

ICT use and mental health in young adults

Effects of computer and mobile phone use on stress, sleep disturbances, and symptoms of depression

Akademisk avhandling

som för avläggande av medicine doktorsexamen vid Sahlgrenska akademien vid Göteborgs universitet kommer att försvaras offentligen i hörsal Hamberger, Arbets- och miljömedicin, Medicinaregatan 16 A, Göteborg, onsdagen den 14 mars, 2012, kl. 9.00

av

Sara Thomée

Fakultetsopponent:

Professor Bo Melin

Institutionen för klinisk neurovetenskap,
Karolinska Institutet

Betygsnämnd:

Professor Ingela Skärsäter, Institutionen för vårdvetenskap och hälsa, Göteborgs universitet

Professor Ann Frisén, Psykologiska institutionen, Göteborg universitet

Docent Robert Wälinder, Institutionen för medicinska vetenskaper, Uppsala universitet

Avhandlingen baseras på följande arbeten:

- I. Thomée, S., Eklöf, M., Gustafsson, E., Nilsson, R., Hagberg, M.
Prevalence of perceived stress, symptoms of depression and sleep disturbances in relation to information and communication technology (ICT) use among young adults – an explorative prospective study.
Computers in Human Behavior 2007; 23: 1300-1321.
- II. Thomée, S., Dellve, L., Härenstam, A., Hagberg, M.
Perceived connections between information and communication technology use and mental symptoms among young adults – a qualitative study.
BMC Public Health 2010; 10:66
- III. Thomée, S., Härenstam, A., Hagberg, M.
Mobile phone use and stress, sleep disturbances, and symptoms of depression among young adults – a prospective cohort study.
BMC Public Health 2011; 11:66
- IV. Thomée, S., Härenstam, A., Hagberg, M.
Computer use and stress, sleep disturbances, and symptoms of depression among young adults – a prospective cohort study. *Submitted manuscript*



UNIVERSITY OF GOTHENBURG

2012

ICT use and mental health in young adults

Effects of computer and mobile phone use on stress, sleep disturbances, and symptoms of depression

Sara Thomée

Department of Public Health and Community Medicine, Institute of Medicine
University of Gothenburg, Gothenburg, Sweden

ABSTRACT

The overall aim of this thesis was to explore possible associations between information and communication technology (ICT) use and mental health symptoms among young adults. By “ICT” in this context is meant mainly computer and mobile phone use. The thesis contains three longitudinal cohort studies using self-report questionnaires and one qualitative interview study. Study I was performed in a cohort of medical and computer science students (19–25 years old, n=1127). Prospective associations were found between ICT use at baseline and stress, sleep disturbances, and symptoms of depression at 1 year follow-up. Study II explored possible explanations for the associations between ICT and mental health symptoms by means of qualitative interviews with 32 high ICT users (20–28 years old). The concepts and ideas of the young adults generated a model showing several possible paths for associations between ICT exposure and mental health symptoms. In studies III and IV, parts of this model were tested in a population-based cohort of young adults (20–24 years old, n=4163). In Study III, a high frequency of mobile phone use at baseline was a risk factor for reporting sleep disturbances in the men and symptoms of depression in both sexes at 1 year follow-up. The risk for reporting mental health symptoms at follow-up was greatest among those who reported that they perceived accessibility via mobile phones as stressful. In Study IV, duration of computer use was prospectively associated with sleep disturbances in the men while for the women often using the computer without breaks was a prospective risk factor for stress, sleep disturbances, and symptoms of depression, at follow-up. High duration of emailing and chatting at leisure was a risk factor for sleep disturbances in the men and for most mental health outcomes in the women. Daily computer gaming for 1–2 hours was associated with an increased risk for symptoms of depression in the women. Often using the computer late at night and consequently losing sleep was associated with several mental health outcomes in both sexes. These findings suggest that sleep is an important mediating factor to focus on in future studies. Public health prevention strategies aimed at young adults could include information and advice about healthy ICT use, for example, advice about the importance of taking breaks and ensuring recovery when using e.g., computers intensively, and advice to set limits for own (and others) accessibility.

In conclusion, the main findings in the thesis suggest that intensive ICT use can have an impact on mental health in young adults. Frequent mobile phone use was a prospective risk factor for reporting sleep disturbances in the men and symptoms of depression in both sexes. Intensive computer use (“intensive” in terms of duration of use or continuous use without breaks) was a prospective risk factor for reporting sleep disturbances in the men and stress, sleep disturbances, and symptoms of depression in the women. Combined intensive computer and mobile phone use enhanced associations with mental health symptoms.

Keywords: computer, mobile phone, mental health, stress, sleep, depression, performance, young adults, qualitative, prospective, epidemiology

ISBN: 978-91-628-8432-1