

Here is **an interesting question** about how language gets represented in the human mind:

(Q) Does someone's age/generation affect how their lexicon is organized?

Let's start with **an intuition about a specific, particular phenomenon**:

(1) High schoolers probably associate the word *snap* with word *chat* more than older people do.

This seems likely to be true, and is not very surprising. However, it is kind of profound upon reflection: observing cross-generational differences in lexical structure/organization would reflect psychological correlates of ongoing diachronic change in the English language.

Now let's ask: **to what degree can this intuition be generalized?**

(2) Seems plausible that the intuition holds of all kinds of internet-related vocabulary.

Now we can reformulate (2) as **an informal hypothesis**:

(3) Younger people associate internet-related words with each other to a greater degree than do older people.

Can we make this a bit more precise?

(4) If *X* and *Y* are words of English the *only* semantic relation between which is internet-related, then younger people probably associate *X* with *Y* more than older people do.

That is a better statement. But it still contains some vague terminology, like "associate" and "semantic relation." We can tweak it in small ways to make it clearer...

Let's now rephrase (4) **in theoretical terminology**, which will allow us to operationalize the hypothesis. The statement in (5) is a bit stronger than (4), but that is okay — it still captures the intuition behind (4).

(5) If *X* and *Y* are English words the only semantic relation between which is internet-related, then *X* and *Y* share a semantic neighborhood in the lexicons of young people, but not in the lexicons of older people.

That is a statement we can begin working with.

Most theories of lexical access predict **priming effects in lexical decision** for words that share a semantic neighborhood, and predict no priming effects for words that do not share a semantic (or other kind of) neighborhood.

Therefore, we can **operationalize the hypothesis** in (5) as in (6):

- (6) If X and Y are English words the only semantic relation between which is internet-related, then priming effects:
- >> should be observed between X and Y for young people (say, born after 1980); but
 - >> should not be observed for older people (say, born before 1980)

Now the question becomes:

- (7) How *exactly* can we design an experiment that tests hypothesis (6) as directly as possible?

We can use a lexical decision-based paradigm to measure the impact of exposure to one word on recognition times for a related word.

What would such an experiment look like?

Let's figure it out!

Design:

- factors/covariates?
- levels/possible values?
- trial structure?
- nature of items?
- uninteresting things we need to be wary of?