like to extend my sincere appreciation to the Faculty of Medicine and Health Sciences (FMHS) Research Ethics Committee at Universiti Malaysia Sarawak (UNIMAS) for granting me the approval to conduct this study. My heartfelt thanks go to the undergraduate nursing students from Year 1 to Year 4 who voluntarily participated and contributed their time to complete the questionnaires, making this research possible.

I am deeply grateful to my family and friends for their unwavering support, encouragement, and prayers, which motivated me throughout this journey. Their belief in my abilities has been a constant source of strength, inspiring me to persevere and achieve my goals. Lastly, I would like to acknowledge everyone who has supported me directly or indirectly in the successful completion of this study.

ABSTRACT

Background: Interpersonal communication competence (ICC) is essential in nursing education, enabling students to communicate effectively with patients and healthcare teams. Nursing students must develop strong communication skills to navigate the demands of clinical practice. In Malaysia, especially in Sarawak's culturally and linguistically diverse setting, culturally responsive and empathetic communication is crucial. Although communication training is part of the curriculum, many students struggle to apply these skills in clinical settings. **Objectives:** This study aimed to assess the level of ICC among UNIMAS undergraduate nursing students and examine its relationship with sociodemographic variables. **Methodology:** A cross-sectional quantitative study was conducted with 164 randomly selected nursing students from Years 1 to 4. Data were collected using the Interpersonal Communication Competence Scale (ICCS), a validated self-report instrument. Descriptive and inferential analyses were performed using IBM SPSS V27.0, including Mann-Whitney U, Kruskal-Wallis, and Spearman correlation tests. **Results:** The overall level of ICC among participants was moderate, with a mean score of 100.24 (SD = 10.90). Statistical analysis revealed no significant relationships between ICC levels and sociodemographic variables. **Conclusion:** UNIMAS undergraduate nursing students demonstrated a moderate level of ICC, with no significant differences across sociodemographic variables. These findings highlight the need for continuous, practice-based communication training to enhance clinical readiness and ensure safe, high-quality patient care.

Keywords: Interpersonal communication competence, nursing students, sociodemographic factors.

ABSTRAK

Latar belakang: *Interpersonal Communication Competence* (ICC) amat penting dalam pendidikan kejururawatan kerana ia membolehkan pelajar berkomunikasi secara berkesan dengan pesakit dan pasukan penjagaan kesihatan. Pelajar kejururawatan perlu meningkatkan kemahiran komunikasi yang kukuh untuk memenuhi keperluan amalan klinikal. Di Malaysia, khususnya di Sarawak yang mempunyai kepelbagaian budaya dan bahasa, komunikasi yang responsif terhadap budaya dan empati adalah sangat penting. Walaupun latihan komunikasi telah dimasukkan dalam kurikulum, ramai pelajar masih menghadapi kesukaran untuk mengaplikasikan kemahiran ini dalam situasi klinikal. **Objectif:** Kajian ini bertujuan untuk menilai tahap ICC dalam kalangan pelajar kejururawatan prasiswazah UNIMAS dan meneliti hubungannya dengan pemboleh ubah sosiodemografi. **Metodologi:** Kajian kuantitatif keratan rentas telah dijalankan melibatkan 164 pelajar kejururawatan dari Tahun 1 hingga Tahun 4 yang dipilih secara rawak. Data dikumpul menggunakan *Interpersonal Communication Competence Scale* (ICCS), iaitu satu instrumen laporan kendiri yang telah disahkan. Analisis deskriptif dan inferens dijalankan menggunakan IBM SPSS V27.0, termasuk ujian Mann-Whitney U, Kruskal-Wallis, dan korelasi Spearman. **Hasil kajian:** Tahap keseluruhan ICC dalam kalangan peserta adalah pada tahap sederhana, dengan skor min sebanyak 100.24 (SD = 10.90). Analisis statistik menunjukkan tiada hubungan yang signifikan antara tahap ICC dan pemboleh ubah sosiademografi. **Kesimpulan:** Pelajar kejururawatan prasiswazah UNIMAS menunjukkan tahap ICC yang sederhana, tanpa perbezaan ketara merentas pemboleh ubah sosiodemografi. Penemuan ini menekankan keperluan latihan komunikasi secara berterusan untuk persediaan untuk latihan klinikal dan memastikan penjagaan pesakit yang selamat serta berkualiti tinggi.

Kata kunci: *Interpersonal Communication Competence*, pelajar kejururawatan, faktor sosiodemografi

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LIST OF ABBREVIATIONS

UNIMAS	Universiti Malaysia Sarawak
FMHS	Faculty of Medicine and Health Sciences
ICC	Interpersonal Communication Competence
ICCS	Interpersonal Communication Competence Scale
PPE	Personal Protective Equipment
CAT	Communication Accommodation Theory

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter presents the background of the study in Section 1.1. Section 1.2 outlines the problem statement, while Section 1.3 states the research questions and objectives. Section 1.4 introduces the hypotheses of the study. The significance of the research is presented in Section 1.5, followed by the conceptual and operational definitions in Section 1.6. Finally, Section 1.7 provides a summary of the chapter.

1.1 Background of the Study

Interpersonal communication is a cornerstone of effective healthcare delivery, enabling the flow of information, fostering strong relationships, and improving patient satisfaction, and overall health outcomes (Kaur, 2020). For nursing students, the development of interpersonal communication competence (ICC) is particularly important as they transition from theoretical learning to clinical practice, where they engage with diverse patients and healthcare professionals. Strong ICC helps nursing students build trust, minimize miscommunication, and provide high-quality care (Chichirez & Purcărea, 2018).

Despite its importance, many nursing students struggle to apply effective interpersonal communication skills in real-world contexts. Research highlighted this challenge, with Santos et al. (2019) reporting an average ICC score of 63.74 (± 7.6), reflecting a moderate level of competence among nursing students. Similarly, Mohammadi et al. (2023) found that 53.3% of students demonstrated moderate proficiency, while 2.4% exhibited poor communication skills, raising concerns about the readiness of these future nurses to navigate complex clinical environments. Such findings reveal a troubling reality between moderate or poor communication skills which can significantly hinder the ability to provide safe and effective care, especially in high-stakes healthcare scenarios where errors due to miscommunication can

result in severe consequences. These gaps highlighted the urgent need for innovative and targeted interventions to elevate ICC levels, ensuring nursing students are well-prepared to meet professional expectations.

Effective ICC is essential for nurses to accurately assess patients, deliver appropriate treatments, and provide education. For nursing students, mastering this skill is crucial in navigating the complexities of clinical environments, where they interact with individuals from various cultures and backgrounds. Given the multifaceted demands of modern healthcare, fostering ICC involves not just technical training but also addressing emotional, empathy, and cultural sensitivity. This preparation is vital, as nurses often face high-pressure situations where effective communication could mean the difference between a positive or adverse patient outcome. Addressing gaps in ICC through targeted interventions and curriculum enhancements is vital for preparing nursing students to provide safe, effective, and culturally sensitive care. These efforts are critical for preparing them to meet the demands of modern healthcare and improve patient outcomes.

1.2 Problem Statements

Many nursing students struggle to apply ICC skills in clinical practice despite the inclusion of communication skills in nursing education. The challenge arises because students often learn communication skills theoretically in classrooms without adequately applying them in real-world clinical settings. The disconnection between theoretical knowledge and practical application can hinder students' ability to navigate the complexities of clinical environments, where effective communication is a critical component of patient care.

A study from Brazil highlights that nursing students face significant difficulties during clinical placements due to poor interpersonal communication skills and insufficient guidance from experienced staff, which restricts their ability to learn and grow in clinical environments (Aydogdu, 2024). Similarly, research from Turkey indicates that students with shorter durations

of clinical experience exhibit lower levels of communication competence, negatively impacting their confidence and readiness to provide patient care (Arkan et al., 2018). These inadequacies in ICC can result in misunderstandings, miscommunication, and treatment errors. They can also increase workplace stress and disrupt team collaboration. For example, poor communication during shift handovers or interdisciplinary meetings can lead to critical information being overlooked, compromising patient safety. Moreover, poor communication has been linked to heightened workplace tensions, as deficiencies in skills such as active listening, empathy, and authenticity can foster negative interactions and impede teamwork (Lapeña-Moñux et al., 2014). These challenges can erode trust within healthcare teams, making it difficult to establish a cohesive and supportive working environment.

In Sarawak, interpersonal communication is particularly essential due to its unique multicultural and multilingual context. Nursing students in the region must navigate diverse cultural and linguistic dynamics when interacting with patients and healthcare teams. This diversity creates both opportunities and challenges for students as they adapt their communication styles to accommodate varying cultural norms and languages. However, research on ICC among nursing students in Sarawak is limited. This gap in knowledge makes it difficult to identify and address the communication barriers faced by these students. The lack of region-specific data also restricts the development of targeted interventions that could address the unique challenges within Sarawak's healthcare settings. Exploring the impact of Sarawak's multicultural context on ICC is crucial for supporting their professional growth and readiness to work effectively in diverse healthcare teams.

Effective interpersonal communication is shaped by various personal and demographic factors, including age, gender, cultural background, and clinical experience, which influence how individuals connect and interact with others (Musambai, 2023). For instance, students from similar cultural backgrounds may find it easier to communicate with one another, while those

from different cultures may face challenges in understanding and respecting each other's perspectives. Understanding these factors and their impact on ICC is essential for addressing the challenges faced by nursing students and improving both their professional development and the quality of care they deliver.

1.3 Research Questions and Research Objectives

1.3.1 Research Questions

i) What is the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students?

ii) What is the relationship between sociodemographic variables and the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students?

1.3.2 Research Objectives

i) General Research Objective

   a. To assess the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students and examine its relationship with sociodemographic variables.

ii) Specific Research Objectives

   a. To assess the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students.

   b. To examine the relationship between sociodemographic variables and the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students.

1.4 Hypothesis

i) Null hypothesis:

There is no relationship between sociodemographic variables and the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students.

ii) Alternate hypothesis:

There is a relationship between sociodemographic variables and the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students.

1.5 Significance of the Study

This study can contribute to both theoretical understanding and practical applications in nursing education and healthcare. By focusing on ICC among nursing students in UNIMAS, this research addresses a gap in existing studies. While global studies have highlighted the lack of communication skills among nursing students, there is limited evidence addressing this issue within Malaysia, particularly in Sarawak. This is especially important in Malaysia's multiracial context, where understanding and respecting cultural differences is essential for delivering culturally sensitive care (Santos et al., 2019). The data gathered will add valuable insights to existing research, particularly by examining the influence of sociodemographic factors. This localized perspective enriches the understanding of how communication skills develop and are practised in culturally diverse settings.

The findings of this study will directly benefit nursing students by identifying gaps in their interpersonal communication competencies. These results will provide a clearer understanding of whether students possess the necessary skills or if significant gaps exist. These skills can help minimise errors in clinical practice, foster collaboration, and promote safer care environments and the overall quality of nursing care (Yang, 2018). By recognizing these

shortcomings, focused interventions to enhance their communication skills can be developed. Such improvements are essential for preparing students to meet the demands of professional nursing practice, reducing errors, and enhancing teamwork in clinical settings.

Additionally, the practical applications of this study are substantial. The outcomes can inform the enhancement of nursing curricula by emphasizing the importance of interpersonal communication training. Policymakers and educators can use the findings to design strategies that improve students' readiness for clinical environments while promoting culturally sensitive communication practices, which are vital in Malaysia's multiracial society, especially in Sarawak. These efforts will contribute to creating safer care environments, reducing workplace conflicts, and improving overall patient outcomes.

1.6 Definition of Key Terms

Table 1.1

Conceptual and Operational Definition of Key Terms

Terms	Conceptual Definition	Operational Definition
Interpersonal Communication	Interpersonal communication is the exchange of information between individuals, involving both verbal and non-verbal cues. It relies on active listening, empathy, and cultural context to build relationships and understanding (Abed et al., 2023).	Exchange of information between nursing students and other persons (patients, peers, healthcare staff) through verbal and non-verbal means.

Interpersonal Communication Competence	The ability to communicate effectively and appropriately in interpersonal interactions to achieve personal goals while aligning with contextual norms (Kämäräinen et al., 2024)	In this study, the Interpersonal Communication Competence Scale (ICCS), developed by Rubin & Martin (1994), was adopted to assess ICC among undergraduate nursing students. The self-reported instrument consists of 30 items, rated on a 5-point Likert scale, and evaluates 10 domains of communication competence: self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, supportiveness, immediacy, and environmental control.
Undergraduate Nursing Students	The individual who is enrolled in a nursing education program (Law Insider, 2024)	Undergraduate nursing students refer to individuals who are actively pursuing and enrolled in the Bachelor of Nursing with Honours Degree Programme at the Faculty of Medicine and Health Sciences (FMHS), Universiti Malaysia Sarawak (UNIMAS) at the time of data collection.

1.7 Chapter Summary

This introduction chapter establishes the study foundation by highlighting the critical role of ICC in nursing education and practice. It discusses the challenges nursing students face in applying communication skills, particularly within Sarawak's multicultural and multilingual context, and highlights the importance of implementing specific interventions. The study aims to evaluate the level of ICC among UNIMAS undergraduate nursing students and how sociodemographic variables influences the ICC. Ultimately, underscores the significance of bridging knowledge gaps, enhancing nursing curricula, and fostering culturally sensitive communication to improve patient outcomes.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The studies included in this literature review were sourced from reputable databases such as Google Scholar, ResearchGate, and PubMed. To ensure relevance and timeliness, the literature spans the past decade, from 2014 to 2024. Studies from the past five years were primarily considered; however, pertinent studies dating back to 2014 were also included due to their relevance. The keywords used in the search included “interpersonal communication competence”, “nursing students”, and “sociodemographic influences on interpersonal communication”. The search generated a total of 125,000 studies. The abstracts were further reviewed for their contexts. The final review was based on a total of 10 articles included.

2.1 Level of Interpersonal Communication Competence among Nursing Students

2.1.1 Interpersonal Relationships

i) Interprofessional Relationships

A study by Aydogdu (2024) investigated the interpersonal relationships within nursing teams in the workplace. The findings revealed minimal communication between nurses and other healthcare staff, often leading to unresolved conflicts and tense situations, particularly between nurses and doctors. Similarly, a study conducted in Spain by Lapeña-Moñux et al. (2014) examined how nurses in hospital settings manage their interpersonal relationships and apply communication skills in their interactions. It highlighted the detrimental effects of poor communication on teamwork, especially in the doctor-nurse-patient dynamic. The nurses reported that insufficient communication among healthcare providers often led to treatment errors and other mistakes, primarily due to misunderstandings or misinterpretation of instructions. These mistakes consequently added to the workload and heightened stress levels among the staff.

Both studies highlighted low levels of ICC among healthcare providers and staff, which can lead to conflicts in teamwork like misunderstandings that cause treatment errors. However, both studies are predominantly based on self-reported data, which may add bias and reduce the findings' accuracy. Furthermore, the research settings in Turkey and Spain may not fully represent communication challenges faced in Malaysian healthcare settings, limiting the generalizability of the findings. For nursing students, these communication challenges can hinder their ability to collaborate effectively with other healthcare professionals, leading to potential delays in care or misunderstandings. Developing strong interpersonal communication skills during their education is essential to preparing them for success in clinical settings and ensuring optimal patient outcomes.

ii) Hierarchy Relationships

One prominent issue identified by Aydogdu (2024), hierarchy-related was the lack of trust and respect, where senior nurses dismissed recommendations from junior staff, claiming their greater professional experience justified maintaining traditional practices. This situation not only hindered teamwork and new ideas but also made junior nurses feel unappreciated and reluctant to share their concerns or suggestions. As a result, workplace tensions increased, and the team became less effective. This minimal interpersonal communication competence not only impacts teamwork between nurses and healthcare providers but also significantly affects hierarchical relationships between senior and junior staff. In such cases, the lack of effective communication and mutual respect can exacerbate misunderstandings and diminish the willingness of junior staff to engage, ultimately weakening team dynamics.

2.1.2 Barriers to Interpersonal Communication Competence

i) Physical Barriers

According to a study by Mohammadi et al. (2023), 2.4% of students exhibited poor interpersonal communication skills out of the 167 students surveyed, and 53.3% exhibited moderate skills. This indicates that nursing students face challenges with interpersonal communication, a situation exacerbated during of the COVID-19 outbreak. This study discovered that physical barriers, such as personal protective equipment (PPE) significantly impeded the effectiveness of both verbal and non-verbal communication. Even post-pandemic, PPE use continues to obstruct clear communication and collaboration among healthcare professionals. For instance, masks continue to impede vocal clarity, making it harder for healthcare professionals to understand one another. Additionally, masks limit nurses' ability to display empathy, as facial expressions and lip-reading cues are obscured both essential components of effective, compassionate communication.

Thus, these persistent barriers emphasize the need for healthcare workers to adapt and find new ways to communicate clearly and empathetically. Physical barriers also negatively affect the level of interpersonal communication, as highlighted in the study, PPE-like face masks hinder communication effectiveness due to the inability to notice empathy and facial expression.

ii) Language Barriers

Language barriers in healthcare are common, particularly in multicultural and multilingual settings, and they significantly impact effective interpersonal communication. Nurses often face challenges when language differences prevent them from accurately understanding and addressing patient needs (Larsen et al., 2021). For instance, a lack of proficiency in English or other required languages among staff can lead to patient anxiety,

misunderstandings, and compromised care. Additionally, cultural differences often complicate communication. Nurses reported that it was easier to care for patients who shared their cultural background while meeting the needs of individuals with different cultural expectations or practices proved more challenging. These difficulties are further compounded when patients or healthcare providers rely on indirect or non-verbal communication styles that may be unfamiliar or misinterpreted.

Low ICC is also affected by language and cultural differences, as these contribute significantly to communication barriers. The challenges of understanding unfamiliar languages and cultures make effective communication more difficult, underscoring the need for enhanced training and strategies to help nurses navigate these complex interactions.

2.1.3 Core Domains of Interpersonal Communication Competence

i) Assertiveness

Assertiveness, one of the core domains of ICC, is recognised as a critical yet often underdeveloped skill among nursing students. Despite mandatory communication training, many nursing students rate their communication skills as moderate, with assertiveness being the weakest area (Mohammadi et al., 2023). Assertiveness refers to the ability to assert people's rights and opinions while being considerate of the rights and feelings of others (Oducado, 2021). For nursing students, a lack of assertiveness can result in difficulty expressing their views clearly, leading to suppressed emotions and opinions, particularly in clinical environments.

A study conducted in Korea by Hwang & Lee (2015) examined the relationship between interpersonal communication and social anxiety among nursing students. The findings revealed that students scored lowest in the domains of “assertiveness,” ‘“support,” and “social tension relaxation.” Many nursing students struggled to manage criticism or negative feedback without experiencing anxiety, which adversely affected their confidence. The study also found a

moderate negative correlation between assertiveness and anxiety (r = -.43, p < .001), demonstrating that high anxiety levels were correlated with low level of assertiveness.

In another study by Pimenta et al. (2020), assertiveness was identified as a weaker domain of interpersonal communication, not only having a smaller positive impact on workplace satisfaction (r = 0.271). It also has a stronger negative correlation with workplace suffering (r = -0.281). This suggests that as suffering rises, overall communication levels, including assertiveness, tend to decrease among professionals.

All three studies highlight that low levels of assertiveness within the ICC domain represent a critical challenge for nursing students since they are more likely to experience difficulty advocating for themselves or their patients, leading to unresolved frustrations and miscommunications.

2.2 Relationship Between Sociodemographic Variables and Level of Interpersonal Communication Competence Among Nursing Students

Mohammadi et al. (2023) reported no statistically significant correlations between ICC scores and academic performance, semester, or duration of student work (p > 0.05). Additionally, independent sample t-tests revealed no significant differences in ICC scores according to gender, marital status, or student work (p > 0.05). This highlights a contrast in findings across studies, indicating that the impact of sociodemographic factors on ICC differs based on the population and context under investigation.

The lack of significant correlations could be explained by the influence of the COVID-19 pandemic, which limited direct interactions and limited opportunities for clinical training. These limitations may have adversely affected the development of interpersonal communication skills across the board, regardless of students' academic performance, work experience, or other sociodemographic factors.

Several studies have demonstrated significant relationships between ICC and sociodemographic factors. Santos et al. (2019) found that age, gender, and marital status significantly influenced ICC, with the mean ICC score being 63.74 (± 7.6), indicating a moderate level of competence. In the domain of environment control, age ($p = 0.025$), gender ($p = 0.007$), and marital status ($p = 0.023$), and gender ($p = 0.007$) had a significant association to the ICC. This highlights the importance of sociodemographic variables in shaping communication competence.

Nikjou et al. (2018) further emphasized the findings, showing that older and married students scored significantly higher in communication skills. For instance, older students exhibited a moderate positive correlation with higher ICC scores ($r = 0.42$, $p \leq 0.001$). Married students also demonstrated better communication skills (8.44 ± 0.02) compared to unmarried students (8.05 ± 0.08), showing a statistically significant difference ($p \leq 0.001$).

Jouzi et al. (2015) focused on the impact of cultural factors, emphasizing that cultural gaps and a lack of cross-cultural understanding, including ethical and religious principles, language barriers, and gender differences, hinder effective communication. Family background and cultural upbringing were also found to significantly influence ICC. For example, students from families that did not emphasize interpersonal skills struggled with effective communication.

These findings contrast with those of Mohammadi et al. (2023), which reported no statistically significant relationships between ICC and sociodemographic factors. While the three studies above demonstrate significant relationships between sociodemographic and cultural factors and ICC, this indicates how these variables can shape ICC.

2.3 Framework

2.3.1 Theoretical Framework

The Communication Accommodation Theory (CAT) developed by Giles & Ogay (2007) explains how various factors, including situational, interpersonal, and socio-historical contexts, influence interpersonal communication. These factors shape how individuals perceive and respond to others, affecting their communication behaviours.

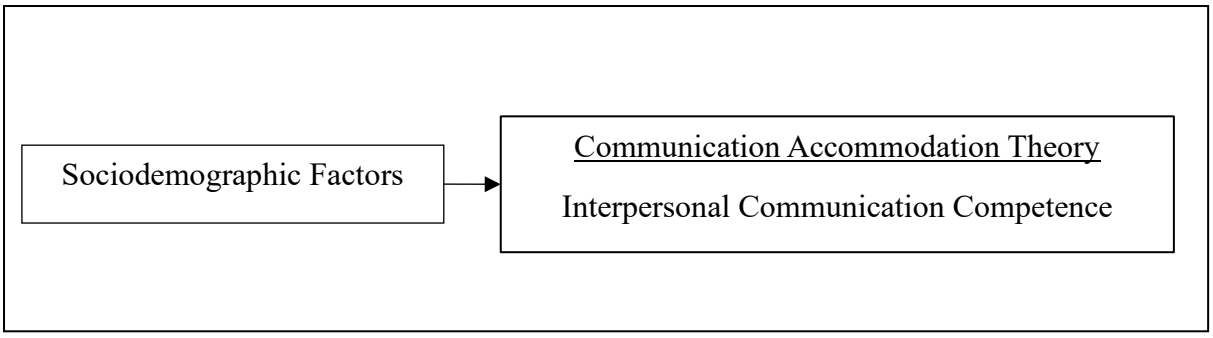
CAT highlights that people adjust their communication to navigate these influences, motivated by goals such as fostering understanding, maintaining individuality, or managing social dynamics. The adjustments made in communication can be broadly categorized as convergence and divergence. Convergence involves adapting one's communicative style to be more similar to the interlocutor, often to foster rapport and reduce social distance. Divergence, on the other hand, emphasizes the differences in communication styles to maintain individuality or highlight group identity. Both strategies are employed based on the interactants' goals and perceptions of the interaction (Farzadnia & Giles, 2015).

CAT emphasizes that convergence and divergence are not fixed behaviours but evolve dynamically within interactions. Individuals may shift between these strategies depending on the context and changing dynamics of the conversation. By examining how people manage social distance, relationships, and identities through their communication choices, CAT provides a valuable framework for understanding the complexities of interpersonal and intergroup communication across diverse contexts.

2.3.2 Conceptual Framework

Figure 2.1

Conceptual Framework Model



This framework highlights CAT's role in explaining how sociodemographic factors such as gender, age, race, year of study, and academic performance shape students' interpersonal communication skills. CAT explains how individuals adapt (converge) or maintain (diverge) their communication strategies in response to social and situational contexts. Gender, for example, may shape tendencies to converge for relational harmony or diverge to assert individuality. Age and year of study reflect maturity and experience, influencing adaptability in communication. Cultural backgrounds, represented by race, may encourage convergence in collectivist cultures for group harmony or divergence in individualistic cultures to emphasize autonomy. Academic performance (CGPA) reflects cognitive skills such as organization and clarity, which affect communication effectiveness.

On top of that, this study also utilizes the CAT as a foundation to examine how situational, interpersonal, and socio-historical contexts influence communication behaviours, particularly among nursing students. Situational context relates to environmental control, interaction management, and immediacy, reflecting how individuals adapt to immediate settings and interaction dynamics. Interpersonal context aligns with self-disclosure, empathy, altercentrism, and supportiveness, highlighting how individuals accommodate others' needs,

emotions, and perspectives during interactions. Lastly, socio-historical context corresponds to assertiveness, social relaxation, and expressiveness, capturing communication behaviours shaped by broader cultural, historical, and social norms. This conceptual framework bridges CAT with the operationalization of ICC in the context of the study.

To signal a summary, the framework highlights that nursing students' sociodemographic backgrounds influence their use of adaptive communication strategies, which in turn impacts their overall interpersonal communication competence. Understanding these relationships can inform targeted interventions to improve communication skills in nursing education, ultimately benefiting both professional interactions and patient care outcomes.

2.4 Chapter Summary

This chapter reviews the literature on ICC among nursing students, focusing on its levels, barriers, core domains, and the influence of sociodemographic factors. It examines challenges faced by nursing students in developing effective communication skills, including conflicts in interprofessional and hierarchical relationships and barriers such as physical constraints like PPE and language differences. The literature review highlights the importance of core ICC domains in overcoming these challenges. It also explores how sociodemographic factors shape ICC, with findings varying across studies. Grounded in CAT, the theoretical framework explains how situational, interpersonal, and socio-historical contexts influence communication behaviours while emphasizing convergence and divergence strategies. The conceptual framework builds on CAT by linking it to the operationalization of ICC through measurable domains and sociodemographic influences. This chapter emphasizes the importance of targeted interventions to strengthen communication skills in nursing education and improve clinical interactions and patient care outcomes.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter presents the research methodology of the study. Section 3.1 outlines the research design, while Section 3.2 describes the research setting. Section 3.3 details the sampling method and sample size. Section 3.4 presents the inclusion and exclusion criteria. Section 3.5 introduces the study instrument, followed by reliability and validity in Section 3.6. Section 3.7 discusses ethical considerations, and Section 3.8 describes the data collection procedure. Section 3.9 explains the data analysis methods. Finally, Section 3.10 provides a summary of the chapter.

3.1 Research Design

This study adopts a quantitative research approach with a cross-sectional design. Quantitative research is a systematic and objective methodological approach for investigating phenomena using numerical data and statistical analysis (Apuke, 2017). On the other hand, cross-sectional studies are observational research designs where researchers examine the population data at a specific point in time (Wang & Cheng, 2020). The combination allows for a clear, data-driven understanding of the current state of ICC while also revealing how sociodemographic factors may influence communication skills within the population.

3.2 Research Settings

The study was conducted at the Faculty of Medicine and Health Sciences (FMHS) of Universiti Malaysia Sarawak (UNIMAS) located on Jalan Datuk Mohammad Musa, Kota Samarahan, Sarawak. This study involved Year 1 to Year 4 undergraduate nursing students from the Bachelor of Nursing with Honours Programme which had a total of 237 students enrolled in the programme. Students were from diverse backgrounds across Malaysia.

3.3 Sampling Method and Sample Size

3.3.1 Sampling Method

Sampling is a process of selecting a subset of a population of interest for a study. This study utilized a simple random sampling method to select participants. In this sampling method, every individual had an equal opportunity to be chosen, with the selection process determined entirely by random chance. Simple random sampling ensures an unbiased and representative sample by giving each individual in the population an equal probability of selection (Noor et al., 2022).

The sampling protocol for this study began by obtaining a complete list of undergraduate nursing students from Years 1 to 4 from the academic office. The sample size from this population was chosen using a probability random sampling technique. The students' names were entered into Microsoft Excel according to their matriculation numbers, and the random number function (RAND) in Excel was used to perform the random selection. The students selected through this process were then contacted and invited to participate in the study.

3.3.2 Sampling Size

The sample size was calculated using Taro Yamane (1973) simplified formula. The following was the sample size calculation:

$$n = \frac{N}{1 + Ne^2}$$

n = sample size

N = population size

e = error (0.05) reliability level 95%

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{237}{1 + (237)(0.05)^2}$$

$$= 149 \text{ participants}$$

The calculation above indicated that 149 participants were the approximate sample size needed for the study. In anticipation of potential non-respondents, missing data, and participant attrition, an additional 10% was added to the calculated sample size, bringing the final total sample required for the study to 164 participants. The calculation was as follows:

Calculation of sample size with attrition rate:

Final sample size = sample size + (population size x 10%)

= 149 + (149 x 10%)

= 163.9 ≈ 164

In conclusion, a total sample size of 164 participants was necessary to meet the aims and objectives of the study.

3.4 Inclusion and Exclusion Criteria

a) Inclusion Criteria

- Year 1 until Year 4 UNIMAS undergraduate nursing students
- Year 1 until Year 4 who consent and indicate voluntary willingness to take part in this study.

b) Exclusion Criteria

- Nursing students who had previously been involved in the pilot study
- Nursing students who are unwilling to take part in the study
- Post-graduate nursing students
- Post-registration students

3.5 Study Instrument

A study instrument is a device used to gather, analyse, and investigate research problems within a study. It serves to reveal phenomena observed in an investigation to validate the facts or disprove specific hypotheses. A reliable instrument should demonstrate both strong validity and reliability. To ensure the quality of the instrument, it must undergo testing, and its legitimacy and trustworthiness should align with the principles of instrument development. (Sukmawati, 2023).

The questionnaire was presented to respondents in English. The instrument was divided into two parts: Section 1 on the sociodemographic data of participants and Section 2 on the level of ICC. In Section 1, information on the participants' sociodemographic background, including gender, year of study, age, academic performance, and race, were collected. Section 2 consisted of the Interpersonal Communication Competence Scale (ICCS), developed by Rubin & Martin (1994), which was adopted to assess ICC among undergraduate nursing students.

The self-reported instrument consisted of 30 items, rated on a 5-point Likert scale (with the options 1 = almost never, 2 = seldom, 3 = sometimes, 4 = often, 5 = almost always), and evaluated 10 domains of communication competence, which included self-disclosure, empathy, social relaxation, assertiveness, interaction management, altercentrism, expressiveness, supportiveness, immediacy, and environmental control. Some statements were presented as negative statements, and scores were reverse coded when calculating the total score to limit bias. The scale's overall score ranged from 10 to 150. A higher overall score indicated a greater degree of interpersonal communication competence.

3.6 Reliability and Validity

3.6.1 Reliability

The ICCS adopted from Rubin & Martin (1994) returned a Cronbach's alpha reliability coefficient of 0.71, demonstrating a satisfactory level of internal consistency for research purposes. Cronbach's alpha examines the measurement tool's reliability and internal consistency, ensuring that it consistently reflects the intended constructs when measurements are repeated under similar conditions (Haji-Othman & Yusuff, 2022)

For this study, a pilot study was also conducted before actual data is collected to assess the reliability of the instrument. Cronbach's alpha values between 0.6 and 0.7 are regarded as appropriate for exploratory study, whereas values above 0.7 are generally accepted. Good reliability is indicated by numbers above 0.8, and exceptional reliability is defined as values above 0.9. (Ahmad et al., 2024; Taber, 2018). Therefore, the ICCS questionnaire's reliability coefficient of 0.71 is deemed acceptable for this study.

3.6.2 Validity

The original author validated the ICCS instrument, and the results indicate that the validation is appropriate. Validity refers to the extent to which an instrument accurately measures the concept it is intended to evaluate, ensuring that the items within a construct are positively correlated and represent the intended concept accurately (Haji-Othman & Yusuff, 2022). The ICCS was validated through concurrent validity, which demonstrated positive correlations with communication flexibility ($r = .40$, $p < .01$) and cognitive flexibility ($r = .49$, $p < .01$), two constructs closely related to communication skills. Additionally, there was a moderate correlation between communication and cognitive flexibility ($r = .52$, $p < .01$), indicating their interdependence. These findings further reinforces that the ICCS is a valid instrument for assessing communication competence.

In terms of face validity and content validity, the ICCS is also deemed valid. Face validity ensures that the instrument appears to measure the intended concept, which was confirmed through feedback from participants in the pilot study to verify that the items were appropriate and relevant for assessing communication competence. Content validity evaluates whether the instrument comprehensively addresses all key aspects of the construct. The pilot study provided the basis for this assessment, using participants' responses to determine if the questionnaire effectively captured all dimensions of communication competence. These results affirm the ICCS as a valid tool for measuring communication skills.

3.7 Ethical Considerations

Ethical approval for this study was granted by the Research and Ethics Committee of FMHS, UNIMAS (refer to Appendix A). A participant information sheet with a full disclosure of the study was also provided to all participants prior to obtaining their written consent (refer to Appendix C). Each participant completed an informed consent form to indicate their willingness to participate in the study. The principle of autonomy was upheld, ensuring participants had the right to decide whether to take part. Participants were informed that participation in the study was entirely voluntary and that they could withdraw at any time without incurring penalties or other consequences.

To ascertain privacy, all personal information collected was anonymized and kept safe. Participants' identities were kept confidential by assigning serial numbers instead of names and findings were presented without any identifying particulars relating to individual respondents to ensure strict anonymity. Furthermore, data was kept safe and managed exclusively by the researcher. The data will be retained for a period of three years after the study, after which it will be permanently deleted. Additionally, participants' privacy and confidentiality were protected throughout the research process.

Written permission was granted to adopt and adapt the questionnaire for this study, with approval from the original authors (refer to Appendix F). In conclusion, these steps ensured the study complied with ethical guidelines and honoured the rights and dignity of each and every participant.

3.8 Data Collection Procedure

3.8.1 Pilot Study

A pilot study was performed as an initial step to detect and resolve potential issues with the study design, protocols, and data collection techniques. This step allows researchers to make necessary adjustments before proceeding with the main study, ensuring its feasibility and reliability. In line with guidelines of the study (Menon et al., 2021), 10% of the total sample size was selected for the pilot study. Since the total sample size was 164 participants, approximately 16 participants were included in the pilot study. The same inclusion and exclusion criteria, as well as the sampling method, were employed as the actual study. The results from the pilot study showed a Cronbach's alpha of 0.802, indicating good reliability.

3.8.2 Actual Study

To begin the procedures for data collection, ethical approval was acquired from the ethics and research committee to guarantee that the project complied with the relevant regulations. The population consisted of UNIMAS Undergraduate Nursing Students from Year 1 to Year 4 who satisfied the inclusion criteria. A list of Undergraduate Nursing Students from Years 1 to 4 was then acquired from the academic office. A probability random sampling method was employed to determine the required sample size. Personal information such as names and matriculation numbers of the participants was keyed into Microsoft Excel to organize the data. The random number function (RAND) in Microsoft Excel was used to perform the selection process.

A total of 164 participants who fulfilled the inclusion criteria and agreed to participate were randomly selected for the actual study. Before proceeding with the questionnaire, each participant was required to read and complete an informed consent form, which was provided on the first page of the questionnaire. The form explained the purpose of the study, confidentiality measures, and participants' rights to withdraw at any time without penalty. The questionnaire was prepared in English and converted into an online format using Google Forms. The link was shared through the WhatsApp messaging platform for ease of access. It took participants approximately 15 minutes to complete.

The distribution process began with the sharing of the Google Form link to class representatives from each academic year. Each representative was responsible for disseminating the link to students within their respective cohorts. The entire data collection process took place over a duration of two weeks, during which reminders were sent periodically to encourage response and ensure adequate participation from all academic years. Once the data collection was complete, IBM SPSS Statistics Software (Version 27.0) was used for analysis in order to process and interpret the findings. This ensured comprehensive and accurate data.

3.9 Data Analysis

The data analysis was conducted using IBM SPSS Statistics Software (Version 27.0). The study used both descriptive and inferential statistics to meet the study objectives. The variables in this study consisted of either categorical or continuous variables. Categorical variables included gender, race, year of study, and academic performance, while continuous variables included age and the level of interpersonal communication competence, which was also the dependent variable.

The data were summarized using descriptive statistics. Continuous variables were described using means and standard deviations (for normally distributed data) or medians and interquartile ranges (for non-normally distributed data), while categorical variables were

reported using frequencies and percentages. The continuous data, such as age, academic performance, and level of interpersonal communication competence, which had larger samples (greater than 50), was assessed using the Kolmogorov-Smirnov test.

For inferential analysis, statistical tests were applied based on the distribution normality of the data. For normally distributed data, parametric tests were considered. An independent t-test compared the level of interpersonal communication competence between two groups, such as gender. A one-way ANOVA was used to compare the level of interpersonal communication competence across multiple groups, such as race, year of study, or academic performance. To investigate the connections between continuous variables, such as age and the level of interpersonal communication competence, Pearson's correlation was utilized.

Non-parametric tests were used for data that were not normally distributed. When comparing two groups, the Mann-Whitney U test was utilized; however, when comparing multiple groups, the Kruskal-Wallis test was employed. Additionally, Spearman’s rank correlation analysed relationships between continuous variables, such as age and interpersonal communication competence. Every inferential analysis was carried out with a significance level of $p < .05$, and to guarantee robustness, results were presented with confidence intervals. These analyses provided insights into the distribution of interpersonal communication competence and its associations with sociodemographic factors.

3.10 Chapter Summary

This chapter outlined that the study adopted a quantitative cross-sectional design to assess ICC among undergraduate nursing students at UNIMAS. The research was conducted at the FMHS and involved 164 randomly selected participants from Years 1 to 4 who satisfied the requirements for inclusion and exclusion. Taro Yamane’s (1973) formula was used to calculate the sample size, and participants were selected using simple random sampling. Data were

collected through a two-part English questionnaire that gathered sociodemographic information and measured ICC using the ICCS. A pilot study with 16 participants evaluated the reliability and validity of the instrument. Ethical approval was obtained to ensure informed consent, confidentiality, and data security. To analyse the data, IBM SPSS Statistics Version 27.0 was employed, applying descriptive and inferential statistical methods such as t-tests, ANOVA, and correlation analyses, with the significance level set at $p < .05$.

CHAPTER 4: RESULTS

4.0 Introduction

This chapter presents the results obtained from 164 undergraduate nursing students at UNIMAS. The findings were acquired according to the research objectives, which were to assess the level of ICC and to examine its relationship with sociodemographic variables among the students. Section 4.1 describes the sociodemographic characteristics of the participants. Section 4.2 presents the level of interpersonal communication competence among UNIMAS undergraduate nursing students. Finally, Section 4.3 examines the relationship between sociodemographic variables and the level of interpersonal communication competence among UNIMAS undergraduate nursing students.

4.1 Sociodemographic Characteristics of UNIMAS Undergraduate Nursing Students

A total of 164 UNIMAS undergraduate nursing students participated in this study. Among the participants, 135 (82.3%) were female and 29 (17.7%) were male (refer to Figure 4.1). Year 2 nursing students made up the largest group with 47 students (28.7%), followed by Year 4 students with 46 (28.0%). Year 3 had 37 students (22.6%), while Year 1 had 34 students (20.7%) (refer to Figure 4.2). Most participants were Malay, with 65 students (39.6%), followed by Bumiputera Sarawak with 60 (36.6%), Bumiputera Sabah with 32 (19.5%), and Chinese with 7 (4.3%) (refer to Figure 4.3). There were no outliers or extreme values from screening the data.

Figure 4.1

Frequency Distribution of Participation by Gender

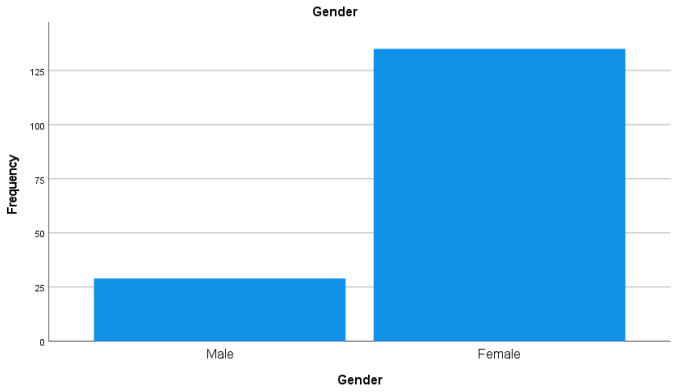


Figure 4.2

Frequency Distribution of Participation by Year of Study

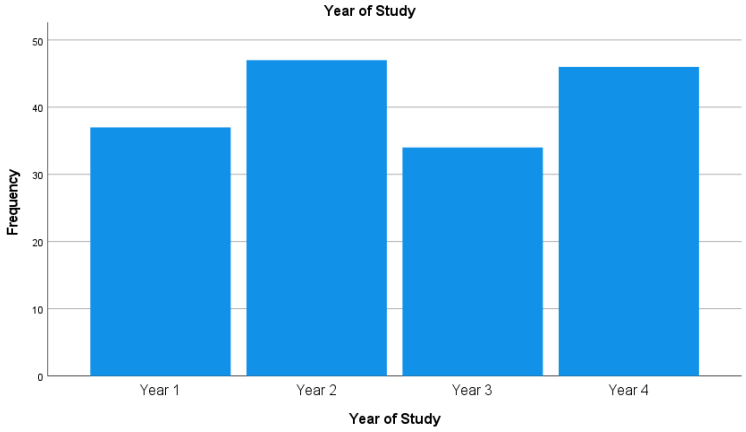
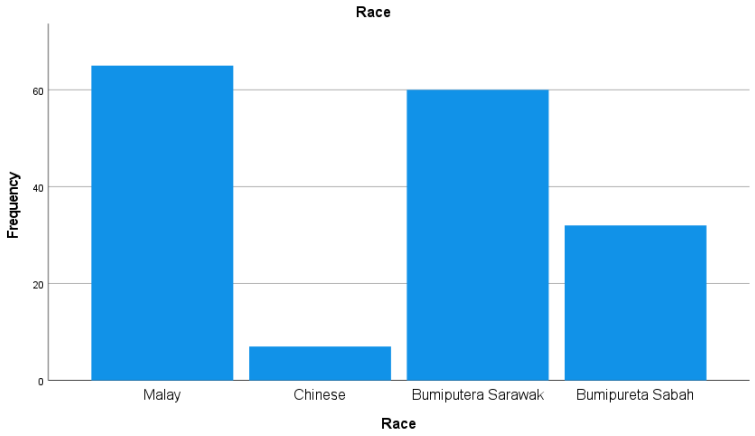


Figure 4.3

Frequency Distribution of Participation by Race



There were no outliers or extreme values noted from the box plot for age. The Kolmogorov-Smirnov test indicated that the data did not follow a normal distribution, $D(164) = .18$, $p < .001$. The median age among the participants was 22 years old (IQR = 2 years old). The maximum age was 26 years old, while the minimum age was 19 years old. Thus, the range was 7 years old. The mode ages were 21 years old and 23 years old (refer to Figure 4.4).

Similarly, there were no outliers or extreme values noted from the box plot for CGPA. The Kolmogorov-Smirnov test indicated that the CGPA data did not follow a normal distribution, $D(164) = .11$, $p < .001$. The median CGPA among the participants was 3.35 (IQR = 0.33). The maximum CGPA was 4.00, while the minimum CGPA was 2.56. Thus, the range was 1.44. The mode CGPA was 3.30 (refer to Figure 4.5).

Figure 4.4

Histogram of Age Distribution Showing Non-Normality Among Participants

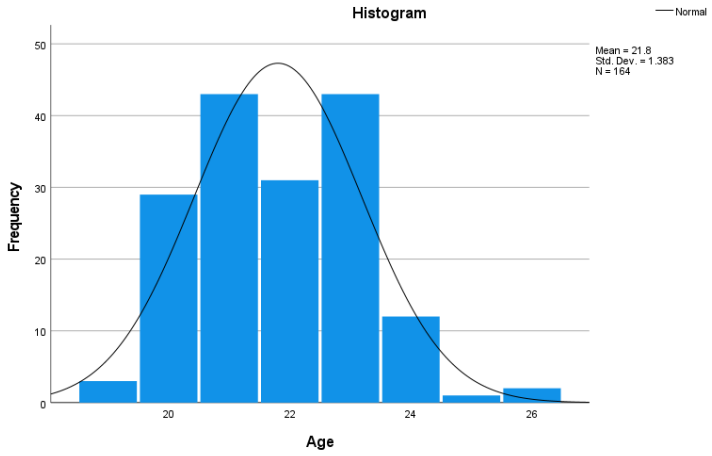
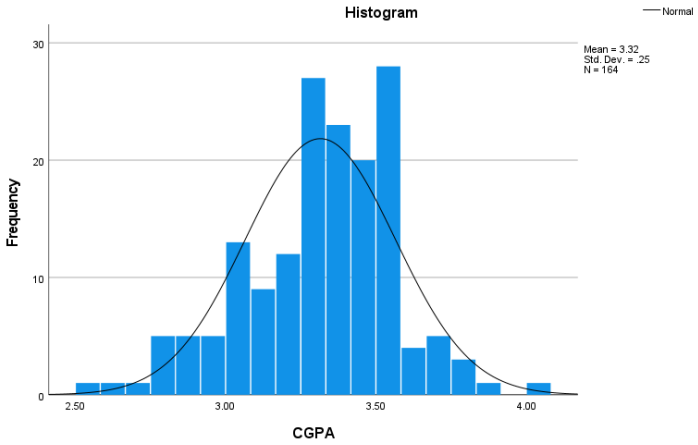


Figure 4.5

Histogram of CGPA Distribution Showing Non-Normality Among Participants



4.2 The Level of ICC among UNIMAS Undergraduate Nursing Students

The total ICC score had a mean of 100.24 (*SD* = 10.90), with a median of 99.00 and a mode of 98. Based on the calculated score range, the level of interpersonal communication competence among UNIMAS undergraduate nursing students is classified as **moderate** (refer to Table 4.1).

Among the ten ICC domains, Immediacy recorded the highest mean score (*M* = 11.35, *SD* = 1.99), followed by Interaction Management (*M* = 10.55, *SD* = 1.78). In contrast, the Expressiveness domain recorded the lowest mean score (*M* = 8.90, *SD* = 1.69), while Self-disclosure also showed a relatively low mean score (*M* = 9.30, *SD* = 2.13).

Table 4.1

Descriptive Statistics for Total Interpersonal Communication Competence (ICC) Scores

TotalscoreICC

N	Valid	164
	Missing	0
Mean		100.24
Median		99.00
Mode		98
Std. Deviation		10.902

4.3 To Examine the Relationship between Sociodemographic Variables and the Level of ICC among UNIMAS Undergraduate Nursing Students.

4.3.1 Relationship between Gender and ICC among UNIMAS Undergraduate Nursing Students.

A Mann-Whitney U test was conducted to compare the total scores of ICC for males and females. Preliminary analyses were performed and found that the assumptions of normality were violated, $D(164) = .09$, $p = .003$. No outliers or extreme values were detected from the box plot. A Mann-Whitney U Test revealed no significant difference in the total score of ICC for males ($Mdn = 99.00$) and females ($Mdn = 99.00$), $U(164) = 1624$, $p = .150$ (refer to Table 4.2).

Table 4.2

Comparison of ICC Scores by Gender Using Mann–Whitney U Test

Independent-Samples Mann-Whitney U Test

Total N	164
Mann-Whitney U	1624.000
Wilcoxon W	10804.000
Test Statistic	1624.000
Standard Error	231.864
Standardized Test Statistic	-1.438
Asymptotic Sig.(2-sided test)	.150

4.3.2 Relationship between Year of Study and ICC among UNIMAS Undergraduate Nursing Students.

A Kruskal-Wallis test was conducted to explore the impact of year of study on the levels of ICC. Participants were divided into four groups according to their year of study. Preliminary analyses were performed, and it was found that there is a violation of the assumptions of normality, $D(164) = .09$, $p = .003$. No outliers or extreme values were detected from the box plot.

A Kruskal-Wallis test revealed no statistically significant difference in ICC levels across four different year groups, $H(3, 164) = 1.60$, $p = .659$. Year 3 students recorded a significantly higher median score ($Mdn = 100.00$) than Year 2 students ($Mdn = 99.50$), Year 4 students ($Mdn = 99.50$), and Year 1 students ($Mdn = 99.00$) (refer to Table 4.3).

Table 4.3

Comparison of ICC Scores by Year of Study Using Kruskal-Wallis Test

Independent-Samples Kruskal-Wallis Test

Total N	164
Test Statistic	1.604[a,b]
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	.659

[a] The test statistic is adjusted for ties.

[b] Multiple comparisons are not performed because the overall test does not show significant differences across samples.

4.3.3 Relationship between Age and ICC among UNIMAS Undergraduate Nursing Students.

The relationship between the score of ICC and age was investigated using the Spearman correlation coefficient. Preliminary analyses were performed, and there was a violation of the assumptions of normality for the score of ICC, $D(164) = .09$, $p = .003$ and age score, $D(432) = .18$, $p < .001$. No outliers or extreme values were detected from the box plot.

The relationship between ICC and age was investigated using a Spearman correlation coefficient. There was a negligible correlation between the two variables, $r_s(164) = .108$, $p = .168$, with high levels of ICC (*Mdn* = 99.00) only weakly associated with age (*Mdn* = 22.00) (refer to Table 4.6)

Table 4.4

Correlation Between Age and ICC Using Spearman's rho

Correlations

			Age	TotalscoreICC
Spearman's rho	Age	Correlation Coefficient	1.000	.108
		Sig. (2-tailed)	.	.168
		N	164	164
	TotalscoreICC	Correlation Coefficient	.108	1.000
		Sig. (2-tailed)	.168	.
		N	164	164

4.3.4 Relationship between Race and ICC among UNIMAS Undergraduate Nursing Students.

A Kruskal-Wallis test was conducted to explore the impact of race on the levels of ICC. Participants were divided into four groups according to their race. Preliminary analyses were performed, and it was found that there is a violation of the assumptions of normality, $D(164) = .09$, $p = .003$. No outliers or extreme values were detected from the box plot.

A Kruskal-Wallis test revealed no statistically significant difference in levels of ICC across four different racial groups, $H(3, 164) = 1.22$, $p = .748$. Bumiputera Sarawak students recorded a significantly higher median score ($Mdn = 100.50$) than Bumiputera Sabah ($Mdn = 99.00$), Malay ($Mdn = 98.00$), and Chinese ($Mdn = 98.00$) (refer to Table 4.5).

Table 4.5

Comparison of ICC Scores by Race Using Kruskal-Wallis Test

Independent-Samples Kruskal-Wallis Test

Total N	164
Test Statistic	1.222[a,b]
Degree Of Freedom	3
Asymptotic Sig.(2-sided test)	.748

[a.] The test statistic is adjusted for ties.

[b.] Multiple comparisons are not performed because the overall test does not show significant differences across samples.

4.3.5 Relationship between Academic Performance and ICC among UNIMAS Undergraduate Nursing Students.

The relationship between the score of ICC and academic performance was investigated using the Spearman correlation coefficient. Preliminary analyses were performed, and there was a violation of the assumptions of normality for the score of ICC, $D(164) = .09$, $p = .003$ and academic performance, $D(432) = .11$, $p < .001$. No outliers or extreme values were detected from the box plot.

The relationship between ICC and academic performance was investigated using a Spearman correlation coefficient. There was a negligible correlation between the two variables, $r_s(164) = .01$, $p = .923$, with high levels of ICC ($Mdn = 99.00$) only weakly associated with academic performance ($Mdn = 3.35$) (refer to Table 4.6)

Table 4.6

Correlation Between Academic Performance and ICC Using Spearman's rho

Correlations

			TotalscoreICC	CGPA
Spearman's rho	TotalscoreICC	Correlation Coefficient	1.000	.008
		Sig. (2-tailed)	.	.923
		N	164	164
	CGPA	Correlation Coefficient	.008	1.000
		Sig. (2-tailed)	.923	.
		N	164	164

4.4 Chapter Summary

This chapter presents the results obtained from 164 undergraduate nursing students at UNIMAS. The findings encompassed participants' sociodemographic characteristics, the overall level of interpersonal communication competence (ICC), and the analysis of the relationship between ICC and sociodemographic variables. The results indicated that the overall level of ICC among the participants was moderate. Statistical analyses using non-parametric tests were conducted due to the non-normal distribution of data. These analyses revealed no significant differences in ICC scores across all examined sociodemographic variables, including gender, year of study, age, race, and CGPA.

CHAPTER 5: DISCUSSION

5.0 Introduction

This chapter presents the findings on the level of ICC among undergraduate nursing students at UNIMAS and examines its relationship with sociodemographic variables. It provides a comprehensive summary of the results, discusses the implications of the findings, outlines the study's limitations, and concludes with final reflections and recommendations for future research.

5.1 The level of ICC among UNIMAS Undergraduate Nursing Students

The findings of this study revealed that the total ICC score among UNIMAS undergraduate nursing students is moderate, as reflected by the total mean score of 100.24 (*SD* = 10.90). This suggests that while students possessed a reasonable ability to engage in effective communication, there remains room for enhancement, particularly given the critical role of communication in nursing practice. These findings are consistent with a study conducted by Mohammadi et al. (2023), which reported that out of 167 students surveyed, 2.4% exhibited poor ICC while 53.3% demonstrated moderate skills. Similarly, a study by Santos et al. (2019) also reported an average ICC score of 63.74 (*SD* = 7.6), indicating a moderate level of ICC among nursing students. This consistency across multiple studies further supports the notion that moderate levels of interpersonal communication competence are common in nursing education and highlights the importance of strengthening these skills through targeted educational strategies.

Among the ten ICC domains, immediacy recorded the highest mean score (*M* = 11.35, *SD* = 1.99), suggesting that students tend to be attentive and engaged during interactions, which is an essential trait for establishing rapport and building therapeutic relationships in nursing practice. Interaction management followed closely (*M* = 10.55, *SD* = 1.78), indicating that

students are generally effective in managing conversational flow and turn-taking. These two domains represent key interpersonal strengths that support effective patient care and team communication in clinical environments.

On the other hand, the expressiveness domain returned to the lowest mean score (M = 8.90, SD = 1.69), implying that students are more reserved or less comfortable expressing emotions and personal thoughts during interactions. Self-disclosure also scored relatively low (M = 9.30, SD = 2.13), reflecting a more cautious approach to sharing personal information. While maintaining professional boundaries is important in healthcare, these lower scores highlight areas where communication training could encourage more open and empathetic expression when appropriate.

Overall, the highest scoring domains reflect the ICC strengths of nursing students in maintaining effective communication during clinical interactions. In contrast, the lowest scoring domains indicate specific areas that could benefit from further development. Fostering greater openness and emotional expressiveness may enhance students' ability to build trust and connect with patients on a deeper level. This is particularly relevant within the Malaysian cultural context, where individuals may be more reserved in expressing personal emotions. Addressing these culturally influenced tendencies through targeted training may help future nurses provide more empathetic and patient-centred care.

5.2 To Examine the Relationship between Sociodemographic Variables and the Level of ICC among UNIMAS Undergraduate Nursing Students.

This study aimed to examine the relationship between sociodemographic variables such as gender, year of study, age, race, and academic performance, and the level of ICC among UNIMAS undergraduate nursing students. The results indicate that there were no statistically

significant associations between any of the sociodemographic variables and ICC levels. These findings are discussed below in relation to existing literature and possible explanations.

5.2.1 Gender and ICC among UNIMAS Undergraduate Nursing Students

The Mann-Whitney U test revealed no significant difference in ICC scores between male and female students. This suggests that gender does not play a major role in influencing ICC among undergraduate nursing students at UNIMAS. This finding is consistent with the results reported by Mohammadi et al. (2023), who also found that no statistically significant differences in ICC scores based on gender.

However, these findings contrast with those of Santos et al. (2019), who found that gender had a significant influence on ICC, particularly in the domain of environmental control, where females reportedly demonstrated higher competence (p = 0.007). The variation in findings across studies is attributed to differences in cultural contexts, educational settings, or sample characteristics. While Santos' study suggests that gender differences influence specific communication domains, the current findings highlight the possibility that in a multicultural and inclusive learning environment like UNIMAS, students, regardless of gender, have equal opportunities to develop their communication competence through shared academic and clinical experiences.

Overall, the findings support the notion that interpersonal communication competence is more strongly shaped by individual experiences, training, and exposure rather than by gender alone. This highlights the importance of maintaining equitable access to communication skill development opportunities for all students, irrespective of their gender.

5.2.2 Year of Study and ICC among UNIMAS Undergraduate Nursing Students

Although Year 3 students recorded the highest median score, the Kruskal-Wallis test showed no significant difference in ICC across year levels. This is supported by the findings of

Chan and Sy (2016), who found no statistically significant difference in communication competence between Year 1 and Year 3 nursing students. The findings are due to the uniform exposure to communication-related modules across all years at UNIMAS, leading to relatively equal competence levels regardless of academic year. Furthermore, the small score variations are not substantial enough to indicate a clear developmental trend.

5.2.3 Age and ICC among UNIMAS Undergraduate Nursing Students

Spearman correlation analysis showed a negligible to non-significant relationship between age and ICC. This indicated that age was not a determining factor in the interpersonal communication skills of UNIMAS undergraduate nursing students. This result suggests that the age range within this cohort, which is typically narrow among undergraduate students, not provide sufficient variation to detect meaningful differences in communication competence. This finding contrasts with the results of Santos et al. (2019), who reported a significant association between age and ICC, particularly in the domain of environmental control, where age had a p-value of 0.025. In addition, the study by Nikjou et al. (2018) supported the influence of age by showing that older students scored significantly higher in communication skills, with a moderate positive correlation of $r = 0.42$ and a significance level of $p \leq 0.001$.

The differences in outcomes across studies due to wider age ranges or differing educational and cultural contexts that influence communication development. While maturity and life experience are often associated with enhanced interpersonal abilities, such effects be less observable in a relatively uniform undergraduate population. These findings emphasise the need for intentional and structured communication training for all students, regardless of age, to ensure equitable development of interpersonal communication competence.

5.2.4 Race and ICC among UNIMAS Undergraduate Nursing Students

No statistically significant differences in ICC levels were found across racial groups, although Bumiputera Sarawak students had a slightly higher median score. This suggests that cultural background is not a major determinant of ICC in this research. The multicultural environment at UNIMAS provides students from various backgrounds with similar opportunities to develop interpersonal communication skills, potentially minimizing racial influence on ICC.

These findings contrast with the study by Falatah et al. (2022), which reported a significant positive association between effective communication and cultural competence among nurses in Saudi Arabia. Their research suggested that individuals with strong communication skills are better equipped to understand and navigate cultural differences in care. Jouzi et al. (2015) also noted that cultural background, including race and upbringing, can influence communication competence due to differences in values, language, and the extent to which interpersonal skills are emphasized within families. While this perspective highlights the potential for variation, our findings indicate that such differences are minimized in a culturally diverse academic setting that fosters regular interaction and shared learning among students from various backgrounds.

An explanation to this is that the culturally diverse learning environment at UNIMAS encourages regular interaction among students from various backgrounds, which helps students enhance their communication skills regardless of cultural identity. As a result, racial or ethnic backgrounds have limited influence on the development of ICC. Although cultural competence and ICC are related, our findings suggest that communication competence can be effectively nurtured through an inclusive and multicultural academic environment. This highlights the importance of promoting diversity in nursing education to ensure the equitable development of communication skills among all students.

5.2.5 Academic Performance and ICC among UNIMAS Undergraduate Nursing Students

Academic performance showed no significant correlation with ICC, indicating that a student's cumulative grade point average (CGPA) does not necessarily predict their ability to communicate effectively and their interpersonal communication competence.

These findings align with those reported by Mohammadi et al. (2023), who also found no statistically significant relationship between ICC and academic performance, semester, or student work experience ($p > 0.05$). The consistency across both studies suggests that academic achievement and communication competence operate as distinct constructs. While CGPA reflects cognitive and theoretical mastery, interpersonal communication skills are often developed through experiential learning, emotional intelligence, and practice in real-life interactions. This highlights the importance of embedding more practical and scenario-based communication training into the nursing curriculum, as such competencies are not adequately captured by traditional academic assessments alone. Therefore, fostering ICC requires targeted interventions beyond academic performance measures to ensure students are prepared for effective patient interactions in clinical practice.

5.3 Implications of the Study

The findings of this study present important implications for nursing education, clinical training, and policy development. The moderate level of ICC among undergraduate nursing students at UNIMAS indicates that while students demonstrate a basic level of communication skills, further enhancement is needed to meet the complex demands of healthcare, particularly in multicultural settings like Malaysia. From an educational standpoint, these findings suggest a need to strengthen the integration of interpersonal communication skills within the nursing curriculum. Structured training on culturally competent communication, empathy, and patient-centered interactions should be incorporated throughout the academic program. Since no

significant differences were observed across sociodemographic variables, such training should be universally applied to all students, rather than targeting specific groups.

In terms of clinical practice, the results emphasize the importance of providing students with real-life opportunities to develop and refine their communication abilities. Clinical instructors should be encouraged to actively observe students' communication styles and offer constructive feedback to support reflective learning and improvement. At the policy level, this study reinforces the importance of recognizing interpersonal communication as a core competency in nursing education standards. Strengthening this competency can lead to better patient outcomes, improved collaboration among healthcare teams, and greater overall satisfaction for both patients and healthcare providers.

5.3.1 Recommendations for this study

The findings that undergraduate nursing students at UNIMAS demonstrated a moderate level of ICC, and that no significant differences were found across sociodemographic variables, it is recommended that communication skills training be further integrated and emphasized throughout the nursing curriculum. Practical, culturally sensitive communication workshops and simulation-based learning should be conducted to enhance students' competence and confidence in diverse clinical settings. This would help reinforce the importance of communication as a core component of professional nursing practice.

5.3.2 Recommendations for Future Research

There are some recommendations that can be implemented for future research, one of it is the population of the study. Since the study was limited to undergraduate nursing students at UNIMAS and there is a lack of existing research on nursing students' communication competence in Malaysia, the findings may not be generalizable to other institutions or regions. Therefore, future research should consider expanding the sample to include nursing students

from multiple institutions across different regions of Malaysia, thereby increasing the generalizability of the findings. Longitudinal studies are also recommended to examine how interpersonal communication competence evolves throughout students' academic and clinical experiences.

In addition, future studies can adopt qualitative methodologies, such as interviews or focus group discussions, to gain deeper insights into students' experiences, challenges, and perceptions regarding interpersonal communication. Research investigating the relationship between communication competence and clinical outcomes, such as patient safety and satisfaction, is also recommended. Lastly, comparative studies involving students from various healthcare disciplines could provide valuable data on interdisciplinary communication dynamics within healthcare teams.

5.4 Limitations of The Study

This study was limited to undergraduate nursing students from UNIMAS only, which may reduce the generalizability of the findings to the broader population of nursing students in Malaysia. Differences in curriculum design, communication training, and student experiences across institutions may result in varying levels of interpersonal communication competence. Therefore, the results of this study may not fully represent nursing students nationwide.

In addition, the study relied solely on self-reported data to assess participants' levels of interpersonal communication competence. This method introduces the possibility of response bias, particularly social desirability bias, where participants may overestimate their communication abilities to present themselves in a more favorable light. Self-assessment may also fail to accurately capture actual communication behaviors demonstrated in clinical settings, thus limiting the validity of the results. The absence of observational or peer-assessed measures of communication competence may have affected the depth and objectivity of the findings.

Lastly, time constraints posed another limitation. Due to a limited research period, there was insufficient time to conduct longitudinal observations, in-depth interviews, or more extensive data collection procedures that might have provided richer insights into the development of interpersonal communication competence. This constraint affected the depth and scope of the analysis, highlighting the need for future research with extended timelines for a more comprehensive exploration of the topic.

5.5 Conclusion

This study explored the level of interpersonal communication competence (ICC) among undergraduate nursing students at UNIMAS and examined how it relates to sociodemographic factors. The results showed that students demonstrated a moderate level of communication competence. The analysis also found no significant differences in ICC based on gender, year of study, age, race, or academic performance, showing that communication skills developed consistently across student groups within the university's learning environment.

These findings highlight the importance of reinforcing communication training throughout the nursing program, especially through practical and interactive methods. Strong communication is essential not only for patient care but also for teamwork and professional growth. Despite limitations such as time constraints, the single-institution focus, and reliance on self-reported data, this research provides valuable insight into how nursing students are developing key interpersonal skills. Future studies can build on this foundation by including broader student populations and deeper qualitative exploration to better understand how communication competence grows in real clinical settings.

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APPENDICES

Appendix A: Ethical Approval

Pejabat Akademik
Fakulti Perubatan dan Sains Kesihatan
Academic Office
Faculty of Medicine & Health Sciences
☎: 581000 samb 7768
🖷: 665152

UNIVERSITI MALAYSIA
SARAWAK
94300 Kota Samarahan

MEMORANDUM

Reference	:	UNIMAS/NC-21.05/03-03 Jld. 8(107)
To	:	Nur Syuhadah Binti Mohd Asri (80720) Bachelor of Nursing with Honours Faculty of Medicine and Health Sciences
From	:	Dean Faculty of Medicine and Health Sciences
Date	:	05 March 2025
Subject	:	**Final Year Project - Research Approval: Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students**

The above matter is referred.

The Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS) has granted the **RESEARCH APPROVAL** for this Final Year Project research based on the appraisal by the Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS) on 24 February 2025. The Final Year Project research details stated below:

Student Name	:	**Nur Syuhadah Binti Mohd Asri**
Student ID	:	**80720**
Programme	:	**Bachelor of Nursing with Honours**
Research Title	:	***Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students***
Supervisor Name	:	**Mr Dev Nath Kaushal**
Supervisor H/P	:	**+60 10-525 7118**

All records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the all relevant heads of departments/units where the study will be carried out must be obtained prior to the study.

Please note that the approval is valid from **February 2025** to **November 2025** only. The reference number for this letter must be stated in all correspondence related to this study to facilitate the process.

Thank you with regards and well wishes.

Yours sincerely,

Professor Dr. Asri bin Said
Dean

c.c : Deputy Dean of Undergraduate
: Head of Nursing Department
: Bachelor of Nursing with Honours
: MDJ4653 Final Year Project 1 Course Coordinator

Appendix B: Cover Letter for Ethical Application

Nur Syuhadah Binti Mohd Asri,

Faculty Medicine and Health Sciences,

Universiti Malaysia Sarawak,

94300 Kota Samarahan,

Sarawak.

The Chairman,

Medical Research Ethics Committee,

Faculty Medicine and Health Sciences,

Universiti Malaysia Sarawak,

94300 Kota Samarahan,

Sarawak. Date: 16th December 2024

Dear Professor/Associate Professor/Dr/Sir/Madam,

REQUEST FOR APPROVAL TO CONDUCT RESEARCH PROJECTS

I am a final-year student pursuing a Bachelor of Nursing with Honours at the Faculty of Medicine and Health Sciences, UNIMAS. I enrolled in MDJ 4653 Final Year Project I, in which the course is coordinated by Madam Shalin Lee Wan Fei. Please find my details as

I would like to request for the kind approval from the Faculty of Medicine and Health Sciences Medical Research Ethics Committee to conduct the following study:

Research title: Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students

Supervisor's name: Mr Dev Nath Kaushal Email address: nkdev@unimas.my

Supervisor's HP number: 010-5257118

Please find the required documents as appended for your kind consideration and approval. Thank you.

Yours sincerely,

(Nur Syuhadah Binti Mohd Asri)

Full name: Nur Syuhadah Binti Mohd Asri

Matrix number: 80720

IC No.: 010302120366

Appendix C: Participant Information Sheet

Version <1.0 (update as needed)>, date 16/12/2024

UNIMAS
UNIVERSITI MALAYSIA SARAWAK

PARTICIPANT INFORMATION SHEET

1. Title of the study	:	**Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students**
2. Main Researcher	:	**Nur Syuhadah Binti Mohd Asri**
3. Supervisor	:	**a) Course coordinator: Shalin Lee Wan Fei** **b) Main research supervisor: Mr. Dev Nath Kaushal**
4. Institution	:	**Department of Nursing** **Faculty of Medicine & Health Sciences** **Universiti Malaysia Sarawak**
5. Name of sponsor	:	**No external funding**

Version <1.0 (update as needed)>, date 16/12/2024

PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM
(for adult subjects)

6. Introduction:

It is important that you understand why the research is being done and what it will involve. Please take your time to read through and consider this information carefully before you decide if you are willing to participate. Ask the study staff if anything is unclear or if you would like more information. After you are properly satisfied that you understand this study, and that you wish to participate, you must sign this informed consent form.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time. If you withdraw, any data collected from you up to your withdrawal will still be used for the study. Your refusal to participate or withdrawal will not affect any medical or health benefits to which you are otherwise entitled.

This study has been approved by the Medical Research and Ethics Committee, Ministry of Health Malaysia.

7. What is the purpose of the study?

The general objective of this study is to assess the level of interpersonal communication competence (ICC) among UNIMAS undergraduate nursing students, focusing on how sociodemographic variables influence their communication skills. This exploration aims to uncover key areas where improvements are needed in their education and training, thereby enhancing their ability to communicate effectively in diverse and high-pressure clinical environments. By identifying gaps and strengths in ICC, this study seeks to support nursing students in building competencies critical for fostering teamwork, reducing miscommunication, and delivering culturally sensitive patient care.

This research will be conducted for a duration of 6 months (25/01/2024 till 30/06/2024). The expected number of participants is 164 individuals.

8. Who can participate in this study?

This intervention study targeting nursing students establishes clear inclusion and exclusion criteria to identify eligible participants. The inclusion criteria encompass UNIMAS undergraduate nursing students from Year 1 to Year 4 who are willing to participate in the study. Conversely, the exclusion criteria eliminate nursing students who have participated in the pilot study, those who are unwilling to participate, and post-graduate nursing students. These criteria ensure a homogeneous sample group, enhancing the study's precision, validity, and alignment with its research objectives.

9. What are my responsibilities when taking part in this study?

Nursing students will be given a questionnaire form to be answered. Where it contains 2 sections which will enquire about the sociodemographic of participants and level of interpersonal communication competence. It is important that you respond openly and comprehensively to all items, a process expected to be completed within 15 minutes. Subsequently you may or may not receive contact from researchers through WhatsApp messages if you have not answered the questionnaire within the timeframe.

10. What are the potential risks and side effects of being in this study?

Participation in this study is completely voluntary and will not affect the participants themselves, and the risk is minimal. You have the right to refuse to answer any questions you find uncomfortable, and you may choose to withdraw from the study at any time without facing any penalties.

11. What are the benefits of being in this study?

There may or may not be any direct benefits to you. However, the information obtained from this study will help identify the level of interpersonal communication competence among nursing students and its relationship with sociodemographic factors. By participating, you may gain a better understanding of your interpersonal communication strengths and areas for improvement. This study also aims to contribute valuable insights for nursing education, helping to design strategies that enhance communication skills and prepare students for clinical practice.

12. Who is funding the research?

This study does not receive any external funding. You will not be paid for participating in this study. There are also no plans to develop commercial products through this study.

13. Will my medical information be kept private?

All your information obtained in this study will be kept and handled in a confidential manner, in accordance with applicable laws and/or regulations. When publishing or presenting the study results, your identity will not be revealed without your expressed consent. Individuals involved in this study, qualified monitors and auditors, and governmental or regulatory authorities may inspect the study data, where appropriate and necessary.

14. Who should I call if I have questions?

If you have any questions about the study or further information about this study, please contact the study author, Nur Syuhadah Binti Mohd Asri at telephone number 013-466 7494.

If you have any questions about your rights as a participant in this study, please contact: The Secretary, Medical Research & Ethics Committee, Ministry of Health Malaysia, at telephone number 03-3362 8407/8205/8888.

Appendix D: Informed Consent Form

Version <1.0 (update as needed)>, date 16/12/2024

INFORMED CONSENT FORM

Title of Study: *Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students*

By signing below I confirm the following:

- I have been given oral and written information for the above study and have read and understood the information given.
- I have had sufficient time to consider participation in the study and have had the opportunity to ask questions and all my questions have been answered satisfactorily.
- I understand that my participation is voluntary and I can at anytime free withdraw from the study without giving a reason and this will in no way affect my future treatment. I am not taking part in any other research study at this time. I understand the risks and benefits, and I freely give my informed consent to participate under the conditions stated. I understand that I must follow the study doctor's (investigator's) instructions related to my participation in the study.
- I understand that study staff, qualified monitors and auditors, the sponsor or its affiliates, and governmental or regulatory authorities, have direct access to my medical record in order to make sure that the study is conducted correctly and the data are recorded correctly. All personal details will be treated as STRICTLY CONFIDENTIAL
- I will receive a copy of this subject information/informed consent form signed and dated to bring home.
- I agree/disagree* for my family doctor to be informed of my participation in this study. *(*delete which is not applicable)*

Subject:

Signature: I/C number:

Name: Date:

Investigator conducting informed consent:

Signature: I/C number:

Name: Date:

Impartial witness:

Signature: I/C number:

Name: Date:

Page 3 of 3

Appendix E: Research Questionnaire

Section A: Sociodemographic gender,year of study, age, academic performance and race

Please tick (✓) the option that best applies to you.

1. Gender:

   - ☐ Male
   - ☐ Female

2. Year of study:

   - ☐ Year 1
   - ☐ Year 2
   - ☐ Year 3
   - ☐ Year 4

3. Age: _____

4. Race:

   - ☐ Malay,
   - ☐ Chinese,
   - ☐ India,
   - ☐ Bumiputera Sarawak,
   - ☐ Bumiputera Sabah,
   - ☐ Others ; _____

5. Academic Performance (CGPA): _____

Section B: Interpersonal Communication Competence Scale

On a scale of 1 to 5, please SELECT the number that best reflects your communication and interaction with others.

		Almost Never	Seldom	Sometimes	Often	Almost Always
	Self-Disclosure					
1	I allow friends to see who i really am.					
2	Other people know what i'm thinking.					
3	I reveal how i feel to others.					
	Empathy					
1	I can put myself in others' shoes.					
2	I don't know exactly what others are feeling. (r)					
3	Other people think that i understand them.					
	Social Relaxation					
1	I am comfortable in social situations.					
2	I feel relaxed in small group gatherings.					
3	I feel insecure in groups of strangers. (r)					
	Assertiveness					
1	When i've been wronged, i confront the person who wronged me.					
2	I have trouble standing up for myself. (r)					
3	I stand up for my rights.					
	Altercentrism					

1	My conversations are pretty one-sided. (r)					
2	I let others know that i understand what they say.					
3	My mind wanders during conversations.					
	Interaction Management					
1	My conversations are characterized by smooth shifts from one topic to the next.					
2	I take charge of conversations i'm in by negotiating what topics we talk about.					
3	In conversations with friends, i perceive not only what they say but what they don't say.					
	Expressiveness					
1	My friends can tell when i'm happy or sad.					
2	It's difficult to find the right words to express myself. (r)					
3	I express myself well verbally.					
	Supportiveness					
1	My communication is usually descriptive, not evaluative.					
2	I communicate with others as though they're equals.					
3	Others would describe me as warm.					

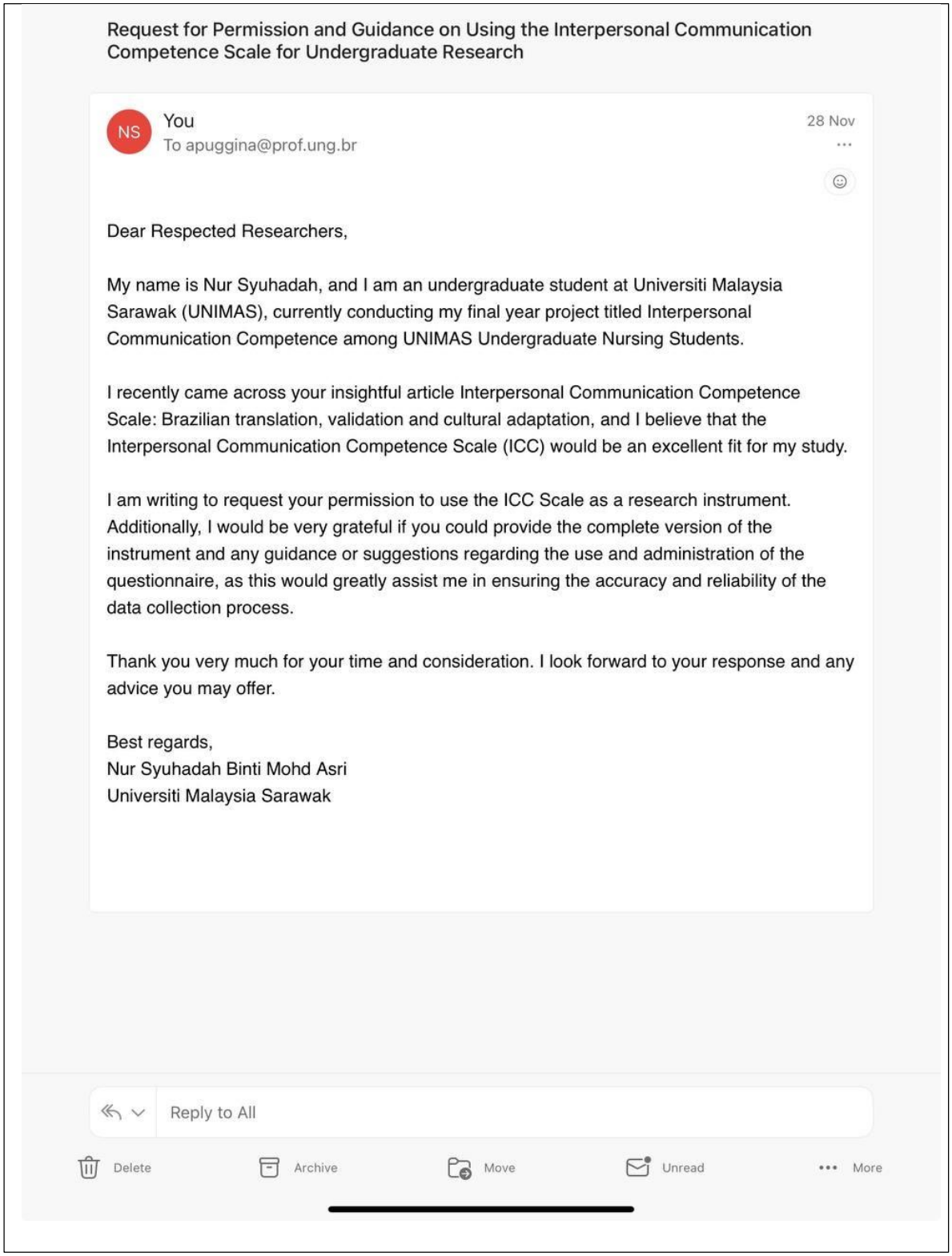
	Immediacy					
1	My friends truly believe that i care about them.					
2	I try to look others in the eye when i speak with them.					
3	I tell people when i feel close to them.					
	Environmental Control					
1	I accomplish my communication goals.					
2	I can persuade others to my position.					
3	I have trauble convincing others to do what i want them to do. (r)					

The instrument consists of 30 items designed to evaluate the level of interpersonal communication competence. Responses are measured on a 5-point Likert scale, ranging from 1 (Almost Never) to 5 (Almost Always), with a total score range of 30 to 150. The instrument assesses 10 key domains of communication competence, each represented by 3 items. These domains include self-disclosure ($\alpha = 0.63$), empathy ($\alpha = 0.49$), social relaxation ($\alpha = 0.63$), assertiveness ($\alpha = 0.72$), interaction management ($\alpha = 0.41$), altercentrism ($\alpha = 0.49$), expressiveness ($\alpha = 0.46$), supportiveness ($\alpha = 0.43$), immediacy ($\alpha = 0.45$), and environmental control ($\alpha = 0.60$). The overall reliability coefficient (Cronbach's alpha) is 0.71, ensuring the instrument provides a reliable measure of interpersonal communication competence across these domains (Rubin & Martin, 1994)

Reference

Rubin, R. B., & Martin, M. M. (1994). Development of a measure of interpersonal communication competence. *Communication Research Reports*, *11*(1), 33-44.

Appendix F: Permission To Use Questionnaire



Request for Permission and Guidance on Using the Interpersonal Communication Competence Scale for Undergraduate Research

NS You
To apuggina@prof.ung.br
28 Nov

Dear Respected Researchers,

My name is Nur Syuhadah, and I am an undergraduate student at Universiti Malaysia Sarawak (UNIMAS), currently conducting my final year project titled Interpersonal Communication Competence among UNIMAS Undergraduate Nursing Students.

I recently came across your insightful article Interpersonal Communication Competence Scale: Brazilian translation, validation and cultural adaptation, and I believe that the Interpersonal Communication Competence Scale (ICC) would be an excellent fit for my study.

I am writing to request your permission to use the ICC Scale as a research instrument. Additionally, I would be very grateful if you could provide the complete version of the instrument and any guidance or suggestions regarding the use and administration of the questionnaire, as this would greatly assist me in ensuring the accuracy and reliability of the data collection process.

Thank you very much for your time and consideration. I look forward to your response and any advice you may offer.

Best regards,
Nur Syuhadah Binti Mohd Asri
Universiti Malaysia Sarawak

Reply to All

Delete Archive Move Unread More

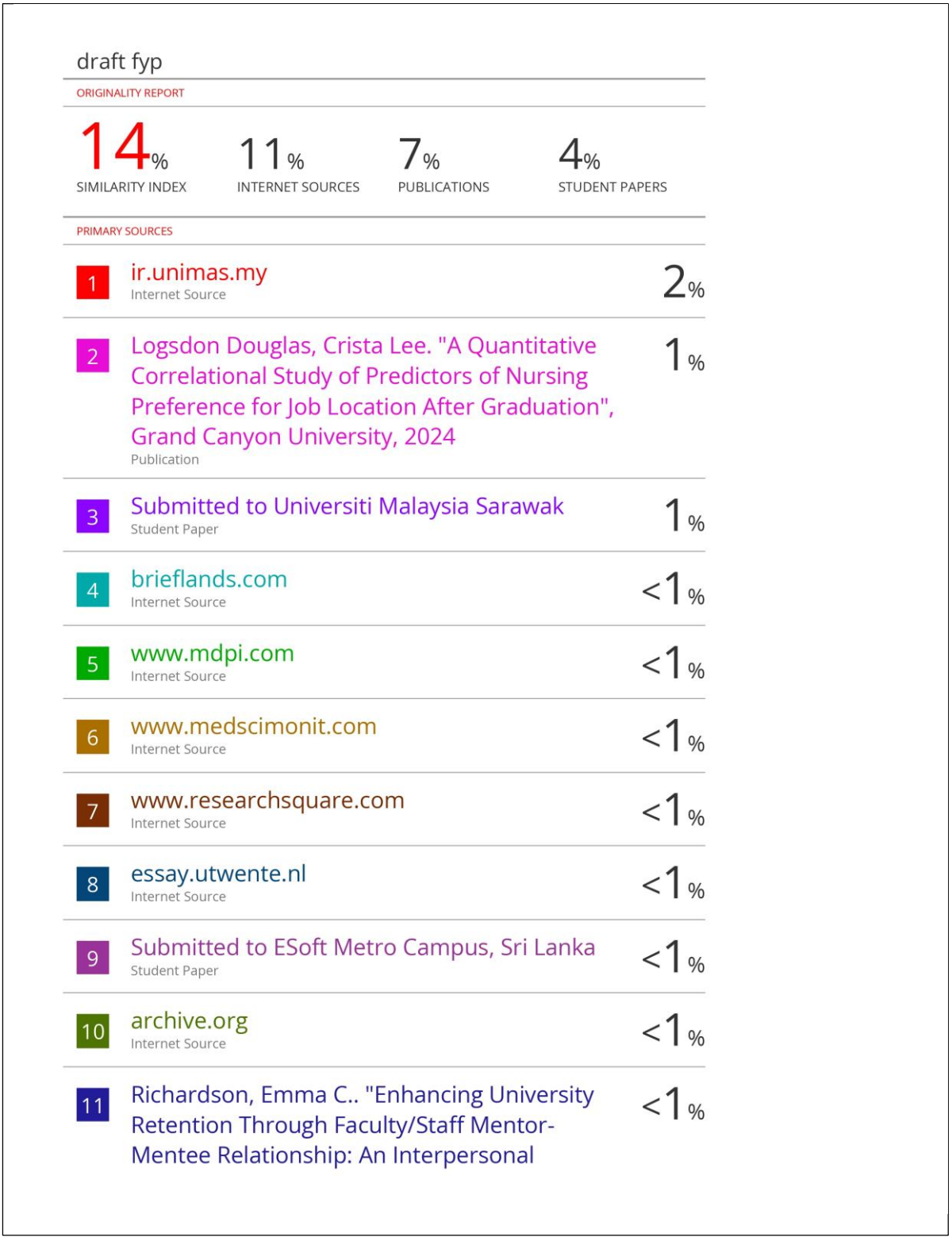
Appendix G: Gantt Chart

Process	2024				2025						
	Sept	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**
Determination of research title											
Literature review											
Meeting with supervisor											
Submission of proposal defence slides											
Ethical approval											
Submission of the first draft											
FYP 1: Submission of research proposal											
Data collection											
Data analysis											
Report writing											
Submission of final report draft											
FYP 2: Submission of final report											

Appendix H: Budget Allocation

Particulars	Amount (RM)
Printing and Binding	
- Proposal Defense Hardcopy SlidesSSS	5.00
- Final Year Project Poster	40.00
- Final Year Project Report	50.00
SPSS Software (Version 27)	6.00
Total	**101.00**

Appendix I: Turnitin Similarity Index Report



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