

# Misinfo Reaction Frames:

## Reasoning about Readers' Reactions to News Headlines

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Link to data/models: <https://github.com/skgabriel/mrf-modeling>

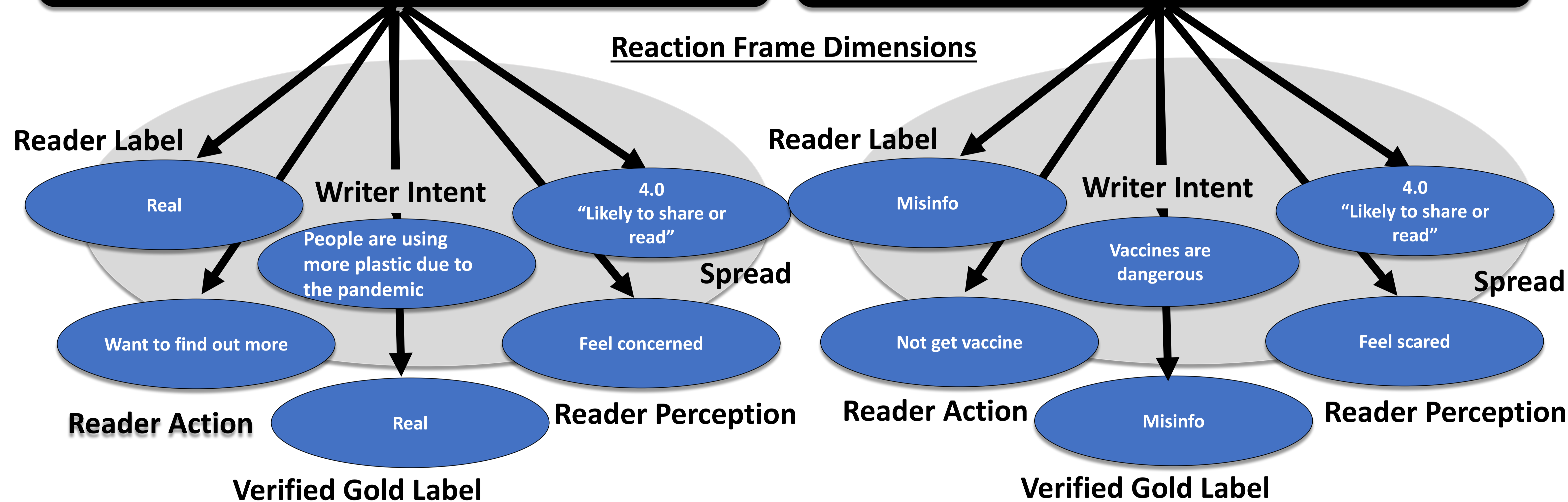
We propose **Misinfo Reaction Frames** as a pragmatic formalism for understanding how readers interpret real news and misinformation.

Headlines have varying societal impacts depending on implications:

**Environmentalists fear increase in plastic pollution amid coronavirus pandemic**

**Covid-19 Vaccines Pose Cancer Risk**

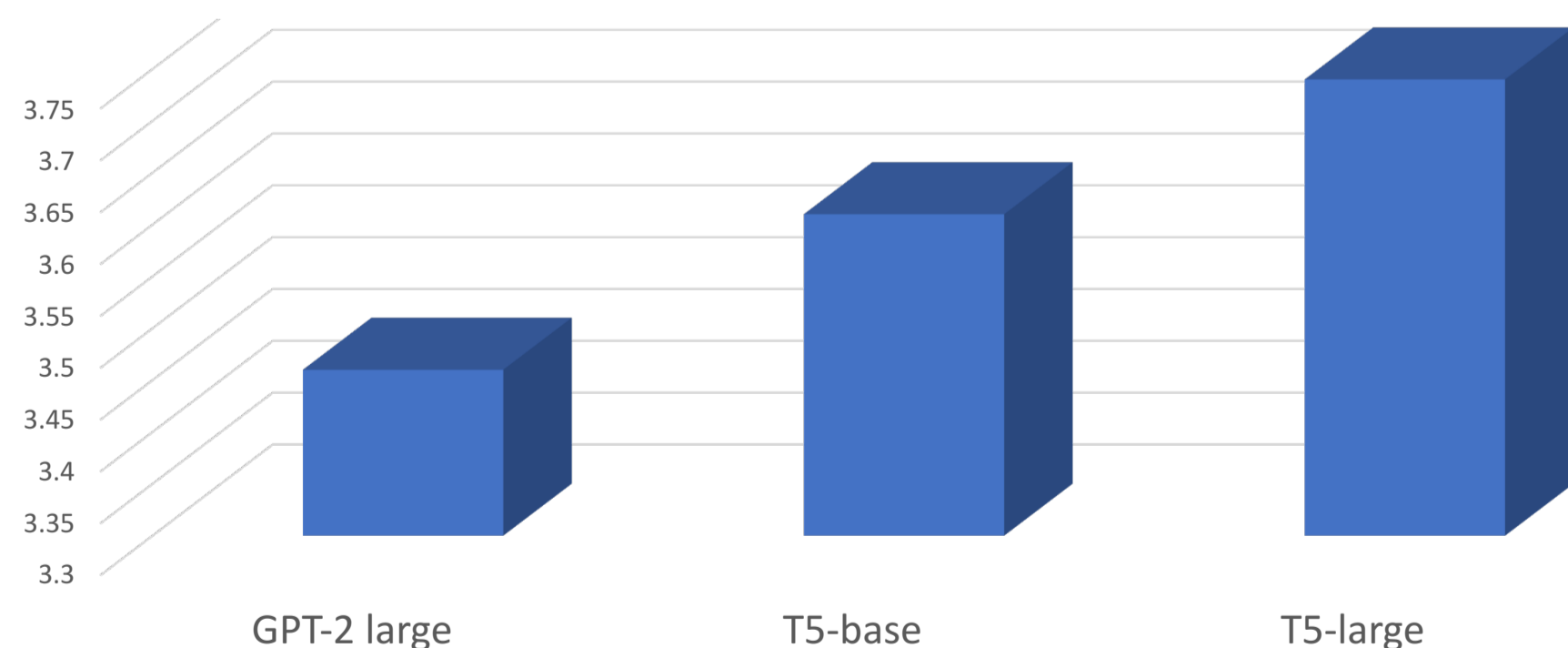
### Reaction Frame Dimensions



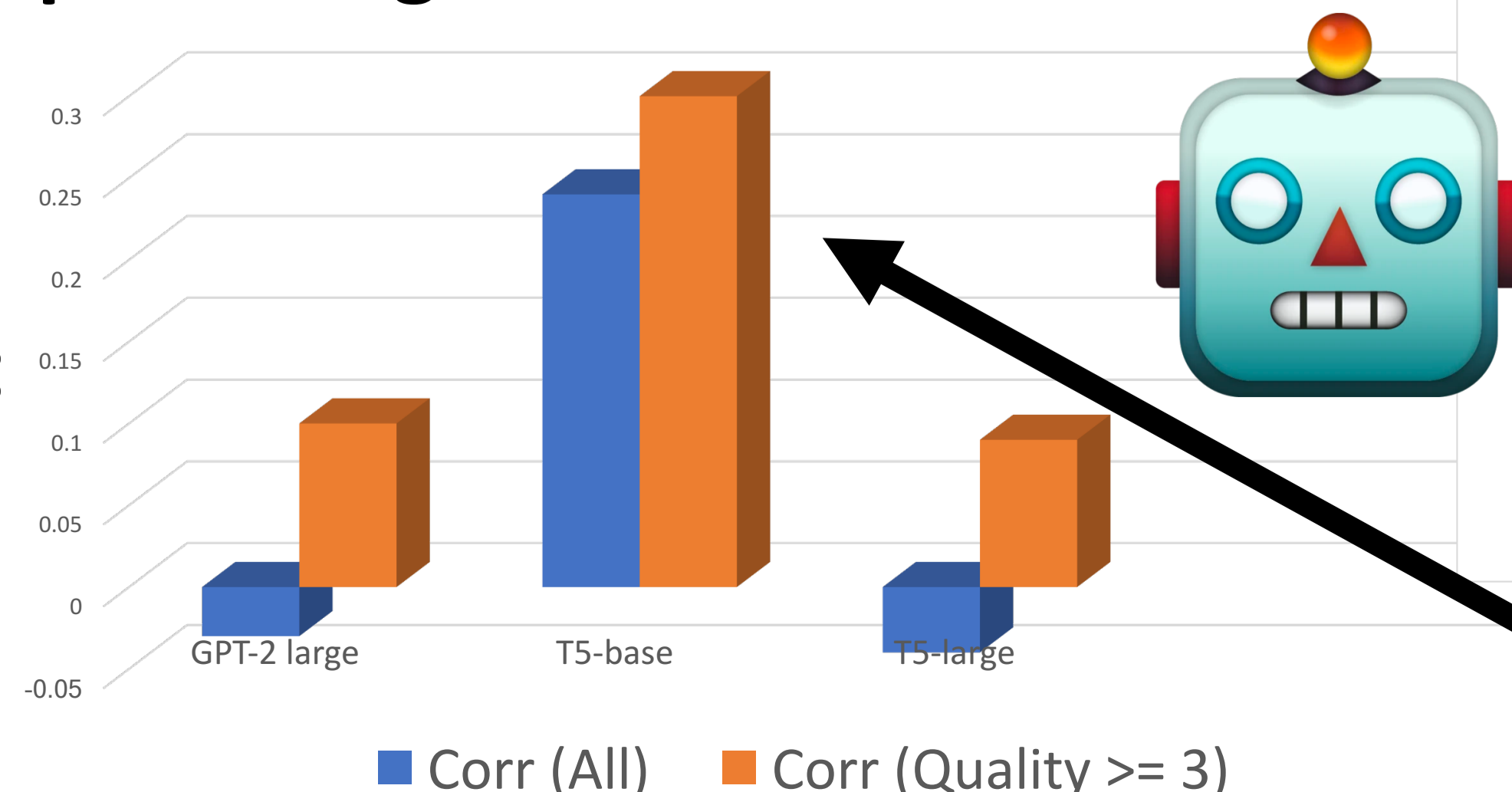
Misinfo Reaction Frames covers 69.8k unique implications relating to 25.1k Covid-19, climate and cancer news headlines.

We elicit structured annotations from 80 trained Amazon Mechanical Turk workers.

Quality of generations evaluated on a 5-point likert scale.



Generative models perform well at predicting free-text variables.



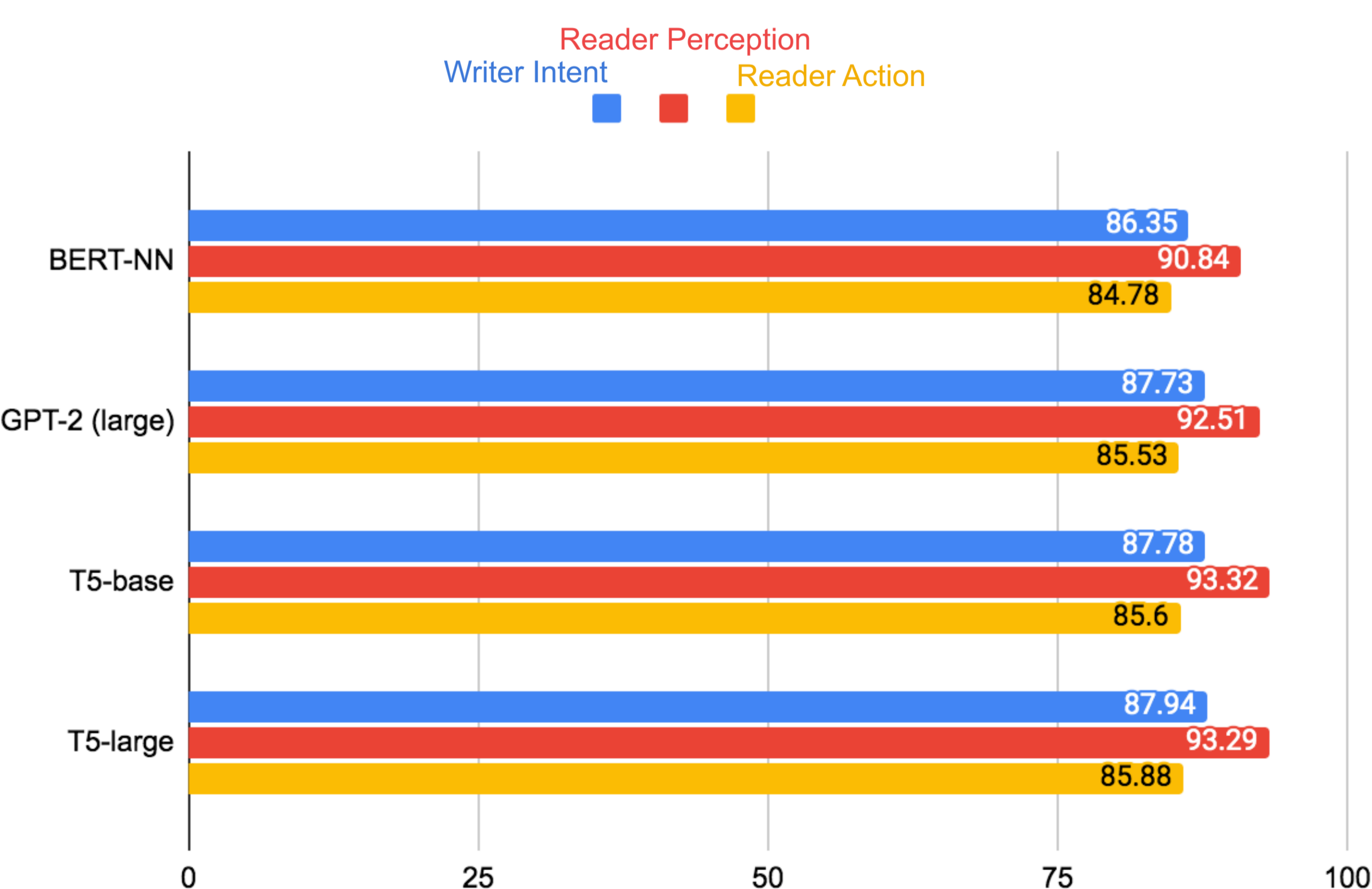
### Results

**Headline: Perspective — I'm a black climate expert. Racism derails our efforts to save the planet.**  
**Human prediction of writer intent:** *Since climate change will likely affect poorer nations, rich societies are not motivated to help.*

**T5 pretrained language model:** *The writer is implying that racism is a problem for society.*

**Machine-generated MRF writer intents affect reader trust in news.**

We can predict reaction frames for unseen headlines using generative transformer models like T5.



BERTScore F1 for free-text variables.

**Future work:** We can use MRF to train detection models for emerging types like machine-generated misinformation (Schuster et al., 2020, Zellers et al., 2019).