

# SEMANTIC ACCOUNTS OF RISK PERCEPTION

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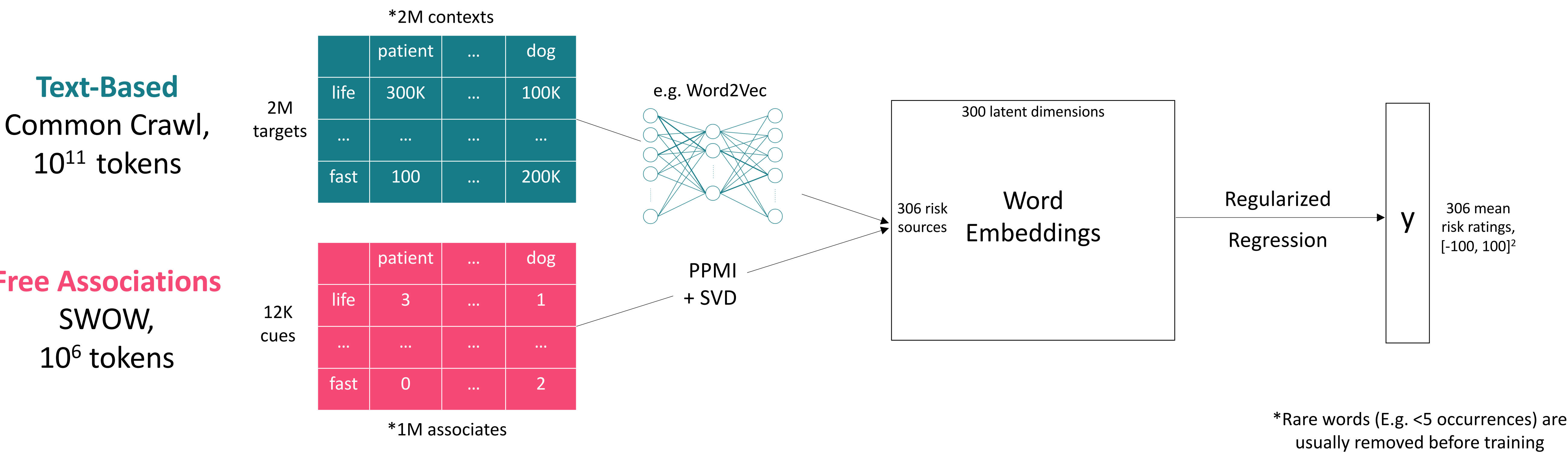
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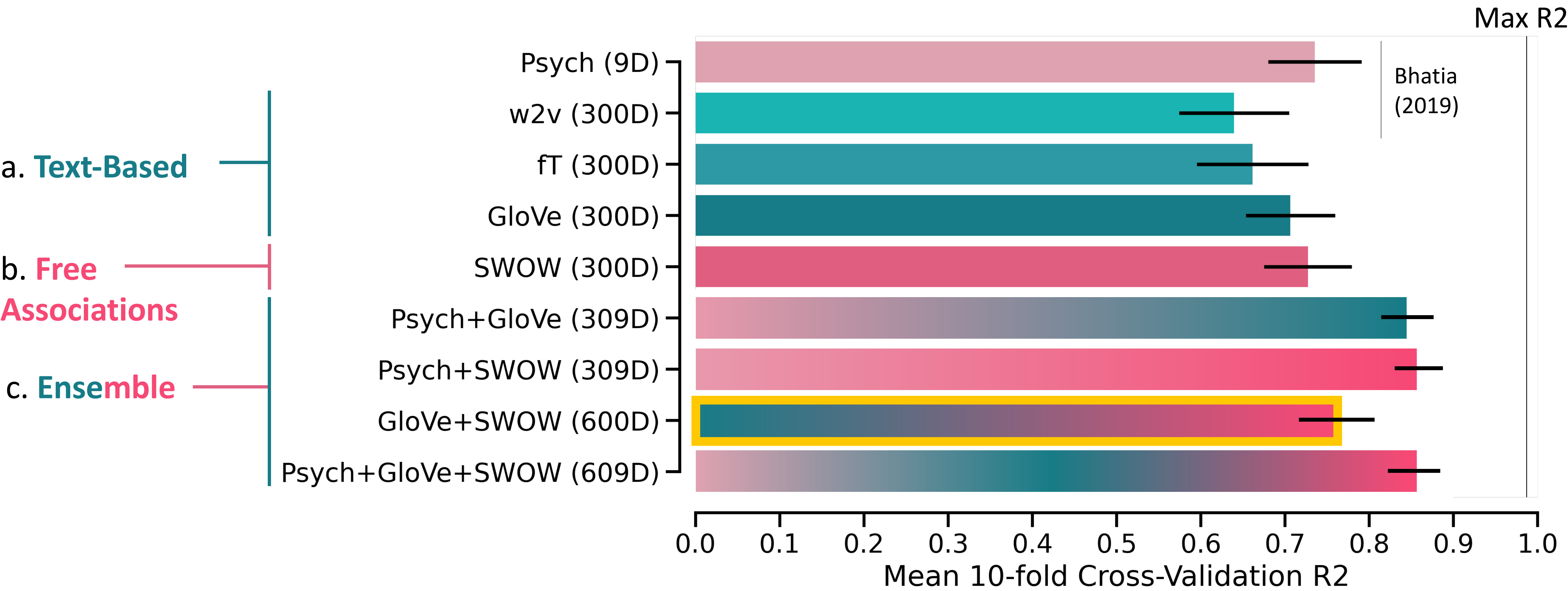
Individuals face an increasingly large number of social and technological risks. The ability to predict how these risks are perceived is of critical interest for researchers and policymakers alike<sup>1</sup>. In this project, we ask:

- 1. Can we improve the language-based prediction of risk perception:
  - a. Using **newer text-based** embeddings than those used in Bhatia (2019)<sup>2</sup> | fastText, GloVe
  - b. Using **free-association** based embeddings | SWOW<sup>3</sup>
  - c. Using **ensemble** embeddings | E.g. GloVe+SWOW
- 2. Can we leverage the best language models to understand risk polarization and improve risk communication?

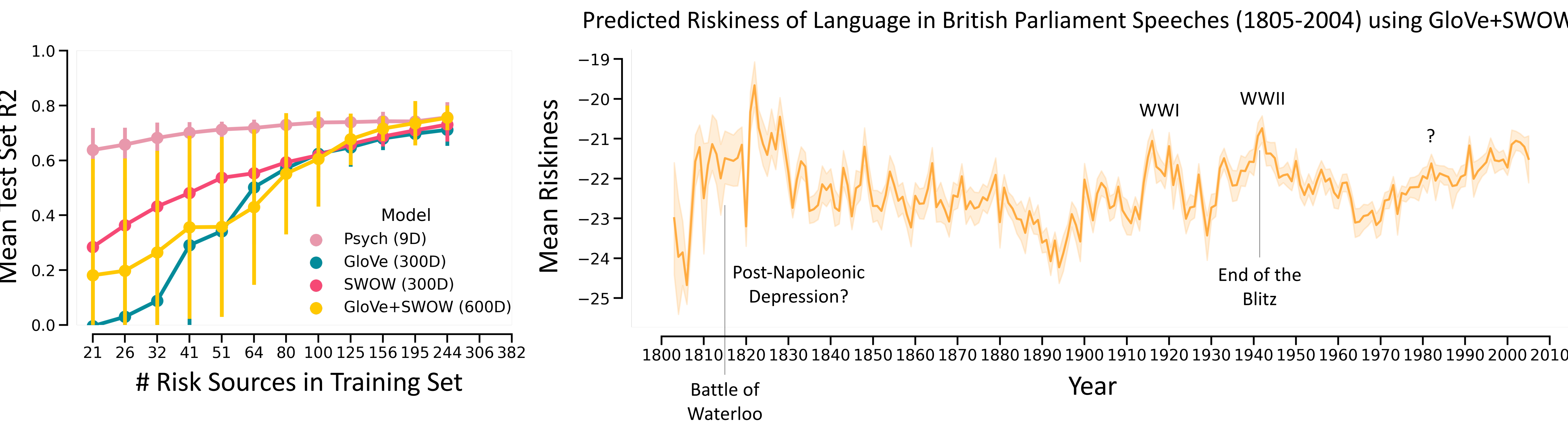
## Using Language Data to Predict Risk Perception



## Free Associations On Par with Text, Ensembles Beat Individual Embeddings



## Next Steps: More Training Data, Risk-from-Text Applications



## References

- <sup>1</sup> Wulff, D. U., & Mata, R. (2022). On the semantic representation of risk. *Science advances*, 8(27), eabm1883.
- <sup>2</sup> Bhatia, S. (2019). Predicting risk perception: New insights from data science. *Management Science*, 65(8), 3800-3823.
- <sup>3</sup> De Deyne, S., Navarro, D. J., Perfors, A., Brysbaert, M., & Storms, G. (2019). The “Small World of Words” English word association norms for over 12,000 cue words. *Behavior research methods*, 51(3), 987-1006.