Supplementary Information

Differential neural dynamics underling pragmatic and semantic affordance processing in macaque ventral premotor cortex

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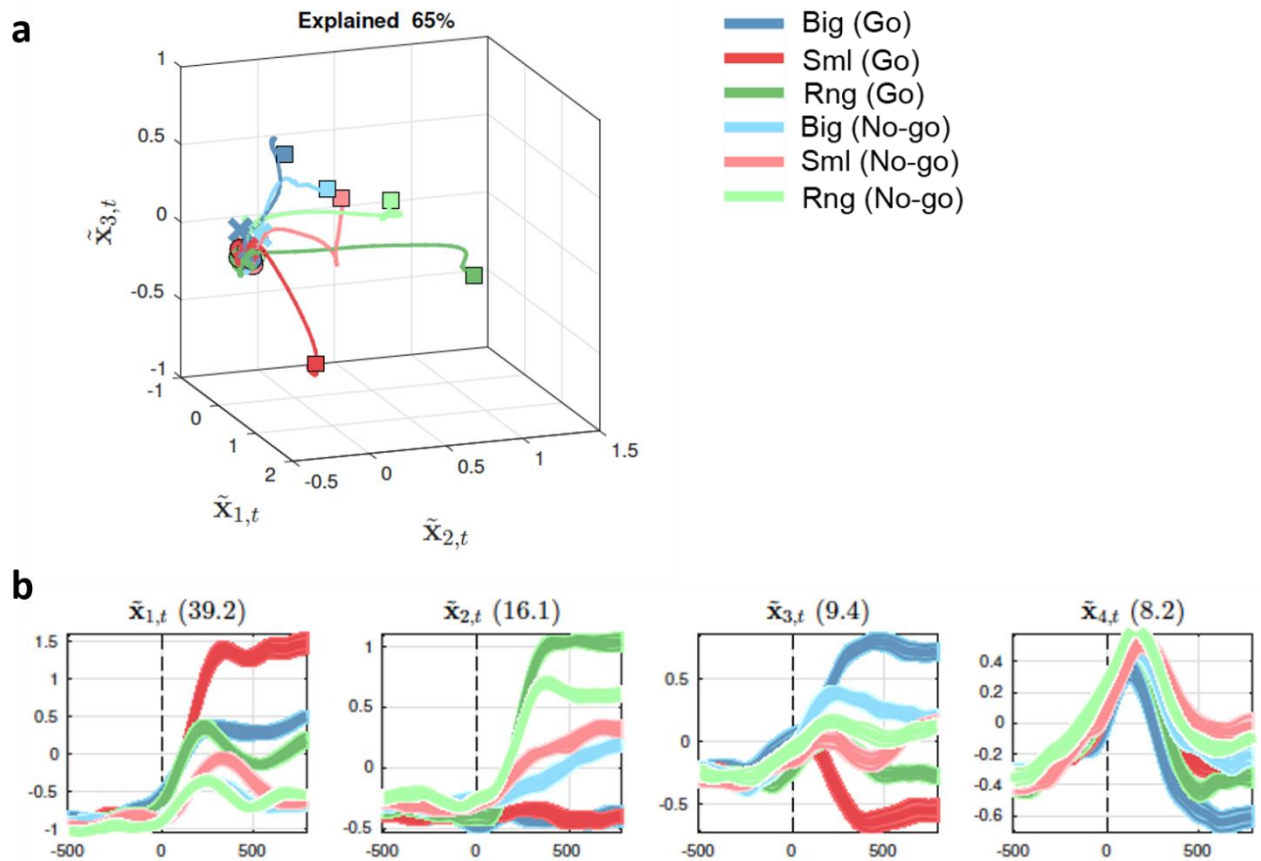Monica Maranesi and Stefania Bruni contributed equally to this work.

Figure S1. Neural space analysis with aggregated data from M1 and M2 - pragmatic task (PT). (**a**) Trajectories in the 3D "neural space" formed by the first three principal components of PCA, during the pragmatic task (PT). The neural trajectories span the interval [-500, 800], with zero being the target onset, and each bin representing the average of 200 ms. Circles mark the beginning of the neural trajectories, crosses mark target onset, and squares mark the end of the neural trajectories. (**b**): Trajectories in the 1D space of the first 4 components of PCA (one panel for each component). Mean (coloured line) and variance (coloured shades) are shown.
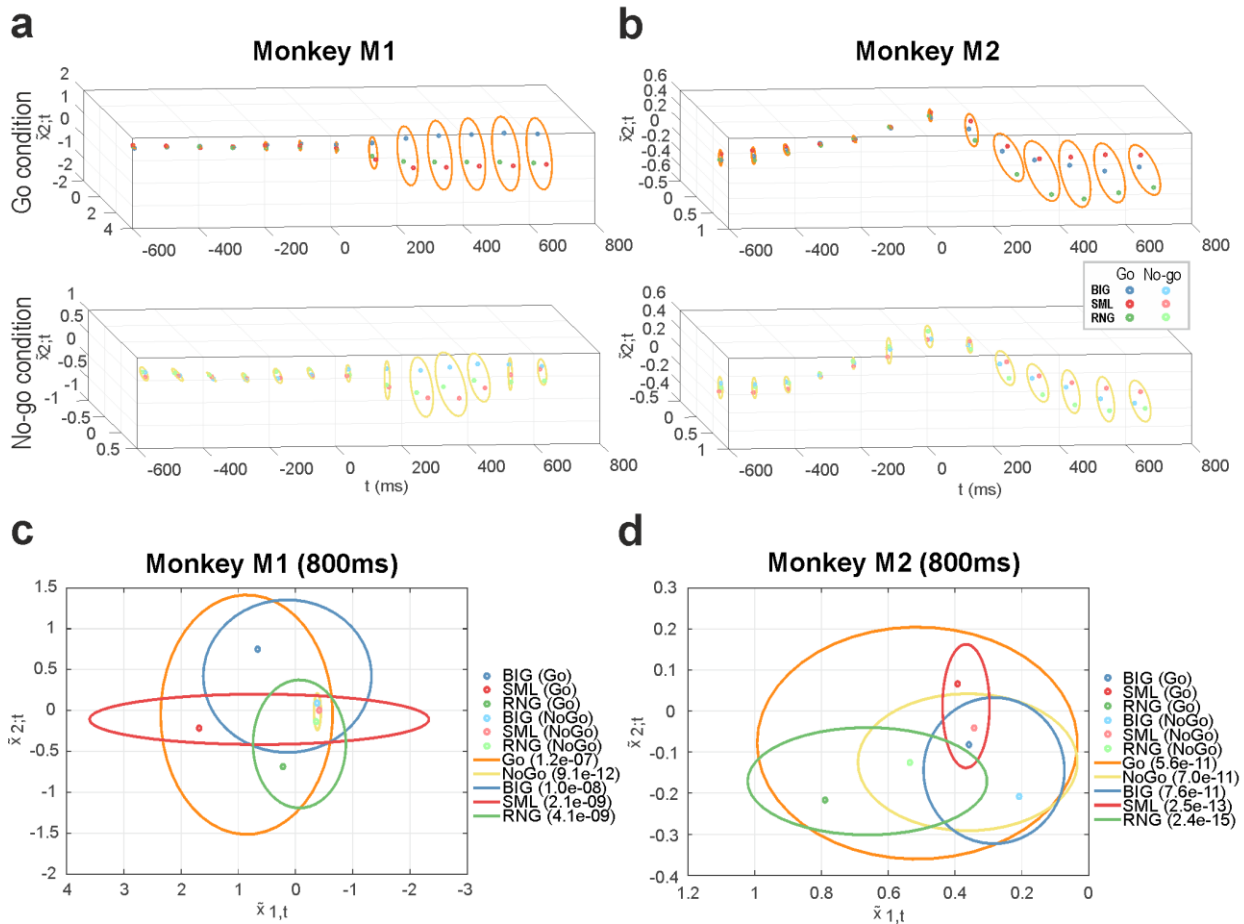
Figure S2. "Spread" of the single-trial neural trajectories for PT during Go and No-Go conditions. The spread is calculated as distance in the 2D neural space formed by the first 2 principal components of PCA. (a,b) Dynamics over time of the average neural trajectories of M1 and M2, respectively, in 2D neural space. Ellipsoids show 95% confidence intervals. (c,d) Clusters formed by the neural trajectories of M1 and M2, respectively, at time 800. The figures also quantify the "spread" of the clusters; see the Methods for an explanation.
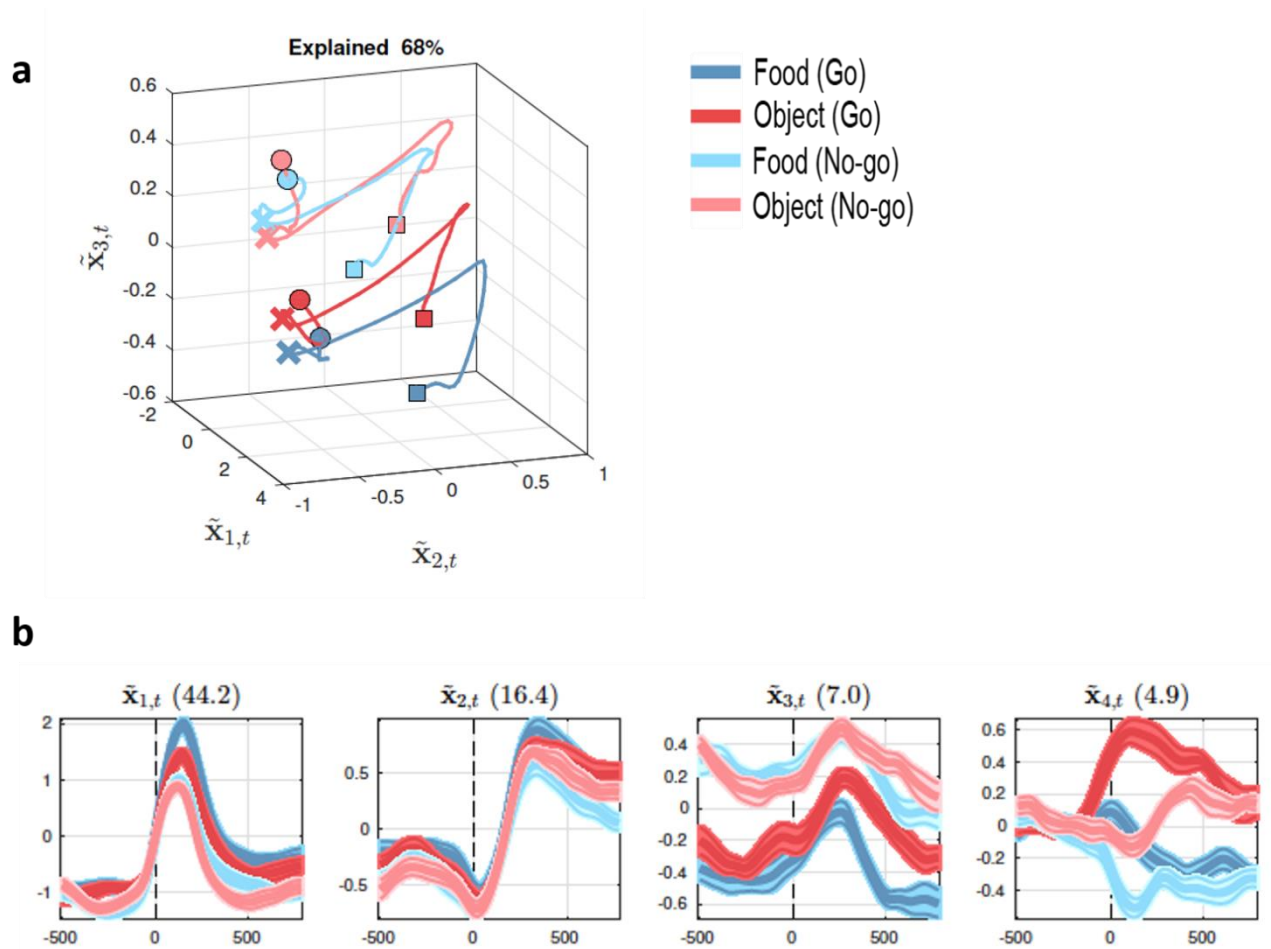
Figure S3. Neural space analysis with aggregated data from M3 and M4 - semantic task (ST). (a) Trajectories in the 3D "neural space" formed by the first three principal components of PCA, during the pragmatic task (PT). The neural trajectories span the interval [-500, 800], with zero being the target onset, and each bin representing the average of 200 ms. Circles mark the beginning of the neural trajectories, crosses mark target onset, and squares mark the end of the neural trajectories. (b) Trajectories in the 1D space of the first 4 components of PCA (one panel for each component). Mean (coloured line) and variance (coloured shades) are shown.
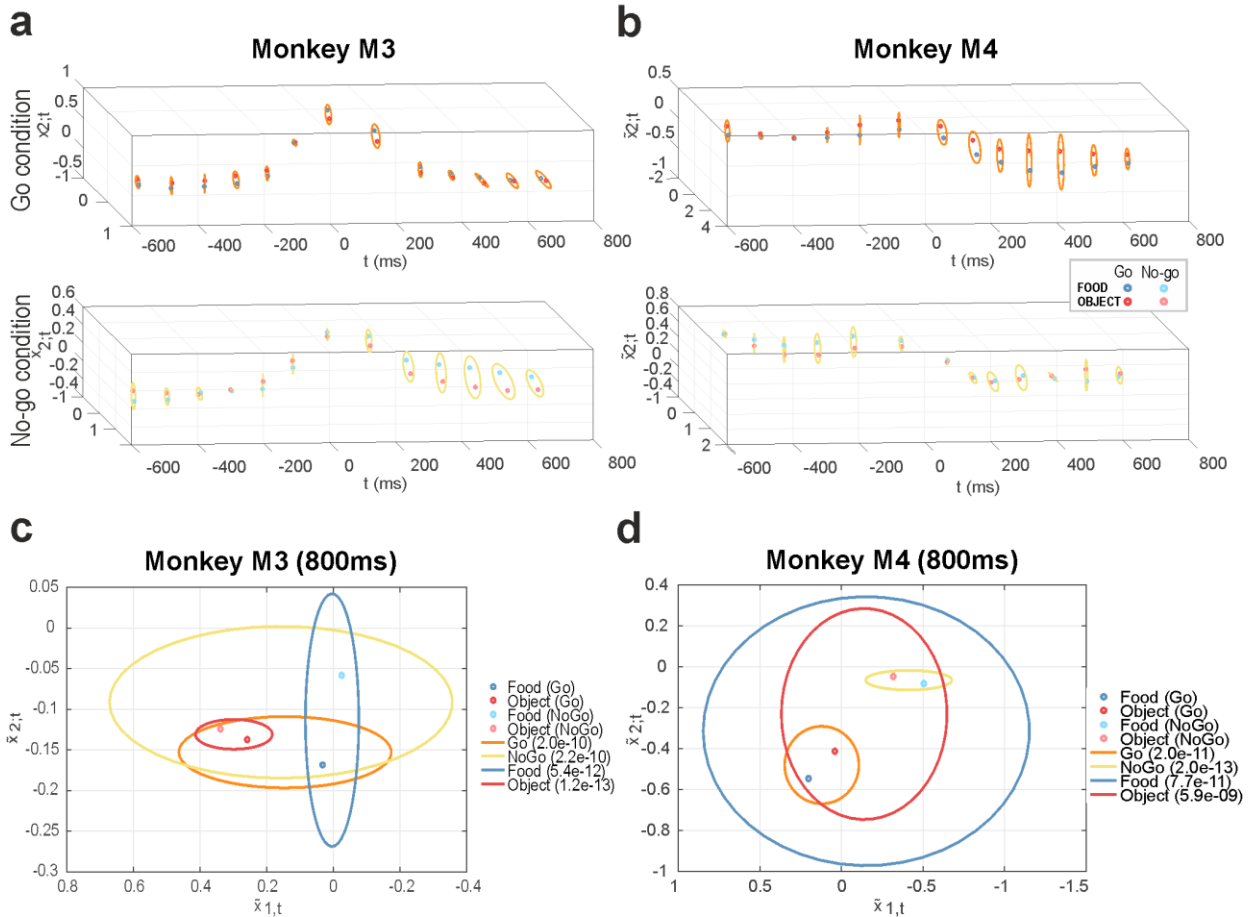
Figure S4. "Spread" of the single-trial neural trajectories for ST during Go and No-Go conditions. The spread is calculated as distance in the 2D neural space formed by the first 2 principal components of PCA. (a,b) Dynamics over time of the average neural trajectories of M3 and M4, respectively, in 2D neural space. Ellipsoids show 95% confidence intervals. (c,d) Clusters formed by the neural trajectories of M3 and M4, respectively, at time 800. The figures also quantify the "spread" of the clusters; see the Methods for an explanation.