Measuring the Political Sophistication of Voters in the Netherlands and the United States

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Overview

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- If we use survey questions, what questions should we use?

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- Commonly conflated with *political knowledge*—although I would argue that these are distinct concepts.
- Also known as *political expertise*.

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Under various guises, expertise and/or knowledge have long been a concern of political scientists.

"The democratic citizen is expected to be well informed about political affairs. He is supposed to know what the issues are, what their history is, what the relevant facts are, what alternatives are proposed, what the party stands for, what the likely consequences are. By such standards the voter falls short."

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Berelson, Lazarsfeld, and McPhee, *Voting* (1954: 308)

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- Interviewer evaluation (ANES)

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To do this, we need to look at how each type of item performs as an indicator of sophistication more broadly. How can we do this?

Getting a score

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Thus a simple approach to measuring sophistication would be to add up the number of knowledge items that people get right. But this doesn't indicate how good each question is—all it does is give us a score for each respondent.

Item-response theory models

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These models were originally developed for standardized testing in the fields of educational psychology and test development—psychologists refer to these models of underlying (unobserved or latent) ability as *psychometric* models.

IRT models in political science

In political science, IRT models have mostly been used for spatial models of roll-call voting and Supreme Court decision-making; Poole and Rosenthal's NOMINATE is a special case, while "purer" IRT models have been used by Clinton, Jackman, and Rivers (for roll-calls) and Martin and Quinn (for Supreme Court voting).

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However, there has been some application to political knowledge and sophistication: Delli Carpini and Keeter (1996) use them in their book on political knowledge, while Levendusky and Jackman had a working paper circa 2003, contemporaneous with my dissertation research, introducing IRT models as well.

The IRT model

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The scores are called the *abilities* of the respondents.

The IRT model (continued)

In the IRT model, the probability that the observed response to question i by respondent j is correct is given by

$$z_{ij} = -\alpha_i + \beta_i \theta_j + \epsilon_{ij}$$

where α is the difficulty of the question, β is the discrimination parameter for the question, and θ is the respondent's ability—for our purposes, level of sophistication.

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The functional form

The z_{ij} aren't observed, so we must treat this like a probit:

$$\Pr(c_{ij} = 1|\theta_j) = \Phi(-\alpha_i + \beta_i\theta_j)$$

All of these parameters—α_i, β_i, and θ_j—are unknown. Using traditional approaches like maximum-likelihood estimation, this would be impossible to solve because of the large number of parameters.

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The end result gives us estimates of the respondent abilities, which may be useful for second-stage analyses, as well as the difficulties and the discrimination parameters for each item (question). Estimation is readily available using Martin and Quinn's `MCMCpack` for R.

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Of course, the key disadvantage is that finding a solution to the IRT model is more complex than generating a summated scale!

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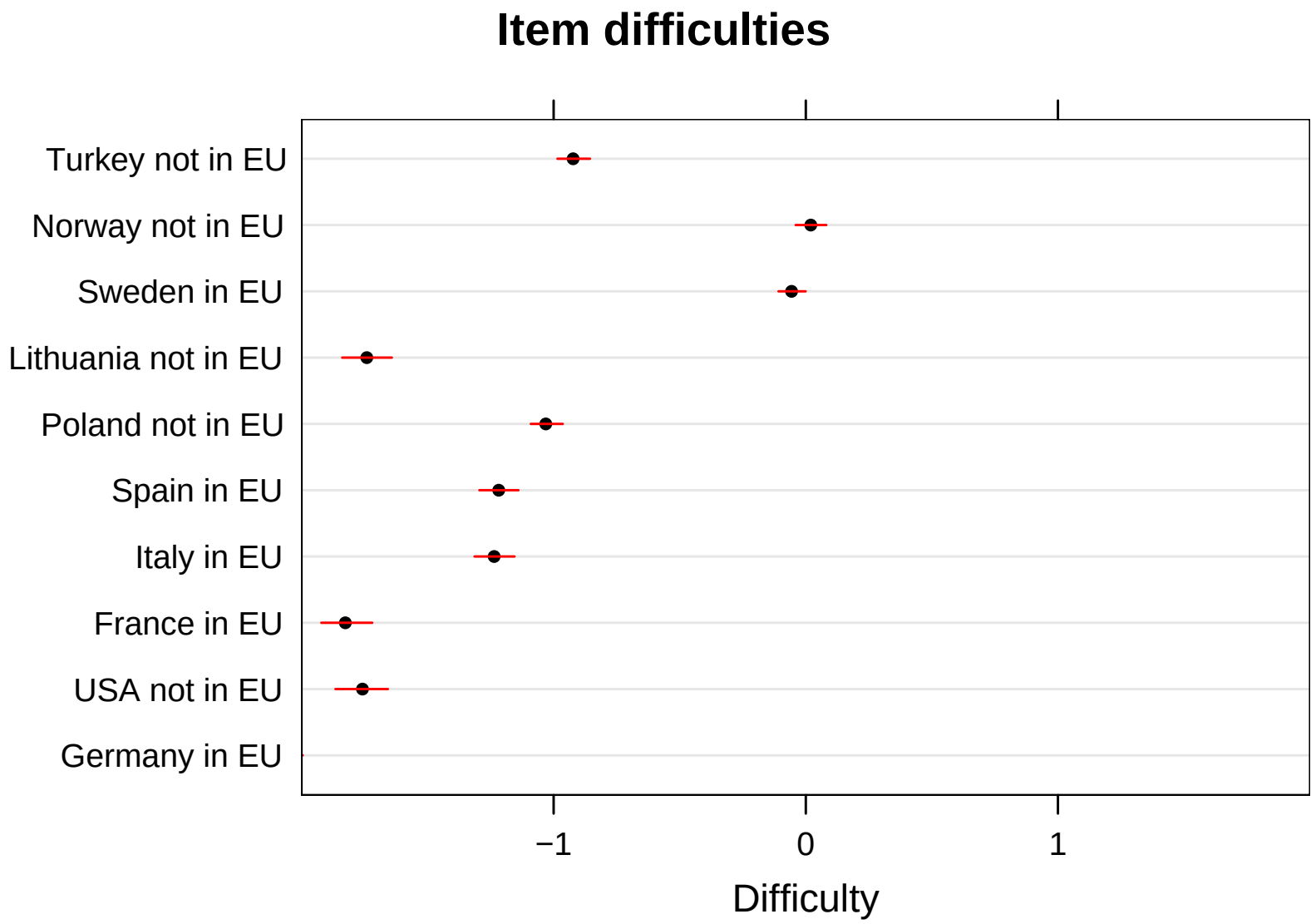
The following graphs show the relative performance of items within each of these groups.

EU membership items



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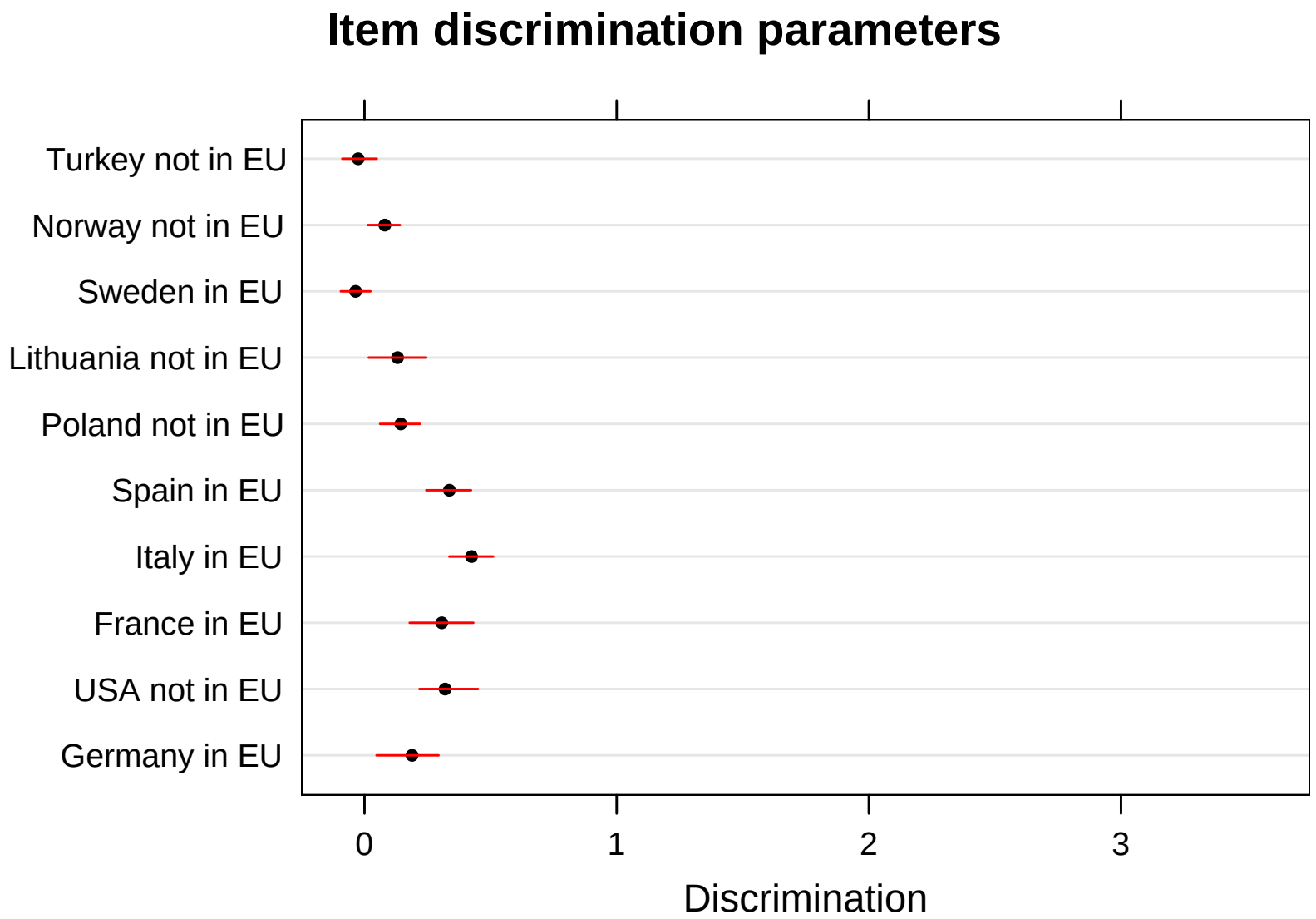
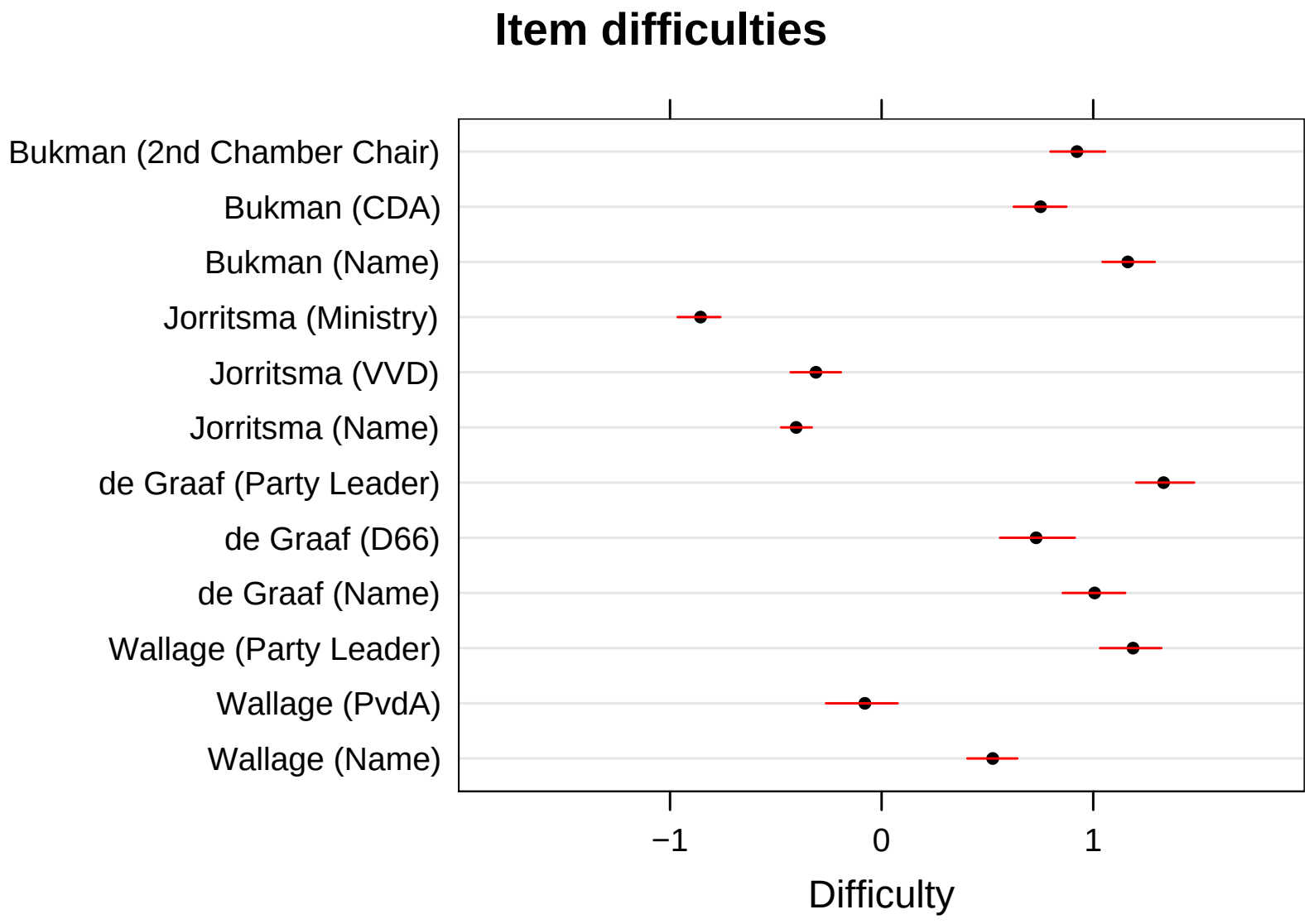


Party leader items



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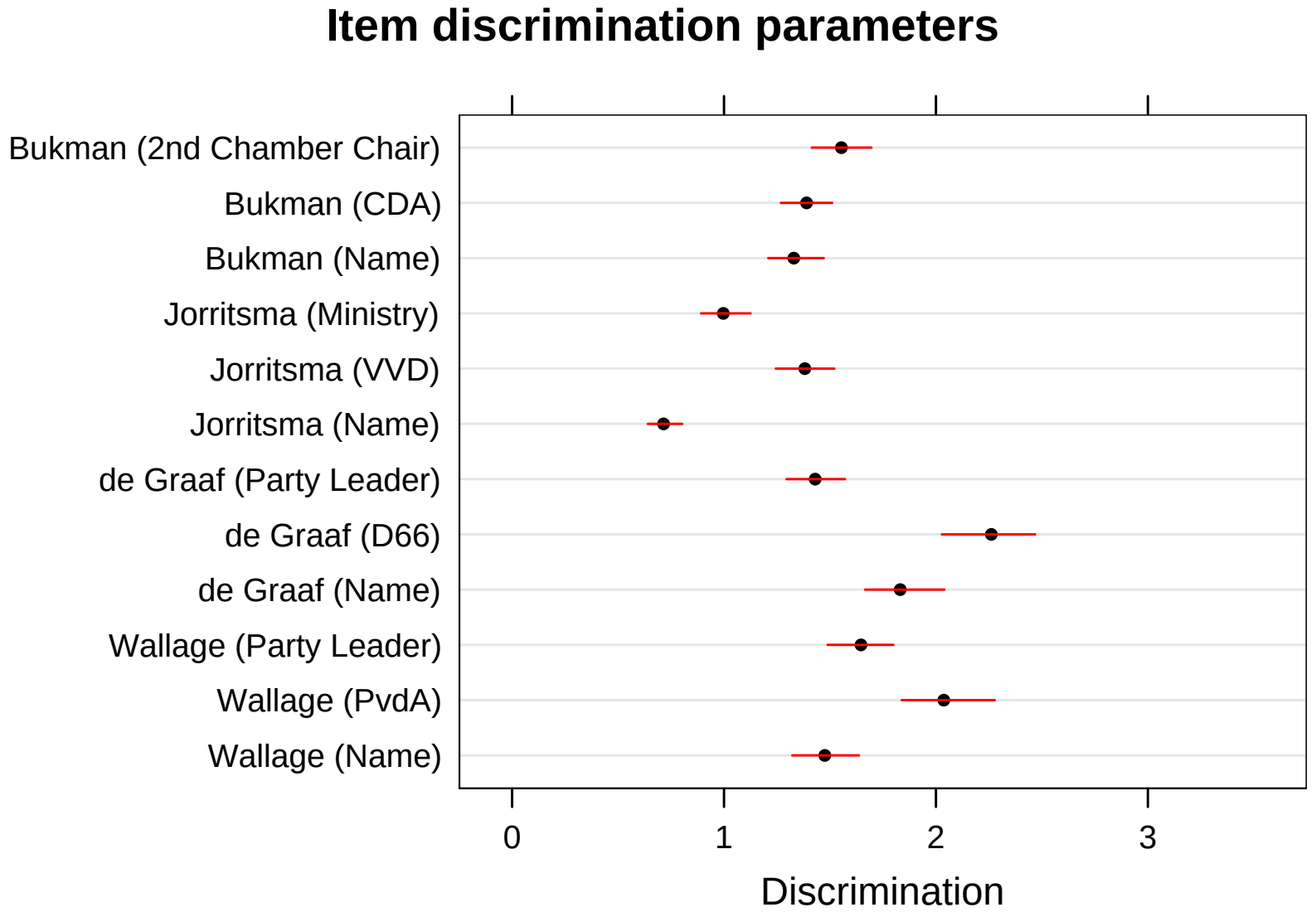
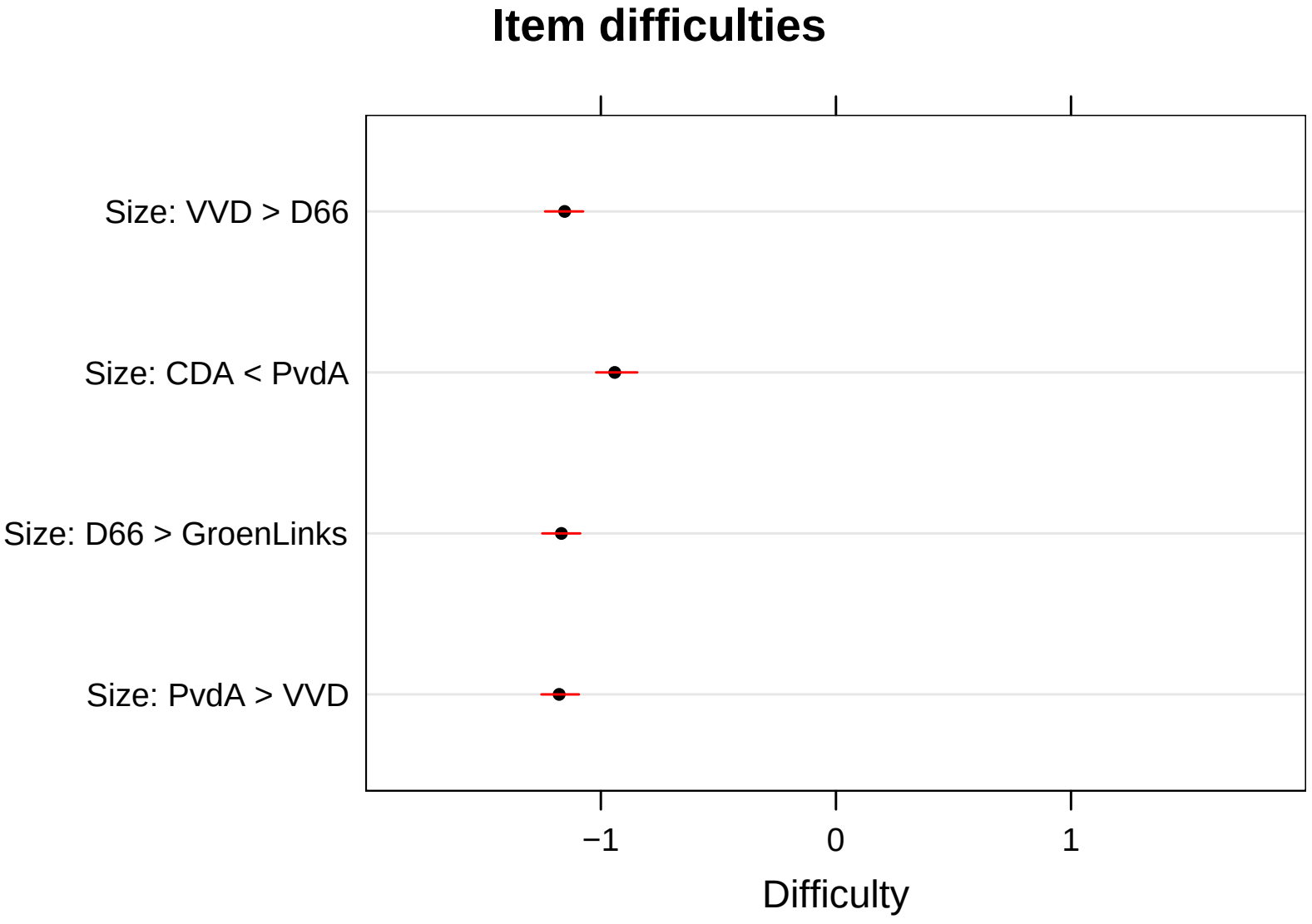


Party size ID items



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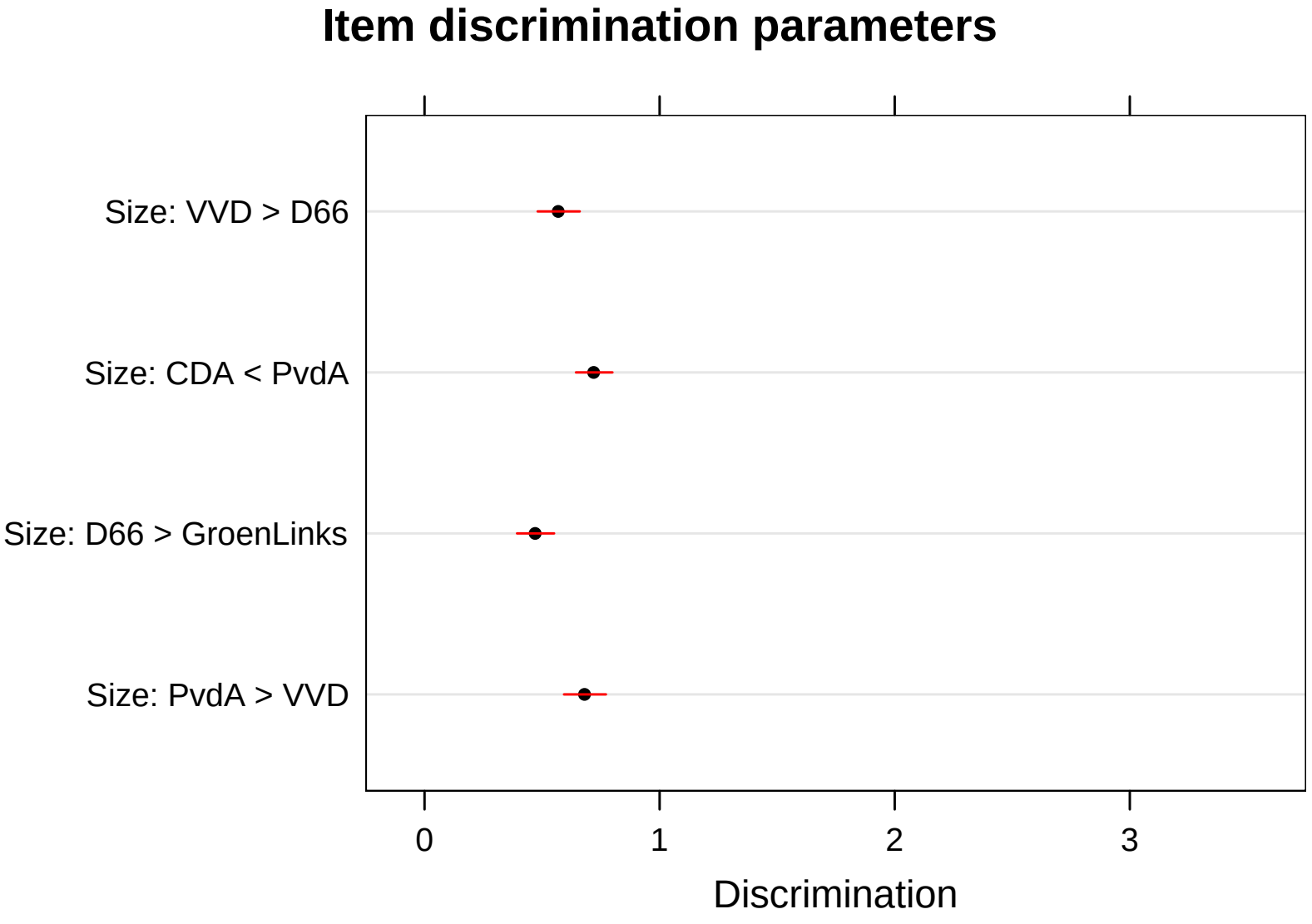

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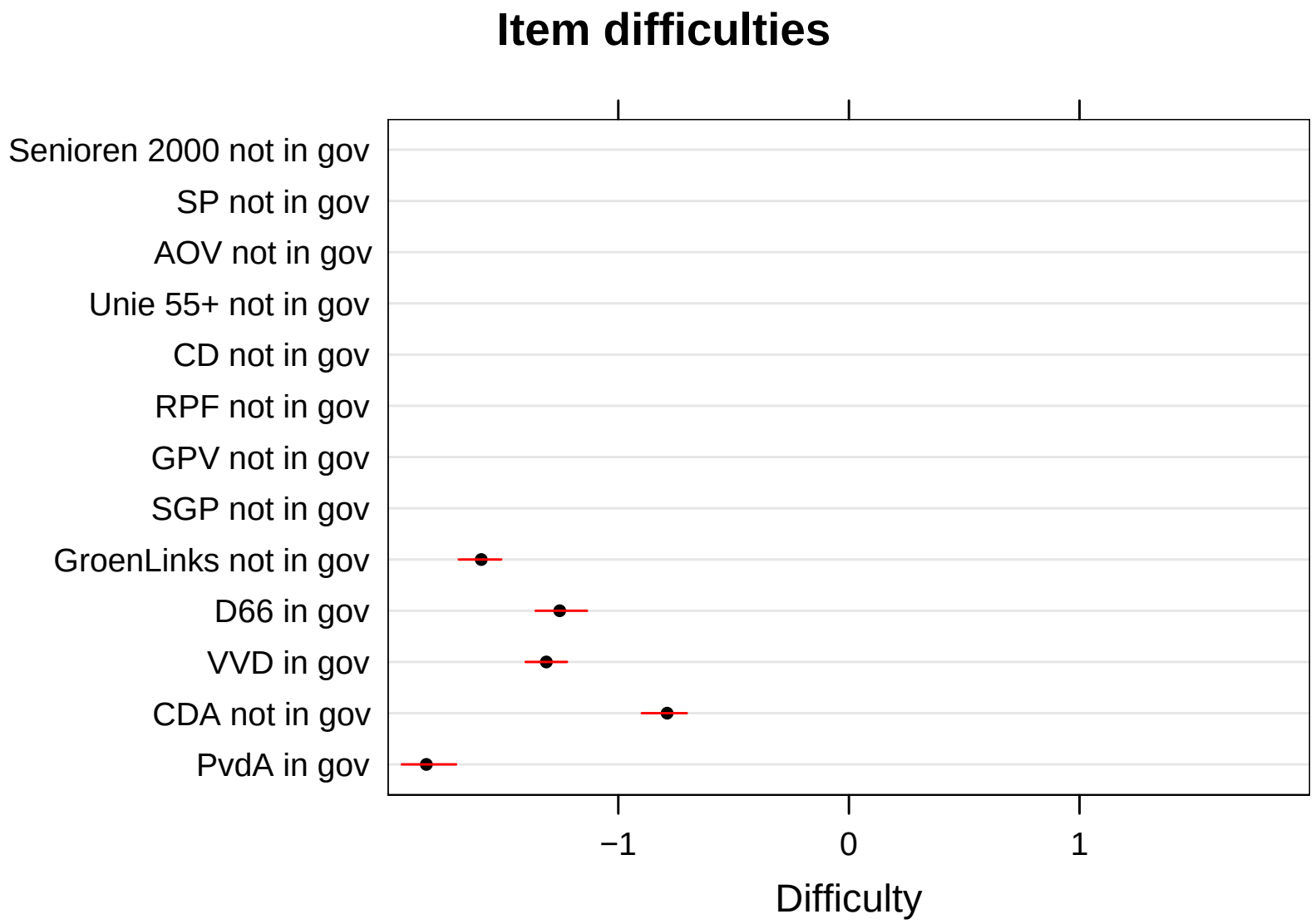

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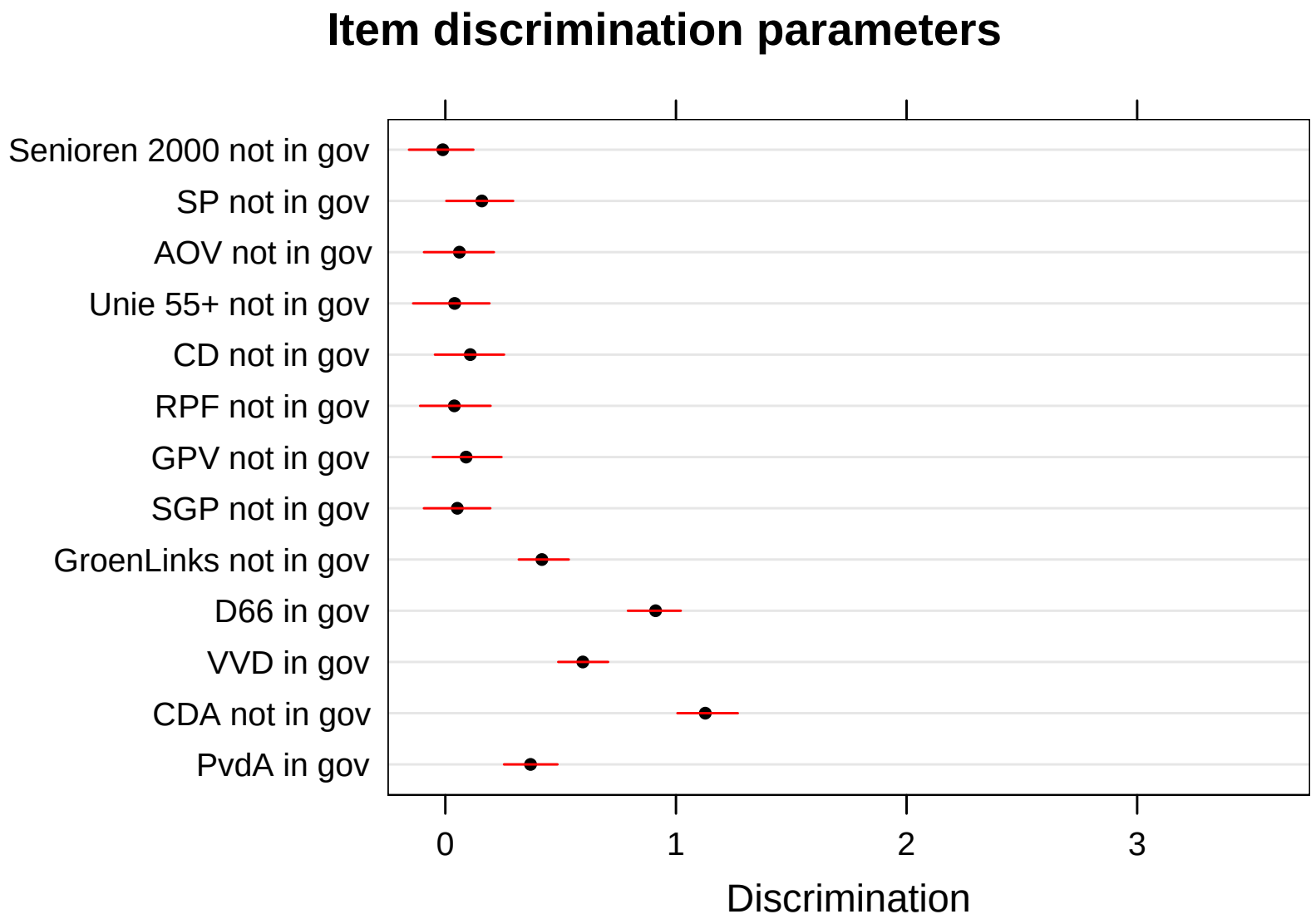
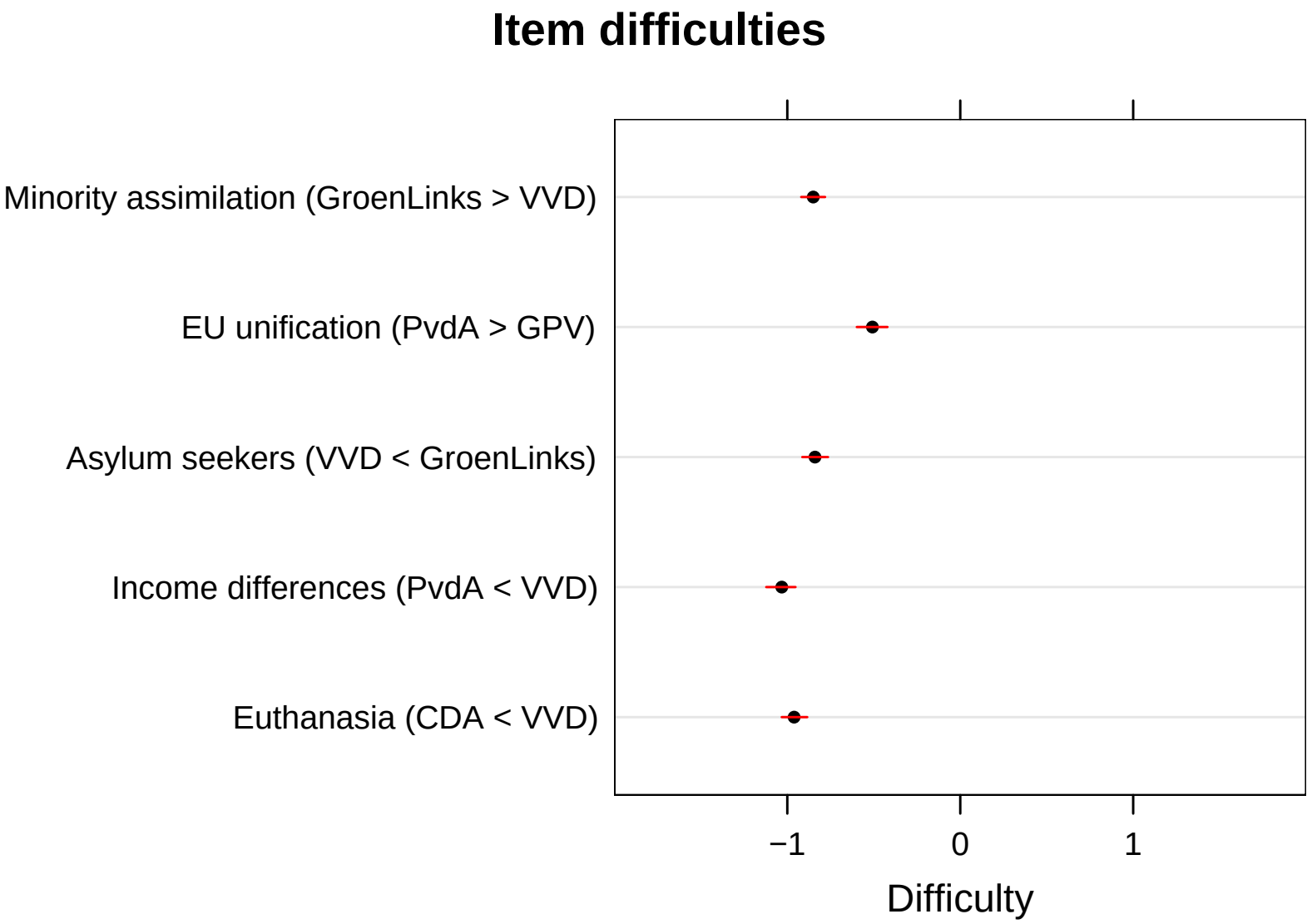


Issue placement items



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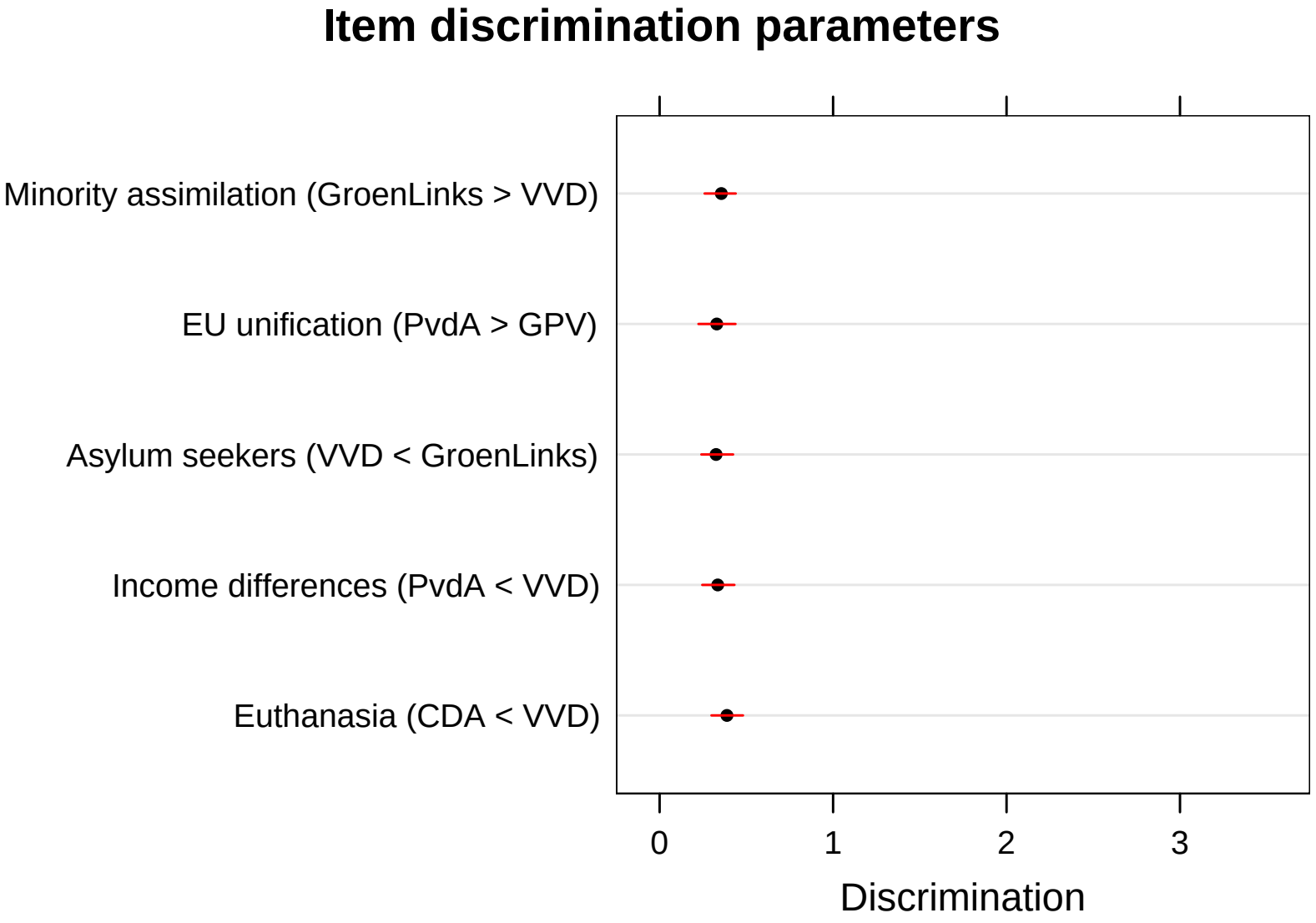

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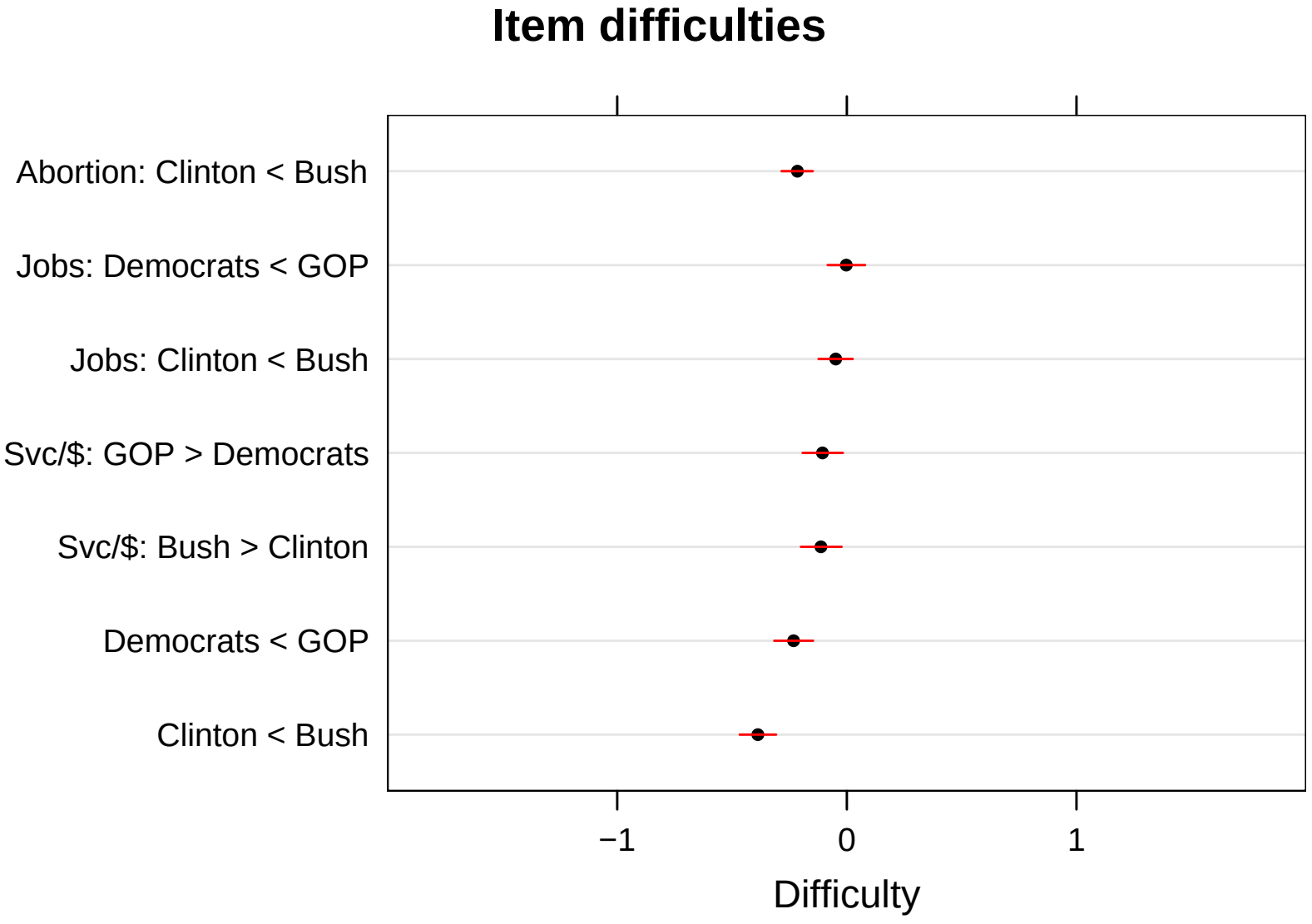

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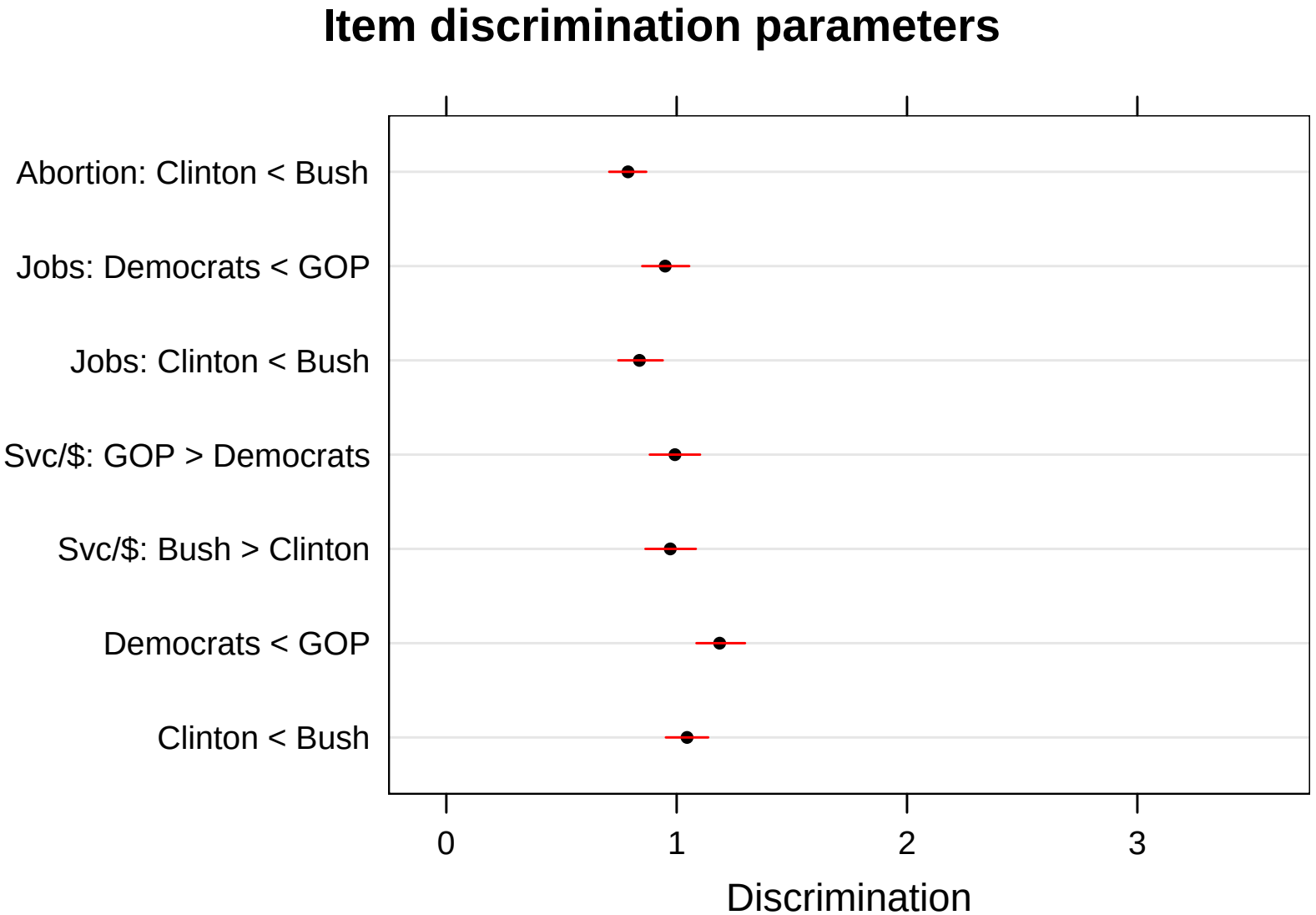

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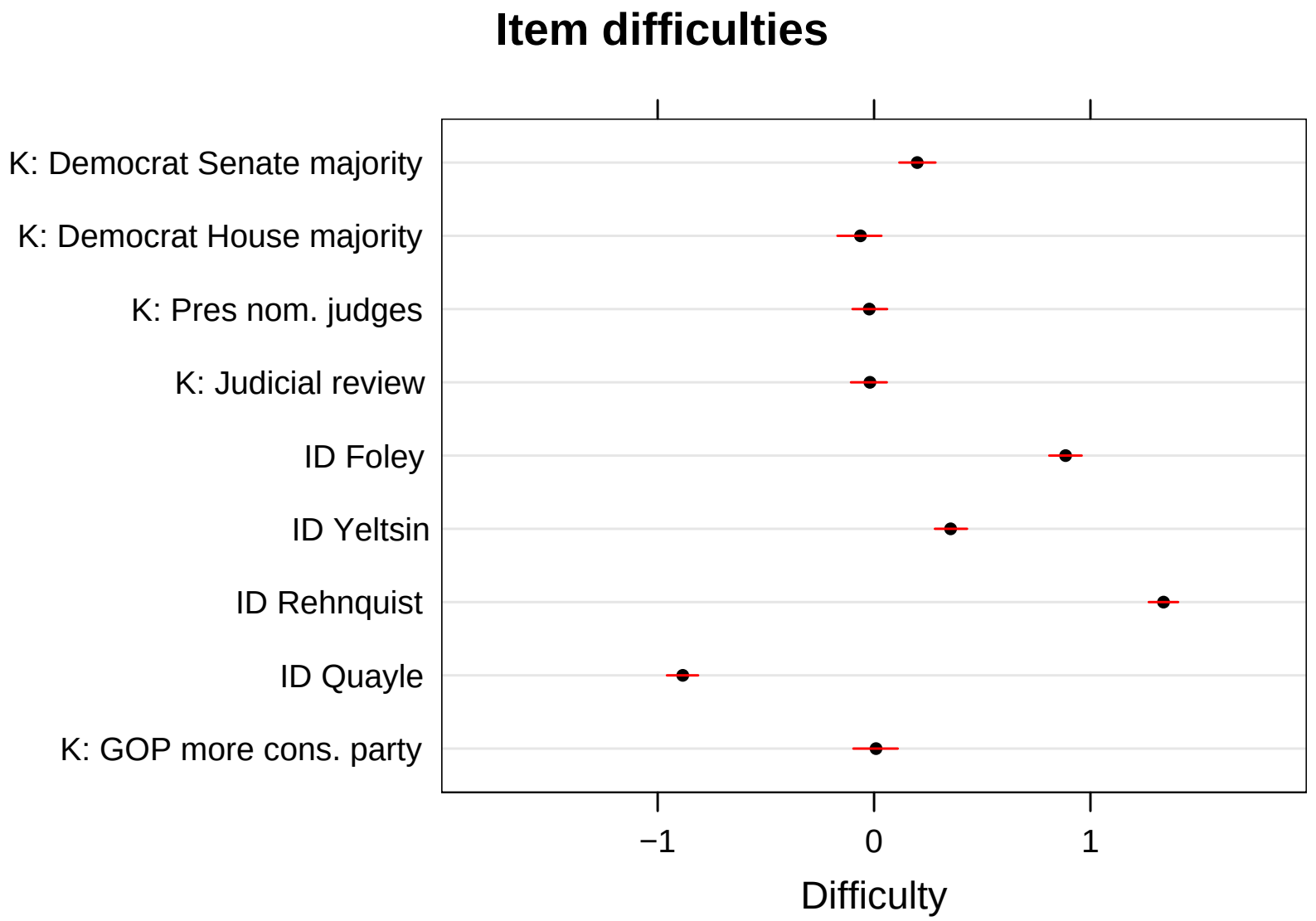

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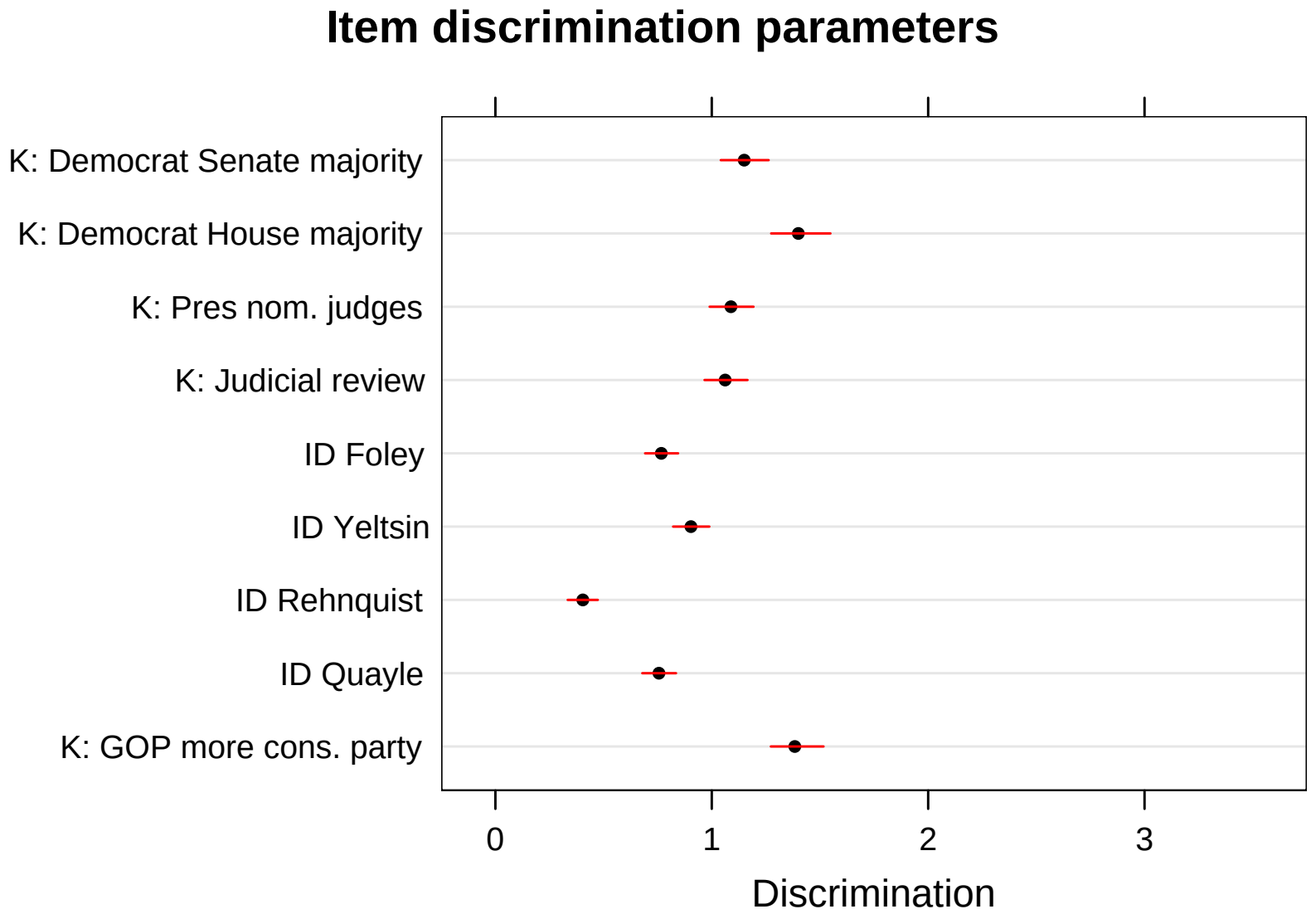

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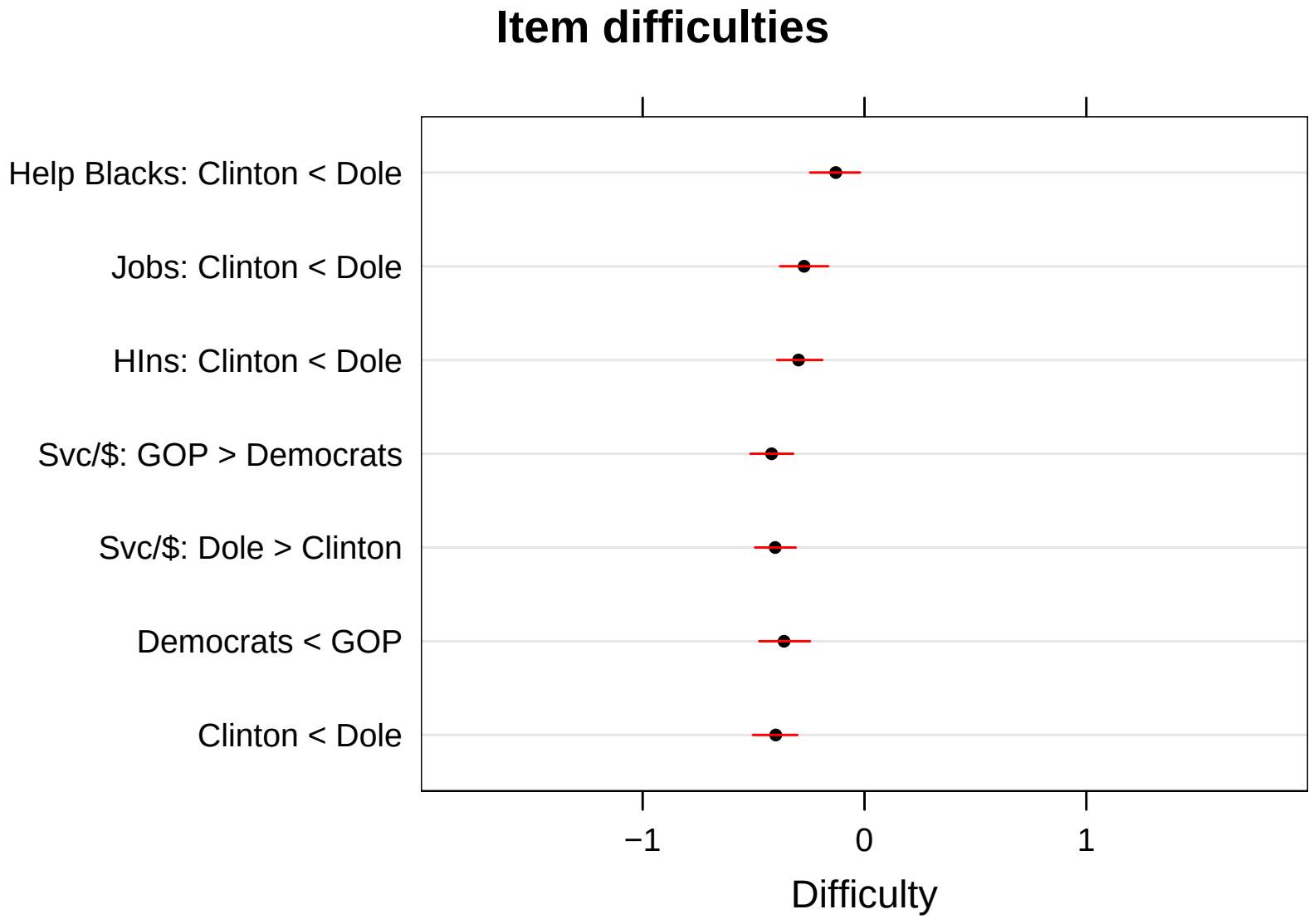

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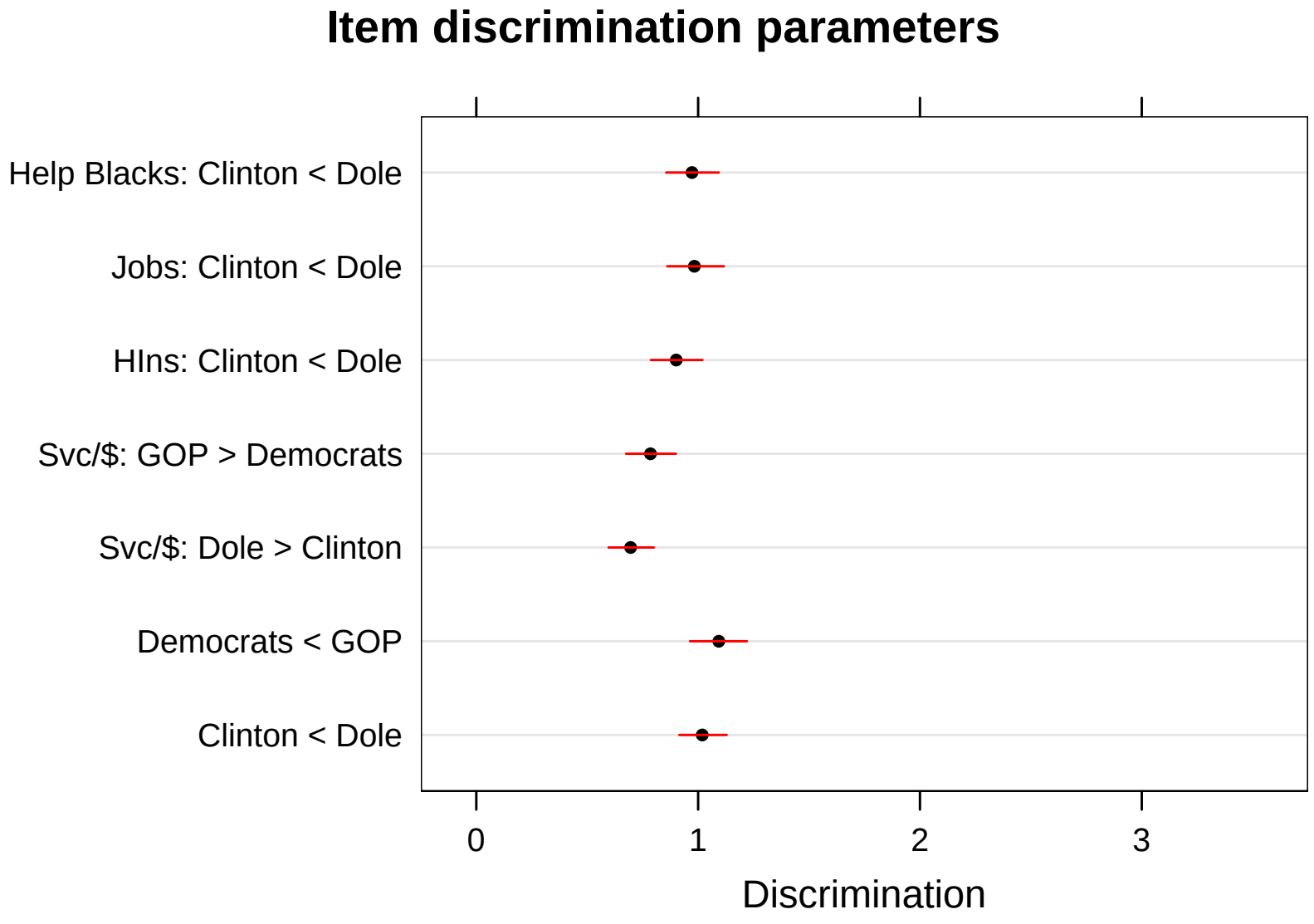
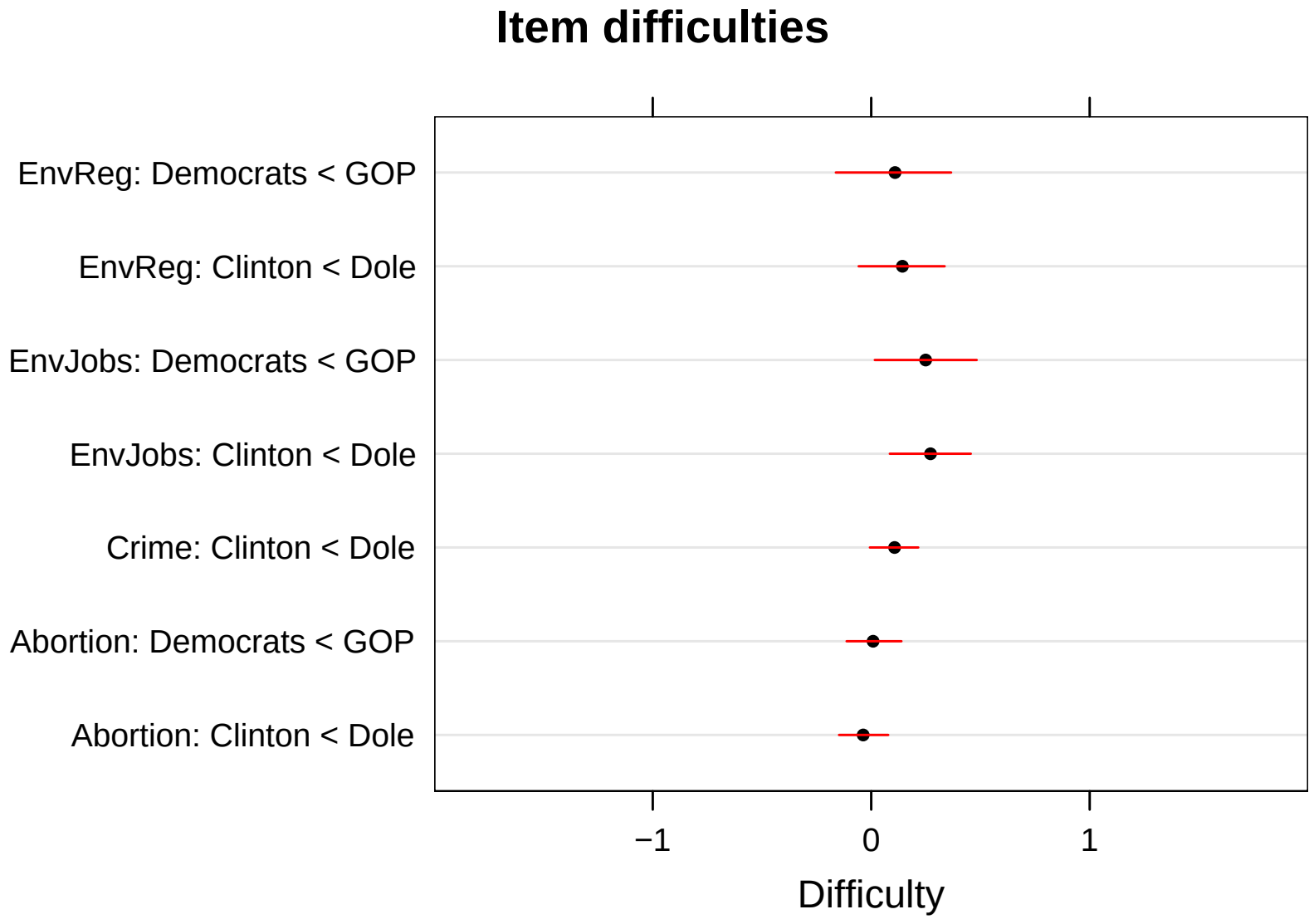


1996 party/candidate placement items (group 2)



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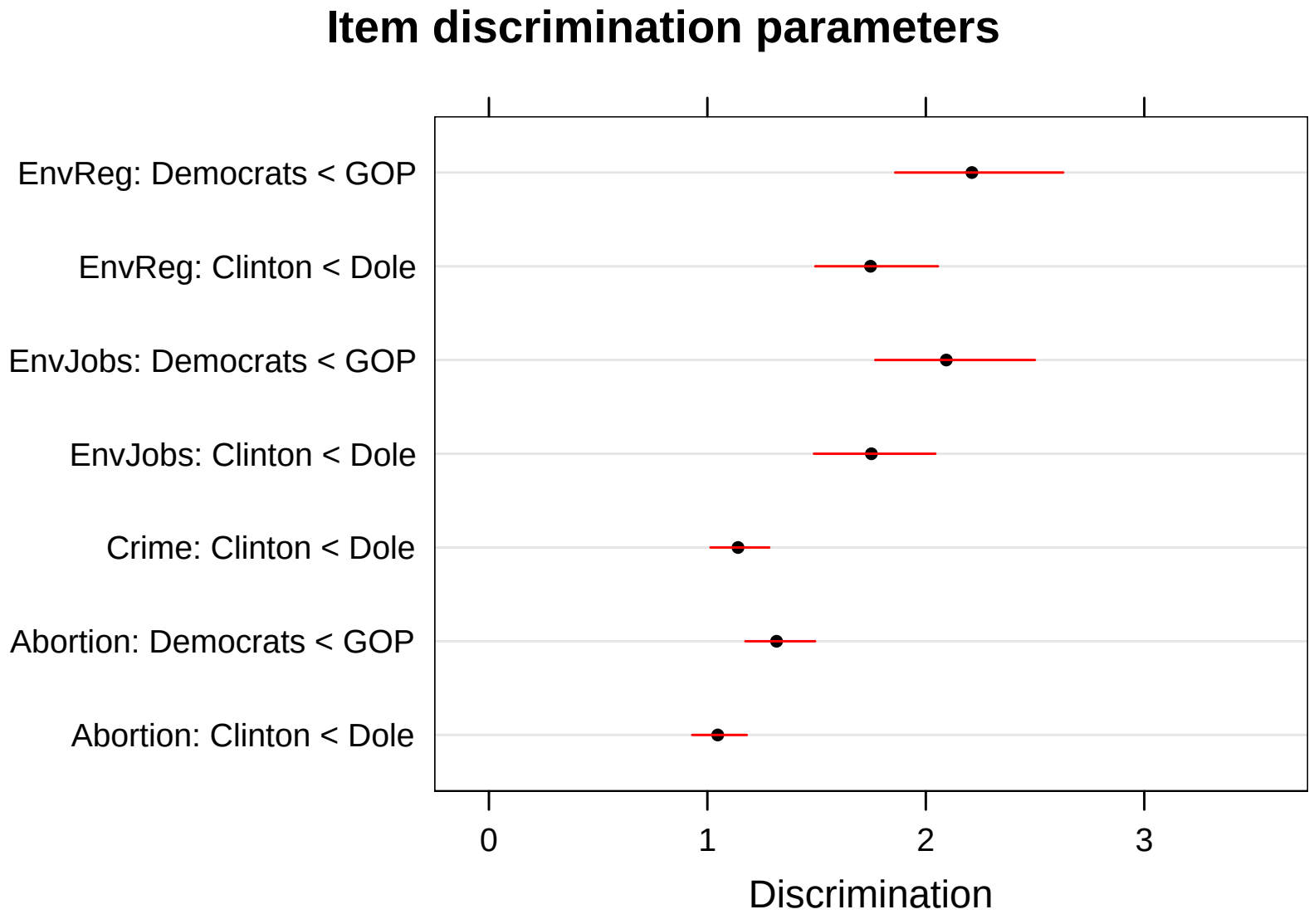

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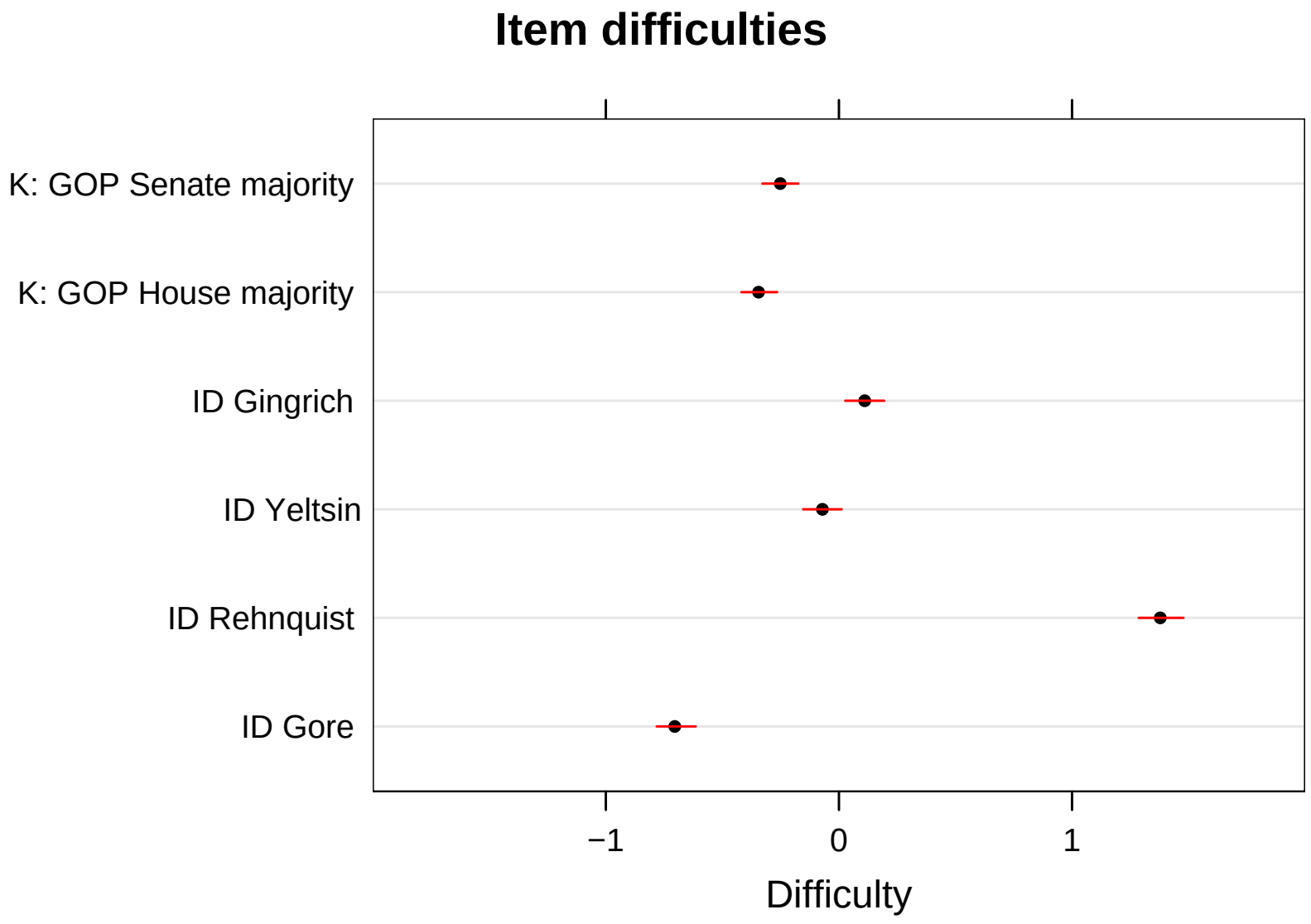

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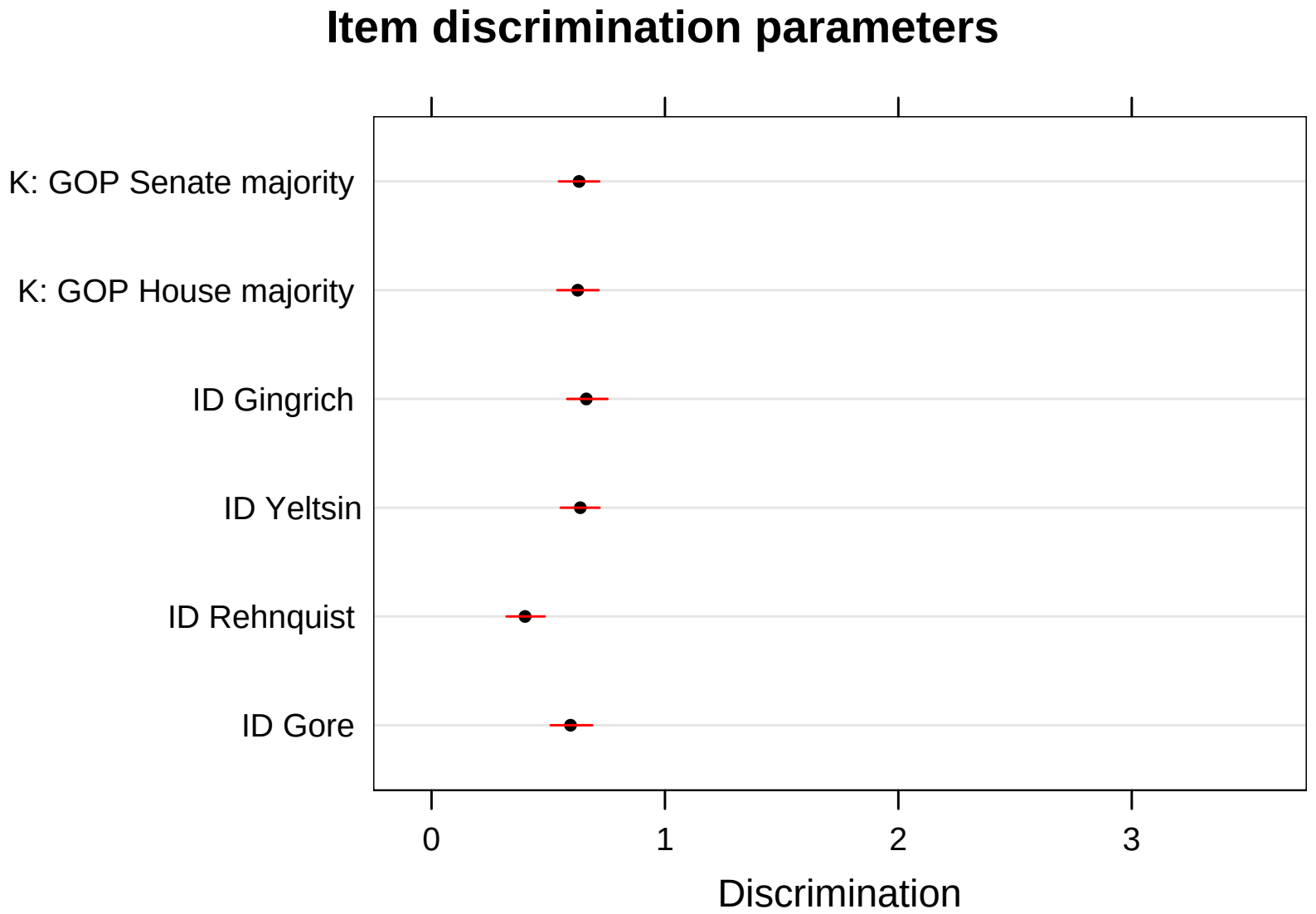

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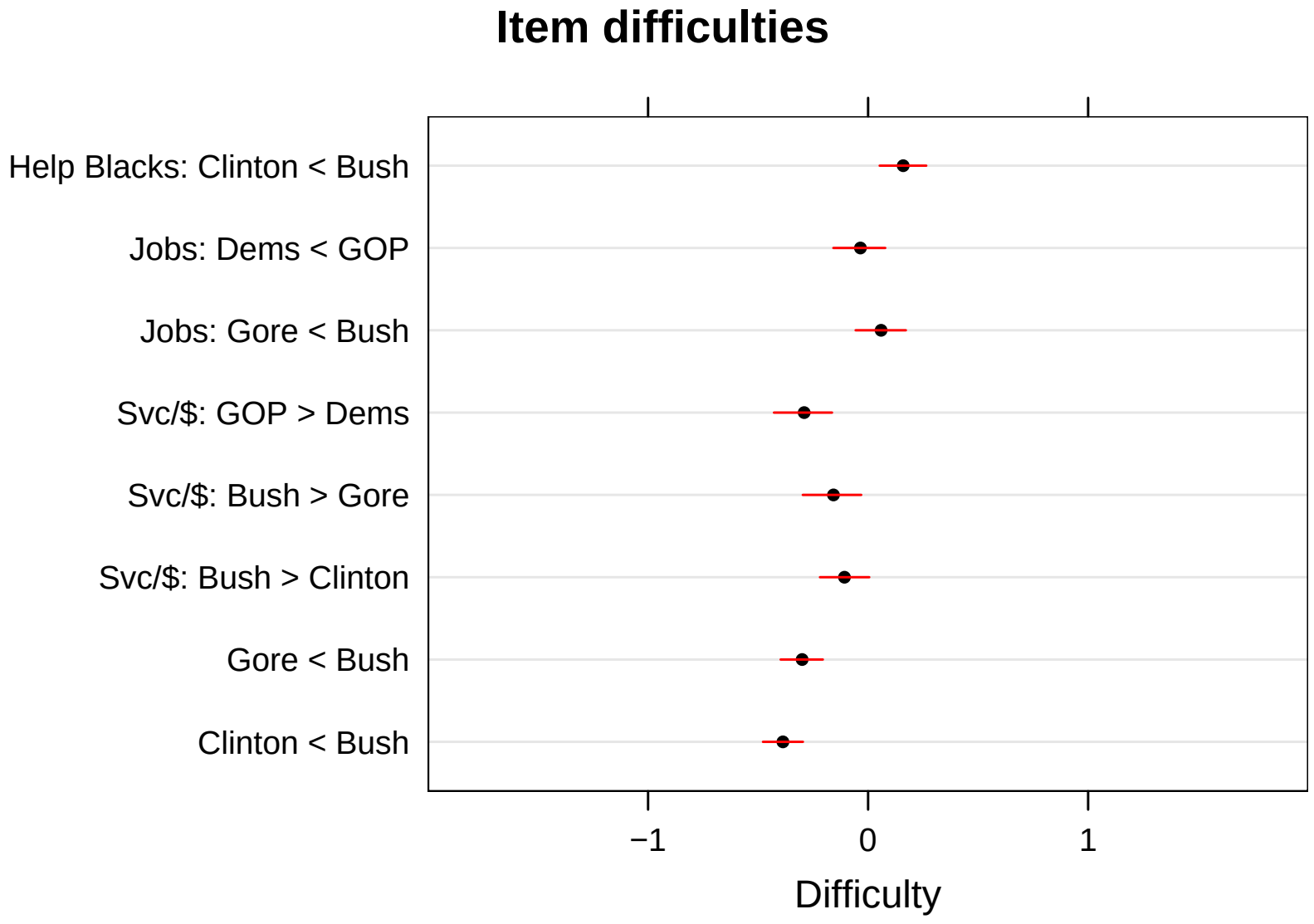

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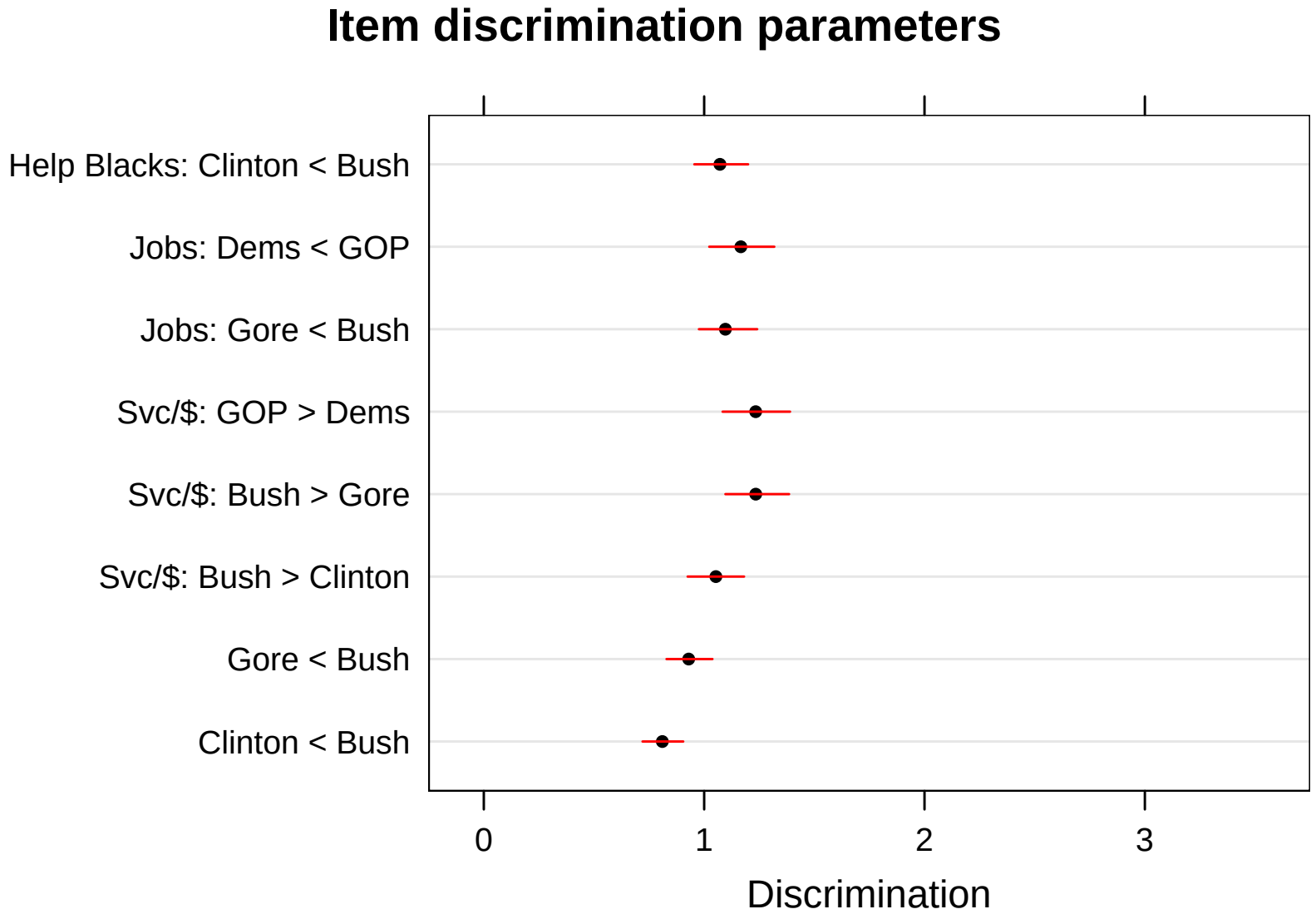

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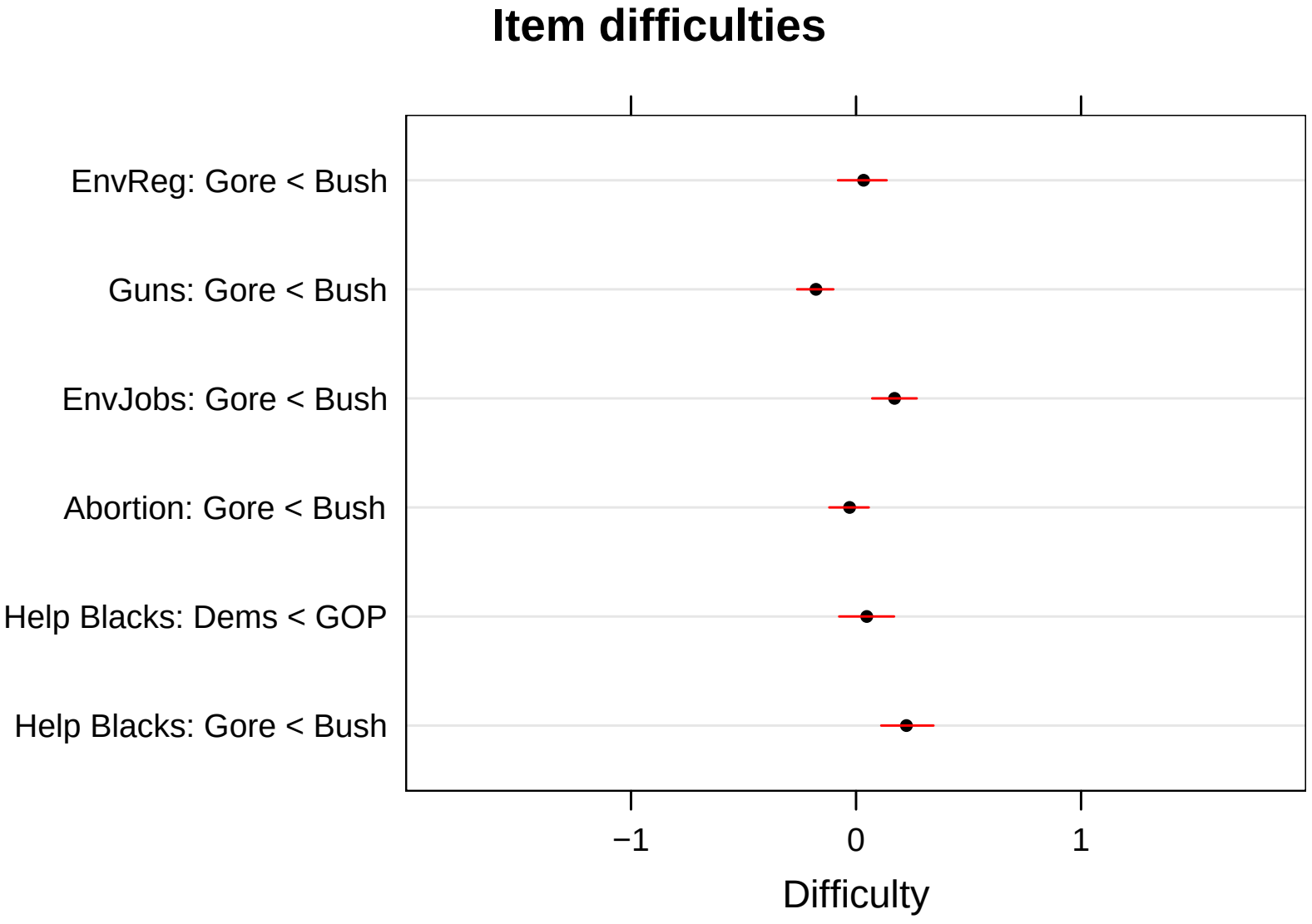

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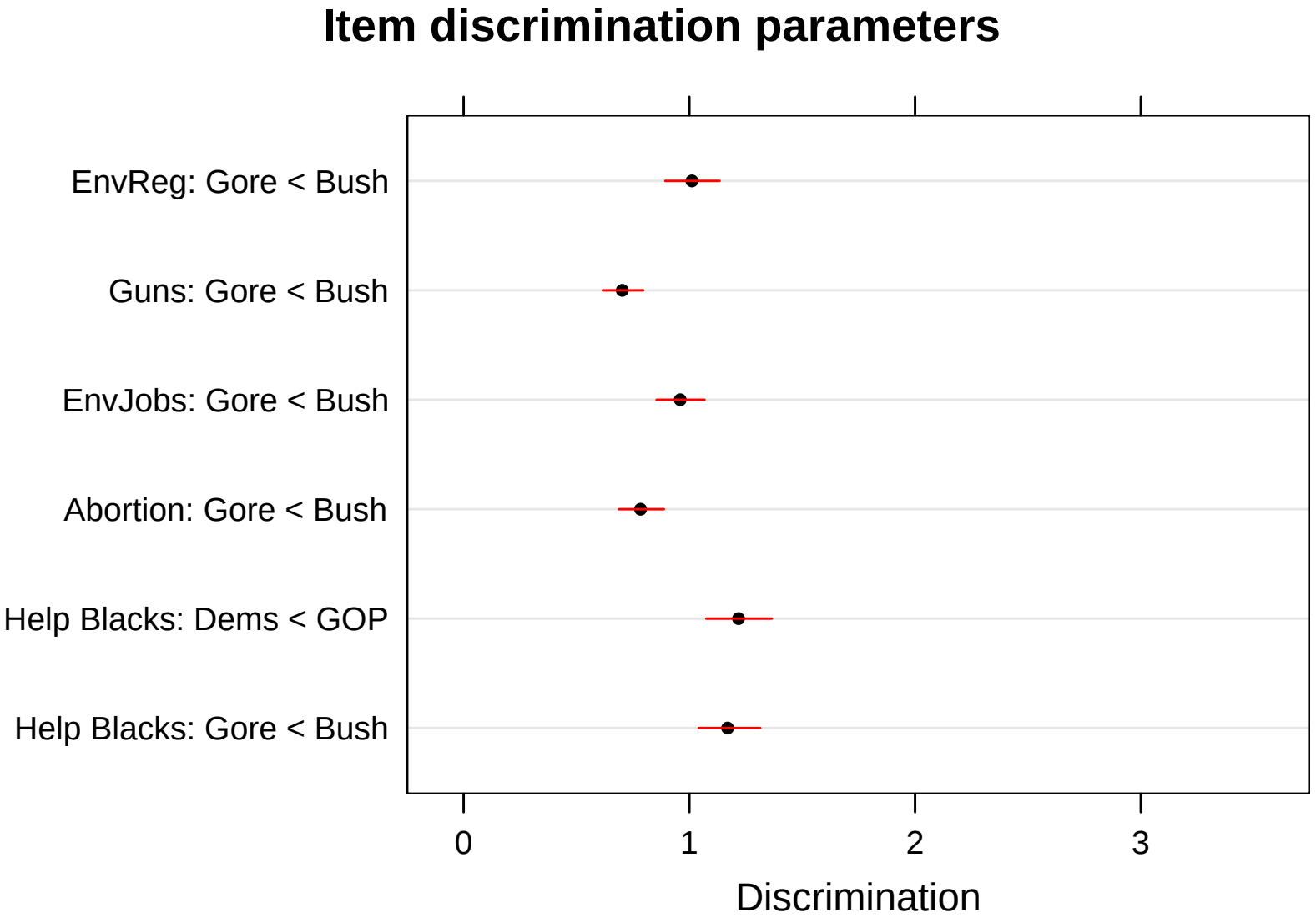

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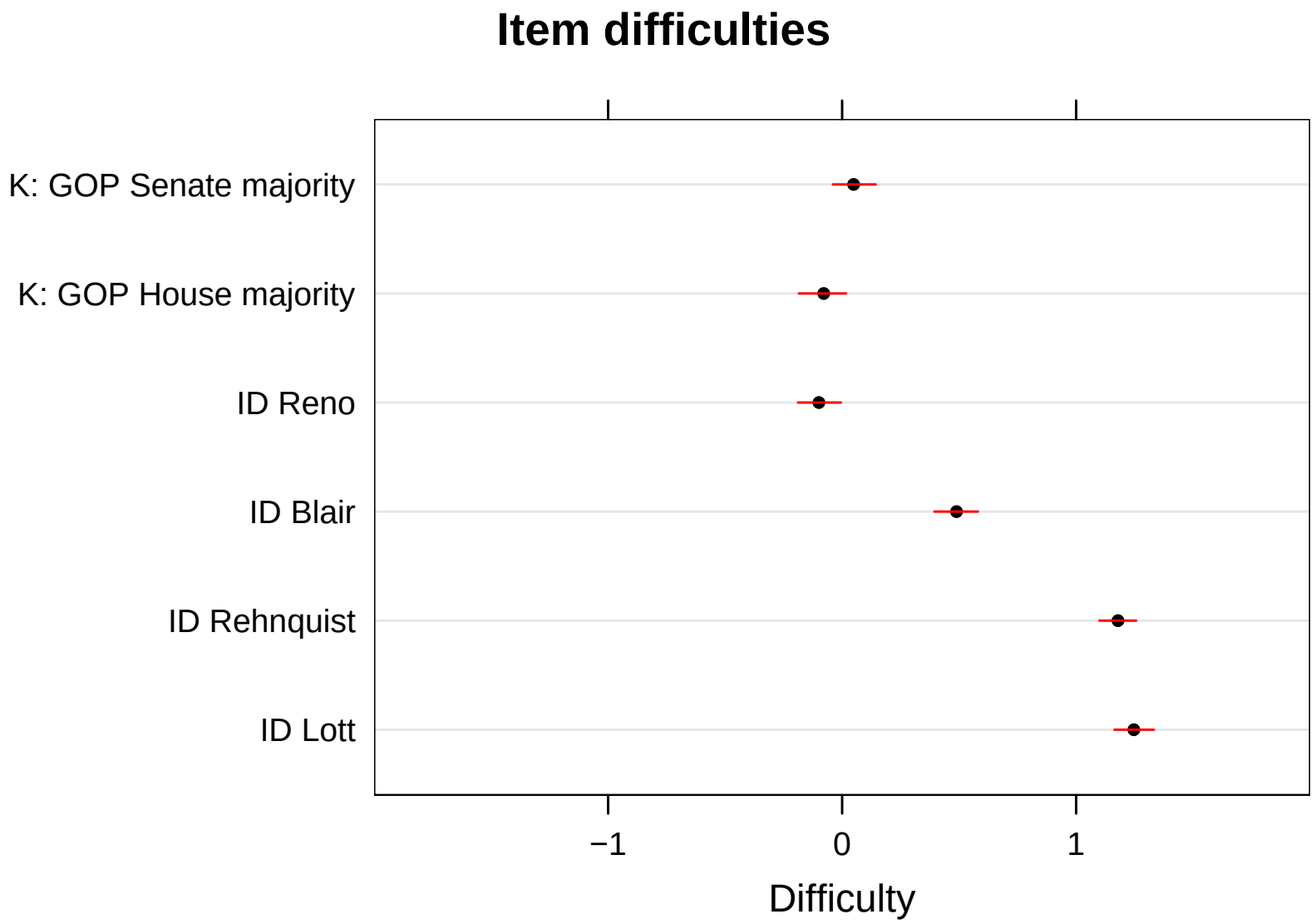

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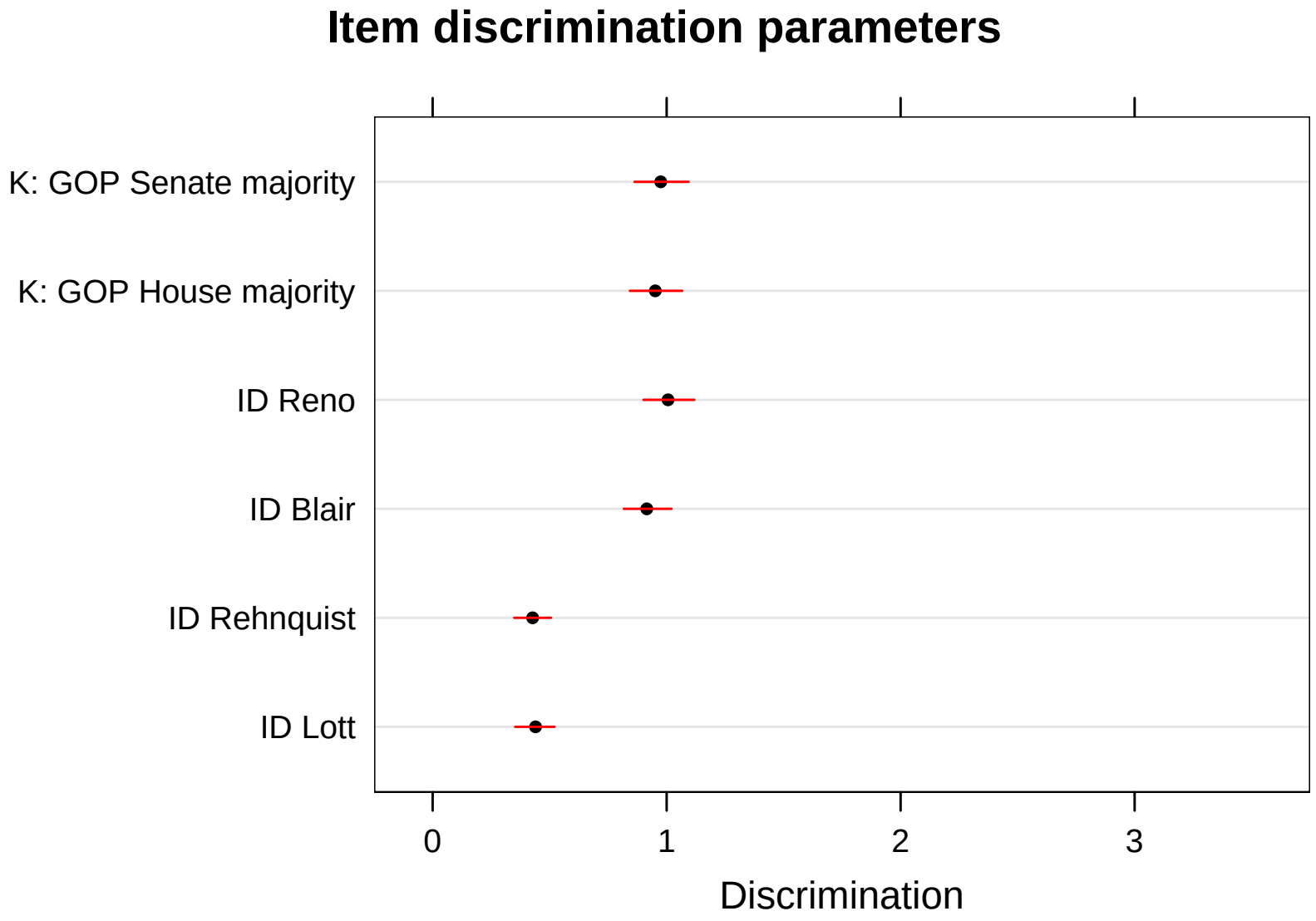
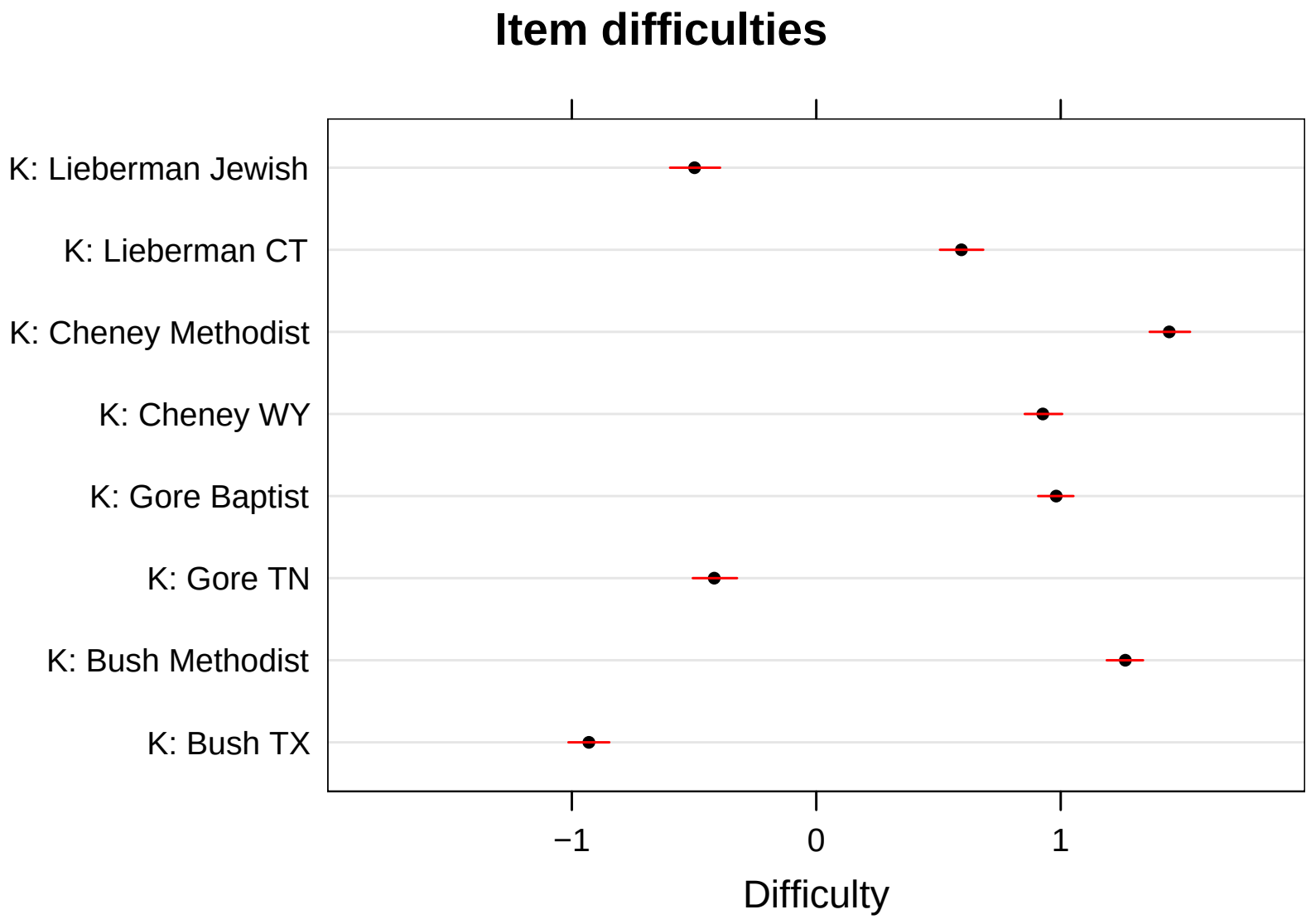


2000 candidate biographical items



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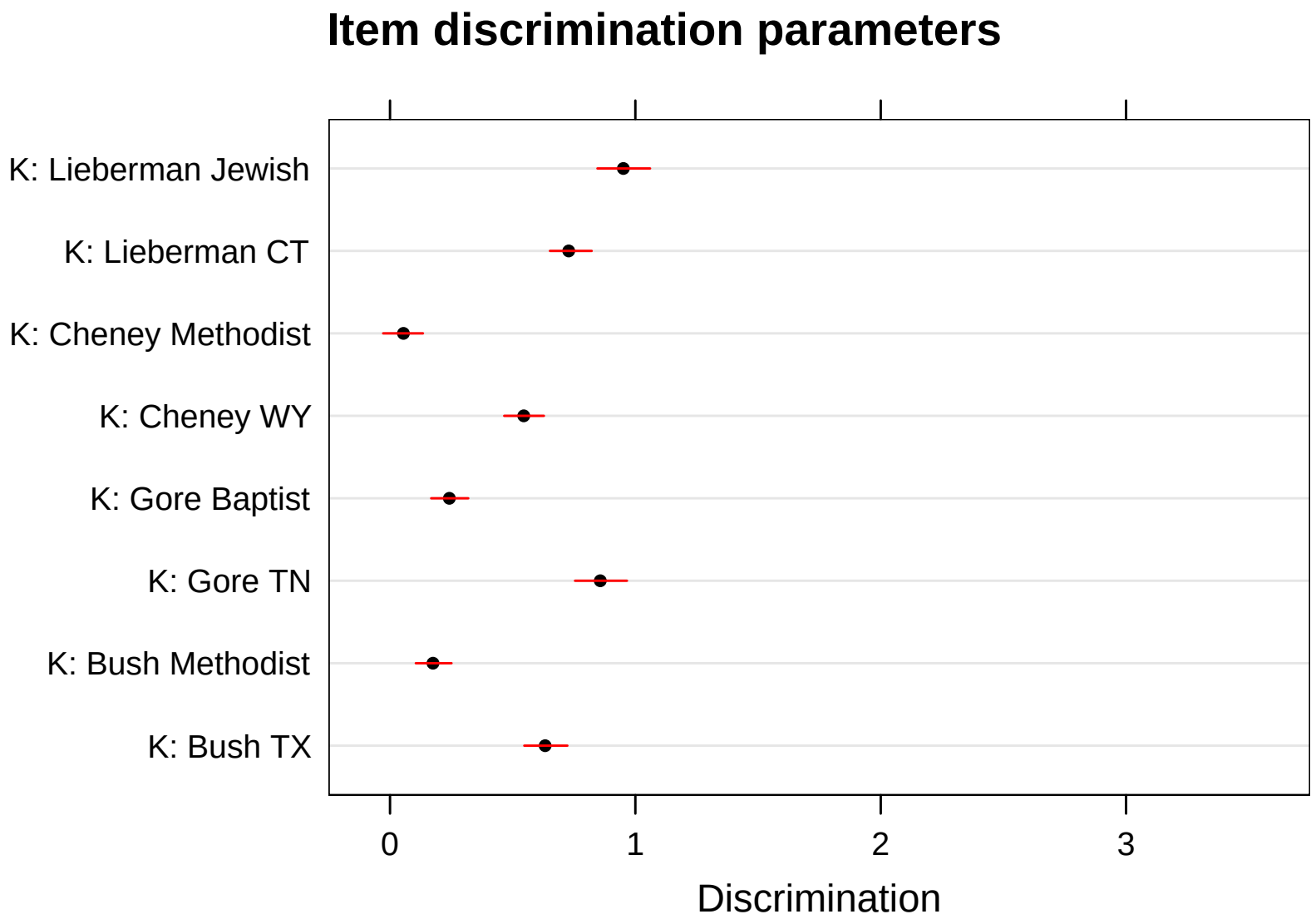

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- Most candidate biographical data questions in 2000 did not perform well (particularly religion), perhaps due to low public awareness and low salience.

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- Incorporating ideological measures like RU (recognition/understanding) and AU (active use) into the analysis.