

## EVENT ROLE IDENTIFICATION IN LANGUAGE AND COGNITION

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Much of the literature assumes that the expression of events in language is based on the salience of event components at the perceptual/conceptual level.<sup>1-4</sup> However, with the exception of a few studies,<sup>5-7</sup> little empirical work has tested this assumption directly. Furthermore, much of the evidence on the relative prominence of event components comes from English. Here, we ask whether the asymmetries in event role prominence generalize to other languages drawing on evidence from learners of two languages (English and Turkish) which vary in how often and the ways in which they encode event components.

Stimuli were 24 pictures of caused-motion events in which a person/animal (Agent) used a tool/body part (Instrument) to move an object (Patient) to a destination (Goal) (Fig.1). In English, Agents typically appear as Subject NPs, Patients as Direct Object NPs, Goals as PPs and Instruments as PPs or Vs (e.g., *raking*).<sup>7</sup> Turkish shows more surface variation due to pro-drop and case marking: in addition to English-type possibilities, the Subject can be dropped and Goals and Instruments can appear as case-marked NPs. Two experiments sought to confirm these cross-linguistic differences (Exp.1) and ask whether English and Turkish speakers prioritize event components in the same way in language (Exp.1) and cognition (Exp.2). Animate (Agents) and inanimate entities were treated separately.

Experiment 1 assessed the prominence of event components in language. Twelve 3-year-olds and twelve 4-year-olds from each language group described the action depicted in 14 of the pictures. As expected, Agents appeared as Subject NPs in both languages, but were mentioned less in Turkish (Fig.2). Patients were always encoded as Direct Object NPs. For the remaining components, as expected, descriptions diverged: Turkish learners used case-marked NPs frequently for Goals and exclusively for Instruments. Despite this syntactic variation, both age and language groups mentioned Patients and Goals more than Instruments (even though 4-year-old English speakers additionally mentioned Patients more often than Goals; Fig.2).

Experiment 2 assessed the cognitive salience of event components using a change-blindness paradigm in which two versions of a picture flickered with a gray mask in-between. The color of one event component changed between versions. Of interest was whether change detection accuracy would differ for each component and whether the differences would be modulated by language. Children in both age and language groups had equally low accuracy rates ( $M=0.48$ ) for Agent-changes, probably because the color change in Agents affected a property (i.e., the clothes) of the component, not the component itself. All children were more accurate in detecting Patient- and Goal-Changes than Instrument-Changes (Fig.3). Four-year-olds were overall more accurate than three-year-olds ( $F(1,24)=12.62, p=.002$ ).

Summarizing, in both language and cognition, Patients and Goals tended to be prioritized over Instruments. Furthermore, Turkish children who mentioned Agents less frequently in language were no less accurate than English children in detecting Agent-changes. The relative salience of event components was similar across young learners of English and Turkish, despite the cross-linguistic differences in the syntactic positions in which entities were encoded. These findings offer cross-linguistic evidence for a homology between linguistic and conceptual event roles.

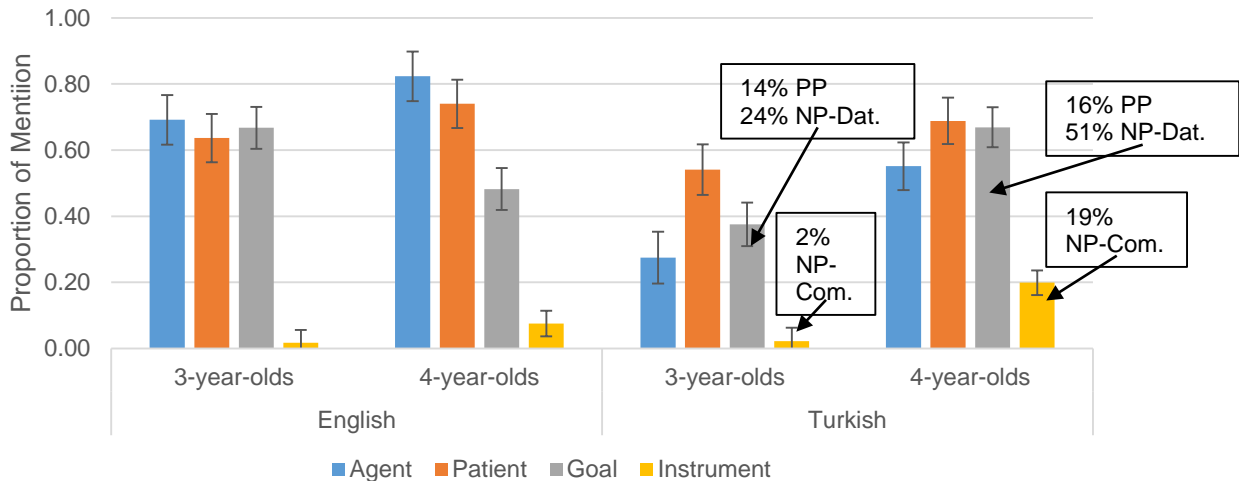
## References

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**Figure 1. Example event ("A man hit a ball into a bucket with a golf club")**



**Figure 2. Proportion of mention of each event component across Age and Language groups (Exp.1)**



**Figure 3. Accuracy in detecting changes in each event component across Age and Language groups (Exp.2)**

