

Influence of High and Low Groove Music on Postural Sway Dynamics

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Abstract: Standing balance control relies on multisensory feedback, but little is known about the influence of periodically varying sounds on this process. The level of sensorimotor activation has been shown to be highly correlated with the concept of musical groove. We presented musical stimuli with high and low groove ratings to participants (N=40) as center of pressure (CoP) was recorded using a force platform. We found an effect of groove on radial sway in both non-musician and musician groups, with the high groove condition accompanied by the least amount of sway. Further analysis revealed a stronger correlation between musical events and postural sway deviations in the high groove condition when compared with the low groove condition, providing support for auditory-motor entrainment in postural sway. Our results show that periodicity in music can reduce sway variability in standing balance, possibly due to involuntary motor entrainment.