

Remembering Stereotypically Congruent and Incongruent Role Nouns in German: The Role of Grammatical Gender and Decision Bias in Recognition Memory

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The present research examined the processing of and memory for stereotypical and counter-stereotypical role nouns in German. Gender schemata influence processing by hindering the encoding of stereotypically incongruent items [1, 2], while also influencing memory. On the one hand, there is evidence for better encoding and retrieval of schema-consistent information, with participants recalling and/or recognizing items consistent with existing schemata more accurately [3, 4]. On the other hand, a number of studies have reported enhanced memory for incongruent information [4, 5]. Across three experiments, we investigated how stereotypes affect recognition memory, specifically, whether recognition memory is more accurate for stereotypically congruent or incongruent information. In Experiment 1, 83 participants encoded stereotypically female (*Florist/Floristin*, ‘florist^{masc}/fem’) and male (*Elektriker/Elektrikerin*, ‘electrician^{masc}/fem’) role nouns presented in both feminine and masculine forms, followed by a recognition task that also included stereotypically neutral items (e.g., *Abonent/Abonnentin*, ‘subscriber^{masc}/fem’). Participants indicated whether each item was old or new. No congruency effect was found; instead, we observed a grammatical gender effect, with feminine forms recognized more accurately regardless of the associated stereotype. Experiment 2 was designed to disentangle grammatical gender effects from stereotype processing, using stereotypical and neutral items in both the encoding and recognition phases. The grammatical gender effect was replicated: participants ($n = 180$) more accurately endorsed feminine forms as old and correctly rejected masculine forms at higher rates. However, Signal Detection Theory (SDT) analyses illustrated that this pattern was not due to greater memory strength for feminine forms, but rather an asymmetry in response bias. Specifically, participants adopted a more liberal criterion for feminine forms and a more conservative one for masculine forms. Critically, this bias was modulated by congruency: participants were more liberal in accepting items as “old” when grammatical gender matched the associated stereotype, demonstrating that grammatical gender and stereotypes interact at the level of decision bias rather than memory sensitivity. Experiment 3 introduced a 20-minute delay between encoding and recognition to reduce memory strength and increase participants’ reliance on heuristic cues, such as stereotypical congruency during the recognition task. This manipulation was motivated by evidence that reduced verbatim memory leads individuals to increasingly rely on schema-consistent information during recognition [6]. Data from 174 participants replicated the feminine grammatical gender advantage in hit rates. SDT analyses revealed that the response criterion again differed by grammatical gender: participants adopted a more conservative threshold for masculine forms. Taken together, the three experiments demonstrate that grammatical gender affects memory at the level of memory accuracy as well as by shaping the response bias criteria participants adopt during retrieval, suggesting that grammatical gender influences memory to a greater extent than previously established.

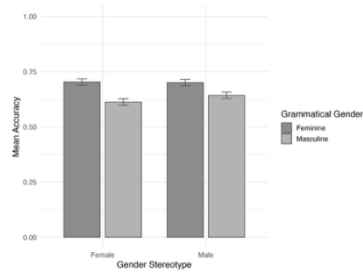


Figure 1: Mean accuracy across gender stereotypes and grammatical gender in Experiment 1.

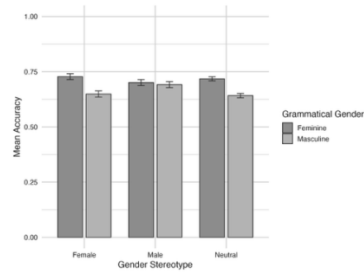


Figure 2: Mean accuracy across gender stereotypes and grammatical gender in Experiment 2.

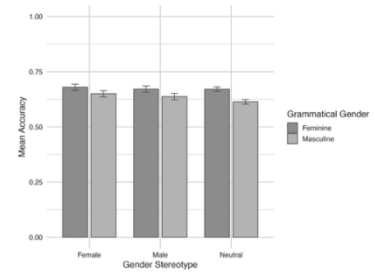


Figure 3: Mean accuracy across gender stereotypes and grammatical gender in Experiment 3.

References

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