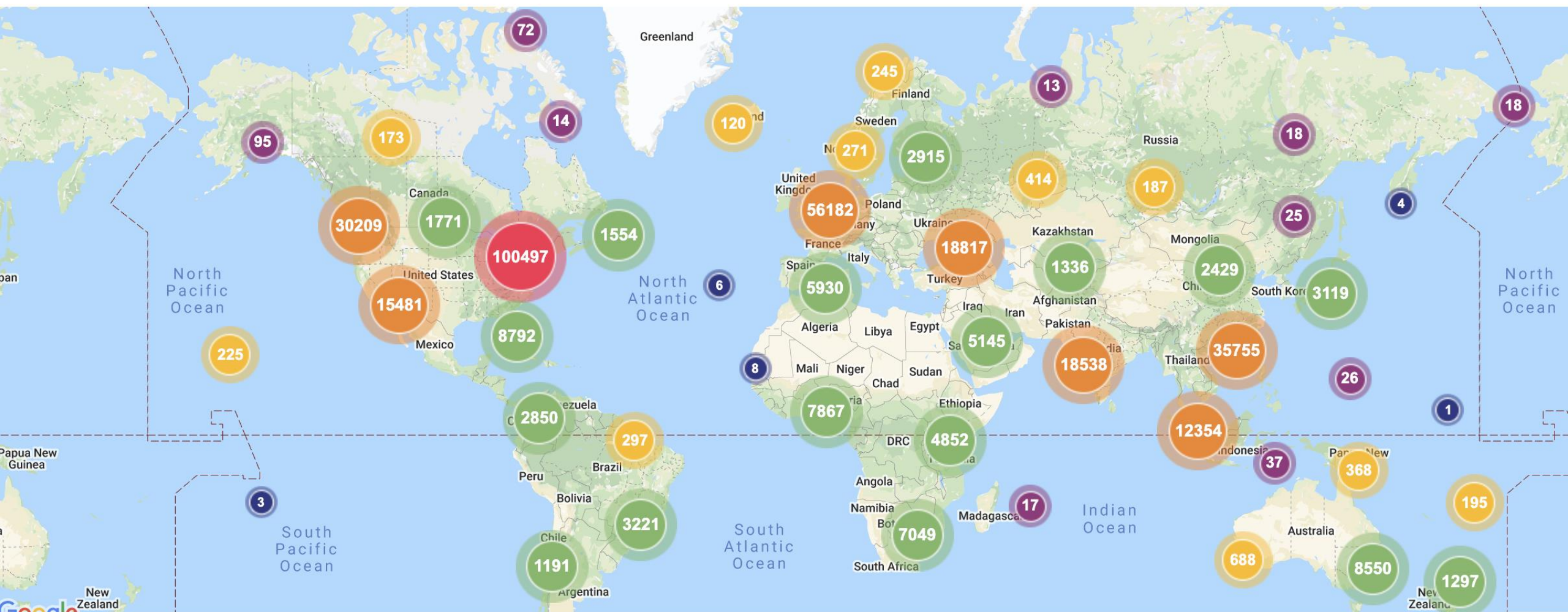


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The effects of habits on motor skill learning

[Nicola J. Popp](#), [Western University](#)
[Atsushi Yokoi](#), [Osaka University](#)
[Paul L. Gribble](#), [Western University](#)
[Jörn Diedrichsen](#), [Western University](#)

Document Type

Article

Publication Date

6-4-2018

URL with Digital Object Identifier

<http://dx.doi.org/10.1101/338749>

Abstract

Skill learning involves the formation of stable motor patterns. In musical and athletic 3 training, however, these stable patterns can also impede the attainment of higher levels 4 of performance, and hence constitute a motor habit. We developed an experimental 5 paradigm to induce a specific motor pattern in a sequence production task and 6 investigated how it affected subsequent optimization over a 3-week training period. 7 Participants initially practiced small segments of 2 to 3 finger movements, which were 8 then combined to form longer sequences. This initial training induced a persistent 9 chunking behavior, with shorter inter-press-intervals within a chunk and longer ones at 10 chunk boundaries. We were able to induce chunking that was either beneficial or 11 detrimental to performance, and could show that the degree to which these detrimental 12 chunk structures were maintained, predicted lower levels of final performance. We

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Authors Popp, Nicola J, Yokoi, Atsushi, Gribble, Paul L, Diedrichsen, Joern



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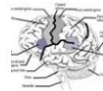
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11 Jan 2020



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The effects of habits on motor skill learning <https://t.co/bt0wMcsXBO>

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