Non-Work-Related Use of Personal Mobile Phones by Hospital Registered Nurses

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Abstract

Background: Personal mobile phones and other personal communication devices (smartphones and tablet computers) provide users with an ever-increasing number and diversity of non-work-related activities while at work. In hospitals, where the vigilance of health care workers is essential for patient care, the potential distraction of these devices could be hazardous to patients.

Objective: The objective of this study was to determine the frequency of non-work-related use of personal mobile phones and other personal communication devices among hospital registered nurses.

Methods: In March 2014, a previously validated 30-question survey was emailed to the 10,978 members of the Academy of Medical Surgical Nurses. There were 825 respondents who met the inclusion criteria.

Results: The use of a personal mobile phone or other personal communication device while working (excluding meal times and breaks) was reported by 78.1% (644/825) of respondents. Nurses reported regularly (sometimes, often, or always) sending personal emails and text messages (38.6%, 318/825), reading news (25.7%, 212/825), checking/posting on social networking sites (20.8%, 172/825), shopping (9.6%, 79/825), and playing games (6.5%, 54/825) while working.

Conclusions: This study found that hospital nurses frequently use their personal mobile phones or other personal communication devices for non-work-related activities at work. The primary activity reported was to send personal emails and text messages to family and friends.

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KEYWORDS

distraction; smartphone; cellular phone; Internet; nurses; hospital; non-work related smartphone use

Introduction

Personal mobile phones and other communication devices provide users with access to a wealth of electronic media such as the Internet, email, and texting, which help them fulfill tasks both at home and work. The work-related benefits of these devices to health care providers are numerous, including access to medical references, clinical tools, and patient information [1-6]. In addition to work-related sites, however, there is an ever-increasing number and diversity of recreational sites including games, gambling, and social networking. Previous research has reported that personal Internet use during working hours is increasingly common and that a majority of workers, regardless of age or occupational status, report using their personal mobile phones or other communication devices to engage in non-work-related activities in the workplace [7-13]. Personal mobile phones and other communication devices have the potential to distract health care providers from the vigilance required for patient care. Health care organizations are starting to take notice of this problem. The ECRI Institute (previously...
the Emergency Care Research Institute), a non-profit organization that uses applied scientific research to improve patient care, publishes an annual top 10 technology hazards list. “Caregiver distractions from smartphones and other mobile devices” was ninth on the list of health technology hazards for 2013 [14]. However, the extent of this issue in hospitals is unknown.

The objective of this study was therefore to determine the frequency of non-work-related use of personal mobile phones and other communication devices among hospital registered nurses.

Methods
In March 2014, a recruitment email containing a link to a previously validated 30-question survey was sent to the 10,978 members of the Academy of Medical Surgical Nurses (AMSN) [15]. A total of 940 (8.56%) members completed the Web-based questionnaire and 825 (7.25%) met the inclusion criteria for the study of current full-time employment as a registered nurse in a hospital with an average of more than 5 hours a week of patient contact. The demographic distribution of the study sample of 825 was 48 (5.8%) men, 755 (93.9%) female; age ranges were 20-30 years (9.3%, 77/825), 31-40 years (18.1%, 141/825), 41-50 years (23.9%, 197/825), 51-60 years (39.2%, 323/), and >61 years (9.3%, 77/825).

The survey instrument was piloted in 2013 [15]. It consisted of four parts, with questions about (1) demographics, (2) the use of personal communication devices, (3) opinions about the effects of personal communication devices on the work of registered nurses, and (4) hospital policies concerning personal communication devices. The questions, which were developed based on a literature review and interviews with hospital nurses, asked respondents to rank the types of activities they engage in on a 5-point Likert scale to determine how frequently they participated in each activity. Psychometric testing of the questionnaire included examining internal consistency and test-retest reliability in a sample of 50 registered nurses. A Spearman rho correlation was used to determine the test-retest reliability. There was a strong test-retest reliability between the same test administered 1 week apart, with an average agreement for the Likert scale responses of 74% (range 43-100%). Accounting for responses within 1 SD range on the Likert scale increased the agreement to 96% (range 87-100%). The Cronbach coefficient alpha values examining the internal consistency in three of the domains were high: utilization (.84), impact (.96), and opinion (.85), with lower agreement in the performance domain (.45). Based on the results of the pilot survey, questions in the performance domain were rewritten to clarify the underlying concept of work performance.

Results
Overview
We examined the sample subsets to determine the representativeness of the sample relative to the United States
Table 1. Frequency of personal mobile phone or other communication device use while at work (n=825).

| Frequency | n (%) |
|-----------|-------|
| Never     | 53 (6.4) |
| Rarely    | 105 (12.7) |
| Sometimes | 139 (16.8) |
| Often     | 312 (37.8) |
| Always    | 194 (23.5) |
| No response | 22 (2.7) |

How often do you use your personal mobile phone or other communication device while at work (excluding breaks and meal times)?

Use of Personal Mobile Phone or Other Communication Device While at Work for Non-Work-Related Activities

Study participants were asked which non-work-related activities they used their personal mobile phone or other communication device for while working. These activities had previously been identified by researchers as potential uses of personal mobile phones at work [8,18-20].

Respondents reported using their personal mobile phone or other communication device always, often, or sometimes for calling or checking/sending personal emails or text messages (38.5%, 318/825), reading online news (25.7%, 212/825), checking/posting on social networking sites (20.8%, 172/825), shopping (9.6%, 79/825), and playing games (6.5%, 54/825) (Table 2).

Non-work-related use of personal mobile phones or other communication devices at work was significantly correlated with age. Respondents under 30 years of age were more likely to use their personal mobile phone or other communication device at work for non-work-related activities than those over the age of 30 years. There was no correlation between personal mobile phone use and gender.

Table 2. Number of study respondents who answered the question, “On an average workday, describe your use of your personal mobile phone or other communication device (excluding breaks and meal times)?” (n=825).

| Activity                        | Never | Rarely | Sometimes | Often | Always | No response |
|---------------------------------|-------|--------|-----------|-------|--------|-------------|
| Read news                       | 489 (59.3) | 108 (13.1) | 125 (15.2) | 59 (7.2) | 28 (3.4) | 16 (1.9)    |
| Call or check/send emails or text messages to family or friends | 278 (33.7) | 218 (26.4) | 191 (23.2) | 70 (8.5) | 57 (6.9) | 11 (1.3)    |
| Shop                            | 648 (78.5) | 82 (9.9) | 39 (4.7) | 23 (2.8) | 17 (2.1) | 16 (1.9)    |
| Check/post on social networking sites | 565 (68.5) | 129 (15.6) | 129 (15.6) | 21 (2.5) | 22 (2.7) | 13 (1.6)    |
| Play games                      | 692 (83.9) | 65 (7.9) | 33 (4) | 11 (1.3) | 10 (1.2) | 14 (1.7)    |

Discussion

Principal Findings

The use of personal mobile phones and other communication devices is widespread in hospitals, with 78.1% (645/825) of registered nurses reporting using their personal mobile phone or other communication device while working. Only 6.4% (53/825) of respondents reported never using their personal mobile phone at work (Table 1). This result agrees with earlier research that found high rates of personal communication device use by healthcare providers [17,20-22]. Calling or checking/sending emails and text messages to family and friends was the most commonly reported non-work-related activity. These results support Turkle’s theory of a “tethered self”, where humans use their personal communication devices to connect themselves constantly to other people and places, needing the continuing reassurance of developing and maintaining their group membership [23]. Other researchers have speculated about the emotional reassurance that comes from interacting with others through a mobile phone and how it helps alleviate the “fear of missing out”, a form of social anxiety that results from “a compulsive concern that one might miss out on an opportunity for social interaction, a novel experience, a profitable investment or other satisfying event” [24]. An alternative explanation for this use of mobile phones was reported by Lin et al [25], who studied the association between fatigue and Internet addiction in Taiwanese hospital nurses. They classified 6% to 10% of their study participants as Internet addicts, whose use of the Internet was associated with fatigue and a possible degradation of performance. They defined “nurse fatigue” as a subjective feeling of tiredness that persists despite periods of rest. It can be the result of several contributing factors, including high job demands, shift rotation work schedules, extended work shifts, and poor sleep quality. They speculated that accessing the Internet using mobile devices enabled registered nurses to recover from work-related fatigue. Coker [8] also speculated that use of mobile phones for workplace Internet leisure browsing allows workers to take short, unobtrusive breaks, enabling them to recover their concentration and restore their ability to focus. He found that use of mobile phones at work to access the Internet had a positive effect on productivity.

Conclusions

Registered nurses in hospitals frequently use their personal mobile phones or other communication devices for non-work-related activities while working. Personal mobile
phones allow nurses to meet their emotional needs by maintaining connections with family and friends while working. In hospitals, where vigilance is essential for patient care, the potential distraction of personal mobile phones could be hazardous to patients. However, non-work-related activities may have a positive effect on performance, allowing employees to restore their concentration, achieve a balance between work and personal life, reduce stress, and improve performance. Further study is needed to answer the question of how personal mobile phones can be safely integrated into the work of hospital nurses.

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Conflicts of Interest

None declared.

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**Abbreviations**

AMSN: Academy of Medical Surgical Nurses

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