

► analysis I: a descriptive look at the data

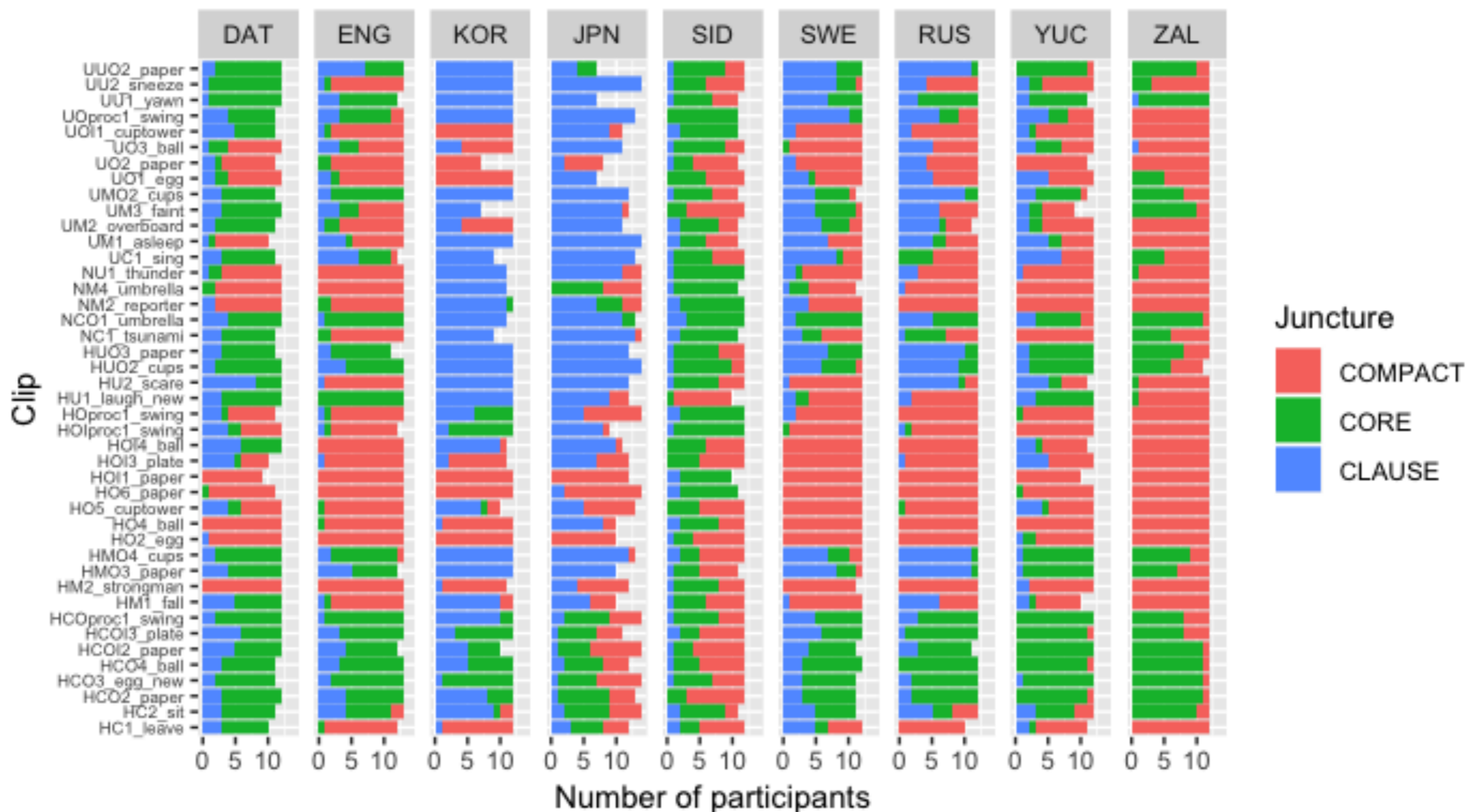
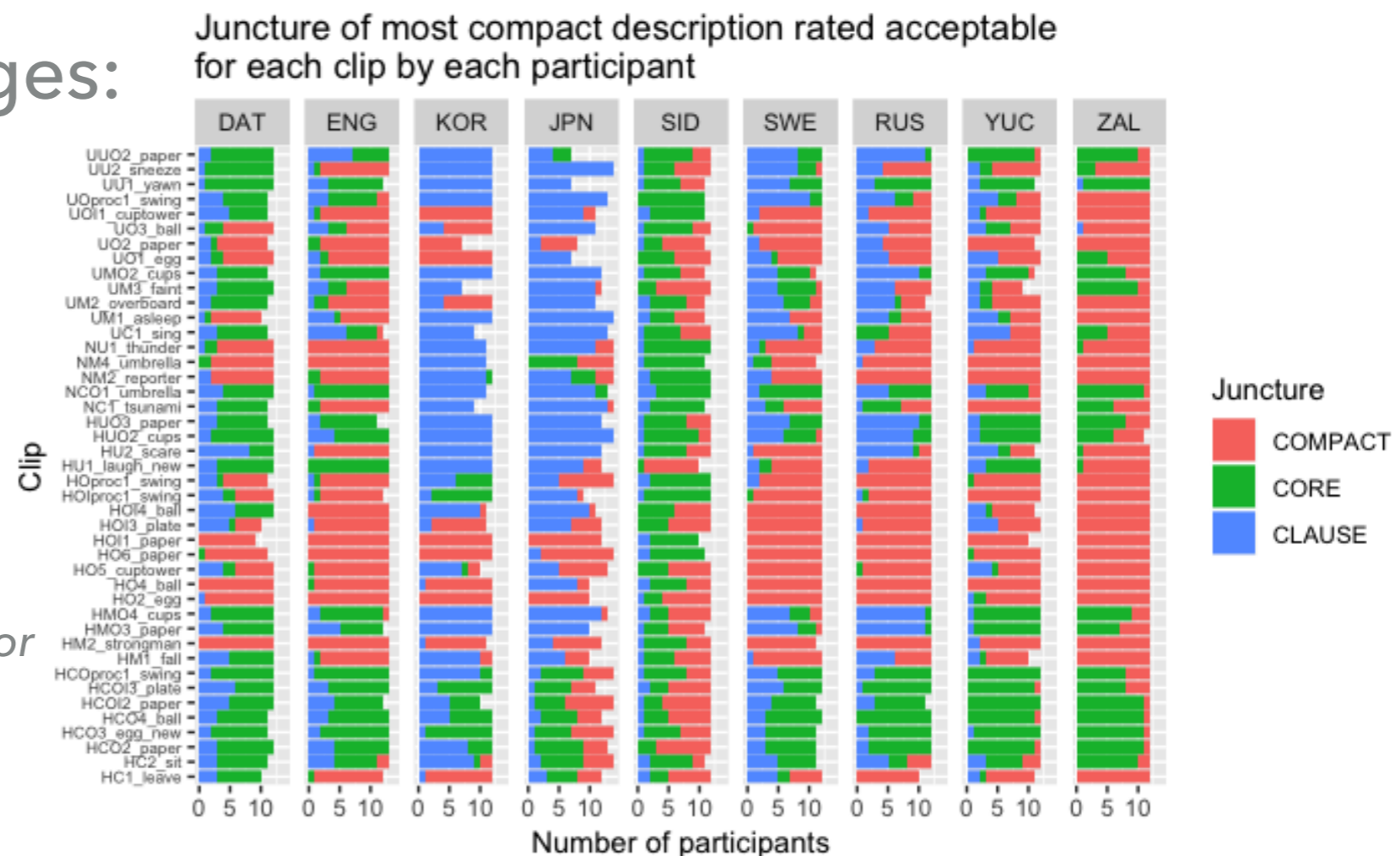


Figure 4.2. Juncture of the most compact description each participant accepted for each clip

- ▶ analysis I: a descriptive look at the data (cont.)
 - ▶ Japanese & Korean: most speakers accepted **only** clausal junctures for >50% of clips
 - ▶ Datooga, Sidaama, Yucatec & Zauzou: few speakers *required* clausal junctures for *any* clip

- ▶ European languages: speakers fell in between

Figure 4.2. Juncture of the most compact description each participant accepted for each clip



analysis II: conditional inference trees

(Hothorn, Hornik, & Zeileis 2006; Tagliamonte & Baayen 2012)

- Predict the juncture of the most compact description
- Computed top down: which predictor makes the biggest difference?
- e.g **English:**

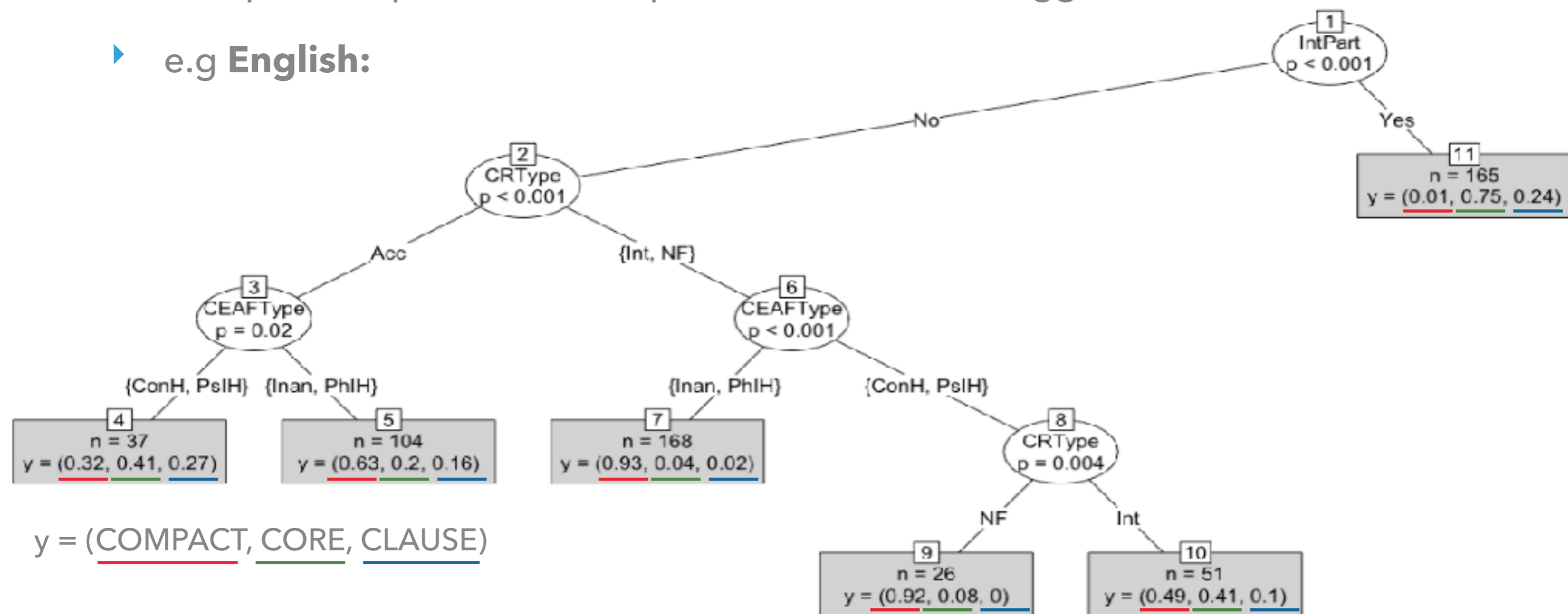


Figure 4.3. Conditional inference tree predicting juncture of the most compact description each **English** speaker accepted for a given clip.

IntPart - Mediation; *CRTYPE* - Causer Type; *CEAFTYPE* - Causee/Affectee Type)

- analysis II: conditional inference trees
(Hothorn, Hornik, & Zeileis 2006; Tagliamonte & Baayen 2012)

- Compare to **Japanese**:

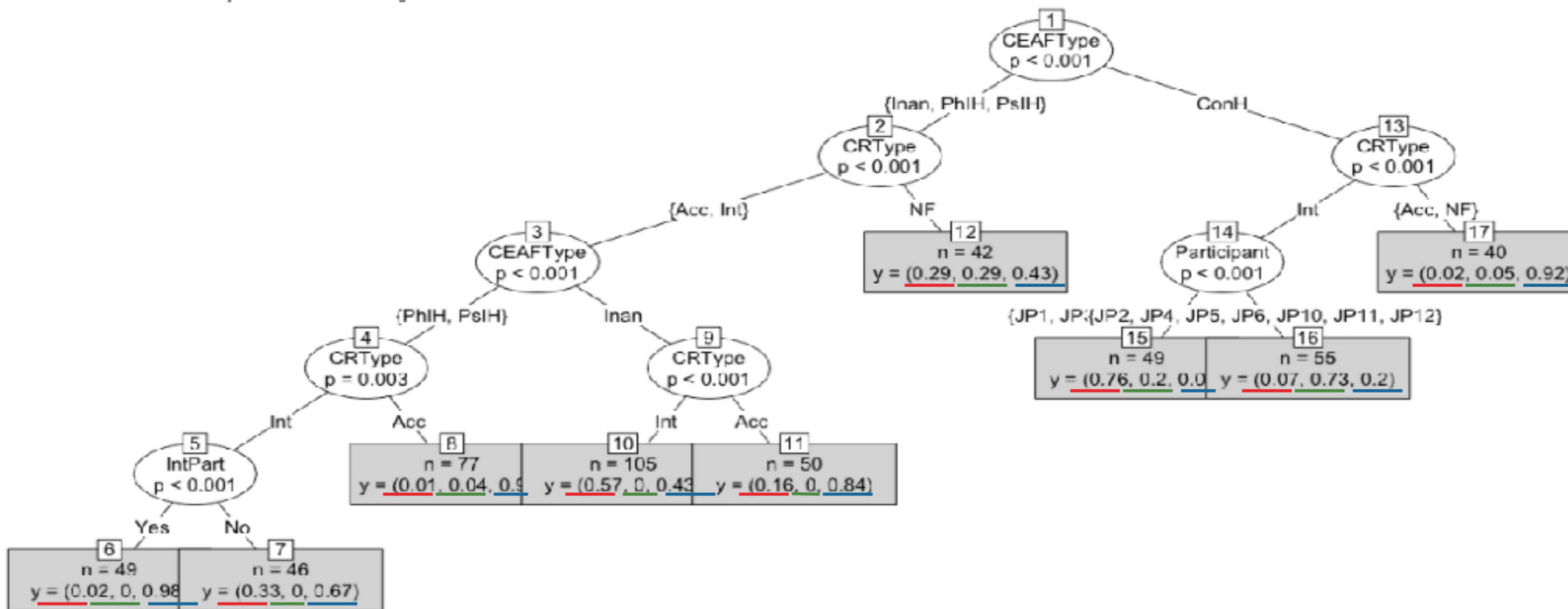


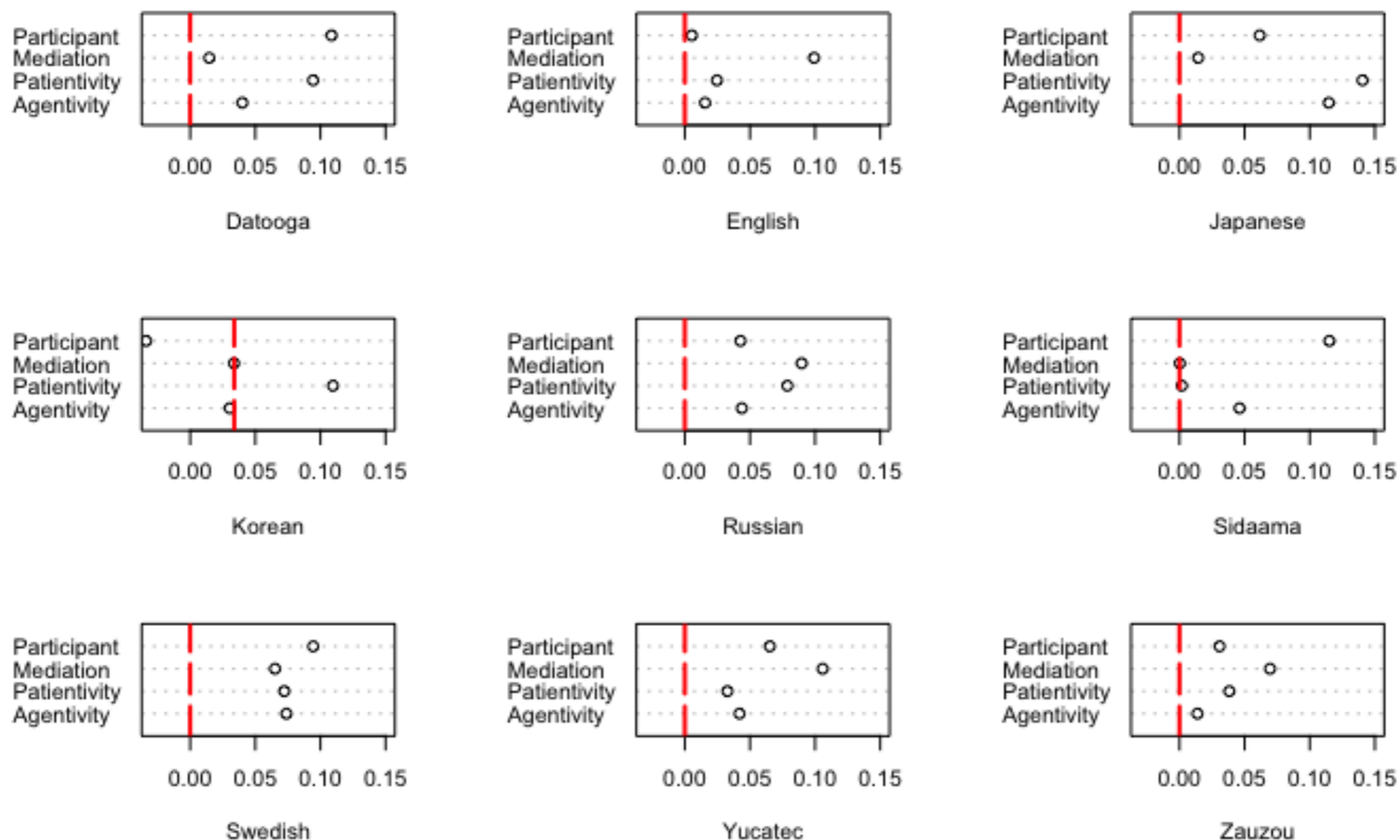
Figure 4.4. Conditional inference tree predicting juncture of the most compact description each **Japanese** speaker accepted for a given clip.

IntPart - Mediation; CRType - Causer Type; CEAFType - Causee/Affectee Type)

► analysis III: predictive models - random forests

(Breiman 2001; Tagliamonte & Baayen 2012)

Table 4.4. *Conditional variable importance scores from random forest models predicting the juncture of the most compact description each participant accepted for each clip.*



- ▶ preliminary conclusions
 - ▶ causative structural complexity driven not only by Mediation
 - ▶ but also by Causer Type and Causee/Affectee Type
 - ▶ in some languages, those competing variables are more dominant than Mediation

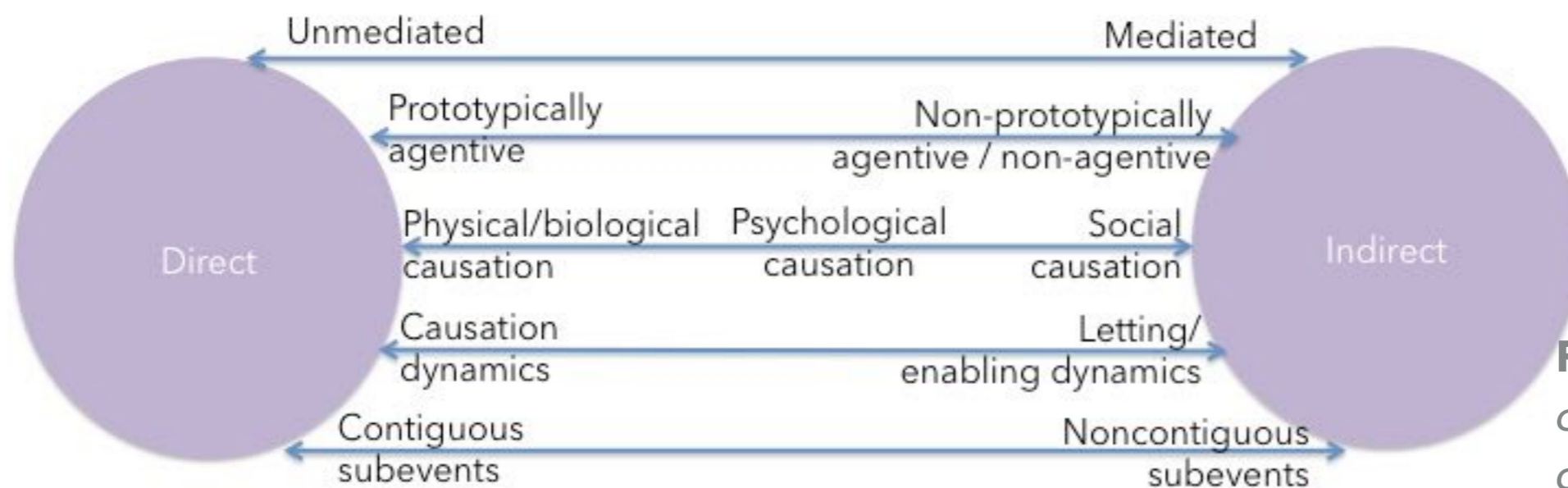


Figure 4.5. A multidimensional continuum model of causation directness

- ▶ preliminary conclusions (cont.)
 - ▶ Japanese & Korean:
 - ▶ agentivity, patientivity > mediation
 - ▶ clause-layer junctures preferred for low-agentivity/low-patientivity scenes
 - ▶ i.e., scenes that do not conform to the Transitivity Hypothesis (Hopper & Thompson 1980)
 - ▶ exception: communication scenes in Japanese
 - ▶ core junctures - periphrastic causatives:
 - ▶ Japanese: not available
 - ▶ Korean: dispreferred for low-agentivity/low-patientivity scenes

SYNOPSIS

- ▶ Introducing CAL
- ▶ A new study design for semantic typology
- ▶ Variables and stimuli: the CAL Clips
- ▶ Preliminary findings
- ▶ Summary

SUMMARY

- ▶ Iconicity Principle: across languages, speakers prefer
 - ▶ morphosyntactically simpler representations for semantically simpler (more direct) causal chains
 - ▶ morphosyntactically more complex representations for semantically more complex (less direct) causal chains
- ▶ Directness of causation is sensitive not only to mediation, but also to other factors
 - ▶ including agentivity and patientivity

- ▶ languages differ in the primary semantic variable that governs complexity of causatives
 - ▶ English, Yucatec, Zauzou: **mediation**
 - ▶ i.e., presence of an intermediate participant in the causal chain
 - ▶ Korean & Datooga: **patientivity** is most important
 - ▶ Russian: **mediation & patientivity**
 - ▶ Swedish: mediation, patientivity, agentivity, participant?
 - ▶ Japanese: **agentivity & patientivity** are more important
 - ▶ compact descriptions (incl. morphological causatives) accepted for mediated chains with communication
 - ▶ but not with accidental human causers or natural force causers


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- ▶ our study also showcases the usefulness of the LSC model
 - ▶ as a tool for measuring morphosyntactic complexity
 - ▶ including in, but not restricted to, typological research

ACKNOWLEDGMENTS

- ▶ epic thanks to the CAL researchers who contributed to the studies presented here



Clockwise from top left: Erika Bellingham, Pia Järnefelt, Yu Li, Guillermo Montero-Melis, Anastasia Stepanova, Sang-Hee Park, Alice Mitchell, Kazuhiro Kawachi

- ▶ massive thanks also to
 - ▶ colleagues who have provided advice:
Dare Baldwin; Dedre Gentner; Beth Levin; Gail Mauner;
Eric Pederson; Robert D. Van Valin, Jr., Phillip Wolff
 - ▶ all of whom shall be held blameless for any foolish
and harebrained claims in this presentation
- ▶ our sponsor The logo of the National Science Foundation (NSF), featuring a stylized globe with the letters 'NSF' in the center, surrounded by a golden, star-like pattern.
- ▶ the material presented here is based upon work supported by the National Science Foundation under Grant No. BCS153846 and BCS-1644657, 'Causality Across Languages'; PI J. Bohnemeyer.

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ありがとう!

Thanks!

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- ▶ which variables matter most?
- ▶ analysis III: predictive models - random forests
(Breiman 2001; Tagliamonte & Baayen 2012)

Table 4.4. *Conditional variable importance scores from random forest models predicting the juncture of the most compact description each participant accepted for each clip.*

Population	Causer type	Causee/ Affectee type	Mediation	Participant
Datooga	0.0156	0.0247	0.0993	0.0054
English	0.0401	0.0944	0.0147	0.1085
Japanese	0.1147	0.1405	0.0144	0.0616
Korean	0.0303	0.1096	0.0336	-0.0338
Russian	0.0438	0.0788	0.0897	0.0427
Sidaama	0.0461	0.0018	0.0003	0.1151
Swedish	0.0739	0.0723	0.0652	0.0944
Yucatec	0.0420	0.0327	0.1058	0.0653
Zauzou	0.0138	0.0383	0.0695	0.0309

- ▶ Compact constructions: did the speaker accept a compact (simplex/nuclear layer juncture) construction for a clip?

Table 4.4. Variable importance scores from random forest models predicting whether a compact description was accepted per participant + clip.

Population	Causer type	Causee/ Affectee type	Mediation	Participant
English	0.0248	0.0420	0.2196	-0.0088
Datooga	n/a (not enough compact descriptions tested)			
Japanese	0.0444	0.0345	0.0085	0.0319
Korean	0.0459	0.0810	0.0182	-0.0196
Russian	0.0360	0.0557	0.1660	0.0166
Sidaama	0.0014	0.0068	0.0060	0.1302
Swedish	0.0728	0.1262	0.0975	0.0169
Yucatec	0.0392	0.0297	0.1661	0.0719
Zauzou	0.0025	0.0360	0.1359	0.0225