

Regional constructions still need learned after adaptation

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Comprehenders unfamiliar with a syntactic structure that is acceptable in some regional dialects of American English, the *needs* + past participle construction (*The car needs washed*), adapt to this structure following exposure [1-3]. After exposure, comprehenders also generalize this adaptation to the construction in a new sentential context (e.g., *John thinks that what the meal needs is cooked*) [2], which some researchers claim entails having learned the *needs* construction. It is not clear, however, that these faster reading times reflect specific knowledge about the construction. Rather, comprehenders could be adapting to the presence of a set of related structures (i.e., the *needs* construction and *be*-dropping) [3] or perhaps ‘odd’ structures in general. Experiment 1 (*needs* construction) addresses the question of learning by directly probing the comprehenders’ knowledge through acceptability judgments. Experiment 2 is a parallel experiment that uses the double modal regional construction (*You might could go there*), which heretofore has not been examined in this adaptation literature.

In each experiment, half of the participants were randomly assigned to an exposure group (control vs. regional dialect). The experiments proceeded in 2 phases: adaptation via self-paced reading then acceptability judgment. **Adaptation (self-paced reading):** Participants read 2 narratives (35 sentences) one word at a time. Interspersed were 15 target sentences (example target sentences in Table 1). Participants assigned to a regional exposure group read either *needs* constructions (Exp 1) or double modals (Exp 2). If they were assigned to a control group, they read versions of these sentences that are acceptable in standard American English (SAE). **Acceptability judgment:** As a test of their learning after the adaptation phase, participants rated 18 target sentences from each regional grammar on a 7-point Likert scale. Sentences were either acceptable in the regional grammar (*needs*: “These bills need paid”; double modal: “You might should eat”), acceptable in SAE (*needs*: “These bills need to be paid”; double modal: “You should eat”), or unacceptable in either (*needs*: “These bills need pay”; double modal: “You should might eat”). Filler sentences (n=36) were constructions accepted in other regional dialects. If participants in the exposure groups have learned, they should find sentences in the regional grammar that they were exposed to more acceptable than ungrammatical sentences; those in the control groups should treat both as equally ungrammatical. After the experiment, participants were asked to rate the variety of contexts in which they had experienced the relevant regional construction (6-point scale) as a measure of familiarity. All groups’ average familiarity scores were less than 3 (*needs*: control=2.57, exposure=2.77; double modal: control=1.96, exposure=1.86).

Exp1: Needs (N=48) The construction is disambiguated at the verb, but the adaptation effects first appear in the first spillover region (verb+1) (Fig1). In this region, there were main effects of exposure (i.e., the *needs* exposure group was slower, $\beta=54.57, p<0.01$) and order (i.e., reading times decreased across the experiment, $\beta=-7.03, p<0.001$). Crucially, exposure and order interacted ($\beta=-3.53, p<0.05$), indicating that the *needs* exposure group adapted more dramatically than the control group. In the acceptability judgments (Fig1), participants rated the regional *needs* sentences higher than ungrammatical sentences, and much lower than SAE sentences, regardless of their exposure group ($\beta=0.18, p<0.01$).

Exp2: Double Modal (N=48) Again, the critical results for adaptation appeared at the region following the potential second modal (*look*), see Fig2. There is a main effect of order (i.e., reading times decrease across the experiment, $\beta=-6.73, p<0.001$) and an interaction of exposure and order ($\beta=-2.15, p<0.05$), which indicates that the double modal exposure group adapts more dramatically than the control group. Regardless of exposure, regionally grammatical constructions were not rated higher than ungrammatical sentences (Fig2, $\beta=0.04, p>0.1$).

In both experiments, participants exposed to a regional construction adapted to it, but did not demonstrate knowledge of that construction compared to the control groups. Implications for the interpretation of adaptation effects as learning will be discussed.

References [1] Kaschak & Glenberg 2004. *JEP: General*. [2] Kaschak 2006. *Memory & Cognition*. [3] Franundorf & Jaeger 2016. *JML*.

Table 1. Sentence examples from the self-paced reading portion of the experiments.

	Exposure Group	Control Group
Needs Construction	The dog will <u>need walked</u> in the morning.	The dog will <u>need to be walked</u> in the morning.
Double Modal Construction	I was thinkin' you <u>might could</u> look at it quick.	I was thinkin' you <u>might just</u> look at it quick.

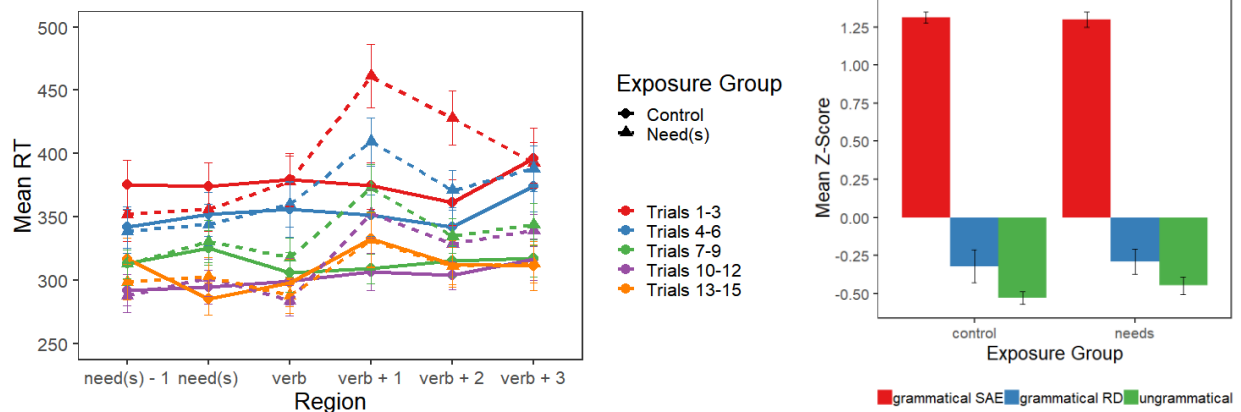


Figure 1. Results from the **needs construction** experiment. The self-paced reading results (left) include 3 critical regions: the verb and the following 2 regions. The acceptability judgment results (right) present mean z-scores.

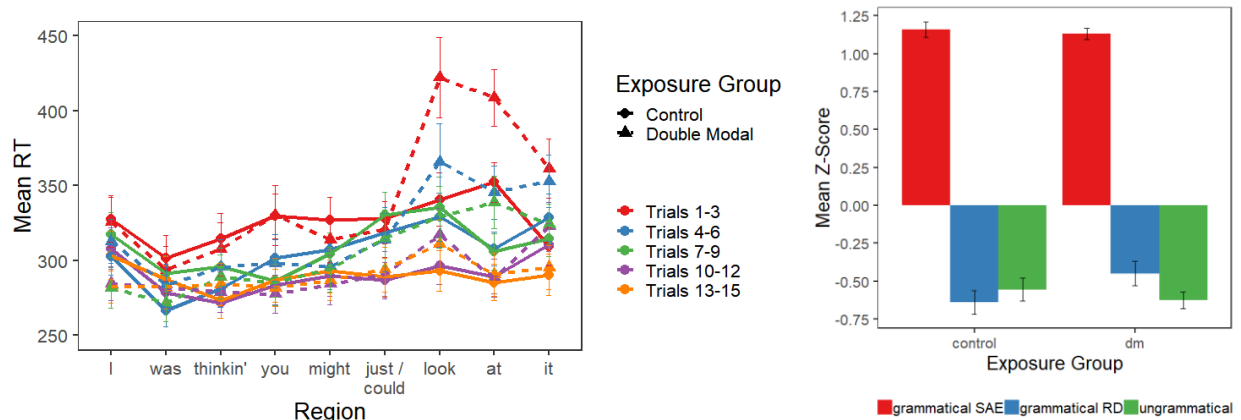


Figure 2. Results from the **double modal** experiment. The self-paced reading results (left) include 3 critical regions: the second modal (*just/could*) and the following 2 regions (spillover 1 = *look*; spillover 2 = *at*). The acceptability judgment results (right) present mean z-scores.