Sensory-motor integration during locomotion with the use of virtual reality – the effect of virtual incline

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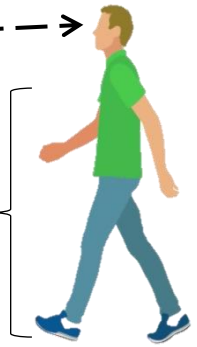
How does vision modulate muscular activity during locomotion under gravitational influence.

- "Internal Model of Gravity" (IMG):
  - **Visual**
  - **Vestibular**
  - **Proprioception**

Body-based cues (gravity dependent)



Visual conflict

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Methods

- 12 healthy adults

(26.53±3.09 years, 6 males).

- Self paced.

Our visual cues “take control” for several seconds, and then the body-based cues govern.

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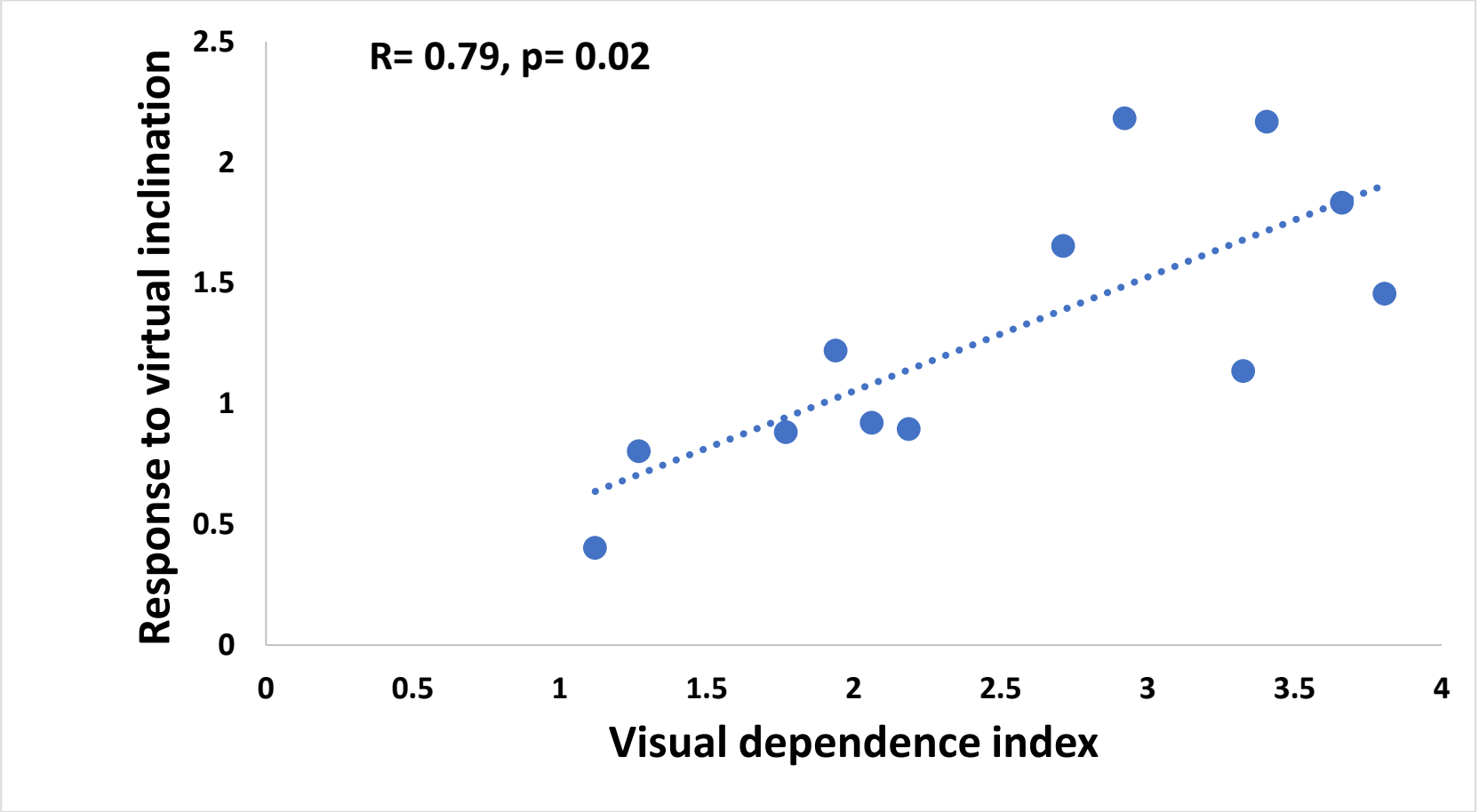
Results- Visual dependency



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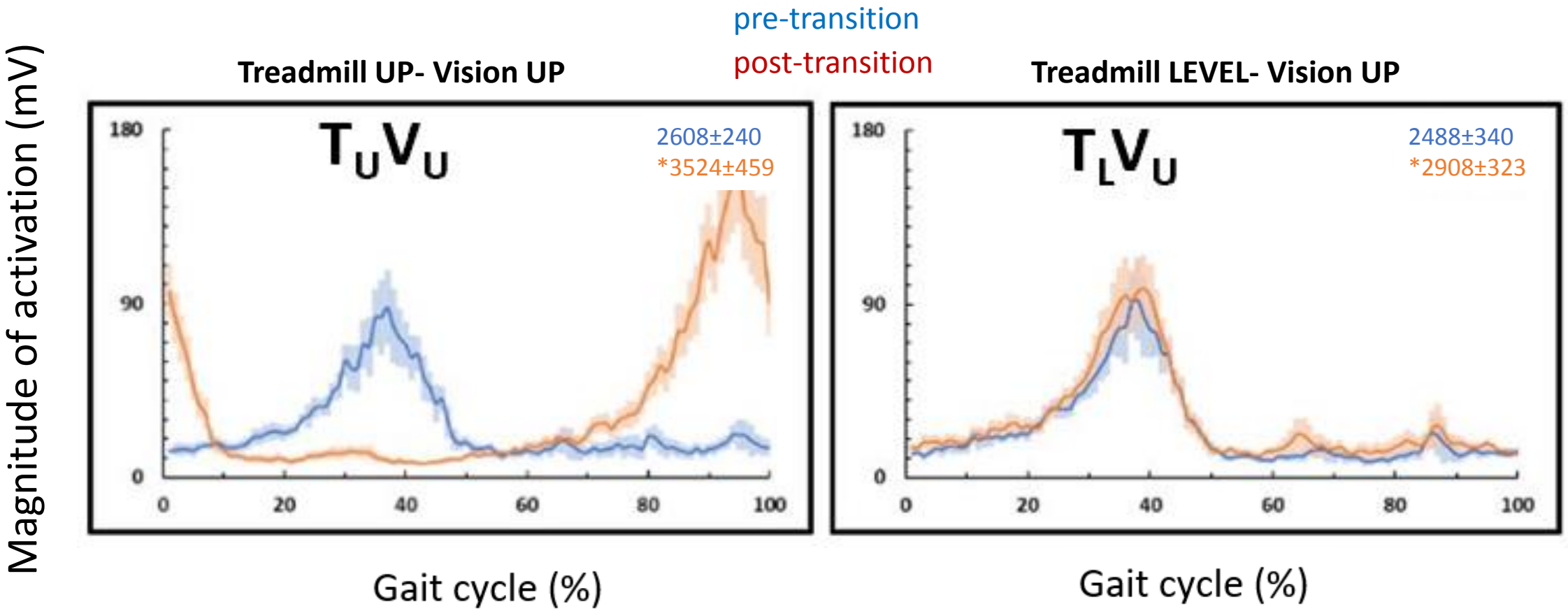
Results- Muscle activity (Gastrocnemius)



* Grand Average across all participants (n=12)

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Conclusions

- Visual cues define gait behavior as expressed by a change in walking speed and magnitude of muscle activation following a visually simulated virtual inclination at the initial phases, after which the body-based cues govern.

- The pattern of muscle activation during the gait cycle is dominated by body-based cues which respond to gravity forces.

Come to my poster no. 82 today at 14:15

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