Expectation and memory of event results

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Whether and how language influences memory is an important and controversial topic in cognition. While a few studies demonstrate language's impact on event memory (e.g., Filipovic, 2011; Skordos et al., 2020), many attest no such effect (e.g., Papafragou et al., 2002; Santin et al., 2020, 2021). We approach this issue from the perspective of event verbs' **fulfilment types**, an under-explored property formulated in Talmy's (2000) event integration theory for Realisation macro-events. This property concerns how certain intended results denoted in verbs are realised (hereafter 'result certainty'). To illustrate, **intrinsic-fulfilment verbs** such as *kick* do not specify intention without context and thus do not indicate what result is achieved; **moot-fulfilment verbs** such as *hunt* outline the intention but leave moot whether that intended result is realised; **implied-fulfilment verbs** such as *wash* denote specific intention and imply its realisation; **attained-fulfilment verbs** such as *kill* entail the realisation of specific intention. In this study, we a) investigated how result certainty in verbs creates expectations for event results, b) explored how such expectations might influence memory of event results, and c) attempted to extend Talmyan event research beyond motion to less studied event domains.

We conducted two experiments with monolingual English speakers. In Experiment 1, 16 raters read event descriptions containing verbs differing in result certainty, each event with a successful and an unsuccessful outcome, and rated how likely each outcome was. High ratings for successful outcomes indicated high result certainty in verbs and a success bias for the relevant events. In Experiment 2, a further 102 participants read the same event descriptions, with either a successful or an unsuccessful outcome, and estimated how much effort was involved in the action to ensure attention during event encoding. One day later, the same participants read short event summaries containing the original verbs and recalled whether the relevant intended results were realised.

Experiment 1 demonstrated the psychological reality that verbs come with different degrees of result certainty and create different expectations for event results. Events described with intrinsic-, implied-, and attained-fulfilment verbs elicited increasing likelihood estimations for successful outcomes, creating a success bias for these events; in contrast, events described with moot-fulfilment verbs showed no success bias (successful outcomes: M=53.39%; unsuccessful outcomes: M=51.91%). In Experiment 2, logistic regression with post-hoc estimated marginal means analysis revealed the following findings. First, events with successful outcomes yielded better memory performance than unsuccessful outcomes did for events described with attained-fulfilment verbs (Z=2.90, p<.005). Second, when events had unsuccessful outcomes, poorer memory occurred for events described with attained-fulfilment verbs (Z=-3.75, p<.005) and intrinsic-fulfilment verbs (Z=-3.58, p<.005), compared to events described with moot-fulfilment verbs.

These results suggest that result certainty in verbs creates expectations for event results, which in turn impacts memory of event results. What distinguishes this project from previous event language and memory research is that we examined how language involved at the time of recall influences memory, considering that language involved at the time of recall impacts memory more strongly than language involved at event encoding (Loftus et al., 1978). Previous research mostly focused on language involved at event encoding, which is possibly why language influence on memory was seldom attested. That event memory can be influenced by verb choice has real-life implications for arenas such as police investigations and courtroom testimonies.

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