

# «Thinking-for-speaking» From theory to research

Psychology of Language – 11. December 2020

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# Learning Goals

- Deepening of your knowledge about the thinking-for-speaking hypothesis
- Knowing about the topics that already have been researched
- Example of how to develop a research idea within this field of research

# Linguistic Relativity

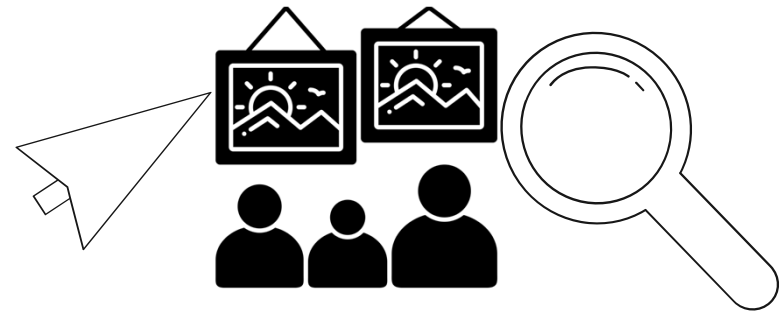
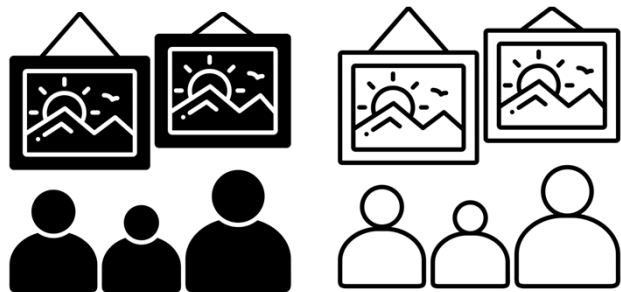
## Deterministic vs. Facilitative View

### Deterministic View

Our language determines our thoughts – linguistics categories limit our cognitive categories  
(e.g. Whorf, 1956)

### Facilitative View

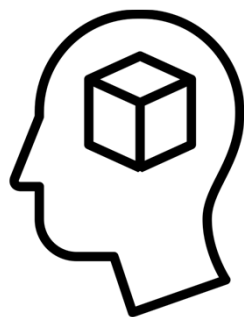
Grammatical categories direct our attention to aspects that are important to use our grammar  
(e.g. Slobin, 1996)



# Thinking for Speaking

## Thinking-for-Speaking (e.g. Slobin, 1996)

- Experiences are filtered through language (esp. grammatical markers) into verbalized events
- These verbalized events are constructed on-line (i.e. “on the go”)



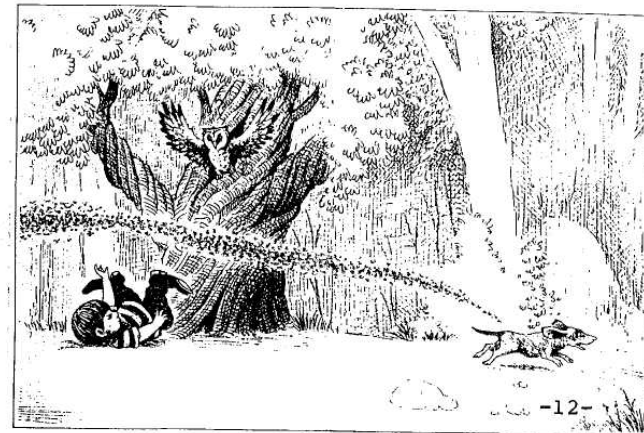
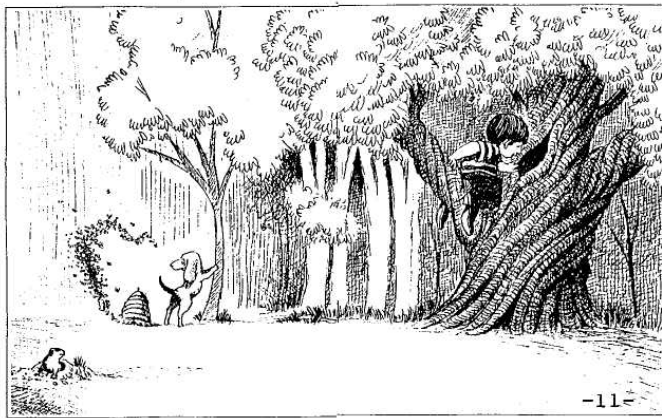
Thought and Language -  
static



Thinking for Speaking –  
on-line

# Exercise 1

1. Look at the two pictures: What happens?
2. Look at the second picture: When you tell someone what is happening in the picture, how would you do it? What grammatical structures would you use?
3. If you speak two languages (e.g. French and English), how would you describe the second picture in each language? Do you notice differences?



# Slobin's Idea

**How would you test the thinking-for-speaking hypothesis?**

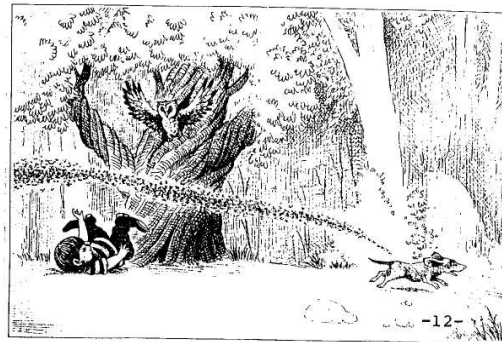
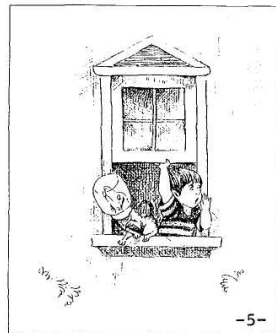
1. Ingredient: same event
2. Ingredient: described by speakers of different languages

Slobin tested pre-school children (3-5 y), school children (9 y) and adults, in different languages (English, German, Spanish and Hebrew).

He focused on grammatical expressions of temporal and spatial relations.

# Story of the Frog

- **Differences to spot between speakers of different languages:**
- Progressive action (finished/not finished)
- Perfective or imperfective action (punctual/non-punctual)
- Manner-of-Motion: change of location in a particular manner



Picture book story in 24 images by Mayer (1969)

# Consequences of Thinking for Speaking

Thinking for Speaking has consequences on **selective attention** and **memory** (Slobin, 2003).

## **Not only Thinking for Speaking, but also:**

Thinking for...

- Writing, signing (language production)
- Understanding, imaging, remembering, etc. (language processing)

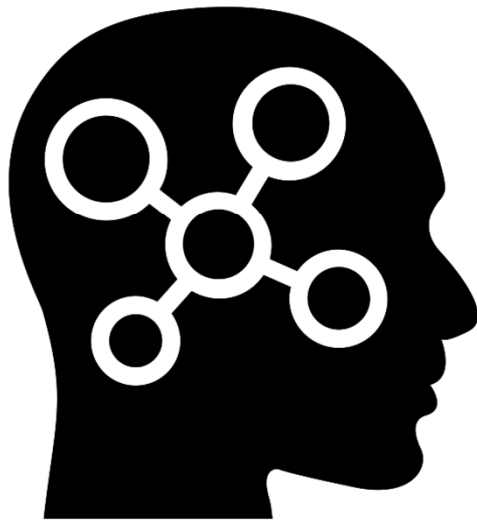
## **Research framework should contain:**

1. Selection of languages and a semantic domain that is encoded frequently in all the languages
2. Semantic domain is encoded by special grammatical construction or obligatory lexical selections in at least some of the languages under comparison
3. The domain is more codable in some of the languages to be compared
4. Research addresses a selection of discourse situations in which the semantic domain is regularly accessed



# Consequences of Thinking for Speaking

## Mental representations



Created by Vectors Market  
from Noun Project

Mental representations  
are constructed and  
constantly updated while  
we speak

# Research on Thinking for Speaking

## **Research on lexical structures:**

- Motion verbs (Soroli & Hickmann, 2010)
- Color terminology (Dering & Kuipers, 2009)
- Spatial concepts (Levinson, 2003)
- Space/time metaphors (Casasanto & Boroditsky, 2008)

## **Research on grammatical structures:**

- Grammatical aspect (Flecken, von Steutterheim, & Carroll, 2014)

# Research on Thinking for Speaking

**Grammatical aspect and visual attention (Flecken, von Stutterheim, & Carroll, 2014)**

What is grammatical aspect? (See video)

Cross-linguistic study: German and Modern Standard Arabic (MSA)

Hypothesis:

- German: no aspect → attention focused on goal
- MSA: aspect → attention focused on path

Items:

- Video clips of 6 seconds of an event (e.g. two people walking in a park)
- Critical items: Endpoint not reached – a person walks/drives (towards an endpoint)
- Control items: Endpoint is reached – a person is arriving at their endpoint



# Research on Thinking for Speaking

## Grammatical aspect and visual attention (Flecken, von Stutterheim, & Carroll, 2014)

Instructions (non-linguistic):

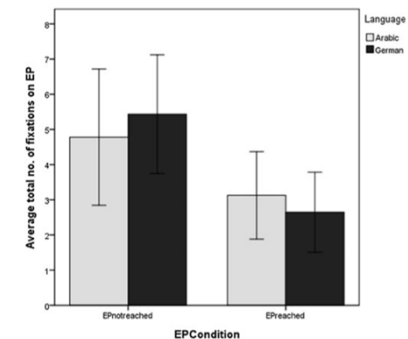
- Video clip blocks with sound of the ocean – in some clips additional sound → remember clip
- Eye-tracking

Results:

- Interaction language/condition

Interpretation:

- When remembering an endpoint is optional – German-speakers nevertheless prefer to glance at endpoints compared to speakers of MSA that are used to give attention to the path linguistically and therefore – if optional – give less attention to the endpoint



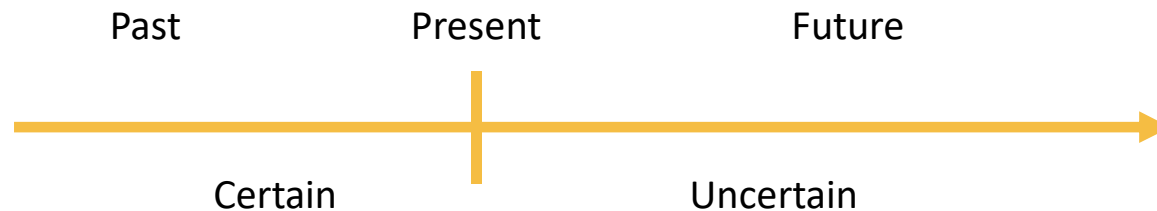
## Exercise 2

- Do you speak more than one language?
- Have you noticed that sometimes it is easier to formulate the same idea in one language or the other?
- Can you maybe even spontaneously think of an area that would be interesting to study using the thinking-for-speaking hypothesis?

# Our Research Idea

## **Linguistic properties of the way we talk about the future**

- Future is conceptually distinct from the past and present



# Our Research Idea

## **Linguistic properties of the way we talk about the future**

Future time reference:

### **Grammatical Tense**

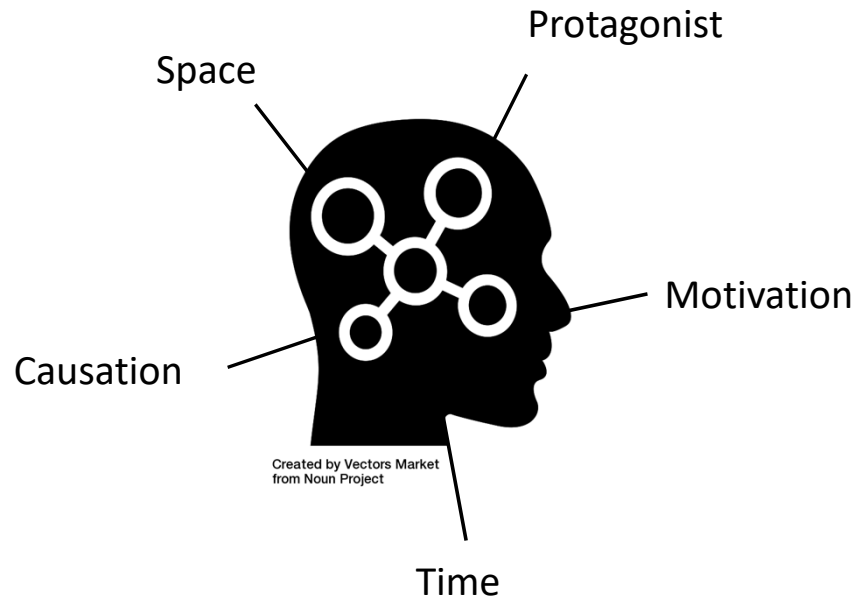
*Example German:*

In sechs Monaten beginnt Julie die Primarschule.

*Example French:*

Dans six mois, Julie commencera l'école primaire.

# Our Research Idea



Time is an important dimension when constructing mental representations



# Our Research Idea

## The Effect of Language on Economic Behavior: Evidence from Savings Rates, Health Behaviors, and Retirement Assets

M. Keith Chen\*

Yale University, School of Management and Cowles Foundation

December, 2012

Status: Forthcoming, *American Economic Review*

### **Abstract**

Languages differ widely in the ways they encode time. I test the hypothesis that languages that grammatically associate the future and the present, foster future-oriented behavior. This prediction arises naturally when well-documented effects of language structure are merged with models of intertemporal choice. Empirically, I find that speakers of such languages: save more, retire with more wealth, smoke less, practice safer sex, and are less obese. This holds both across countries and within countries when comparing demographically similar native households. The evidence does not support the most obvious forms of common causation. I discuss implications for theories of intertemporal choice.

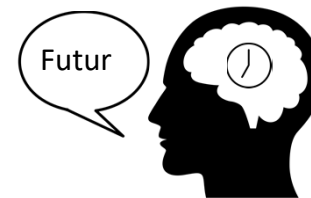
# Our Research Idea

- Participants



German-speakers:

- University students
- Monolinguals L1 German
- Sample N = 64

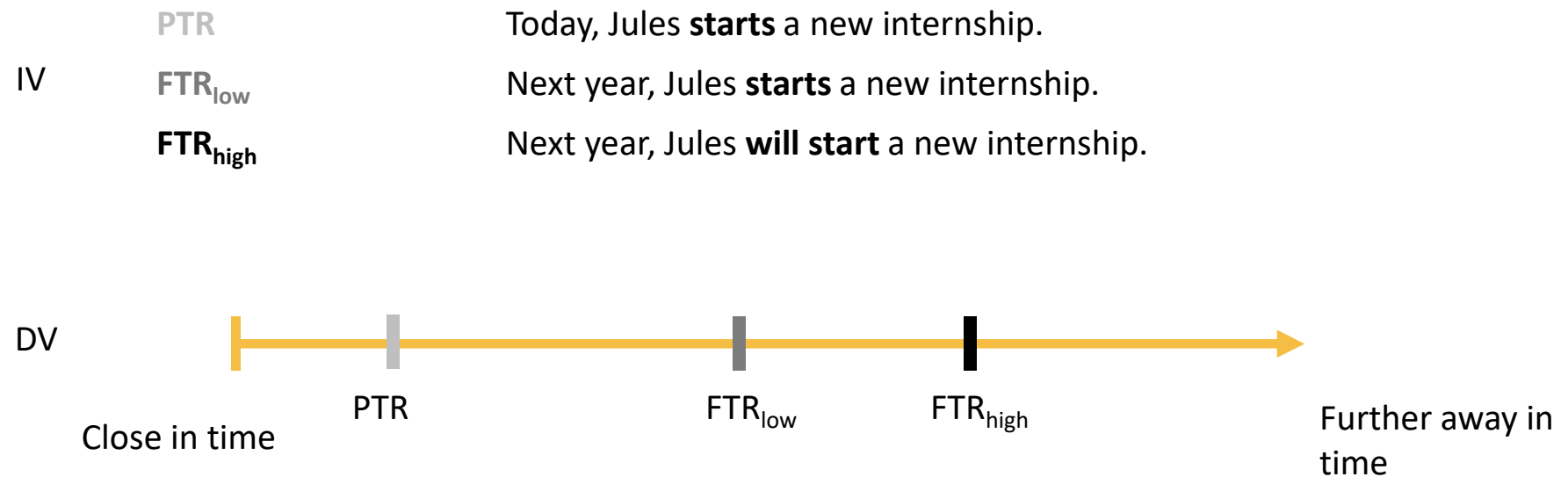


French-speakers:

- University students
- Monolinguals L1 French
- Sample N = 66

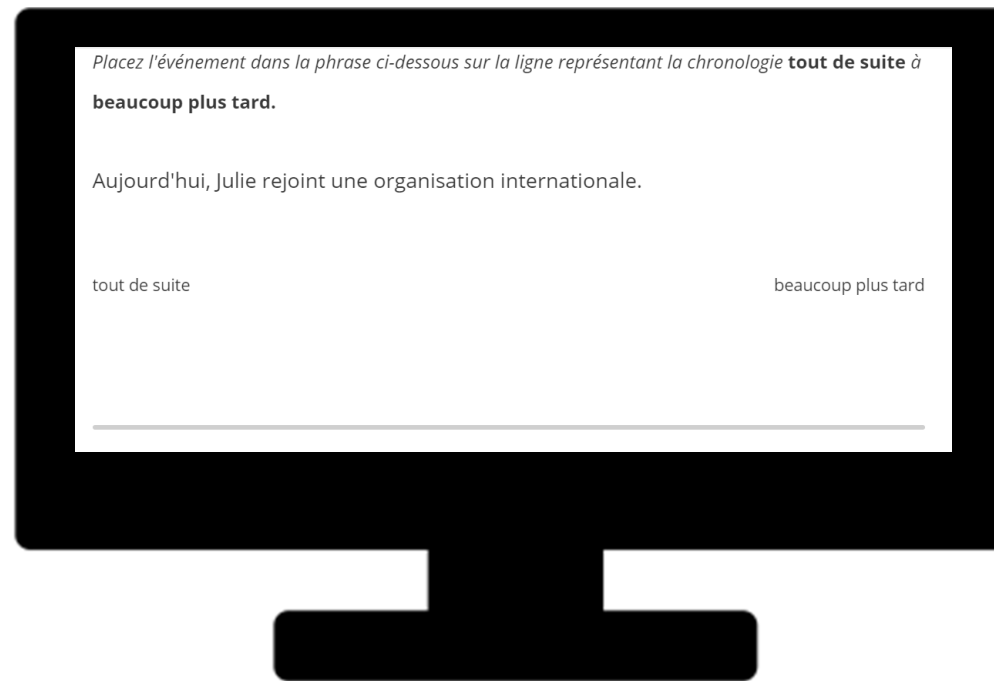
# Our Research Idea

- Study design



# Our Research Idea

- Study design



# Our Research Idea

- Research questions and hypotheses

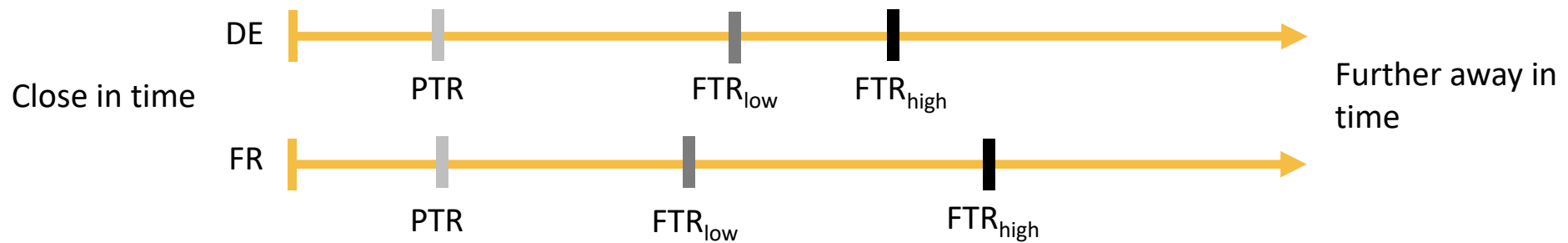
**Does the grammatical encoding of temporal information impact how time is mentally represented?**

H1:



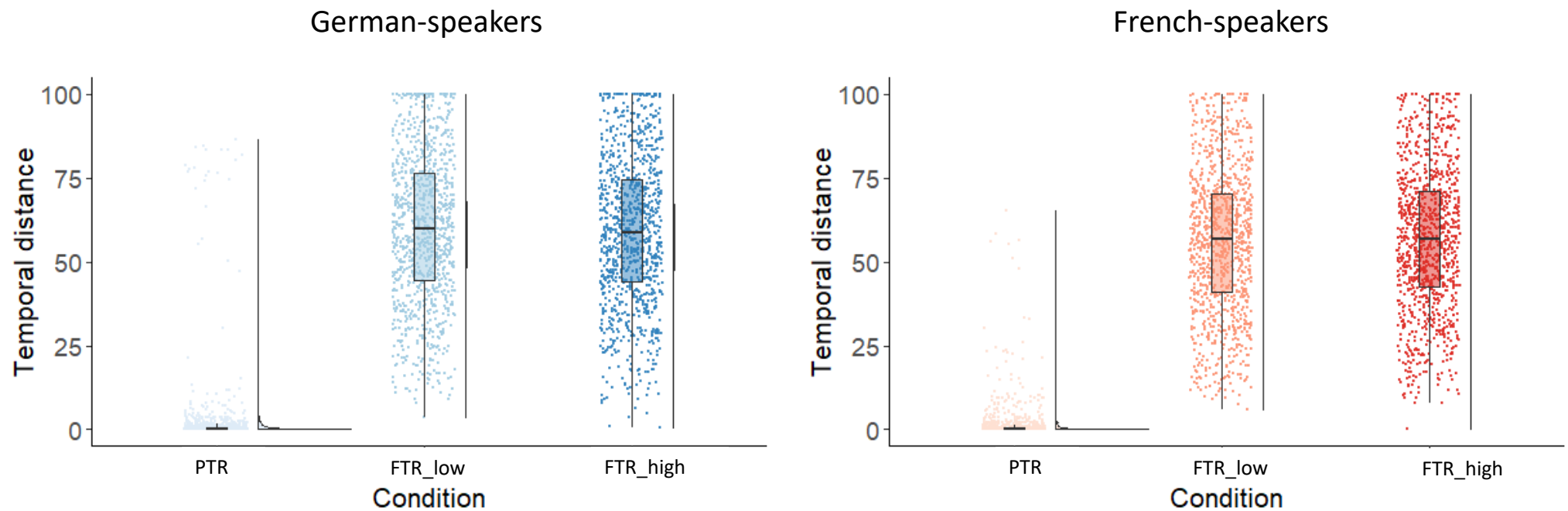
**Is there a difference between German- and French-speakers?**

H2:



# Our Research Idea

- Results – Differences within and between languages



# Our Research Idea

- Interpretation

We could not find the hypothesized results between different degrees of FTR within as well as between languages

Is there an effect, but we were not able to see it with the analyses considered so far?

- Lack of sensitivity

Is our conceptualization of time suitable to assess mental representations of future events?

# References

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# References

More on our research on mental representations of future events:

Jäggi, T., Sato, S., Gillioz, C., & Gyax P. (2020). An interdisciplinary approach to understanding the psychological impact of different grammaticalizations of the future. *Journal of cognition*, 3, 10.