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RESEARCH PAPER

Nurses' use of mobile instant messaging applications: A uses and gratifications perspective

John Robert Bautista RN MPH[1] | Trisha T.C. Lin PhD[2]

[1] PhD Candidate, Wee Kim Wee School of Communication and Information, Nanyang Technological University, Singapore

[2] Associate Professor, Department of Radio & Television, National Chengchi University, Taipei City, Taiwan

Correspondence
John Robert Bautista, Wee Kim Wee School of Communication and Information, Nanyang Technological University, 31 Nanyang Link 637718, Singapore.
Email: john0028@e.ntu.edu.sg

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Abstract

Aim: To explore how and why mobile instant messaging applications are used by Filipino nurses as part of their work.

Methods: Guided by the uses and gratifications theory, in-depth interviews with 20 staff nurses working in 9 hospitals (ie, 4 private and 5 public hospitals) in the Philippines were conducted in July 2015. Interview data were analysed through a phenomenological perspective to thematic analysis.

Results: Results show that mobile instant messaging applications such as *Facebook Messenger* and *Viber* were mostly used by staff nurses and these were accessed using their own smartphones. Thematic analysis indicates that they were used to meet staff nurses' need for information exchange, socialization, and catharsis. Moreover, user interactions vary depending on members within a chat group. For instance, communication via mobile instant messaging applications are much formal when superiors are included in a chat group.

Conclusion: In general, the results show that mobile instant messaging applications are routinely used by Filipino staff nurses not only for clinical purposes (ie, information exchange) but also for non-clinical purposes (ie, socialization and catharsis). This paper ends with several practical and theoretical implications including future research directions.

KEYWORDS

mobile instant messaging applications, nurses, Philippines, smartphone, social media

SUMMARY STATEMENT

What is already known about the topic?

- Health care professionals are using mobile instant messaging applications as part of their clinical work.
- There is limited research on why nurses use mobile instant messaging applications.
- The uses and gratification theory can be used as a theoretical lens to understand why nurses use mobile instant messaging applications.

What this paper adds:

- Mobile instant messaging applications such as *Facebook Messenger* and *Viber* are integral to staff nurses' clinical work in the Philippines.
- Mobile instant messaging applications are used by staff nurses not only for information exchange but also for socialization and catharsis.
- User interactions vary depending on members present in a chat group. Communication via mobile instant messaging applications are much formal when superiors are included in a chat group.

The implications of this paper:

- The findings can be used by nursing administrators to develop hospital policies on nurses' use of mobile instant messaging applications.
- This study provides additional knowledge that can be used to further understand the implications associated with health care professionals' use of mobile instant messaging applications.

1 | INTRODUCTION

The widespread adoption of smartphones gave rise to mobile-based social media such as mobile instant messaging (MIM) applications. Today, some of the popular commercially available MIM applications include *WhatsApp*, *Facebook Messenger*, *WeChat*, *Viber*, *iMessage*, and *Line* (see Table 1 for more details). Compared with the traditional short message service (SMS) form of text messaging, MIM applications enable users to engage in one-to-one, one-to-many, or many-to-many communication through a selection of multimedia formats (eg, text, voice, images, and videos) (Cui, 2016; Ling & Lai, 2016). Within the context of health care, scholars suggest that MIM applications provide innovative ways for health care professionals to communicate clinical information seamlessly (Johnston et al., 2015; Kelahmetoglu & Firinciogullari, 2015).

Among health care professionals, it is crucial to understand why nurses use MIM applications as part of their work. This is because they form the largest group of health care professionals and are at the frontlines of patient care in most health care institutions (Kurtzman, Dawson, Johnson, & Sheingold, 2010; Neville et al., 2015). These suggest that nurses' use of MIM applications can have considerable implications to patient care (Huston, 2013; Jones & Hayter, 2013). Currently, social media, such as MIM applications, are viewed as a double-edged sword since it can result to positive (eg, enhanced communication of clinical information) or negative (eg, high risk of breaching patient privacy and confidentiality) implications (Jones & Hayter, 2013; Kung & Oh, 2014). With this perspective, nursing organizations in the Philippines (Board of Nursing–Philippines, 2010), United States (American Nurses Association, 2011; National Council of State Boards of Nursing, 2011), United Kingdom (Nursing & Midwifery Council, 2016), New Zealand (Nursing Council of New Zealand, 2012), and Australia (Australian Health Practitioner Regulation Agency, 2014) have set up guidelines that promote responsible social media use among nurses.

To understand how and why nurses use MIM applications as part of their work, this study used a qualitative approach by conducting in-depth interviews with 20 staff nurses in the Philippines. This study is significant since it adopts the uses and gratifications theory (UGT) as a theoretical lens. It is an ideal theoretical lens since it has been used to examine various types of media usage (Ruggiero, 2000). Moreover, this study contributes to the scant literature on nurses' use of MIM applications by obtaining perspective from nurses in the Philippines. The Philippines serves as an interesting research context since it is a leading exporter of nurses globally (Ortiga, 2014), and it has once been recognized as the social media capital of the world (GSMA Intelligence, 2014). With smartphone ownership projected to increase among 70% of Filipinos in 2018 (Camus, 2015), the utilization of MIM applications will play an important role in the communication practices of its people, including nurses. Overall, by providing a better understanding of nurses' use of MIM applications, the results can help nursing administrators to develop guidelines towards its use for clinical communication.

2 | BACKGROUND

2.1 | Use of MIM applications by health care professionals

In general, studies suggest that MIM applications are now being used by health care professionals as part of their work. In one UK study, 13.8% (n = 70/509) of nurses used *WhatsApp* for clinical communication as compared with 33.1% (n = 90/272) of medical doctors (Mobasheri et al., 2015). In a qualitative study examining the use of *Line* among home care nurses in Taiwan (N = 17), results indicate that its use was perceived to reduce medical care and consumption, reduce nurse workload and stress, and enhance nurse-patient relationship (Chiang & Wang, 2016). However, some of the barriers preventing nurses from using *Line* include lack of organizational incentives and disturbance to personal life (Chiang & Wang, 2016). Studies regarding *WhatsApp* use among medical doctors in the United Kingdom (Johnston et al., 2015), Malaysia (Ganasegeran, Renganathan, Rashid, & Al-Dubai, 2017), and Turkey (Kelahmetoglu & Firinciogullari, 2015) also indicate that it is beneficial in their work and is primarily used to efficiently exchange clinical information.

Based from the studies mentioned above, there are several research gaps concerning health care professionals' use of MIM applications. First, there is limited scholarly findings that provides a rich description on why nurses use MIM applications. Second, previous studies focused mainly on doctors' use of commercially available MIM applications, with much emphasis on *WhatsApp* (Ganasegeran et al., 2017; Johnston et al., 2015; Kelahmetoglu & Firinciogullari, 2015). Most importantly, none has yet theoretically examined why nurses use MIM applications.

TABLE 1 Profile of popular commercially available mobile instant messaging applications

Name	Country Where It Is Currently Being Developed	Year Released to the Public	Estimated Users Globally[a]	Audience Reach[b]
WhatsApp	US	2009	1 billion	Used by 109 countries
Facebook Messenger	US	2011	1 billion	Used by 49 countries
WeChat	China	2011	762 million	Widely used in China
Viber	Japan	2010	608 million	Used by 15 countries
iMessage	US	2007	250 million	Global reach; only available for Apple iPhone, iPad, or iPod touch users
Line	Japan	2011	218 million	Widely used in Japan and Taiwan

[a]http://expandedramblings.com/index.php/how-many-people-use-chat-apps/.

[b]https://www.similarweb.com/blog/worldwide-messaging-apps.

2.2 | Uses and gratifications theory

The UGT is a mass media theory that has been used to explain media usage (Ruggiero, 2000). According to UGT, media use is goal-oriented in ways that it should gratify users' needs (Rubin, 1983). Over the years, it has been applied as a theoretical lens to understand the use of traditional media, such as radio (Towers, 1987) and television (Rubin, 1983), as well as new media technologies, such as mobile phones (Leung & Wei, 2000; Wei & Lo, 2006) and the Internet (Diddi & LaRose, 2006; Stafford, Stafford, & Schkade, 2004).

Aside from those mentioned above, several studies have also applied UGT to understand why people use various forms of social media. For instance, Whiting and Williams (2013) found that general social media usage among adults was related to 10 gratifications such as social interaction, information seeking, pass time, entertainment, relaxation, communicatory utility, convenience utility, expression of opinion, information sharing, and surveillance/knowledge about others. Similarly, a survey of college students showed that membership to *Facebook* groups was instrumental for socialization, entertainment, self-status seeking, and information seeking (Park, Kee, & Valenzuela, 2009). Others have also compared the gratifications derived between types of social media. For example, *Facebook* use was used for entertainment seeking and social surveillance while MIM applications were used to maintain and develop relationships (Quan-Haase & Young, 2010).

Despite the abundance of UGT-based studies that examine why individuals are using social media (Park et al., 2009; Quan-Haase & Young, 2010; Whiting & Williams, 2013), there have been little theoretical insights on why health care professionals use social media, particularly MIM applications. To bridge this theoretical gap, this study, guided by UGT, will examine the gratifications derived by nurses when using MIM applications. To our knowledge, this will be the first time that nurses' use of MIM applications will be viewed from a UGT perspective.

3 | METHODS

3.1 | Participant selection

Staff nurses were selected as target participants since they are mostly composed of young adults. Previous studies show that social media usage, such as using MIM applications, is highly pervasive among young adults (Duggan, 2015; Vromen, Xenos, & Loader, 2015). More importantly, staff nurses are the ones who interact with patients most of the time (Kelly, 2011). This suggests that staff nurses' use of MIM applications may have considerable impact to patient care among other nurses.

Given the qualitative nature of this study, potential participants were obtained through nonprobability sampling techniques. First, purposive sampling was conducted where prospective participants who met eligibility criteria were invited by the first author through his professional network (the first author is a registered nurse in the Philippines). Eligible participants must be (1) at least 21 years old, (2) works in a tertiary level hospital in Metro Manila, Philippines, and (3) holds a staff nurse position for at least a year. Second, participants were also recruited by the first author through snowball sampling by asking for referrals among potential and actual study participants.

3.2 | Ethical considerations

This study received ethical clearance from the Institutional Review Board of Nanyang Technological University (IRB-2015-05-013) prior to data collection. Written and verbal consent was obtained from participants prior to interview. Finally, to uphold anonymity and confidentiality, pseudonyms were used to refer to participants and contextual information were de-identified.

3.3 | Data collection

The first author conducted semistructured, face-to-face interviews in July 2015. Individual interviews were made, so that participants can privately answer interview questions. Interviews were conducted in a time and location deemed appropriate by the participants (eg, after shift or rest day in coffee shops or in food stalls). Conversations were both in English and Tagalog (a widely used Filipino language), so that they can clearly express their ideas. In general, open-ended interview questions were about their use of MIM applications in relation to their work as nurses (eg, What kinds of MIM applications are relevant in your work as a nurse? How and why do you use MIM applications in your work as a nurse?). Probing questions were also asked to clarify some of their responses. Interviews lasted 30 minutes on average. Although this study was only able to interview 20 participants due to time constraints, the resulting data can reach data saturation for each theme since there are few insights that comes out after interviewing more than 20 participants (Green & Thorogood, 2009).

3.4 | Data analysis

Verbatim (mix of English and Tagalog) and English-translated transcripts of the interviews were produced by the first author with the assistance of 2 research assistants. Subsequently, all English-translated transcripts and observation notes were imported to *NVivo 10* for qualitative data analysis. Interview transcripts were thoroughly read line by line and coded inductively by the first and second author following a phenomenological approach (Dredge, Gleeson, & de la Piedad Garcia, 2014). A phenomenological perspective to thematic analysis was appropriate since the interviews aimed at understanding the nurses' experiences when using MIM applications (Giorgi, 1997). Although UGT is the theoretical lens of this study, there is more benefit in coding interviews inductively, as it allows the emergence of themes without limitations placed by theories (Giorgi, 1997; Thomas, 2006). Generated codes were arranged in conceptual bins to form themes. Routine discussions between the authors were conducted to revise and refine the themes found in this study.

3.5 | Trustworthiness

The trustworthiness of this study was established by upholding the principles of credibility, transferability, dependability, and confirmability (Shenton, 2004). First, credibility was ensured by establishing rapport with participants to promote honesty in the interview, using iterative questioning to identify false details and member checking for detail verification. Next, nurses of both genders and those from private and public hospitals were interviewed to make the findings more

transferable. Moreover, the findings are dependable as the researchers followed protocols during data collection and analysis. Finally, confirmability is established by adding relevant quotes within each theme and making sure that the findings are based from the experiences and ideas of the participants.

4 | RESULTS

4.1 | Participant profile

Interviews were conducted among 20 Filipino staff nurses aged between 23 to 45 years old (Mean = 26.85, SD = 5.01). Each gender had an equal number of participants. Participants came from 4 private and 5 public tertiary level hospitals in Metro Manila, Philippines. They have been employed between 1 to 5.5 years (Mean = 2.68, SD = 1.15) and have worked in various nursing units such as medical wards, operating theatres, emergency units, and intensive care units. All participants were smartphone users, of which the majority (n = 16; 80%) could access the Internet through mobile Internet. Table 2 shows more details on the profile of the participants.

4.2 | Types of MIM applications

All participants have used MIM applications for work purposes, and these were installed in their own smartphones. As all of the participants brought their smartphones at work where majority had access to mobile Internet, it is expected that these were widely used for work purposes.

Among various commercially available MIM applications, participants reported that they mostly used *Facebook Messenger* (n = 16; 80%) and *Viber* (n = 6; 30%) for work purposes while a few tended to use *iMessage* (n = 1; 5%) and *Line* (n = 1; 5%).

4.3 | Nurse gratification from using MIM applications

On the basis of the premise of UGT where media use is goal directed to gratify (or obtain) needs, staff nurses used MIM applications to achieve 3 gratifications: (1) information exchange, (2) socialization, and (3) catharsis. Below is a discussion on how gratifications are derived from using MIM applications.

4.3.1 | Information exchange

Using MIM applications for information exchange is perhaps the most usual way of using it. For most participants, timely exchange of information is crucial and technologies that can support such need were greatly needed. With MIM applications, they could facilitate the exchange of timely information, which makes them better informed towards the performance of their tasks.

> *We use that [Viber] to receive orders from doctors. Because what we relay via our phone needs immediate response from the doctor. That's why we use Viber in the first place (SN12).*

> *Our work does not stop even we are off-duty. There are times that you forgot something that needs to be disseminated to your colleagues, like patient*

TABLE 2 Participants' profile

ID	Sex	Age	Hospital	Unit	Years at Current Workplace	Access to Mobile Internet
SN1	M	26	Private1	Medical-surgical	3	Yes
SN2	M	24	Private1	Endoscopy	3.5	Yes
SN3	M	23	Private1	Endoscopy	2	Yes
SN4	F	24	Private2	Medical-surgical	1.6	Yes
SN5	F	27	Private2	Executive health	2	No
SN6	F	26	Private2	High risk unit	3	No
SN7	M	24	Private2	High risk unit	2.4	Yes
SN8	M	23	Private1	Operating theatre	1.5	Yes
SN9	F	23	Private1	Operating theatre	2	Yes
SN10	M	25	Public1	Emergency unit	2	Yes
SN11	F	34	Public2	Paediatric respiratory	2.3	Yes
SN12	M	45	Public2	Paediatric respiratory	1.4	No
SN13	F	28	Private3	Emergency unit	3.9	Yes
SN14	F	28	Public3	Intensive care unit	5	No
SN15	M	27	Public4	Obstetric unit	3	Yes
SN16	F	28	Public4	Emergency unit	3	Yes
SN17	M	28	Public5	Intensive care unit	5.5	Yes
SN18	F	25	Private4	Operating theatre	3	Yes
SN19	F	26	Private1	Post-anaesthesia care unit	2.5	Yes
SN20	M	23	Private1	Post-anaesthesia care unit	1	Yes

Abbreviations: SN, staff nurse; M, Male; F, Female.

endorsement. Usually, the fastest way to disseminate that is with our group chat in Facebook [Messenger] (SN14).

Some of the information being exchanged using MIM applications include details relevant to patient management (eg, patient endorsement and health information) and nursing administration (eg, work schedule changes and meeting announcements). In any case, most of the participants noted that MIM applications enhanced information dissemination since it could be used to send updates instantly among multiple recipients.

In our Line group, exchange of information is usually on our duty schedule, staffing, overtime details as well as any incident related to the patient. This is like an information hub for us (SN4).

Group messaging [in Viber] is being advocated by our head nurse because communication is fast. It's really fast. For example, if there is an announcement like an emergency meeting, she can just send it to our [Viber] group (SN17).

Some of the participants also highlighted that MIM applications were advantageous for information exchange since it enabled them to send and receive messages in both text and picture formats. For example, instead of typing schedules and sending it to each staff nurse, a picture of nurses' weekly schedule table can be sent to all of them at the same time.

We use Facebook Messenger. Sometimes our schedule for the next week is released late by our [nurse] manager. Since our charge nurse often receives our schedule table first, she just takes a picture of it and posts in our Facebook Messenger group (SN8).

Mobile instant messaging applications were also perceived as innovative since it has a "seen" feature that enabled them to determine if messages sent to colleagues were read. This feature is important in the process of information exchange since it allowed the sender to be notified that the information was read by the intended receiver.

We [nurses and doctors] use Viber because it is fast to use. In Viber, you can see a "seen" status so you can expect that they [nurses and doctors] will reply to you. This is useful since in ordinary SMS text messaging, there is no confirmation (SN17).

Participants also noted that if group chats were made for information exchange, it is likely that their immediate superiors were also part of that group chat since it is usually intended for work purposes. In consequence, conversations tend to be formal in that group chat.

We have two [Facebook Messenger] groups. One is for staff nurses only, the other one I think it's more formal because it also involves the charge nurses (SN7).

Our [Facebook Messenger] group chat has two groups. Our nurse manager is included in one group where it is about work and is quite formal. The other group is with fellow staff nurses which is mostly about jokes and funny matters (SN10).

4.3.2 | Socialization

Aside from the formal use MIM applications in the context of information exchange for work purposes, the results also show that using MIM applications can facilitate socialization among nurses. Several participants noted that they rarely socialize face-to-face with their colleagues, as they worked in shifts or they are too tired after work. To overcome these communication barriers, they used MIM applications as a means for socialization.

Our Viber group is not only purely for work because we use it to stay in touch with our colleagues (SN2).

…our Facebook Messenger group, it is not only for professional use where our schedules get updated. It is also for personal purposes because we use that to catch up with our colleagues and ask how are they doing (SN3).

In addition to work related information, staff nurses shared lighthearted and entertaining information through MIM applications' group chats that were instrumental to facilitate socialization.

We talk some personal things, sometimes funny ones [on Facebook Messenger]. Sometimes you feel close to them (SN9).

We try to tease one of our staff nurse friends in our [Facebook Messenger] group chat because the [patient] census of the OR [operating room] is always high when he is the one on-duty. Maybe it's because of him. We [fellow staff nurses] discuss those things to lighten up the mood (SN11).

Unlike a group chat for information exchange that often includes immediate superiors, group chats for socialization purposes tend to exclude immediate superiors as staff nurses do not want them to be involved with personal affairs.

Sometimes, we [fellow staff nurses] plan on going-out, we use our own phones to communicate with each other. We have our own unit group [in Facebook Messenger] but we exclude the managers so they won't know where we are (SN1).

4.3.3 | Catharsis

Catharsis refers to an event when individuals release their emotions in response to an overwhelming experience (Bushman, 2002). Many participants regarded MIM applications as a digital space for catharsis, as it gives them a place to convey their grievances about their work as nurses. This is not surprising as their work involves problems such as inadequate pay, heavy workload, work politics, and physical exhaustion.

> *That is where [Facebook Messenger group chat] we talk about out our grievances…staff nurses have many complaints to the higher-ups so that's where we talk about it (SN13).*

> *Aside from updates and announcements, we have a [Facebook Messenger] group message where we release our irritations and dissatisfaction to work. We are mostly junior staff nurses there (SN16).*

Designating group chats based on hierarchy (with and without superiors) was useful especially when discussing grievances. For instance, participants shared that a group chat without any immediate superiors was a place to discuss grievances while it is difficult to do it when immediate superiors were part of a group chat.

> *We have a [Facebook Messenger] group without our superiors so you can ventilate [grievances] there (SN5).*

> *We cannot convey our complaints in that [Viber] group chat because our [nurse] manager is in there. We can't do any complaints. But we can discuss those complaints in our own [Viber] group chat where we are only five staff nurses inside that (SN18).*

5 | DISCUSSION

This study found that MIM applications were integral in the work of nurses in the Philippines. As communication with other members of the health care team is a routine for nurses, the use of MIM applications signifies the continuous need for reliable communication technologies (Moorhead et al., 2013). Although this can be achieved by an earlier technology such as SMS text messaging (Sindel, 2009), MIM applications provide more interactivity, as it enables users to create group chats and exchange multimedia messages (ie, text, images, audio, and video) (Cui, 2016; Ling & Lai, 2016). Just like other social media tools, MIM applications can facilitate professional growth and enhanced health care delivery as long as these are used within the boundaries of professional ethical guidelines (Cleary, Ferguson, Jackson, & Watson, 2013).

In terms of specific MIM applications that were used by staff nurses, results indicate that majority tend to use *Facebook Messenger* and *Viber* that were installed in their own smartphones. This is in contrast with previous studies since they often focused on *WhatsApp* (Ganasegeran et al., 2017; Johnston et al., 2015; Kelahmetoglu & Firinciogullari, 2015; Mobasheri et al., 2015) rather than *Facebook Messenger* and *Viber*. Interestingly, this finding reflects the overall popularity of *Facebook Messenger* and *Viber* in the Philippines since both were ranked within the top 10 highly used social media applications in the country (We Are Social, 2015). The results also reflect the popularity of *Facebook Messenger* since it is used by 94% of MIM applications users in the Philippines (Deloitte, 2015).

Based on UGT, this study identified 3 gratifications from using MIM applications. These include information exchange, socialization, and catharsis. Compared with previous studies where MIM applications were mainly used to maintain relationships (Birnholtz, 2010; Quan-Haase & Young, 2010), the results showed that MIM applications were primarily used for information exchange by staff nurses. Since this study involved nurses, it is not expected that they will use MIM applications primarily for entertainment purposes. These differences mainly lie on the type of study participants since previous studies (Birnholtz, 2010; Quan-Haase & Young, 2010) often gather data from non–health care professionals. Nonetheless, the results support previous studies where MIM applications were extensively used for information exchange (Chiang & Wang, 2016; Ganasegeran et al., 2017; Johnston et al., 2015; Kelahmetoglu & Firinciogullari, 2015; Mobasheri et al., 2015). Since privacy concerns and confidentiality breaches are always associated with the use of social media for clinical practice (Jones & Hayter, 2013; Kung & Oh, 2014), Filipino nurses should be aware of these risks and adhere to both local (Board of Nursing–Philippines, 2004) and international (International Council of Nurses, 2012) ethical guidelines of maintaining patient privacy and confidentiality when engaging with information exchange via MIM applications.

Other than information exchange, it is also interesting to note that MIM applications were used to facilitate socialization and catharsis. Although these gratifications may not be considered crucial in the context of clinical work, they signify the potential of MIM applications to facilitate professional growth by enhancing the socioemotional well-being of nurses. For instance, despite constraints in meeting face-to-face, some participants could socialize with their colleagues via MIM applications. Furthermore, staff nurses used MIM applications to share stories that can be considered as a catalyst for socialization. The socialization brought by the use of MIM applications may foster staff camaraderie and enhance workplace social capital. In turn, enhanced social capital may contribute to greater satisfaction at work (Strömgren, Eriksson, Bergman, & Dellve, 2016).

On the other hand, MIM applications were also used for catharsis. Since nurses in the Philippines experience unfavourable working conditions (eg, low salary, heavy workload, and stressful workplace) (Castro-Palaganas et al., 2017), it is only natural for them to find avenues where their grievances can be heard. As staff nurses are unlikely to inform their grievances directly to their superiors, MIM applications provide a digital space to discuss grievances among fellow staff nurses. Consistent with previous studies (Hammick & Lee, 2014; Ho & McLeod, 2008), the findings show that people confidently express their opinions online rather than face-to-face. Moreover, as MIM applications provide the capability to form group chats with selected members based on preset criteria (with or without nursing superiors), it is not surprising that catharses are likely to occur in groups without nursing superiors. This suggests that the absence of the superiors within the group chat ensures a relatively safe online environment for opinion expression. Consequently, using MIM applications for catharsis can serve as an opportunity to receive social support from concerned colleagues (Antheunis, Tates, & Nieboer, 2013; Bautista & Lin, 2015), which in turn can help nurses positively cope with their situation.

5.1 | Strengths, limitations, and future research directions

A major strength of this study is that it is the first study that used UGT as a theoretical lens to understand how and why nurses use MIM

applications. Another strength is that interview data came from an equal number of male and female nurses that were employed in both public and private hospitals. This ensures that the findings have adequate transferability.

Nevertheless, the findings of this study should be balanced with its limitations. First, the study's qualitative design is a limitation since the results is not even generalizable among nurses in the Philippines. Future studies can use the results as a basis to develop a large-sample theory-based survey focusing on nurses' use of MIM applications. Second, our interviews were delimited to staff nurses. To consider the role of MIM applications among the health care team, future studies can also include other health care professionals such as medical doctors and allied health professionals. Finally, although the Philippines serves as an interesting context to understand nurses' use of MIM applications, the results may not be completely transferable since nurses from other countries may encounter different policies that can influence the use of MIM applications. As such, future studies can be conducted to compare nurses' use of MIM applications across contexts.

6 | CONCLUSION

This study examined why MIM applications were used by staff nurses working in the Philippines. Following UGT, results show that MIM applications were purposively used to achieve gratifications relevant to nurses' needs in the context of their work (ie, information exchange, socialization, and catharsis). The results reflect that nursing practice is an information intensive work (Lin, Chiou, Chen, & Yang, 2016) and using MIM applications is one way for nurses to efficiently perform their tasks. Since most hospitals in the Philippines do not provide adequate technologies to support nurses' communication and information needs (Bautista & Lin, 2016), it is somewhat inevitable for them to use commercially available MIM applications to accomplish work. Contrary to previous studies where MIMs applications were only thought to be used exclusively for information exchange (Chiang & Wang, 2016; Ganasegeran et al., 2017; Johnston et al., 2015; Kelahmetoglu & Firinciogullari, 2015; Mobasheri et al., 2015), this study acknowledges that nurses also have social and emotional needs as reflected by their use of MIM applications for socialization and catharsis.

This study has several contributions. Theoretically, the results extend the applicability of UGT by using it as a theoretical lens to examine nurses' use of MIM applications in the Philippines. In a practical sense, the results can inform nursing administrators when developing guidelines regarding the use of MIM applications for clinical communication. Finally, this study contributes additional knowledge that can serve as a foundation for future studies on health care professionals' use of MIM applications. Some potential topics may include several legal (third-party ownership of clinical information and government regulation on MIM applications), professional (quality of interprofessional communication and use of personal mobile phones in clinical practice), and ethical (best practices to maintain patient privacy and confidentiality) implications resulting from health care professionals' use of MIM applications.

ETHICS APPROVAL

This study was approved by the Institutional Review Board of Nanyang Technological University (IRB-2015-05-013).

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTION

Bautista and Lin contributed to the conception and design of the study. Bautista conducted the interviews. Bautista and Lin performed data analysis. Bautista wrote the first draft of the manuscript. Both authors approved the final version of the manuscript.

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