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# Spontaneous corporal coordination in empathic and non-empathic interactions

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**Abstract:** Research on corporal and gestural coordination during conversations has evidenced behavioral matching and synchronized coordination. Following the hypothesis that coordination phenomena are related to empathy (Gallese, 2001; Lipps, 1900), we used a motion capture system to follow head movements of 28 pairs of subjects during conversations. Half the dyads were instructed to know each other (empathic condition). Subjects in the remaining dyads expected the other to lie (non-empathic condition). Positions were cross-correlated in time for each dyad. A mirroring-coordination analysis (one moving left equivalent to another moving right) showed that subjects in both conditions tend to mirror each other within the range of one second. A corresponding-coordination analysis (one moving left equivalent to the other moving left) yielded a statistically significant difference between conditions: coordination still appeared in the empathic condition, but disappeared in the non-empathic condition. We discuss the implications of distinguishing the two kinds of coordination.