ABSTRACT

This paper investigates associations between mobile phone use and stress coping. To 139 medical university students, a set of self-reporting questionnaires designed to evaluate mobile-phone use and stress coping was administered. In relation to the intensity of mobile phone use, the low-dependence group had statistically significantly higher scores for coping strategy, planful problem solving, than the high-dependence group. When the respondents were allocated to one of three groups according to which mobile-phone service they use most frequently, scores for planful problem solving were statistically significantly higher in the voice phone group than in the Web-browsing group. These findings suggest that the intensity and type of mobile phone use may be associated with stress coping, particularly planful problem solving strategy.

Keywords: Dependence, Gender Difference, Medical Students, Mobile Phone, Stress Coping

1. INTRODUCTION

While mobile phones have rapidly become an established part of daily life, they have also brought various social issues, such as use in public places, and health concerns, such as the effects of excessive use. Previous studies have suggested that excessive mobile phone use may be associated with depression (Sánchez-Martínez & Otero, 2009; Thomée, Härenstam, & Hagberg, 2011; Yen et al., 2009) or health-compromising behaviors, such as smoking or alcohol drinking (Koivusilta, Lintonen, & Rimpelä, 2005; Sánchez-Martinez & Otero, 2009). Furthermore, using the Mobile Phone Dependence Questionnaire (MPDQ), which we designed to identify high-risk groups, we found a comprehensive association between mobile phone dependence and unhealthy lifestyle (Ezoe et al., 2009; Toda, Monden, Kubo, & Morimoto, 2006).
On the other hand, mobile phones may also provide a means of coping with stress, and it cannot be denied that mobile phones may enhance communication with others (Igarashi, Takai, & Yoshida, 2005). Even so, temptations such as Web browsing, online games, and other addictive activities are constantly available. In the present study, we examined associations between mobile phone use and stress coping. Lazarus and Folkman defined coping as “constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person” (Lazarus & Folkman, 1984). Coping is a process rather than a trait, and changes over time and in accordance with the situational contexts in which it occurs (Lazarus, 1993).

2. METHOD

For 139 medical university students, we distributed a set of self-reporting questionnaires designed to evaluate mobile-phone use and stress coping. The students immediately filled out the forms, which were collected upon completion. Statistical analysis was possible for 127 respondents (44 males, 83 females), who properly completed all the questionnaire items. Mean (± SD) age for males was 19.3 ± 1.9 years and for females 18.7 ± 0.9 years. Before the study, the protocol received approval from the institutional review board and informed consent was obtained for each participant.

Mobile phone dependence was evaluated using the MPDQ (Toda, Monden, Kubo, & Morimoto, 2004, 2006), a self-rating questionnaire comprising 20 items. Each response was scored on a Likert scale (hardly ever, 0; sometimes, 1; often, 2; and always, 3), and scores for each item were then summed to provide an overall mobile phone dependence score ranging from 0 to 60, higher scores indicating greater dependence. Subjects in the highest quartile were classified as highly dependent. In addition, we also investigated the frequency of the use of voice phone, e-mail, and Web browsing services on mobile phones.

Stress coping was evaluated using the Ways of Coping Questionnaire (WCQ) (Folkman & Lazarus, 1988a), which consists of 64 items and includes eight subscales – planful problem solving, confrontive coping, seeking social support, accepting responsibility, self-controlling, escape–avoidance, distancing, and positive reappraisal. Using a Likert scale (not used, 0; used somewhat, 1; and used a great deal, 2), scores for each coping strategy ranged from 0 to 16, higher scores indicating more use of that particular coping strategy.

All results are displayed as mean values ± standard deviation. Student’s t test was used to compare WCQ scores between, and one-way ANOVA among, groups classified according to mobile phone use. Furthermore, gender differences in scores for the WCQ were analyzed using Student’s t test. Bonferroni’s test was used for multiple comparisons. Values were considered to be significantly different when p < 0.05.

3. RESULTS

Mean score for mobile phone dependence was 26.6 ± 9.3. Respondents in the highest quartile were classified as highly dependent (cutoff point 33/34). The low-dependence group had statistically significantly higher scores for planful problem solving than the high-dependence group (p < 0.05) (Table 1).

We also classified the respondents according to most-used mobile-phone service: voice phone, e-mail, or Web browsing. The voice-phone group had statistically significantly higher scores for planful problem solving than the Web-browsing group (p < 0.05) (Table 2).

Table 3 shows the WCQ scores for males and females. There were statistically significant gender differences for the following coping strategies. Males scored higher than females in planful problem solving (p < 0.05), confrontive coping (p < 0.001), and seeking social support (p < 0.05).
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