

Describing Causal Events: Evidence from Patients with Focal Brain Injury

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Abstract: We investigated (1) how focal brain-injured patients describe causal events (causal verb like “push” and the instrument of the action like “the stick”) in speech and co-speech gestures and (2) whether gestures compensate for their impaired verbalization. 16 left hemisphere damaged (LHD), 16 right hemisphere damaged (RHD) and 14 controls were asked to describe causal events (22 video clips). The correct use of causal action components in speech and iconic gestures referring to these actions were coded. Results indicated that LHD patients were less accurate in using both components in speech compared to RHD and controls. There was no difference in the number of iconic gestures among groups. Yet, LHD patients were more likely to omit or misuse both components in speech and in gesture than RHD and controls. Particularly, damage to the left inferior and middle frontal gyrus resulted in problems in both modalities, suggesting conceptual deficits of causality.