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Doing words together: assessing joint problem solving in a Scrabble task

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Abstract: In this paper we test the effects of social interactions in embodied problem solving by employing a Scrabble-like setting. 28 pairs of participants had to generate as many words as possible from 2 balanced sets of 7 letters, which they could manipulate, either individually or collectively. Collaborating makes pairs significantly more productive ($M=68.7$ $SD=16.7$) than the best of the two individuals alone ($M=63.3$, $SD=19$): $F(1,28)=5.66$, $p=.024$, $\eta^2=.17$. Two parameters have a significant impact on the efficacy of collaboration: i) Pairs, whose performance is more similar in individual trials, gain higher benefit from collaboration: $R(1,27)=-0.51$, $R^2=.26$, $p=.005$. ii) Pairs having the collective condition first perform better: $F(1,28)=8.55$, $p=.007$, $\eta^2=.23$. This points to collaboration catalysing optimal solution strategies which can be used in the successive individual trial.