



## Instant messaging and nursing students' clinical learning experience

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### ABSTRACT

**Background:** Although learning in clinical settings is a key element of nursing education, for many learners these are challenging developmental contexts often marked by isolation and a lack of belongingness. Despite the massive appropriation of mobile instant messaging (MIM) platforms and the connective properties attendant to them, very little is known about their role in and impact on nursing students' clinical learning experiences.

**Approach and Methods:** To address this gap, the study, which was part of a multinational research project on the use of mobile social media in health professions education in developing countries, examined the use of the instant messaging platform WhatsApp by nursing students during placements and potential associations with socio-professional indicators. The survey involved a total number of 196 nursing students from 5 schools in Oyo State, Nigeria.

**Results:** The findings suggest that students used WhatsApp relatively frequently and they perceived that this platform strongly enhanced their communication with other students and nurses. WhatsApp use during placements was positively associated with students' maintained social capital with peer students, the development of a professional identity, placement satisfaction and with reduced feelings of isolation from professional communities. The determinants that influenced WhatsApp use during placements were perceived usefulness and perceived ease of use. No associations were found between WhatsApp use during placement and age, attitude, subjective norms and placement duration.

**Conclusion:** This study is one of the first of its kind that points to the relevance of mobile instant messaging as part of nursing students' (inter)personal learning environments in clinical settings and, particularly, in the development setting under investigation. Further research is needed to corroborate these findings, to enhance the understanding of the impact mechanisms, and to evaluate a more systematic use of MIM in clinical learning contexts.

## 1. Introduction

### 1.1. Using Mobile and Social Media in Clinical Learning Settings

Learning in clinical environments is widely conceived to be a key element of nursing education because it serves as a main route for nursing students to immerse into a professional community (Papp et al., 2003). Yet, unsatisfactory clinical placements are a main cause for attrition and dropouts from nursing education programmes (Eick et al., 2012). Students' clinical learning experience is often characterised by high levels of uncertainty (Killam and Heerschap, 2013), a lack of

support (Eick et al., 2012) and poor relationships with educators and staff (Killam and Heerschap, 2013). These dynamics can amount to increased feelings of alienation (Levett-Jones et al., 2009) and a restricted sense of belonging (Levett-Jones and Lathlean, 2008), which can further compound by the learners' isolation from peers and families (Killam et al., 2010).

Against this backdrop, a number of recent studies emphasise the use of digital media to impact positively on nursing students' placement experiences. In particular the adoption of mobile and social media, which are increasingly forming part of nursing students' personal learning environments (Chipps et al., 2015; Pimmer et al., 2014), has

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shown to influence clinical learning experiences. A recent review on the use of mobile devices during placements indicates that digital mobile devices can be a valuable tool to strengthen interaction among peer students and between peers and tutors, and can alleviate students' isolation (Strandell-Laine et al., 2015). Similar outcomes have been linked to the use of social media and web 2.0 technologies during placements. A review states that web 2.0 technologies are suited as a clinical training tool in nursing education with the main advantages being the support of peer-to-peer and student-to-teacher communication (Arrigoni et al., 2016). One of the very few larger-scale studies found positive correlations between nursing students' adoption and informal use of social media and their personal and group resilience during placements. This association was explained with the capability of social media to create and maintain social relationships and to serve as a resource for feedback and emotional support in stressful circumstances of clinical learning practice (Sigalit et al., 2017).

### 1.2. The Educational Role of Mobile Instant Messaging

A considerable number of systematic reviews underscores the dominant role of social media, and particularly of Facebook, in the educational research landscape (e. g., Manca and Ranieri, 2013). In contrast, much less attention has been paid to Mobile Instant Messaging (MIM). This is a phenomenon which, in terms of adoption patterns, is by no means less impressive. For example, WhatsApp alone accounts for a number > 1 billion people who share 55 billion messages every single day (WhatsApp Blog, 2017).

Mobile instant messaging platforms integrate some of the qualities of mobile and social media and have thus become emblematic for the increasing levels of media convergence, which can be leveraged in health care work (Pimmer and Tulenko, 2016). Pictorial and textual profile information, status messages and lists of friends and acquaintances are characteristic features of social network sites, whereas a range of notification and alert mechanism, such as popups and vibrations, are emblematic of mobile and SMS-based communication. The success of MIM has to be understood in the light of everyday meanings of messaging practices, which are deeply rooted in the users' life worlds. It helps them to co-construct togetherness and closeness through "small, continuous traces of narrative, of tellings and tidbits, noticings and thoughts, shared images and lingering pauses" (O'Hara et al., 2014).

In education settings, a study on the use of instant messaging in higher education settings revealed that undergraduates used these tools to develop supportive peer study structures. The tool supported students' bonding and helped them sustain and develop personal relationships, trust and zones of intimacy across geographical and temporal boundaries (Timmis, 2012). In healthcare education, MIM studies are still very rare: A small-scale research in the UK, in which WhatsApp groups were implemented to support Problem Based Learning (PBL) of British medical students during a clinical placement, concluded that the tool lent itself well to support the coordination of the groups, fostered learning, and allowed for an enhanced social presence among the participants (Raiman et al., 2017). Another small-scale, qualitative study suggested that moderated WhatsApp groups helped South African nursing in the integration of theory and practice in a primary health care module (Willemse, 2015).

To conclude, despite the massive adoption and the inherent connective qualities of MIM, little is known about their affordances to support nursing students in clinical learning situations, i.e., in contexts which are often characterised by significant levels of uncertainty and isolation and a lack of belongingness. In addition, there is also a gap regarding the determinants which influence students' adoption and use of WhatsApp during clinical learning.

## 2. Approach and Methods

### 2.1. Research Goal and Questions

To address the gaps identified, this study aimed to investigate the use of WhatsApp and its correlation with a number of socio-professional indicators. The research questions were described as:

*What is the association between students' WhatsApp use during placements and (1) the social capital they managed to maintain through their connections with friends and colleagues from their school; (2) their feelings of professional isolation; (3) their perceived professional identity; (4) their satisfaction with the placement?*

A second dimension included the measurement of influencing factors that would potentially impact the intensity of the use of WhatsApp during placements. The questions on the determinants on the use of WhatsApp in clinical learning situations were formulated as follows:

*Can the use of WhatsApp during placements be associated with (5) perceived usefulness; (6) perceived ease of use; (7) attitude; (8) subjective norms, (9) age and (10) placement duration?*

### 2.2. Measures

To address the RQs, several measures were included in the questionnaire. Unless stated otherwise, all measures consisted of five-point Likert-type scales ranging from strongly disagree to strongly agree.

#### 2.2.1. WhatsApp Use

In measuring the intensity of the use of WhatsApp an approach of Cho (2014) from a study on the use of social network sites was adopted. The participants were requested to indicate the extent to which they write and read digital contributions. These two questions were then combined into a single measure ( $\alpha = 0.78$ ). The general use of WhatsApp by nursing students was measured in the same way – but it referred to the participants' use of the platform in the last week instead of during the placement ( $\alpha = 0.71$ ).

#### 2.2.2. Social Capital

Social capital is a highly popular and broadly used construct in the social sciences. In the field of nursing it has been tied, for example, to the realisation of lifelong learning opportunities (Gopee, 2002). Also digital engagement, for example Facebook use, can contribute to the development and maintenance of social capital (Ellison et al., 2007). To measure social capital among peer students, a shortened version of Williams (2006) validated social capital scale was used, which was also applied by Ellison et al. (2007), and which was deemed suitable to capture online and offline social capital. We included six items, which were adapted to the specific context that the nursing students experience in placements. ( $\alpha = 0.81$ ).

#### 2.2.3. Isolation From the Professional Community

In contrast to social capital, which was used in this study to measure relationships with peer students, professional isolation served as a construct that related to an individual's perceived disconnect towards the wider professional community. To measure the degree of isolation of students from their professional communities, a shortened version of the revised UCLA Loneliness Scale was used (Russell et al., 1980). The questions were adapted to the particular research context: the goal was to evaluate the students' levels of professional isolation as a result from the perceived separation from the professional community consisting of nurses and other students. The construct used in the study consisted of four items and showed a satisfactory internal consistency with Cronbach Alpha = 0.73.

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