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How are Spatial Distance, Temporal Distance and Temporal Valuation Related?

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Abstract

A widely shared view on temporal representation suggests that people conceptualize time metaphorically as a spatial journey from a back (past) location to a front (future) location. This view predicts 1) shorter estimated distances to and better evaluations of front/future than back/past events (an asymmetry); 2) positive correlations between space, time, and evaluation; 3) negative correlations between responses to the front/future and the back/past. In the present study, participants performed a temporal distance task, a time discounting task, and a spatial distance task, all with back/past and front/future versions. Results showed that 1) there was not asymmetry between back/past and front/future in any task; 2) spatial and temporal tasks correlated positively, but they did not correlate with time discounting; and 3) responses toward the front/future and back/past correlated positively (and not negatively) in all three tasks. The results suggest the need to revise the "moving forward view of time".