

**June Choe**

*Faculty Advisor: Annette D'Onofrio*

### **Social information in sentence processing**

While the dominant model of sentence processing holds that the parser incrementally generates a structure in accordance with syntactic principles, extra-syntactic factors such as world knowledge have been reported to play a significant role. However, the nature of world knowledge and the extent to which it can influence initial parsing decisions is unclear. This study investigated the effect of socially-specified agents in the resolution of verb transitivity ambiguity. Experiment 1 found that persona types bias the interpretation of ambiguously transitive verbs in a sentence completion task (n=150). Experiment 2 found that this bias is reflected in small but significant ( $p < .0001$ ) differences on a scale of naturalness in a rating task, which suggests that incongruent personae-verb pairings do not constitute complete violations of world knowledge (n=120). Experiment 3 used these materials in an eye-tracking paradigm (n=55) to construct garden-path sentences that manipulated personae and the presence of a disambiguating comma, such as *While the [craftsman/surfer] was tanning[,] the leather bracelet on the table fell onto the ground.* Reading time measures indicate that transitive-biasing personae led readers to adopt transitive interpretations at a cost even when this possibility was ruled out by the comma. This suggests that readers prefer to ignore orthography if it allows them to construct an event that matches stereotypical expectations. Because social information shows robust effects in the early stages of sentence processing despite subtle differences in preference reported in the off-line tasks, world knowledge appears to be more complicated than just semantic plausibility.