

# LETTER TO EDITOR

(JANUARY 2, 2014)

## DOES THE RINGTONE OR RADIOFREQUENCY RADIATION OF A MOBILE PHONE AFFECT REACTION TIME OF ITS OWNER?

Dear Editor,

I have read with a great interest the article by Zajdel et al. entitled “Cell phone ringtone, but not landline phone ringtone, affects complex reaction time” that was published in the March 2013 issue of the “International Journal of Occupational Medicine and Environmental Health” [1]. The authors have also published another paper entitled “The sound of a mobile phone ringing affects complex reaction time of its owner” [2].

In these reports, the authors have concluded that ringing of a mobile phone, but not of a landline phone, significantly alters human reaction time. Over the past years, our laboratory has focused on studying health effects of exposure of laboratory animals and humans to some common and/or occupational sources of electromagnetic fields such as mobile phones [3–10] and their base stations [11], mobile phone jammers [12], laptop computers [13], radars [4], dentistry cavitrons [14] and MRI [9].

Zajdel et al. have not paid attention to the facts that: firstly, mobile phones emit electromagnetic radiation in the microwave region and secondly, microwave radiation can alter the reaction time in humans [4,5]. Mortazavi et al. have previously shown that the visual reaction time of university students was significantly affected by a short term exposure (10 min) to electromagnetic fields (EMF) emitted by a common mobile phone [4]. This experiment revealed that such a short term exposure can decrease reaction time. Mortazavi et al. have also shown that microwave

radar radiations can decrease the reaction time in radar workers [4]. Alterations in the speed of information processing and the increased consumption of glucose in the brain following exposure to radiofrequency radiation, which is confirmed by PET studies, are believed to be potential mechanisms in this phenomenon. I hope that these comments will be useful in obtaining more reliable results in the future.

### Key words:

Mobile phone, Electromagnetic fields,  
Microwave, Reaction time

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