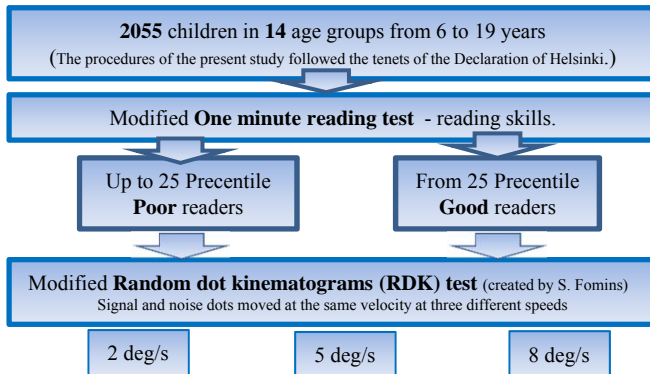


GLOBAL MOTION PERCEPTION THRESHOLDS OF GOOD AND POOR READERS

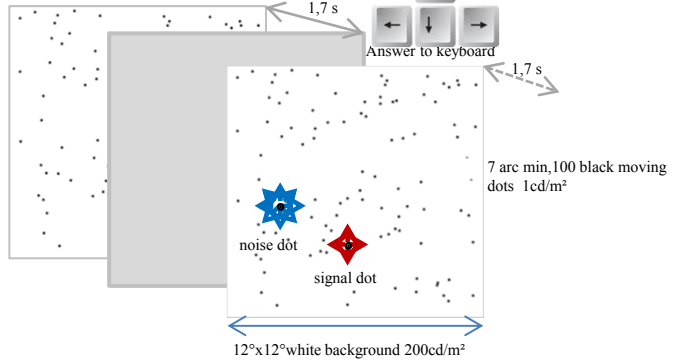
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Introduction - Global motion perception is the perception of coherent motion in a noisy motion stimulus and it is one of the most important components in visual perception. This task strongly involves extrastriate brain areas, particularly V5/MT, where the dorsal stream dominates [R.Laycock et al, 2006, Behavioral and Brain Function, 2(26), 1-14]. Aim of this study was to determine global motion perception thresholds of typically developing children with different reading skills, using modified random dot kinematograms (RDK).

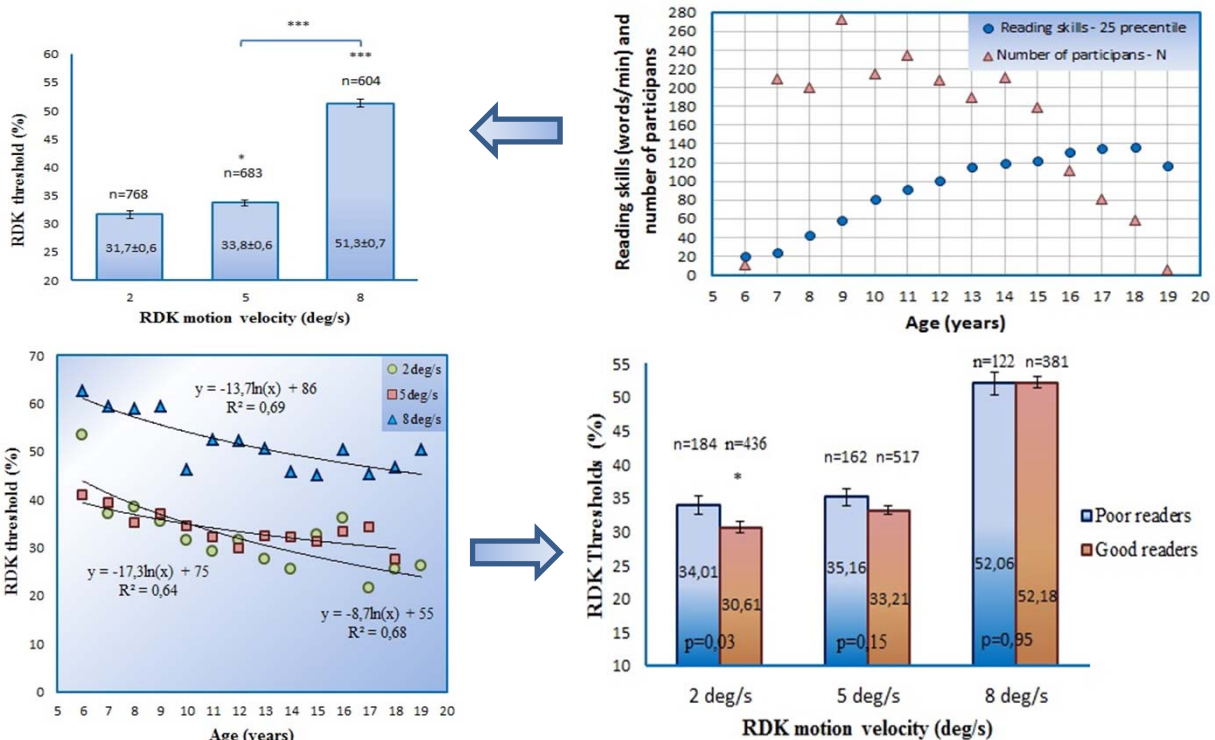
Method



Stimulus



Results – Global motion detection threshold decreased with age for all dot velocities. Motion perception threshold was significantly higher at 8deg/s velocity ($p < 0,0001$), with mean value of $51,3\% \pm 0,7$, while for 2 and 5 deg/s mean values were $31,7\% \pm 0,6$ and $33,8\% \pm 0,6$. Motion perception for poor and good readers differed only for velocity of 2deg/s ($p = 0,03$).



Conclusions - The study confirms that there are two motion systems for achromatic stimuli: one for slow motion, and one for fast motion [1;2]. The study evaluated the motion discrimination threshold rather than motion detection threshold. With increasing stimulus velocity, motion detection becomes easier, but more difficult to class. Magnocellular functions continue improve until 11-12 years of age [3]. Motion sensitivity is a function of this pathway. The study confirm that adult - like performance condition children reached at 10-11 years. All developmental dyslexic display an elevated motion coherence threshold [4]. Sensitivity to coherence motion for poor readers are worth only at low speed. Outcomes are affected by motion segmentation and transparency of stimuli.

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