Musical Coordination Ability of Children: Comparison between Pupils of Group and Individual Lessons

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Coordination with other persons is important for not only daily life, but also for a musical performance. Musicians' coordination ability has been reported to be higher than that of non-musicians. Musical lessons can be one possible explanation for excellence of music performers' coordination. In particular, group music lessons with a teacher and peers can provide more opportunities to coordinate with each other than individual lessons provide. However, it remains unclear whether such types of musical lessons influence the children's coordination ability. To address this issue, we conducted an experiment with two groups of participants: 14 children who took individual lessons and 15 children who took group lessons. For the experiment, a professional pianist composed two musical pieces including many parts in which participants were required to synchronize with an accompanist. Those pieces were designed to be easy for children to play. Each participant gave ten live performances; five were with live accompaniment, and five were with recorded accompaniment; all accompaniment was performed by a professional pianist. We recorded their performances via MIDI and analyzed asynchronies between the performances by the participants and those by the accompanied professional pianist. Our main findings were that: (1) Starting with the first performance, children who took group lessons had fewer failures due to poor coordination with the accompanist than those who took individual lessons; (2) As performances progressed, however, the frequency of failure rates between the two groups became similar, regardless of which type of lessons the children had originally taken; and (3) Children exhibited better coordination while piano duo performances with the live accompanist than the recorded accompanist. These results suggested that types of lessons correlate with musical coordination ability of children.