Summary
In (psycho-)linguistics it is commonly assumed that doubly quantified sentences like (1) are scope ambiguous.

(1) Every kid climbed a tree.

Our study presents evidence from German that challenges this assumption. Inverse scope was only available in object topicalized (OS) sentences but not in SO sentences.

Scope ambiguity
(SO) Nur ein Lehrer lobt jeden Schüler
Only one teacher praises each pupil
(OS) Jeden Schüler lobt nur ein Lehrer
Each pupil praises only one teacher

Materials
(ox/+a) Jeden dieser Schüler lobt genau ein Lehrer voller Wohlwollen.
Each of these pupils,exactly one teacher,full of goodwill.
(ox/-a) Für jeden dieser Schüler gilt: ihn lobte genau ein Lehrer voller Wohlwollen.
For each of these pupils,one teacher,exactly one teacher,full of goodwill.
(so/+a) Genau ein Lehrer lobt jeden dieser Schüler voller Wohlwollen.
Exactly one teacher,each of these pupils,full of goodwill.
(so/-a) Für genau einen Lehrer gilt: er lobte jeden dieser Schüler voller Wohlwollen.
For exactly one teacher,each of these pupils,full of goodwill.

2x2x2 within design: diagram (∃∀ vs. ∃∀), word order (so vs. os), ambiguity (+a vs. –a)

Unambiguous conditions provide a baseline: if an ‘ambiguous’ condition doesn’t differ from the corresponding unambiguous control, it isn’t really ambiguous!

Methods: 40 participants, 32 items, 73 quantificational fillers (41 false), latin square design

Results: cumulated rejection rates, judgment times on 2nd QP

Discussion
• ‘Ambiguous’ SO sentences following an inverse diagram are rejected as often as their unambiguous counterparts
• Inverse scope doesn’t seem to be available in SO constructions
• Only OS sentences are truly ambiguous indicated both by rejections and decision times
• Does this carry over to quantifier scope in English?
• We have to be careful when using doubly quantified SO sentences in online studies!

Open issues
• Approx. 40% rejections in the linear scope OS conditions!
• Two features of the ∃∀ diagrams may have misled the participants:
  – extra objects
  – branching lines

References