**Appendix A**

***Convergence Insufficiency (CI) measure***

The CI was measured at near vision with a cross-cover test using a prism bar by a neuro-ophthalmologist for all participants.  Cross-cover test is an objective measure and the gold standard in measuring the vertical and horizontal ocular misalignment35.   During the eye examination the examiner covers one eye with the occluder at all time, which prevents fusion. A near reading chart is located at 33 cm from the participants’ eyes and the participant is asked to read the smallest line they can comfortably read wearing their refractive corrective glasses for near. When the participant is concentrating on one letter the occluder is alternatively switched between the two eyes and the examiner observes any horizontal eye movement when one eye is uncovered. Movement of the eye from outside to inside (i.e. abduction to adduction) indicates exophoria. The presence of exophoria only at near vision suggests convergence insufficiency. At the next step of examination, horizontal prisms are used to measure the angle of convergence insufficiency. Starting at 2 prism diopter and base-in prism the examiner repeats the cross-cover test and gradually increases the strength of the prism until the horizontal movement of the eye is neutralized. The strength of the prism at that point equals the angle of convergence insufficiency.

***Electrovestibulography (EVestG)***

Electrovestibulography (EVestG) that measures vestibulo-acoustic predominantly vestibular response changes. The recorded signal is a combination of acoustic and vestibular generated field potentials (FPs). EVestG measures the predominantly vestibular response either statically or in response to passive whole body tilts from the external ear.

***EVestG Recording Procedure***

1. Placing the electrodes: the ear canal wick electrode was placed in each ear canal close to the ear drum (TM-EcochGtrode, Bio-logic, France). Identical reference electrodes were placed on each ipsilateral ear lobe close to the ear canal. One common ground (Biopac EL258S) electrode was placed on the forehead.
2. After placing the electrodes, the participant was positioned in an acoustically attenuated (>30dB) and electromagnetically shielded chamber, and seated in a stationary hydraulic chair, with their head supported by a headrest. Participants were instructed to close their eyes closed during the recordings.
3. The signals of both ears were recorded using Spike2TM with a sampling rate of 41,666 Hz for compatibility with previous studies.