PASSIVES ARE NOT ALWAYS MORE DIFFICULT THAN ACTIVES

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INTRODUCTION

Passive: The boy was pushed by the girl.

Active: The boy pushed the girl.

Why? (1) Heuristic Revision or (2) Syntactic-dependency Resolution

Support: Passive more errorful in offline comprehension tasks [1]


PREVIOUS STUDIES IN OUR LAB:

• Simultaneously collected self-paced reading and comprehension accuracy
• Considered Predicate (event vs state) * Passivization Interaction
  • Eventive (e.g. was rejected) → always verbal passives
  • Statives (e.g. was loved) → temporary ambiguity between adjectival and verbal interpretation [5] [6]
• Design: 2 Syntax (active, passive) x 2 Predicate Type (eventive, stative)
• Results: Offline—difficulty; Online—facilitation, replicated (no interaction)

EXPERIMENT 1

MATERIALS: 28 item sets pre-normed for plausibility of thematic role assignment

E P The guitarist was rejected by the attractive and talented singer in the concert hall next to the Irish pub.
E A The guitarist rejected the attractive and talented singer in the concert hall next to the Irish pub.
S P The guitarist was admired by the attractive and talented singer for keeping the band focused through the whole tour.
S A The guitarist admired the attractive and talented singer for keeping the band focused through the whole tour.

DESIGN:

• Moving window self-paced word-by-word reading
• 2 within Syntax (passive, active) x 2 between Predicate Type (event, state)
• Verification question: 9-role reversal/same
• WM tasks: n-back and sentence span

N=101 British English native speakers (5 excluded <75% acc. on fillers)

ANALYSIS:

• lmfit (logRResiduals ~ Syntax*Pred + n-back + sentence span + (1 + Syntax | subject) + (1 + Syntax*Pred) item)
• glmer (accuracy ~ Syntax*Pred + n-back + sentence span + (1 + Syntax | subject) + (1 + Syntax*Pred) item)
• Correlations between memory scores and Accuracy/RT

RESULTS

• Passive faster than actives, no effect of pred. type, memory scores or interactions

• Passive more errorful than actives

CONCLUSIONS:

• Previous contrasting online/offline results replicated
• Accuracy effect cannot be explained by greater demands on WM when responding to comprehension questions for passives

EXPERIMENT 2

MATERIALS: See Experiment 1 (except PPs removed).

EXPERIMENT 1: Working Memory (WM) explanation.

• Large variance in difference across passivization
• WM often correlates with accuracy [4]
• Question: Does WM correlate with difference in accuracy (active-passive)

EXPERIMENT 2: Task-related effects or condition-biasing processing.

• Previously CO always active (priming facilitation for active?)
• Question: Does syntax effect disappear when CO voice balanced

RESULTS

• Passive complexity is task dependent (CO: yes; SPR & acceptability - no)
• When condition-biasing strategies minimized (CO syntax balanced)
  ➢ Main effect of passivization is eliminated
  ➢ Syntax x pred. type interaction as expected, i.e., passivized statives more errorful than active statives

DISCUSSION AND FUTURE DIRECTIONS

• Passives are not more difficult to parse/interpret, contrary to heuristic- or dependency-based models [1] [2]
• Passivization susceptible to complexity effects in tasks dependent on interpretation of complete representation
• Factors contributing to complexity:
  1. Task-related effects (i.e., biasing strategies, e.g. priming due to syntax of the CO)
  2. Predicate semantics
• Future directions:
  1. Replicate Exp. 2 with improved design by manipulating syntax of question, as factor (not simply balanced) and analyze d’ instead of proportion correct
  2. Investigate why passives are faster online, using more sensitive, ecologically valid methodology (i.e., eye-tracking) to collect multiple measures to further inform facilitation effect

REFERENCES: