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* EXPERIMENT 1: 20-MIN VDT EXPOSURE Method Participants. There were 10 participants (5 women and 5 men) aged 24–32 with a mean age of 28.5 years in Experi
* EXPERIMENT 2: 60-MIN VDT EXPOSURE In Experiment 1, changes in accommodation power, v

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* paper book, iPad 1st generation and E-ink (Kindle DX). The aim of the present research was to study the effects of the display technology on visual fatigue using prolonged reading sessions [16]. According to the International Classification of Diseases (ICD-10) of the World Health Organization (WHO), visual fatigue - also called visual strain - is classified as a subjective visual disturbance (H53.1), manifested by a degree of visual discomfort typically occurring after some kind of prolonged visual activity, and characterized by fatigue, pain around the eyes, blurred vision or headache. In this framework, the need to empirically evaluate visual fatigue on e-readers and paper is getting more and more important. However, only few studies have focused on visual fatigue [11], [12], [17], [18]. Kang et al. [17] found LCD (Kolin e-reader) to trigger higher visual fatigue than paper book as well as lower reading performance. Lee et al. [18] showed that Sony ereader triggers shorter search times and higher accuracy with respect to LCD (Kolin e-reader), whereas no differences were found as to visual strain. In our experiment, participants performed a longitudinal study in which two last generation e-readers (LCD, E-ink) and paper book were tested in three different reading sessions separated by - on average - ten days. The experiment consisted of prolonged reading (.1 hour) on each device while eye data were recorded. Subjective and objective visual fatigue measures were collected at the beginning and at the end of each reading session. Variables such as font size, typeface and number of words per page were not manipulated and were kept constant during the whole experiment, as well as across the three devices [17], [19]. If reading on E-ink, LCD, and print is similar, then no diffe

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* The fatigue depends on w orkload, and the w orkload is a resultant of work requirem ents and of individual's capacities. Refraction errors constitute one of the factors which reduce the individual's capacities and increase the workload. Therefore, the fatigue resulting from visual work, perform ed under conditions of light from various types of lam ps was evaluated in groups of persons w ithout errors of refraction, and with astigmatism.
* -The tests were perform ed between 8.00 a.m. and 13.00 p.m. Each wom an performed the same visual w ork four times for 4 hours (wiht 10-minute break after 2 hours) under random ly selected light conditions (F, I, M and S). The time interval between two consecutive tests on each w om an was 2 to 7 days. N earer vision point (NVP) and dispersing lens tolerance (DLT) were assessed before and after work. N V P was assessed by measuring the smallest distances at which a test text equivalent to the D-0.5 Snellen Table text was still readable when viewed with both eyes. D L T was m easured individually for each eye by placing dispersing lenses of increasing strength in front of the eye and determ ining the strength, in doptries, of the lens at which the tested person had still full distance visual acuity when reading digital optotype tables from 5m distance.

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