

The essential role of optical flow in the peripheral visual field for stable quiet standing: evidence from the use of a head-mounted display - CoP variables for 28 subjects using two kinds of display

SND-ID: snd1029-1. **Version:** 1.0. **DOI:** <https://doi.org/10.5878/002914>

Ladda ner data

CoP_variables_v1.xlsx (20.46 KB)

Tillhörande dokumentation

SND 1029 Codebook.pdf (56.43 KB)

Ladda ner alla filer

snd1029-1-1.0.zip (~76.88 KB)

Citering

Horiuchi, K. (2017) The essential role of optical flow in the peripheral visual field for stable quiet standing: evidence from the use of a head-mounted display - CoP variables for 28 subjects using two kinds of display (Version 1.0) [Dataset]. Tokyo Metropolitan University. Tillgänglig via: <https://doi.org/10.5878/002914>

Skapare/primärforskare

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Beskrivning

It has long been thought that vision is the most essential factor in maintaining stable quiet standing compared to other sources (i.e., vestibular and somatosensory inputs) of information. Specifically, several vision studies on postural control have shown evidence for the importance of the visual system, particularly peripheral vision rather than central vision, and optical flow. Nevertheless, to date, no study has manipulated both visual field and optical flow concurrently. In the present study, we experimentally manipulated both the visual field (the central and peripheral visual fields) and the occurrence of optical flow during quiet standing, examining the effects of the visual field and optical flow on postural sway measured in terms of the center of pressure (CoP). Stationary random dot stimuli were presented exclusively in either the central or peripheral visual field, while the occurrence of optical flow was manipulated using a desktop (DTD) or a head-mounted (HMD) display. The optical flow that occurred while using the DTD was a function of the postural sway during quiet standing, while for the HMD, no optical flow occurred even when the body/head swayed during quiet standing. Our results show that the extent of postural sway (e.g., CoP area) was smaller when visual stimuli were presented in the peripheral visual field than that in the central visual field; this was the case while using the DTD alone, with no effects of the peripheral vision on the extent of postural sway while using the HMD. It is therefore suggested that the optical flow occurring in the peripheral visual field is essential for stable quiet standing.

The data contains five CoP variables (Envelopment area, rectangular area, rms area, total CoP trajectory and total CoP trajectory per area). Each set of variables is presented for two display conditions and four visual field conditions. See Horiuchi et al. (2017) for details.

Språk

[Engelska](#)

Antal individer/objekt

28

Dataformat / datastruktur

[Numeriska](#)

Geografisk utbredning

Geografisk plats: [Japan](#)

Forskningsområde

[Medicin och hälsovetenskap](#) (Standard för svensk indelning av forskningsämnen 2011)

[Psykologi](#) (CESSDA Topic Classification)

Nyckelord

[Medicin](#)

Publikationer

Horiuchi et al., The essential role of optical flow in the peripheral visual field for stable quiet standing: evidence from the use of a head-mounted display, PLOS One, 2017

Om du publicerat något baserat på det här datamaterialet, [meddela gärna SND](#) en referens till din(a) publikation(er). Är du ansvarig för katalogposten kan du själv uppdatera metadata/databeskrivningen via DORIS.

Tillgänglighetsnivå

Åtkomst till data via SND

Data är fritt tillgängliga

Användning av data

[Att tänka på vid användning av data som delas via SND](#)

Versioner

Version 1.0. 2017-09-18

Ladda ner metadata

[DataCite](#)

[DDI 2.5](#)

[DDI 3.3](#)

[DCAT-AP-SE 2.0](#)

[JSON-LD](#)

[PDF](#)

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[Filöversikt \(CSV\)](#)

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