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Improving Improv: Effects of Interpersonal Coordination on Music Improvisation

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Abstract

We examined the signatures of music improvisation following a targeted manipulation that involves a mirroring task. In 18 pairs participants completed a solo music improvisation performance using a percussion instrument (cajon), a mirroring task with a partner, and joint music improvisation. Across pairs, we manipulated three different types of mirroring to examine its effects on coordination during joint music improvisation (Hierarchical mirroring, partner A leading and partner B following; Turn-Taking mirroring, partner A leading the first half and partner B leading the latter half; and Egalitarian mirroring, partners co-creating spontaneous movement together). From audio recordings, we extracted signatures of interpersonal coordination from the acoustic performances using cross-correlation. There were only marginally significant differences in interpersonal coordination during improvisation, with pairs in the Turn-Taking condition exhibiting lower levels of cross-correlation than in the Egalitarian condition. This work provides some initial theoretical insights about downstream effects of interpersonal dynamics on music improvisation.

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