

Tracking Emotions through Surveys with Fine-Tuned LLMs

Weekly Digital Trace Data

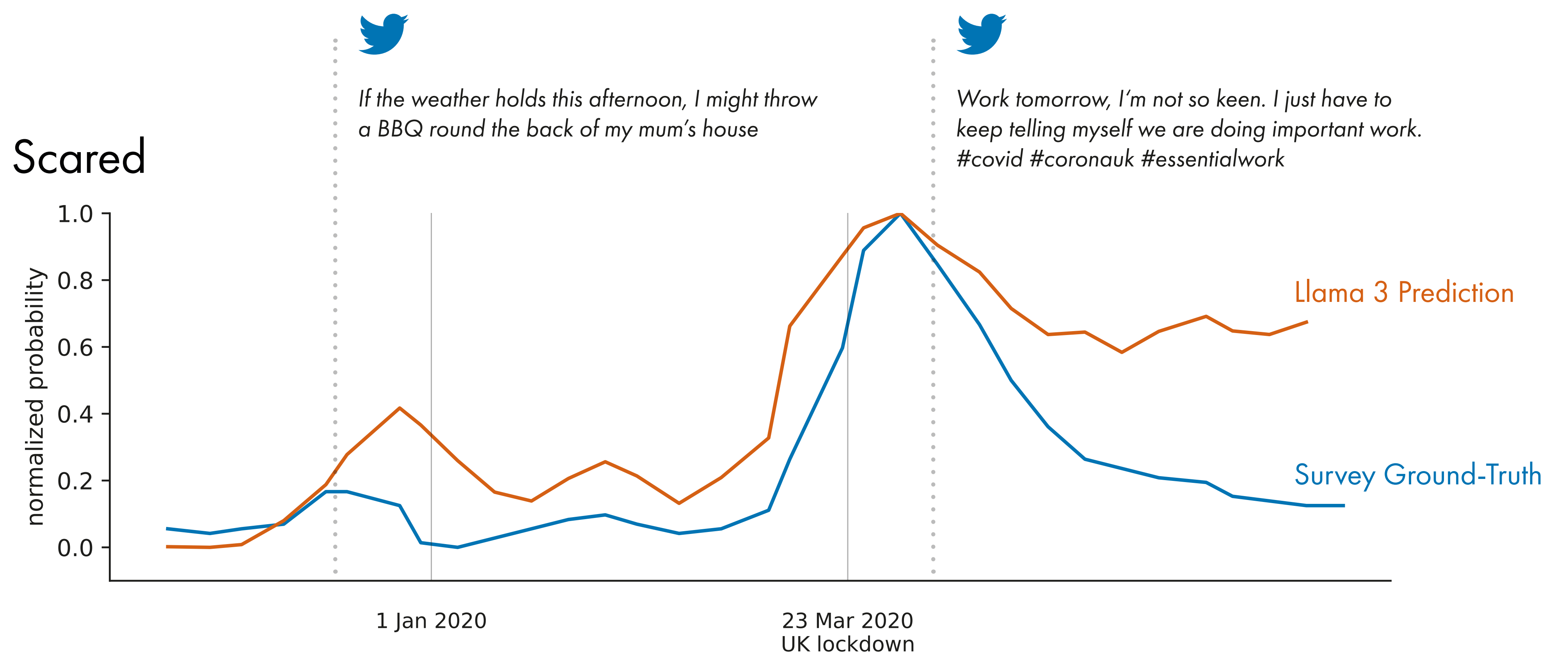
Full timelines of 22,000 UK Twitter users

Filtered for brands, activity
385,000 tweets per week

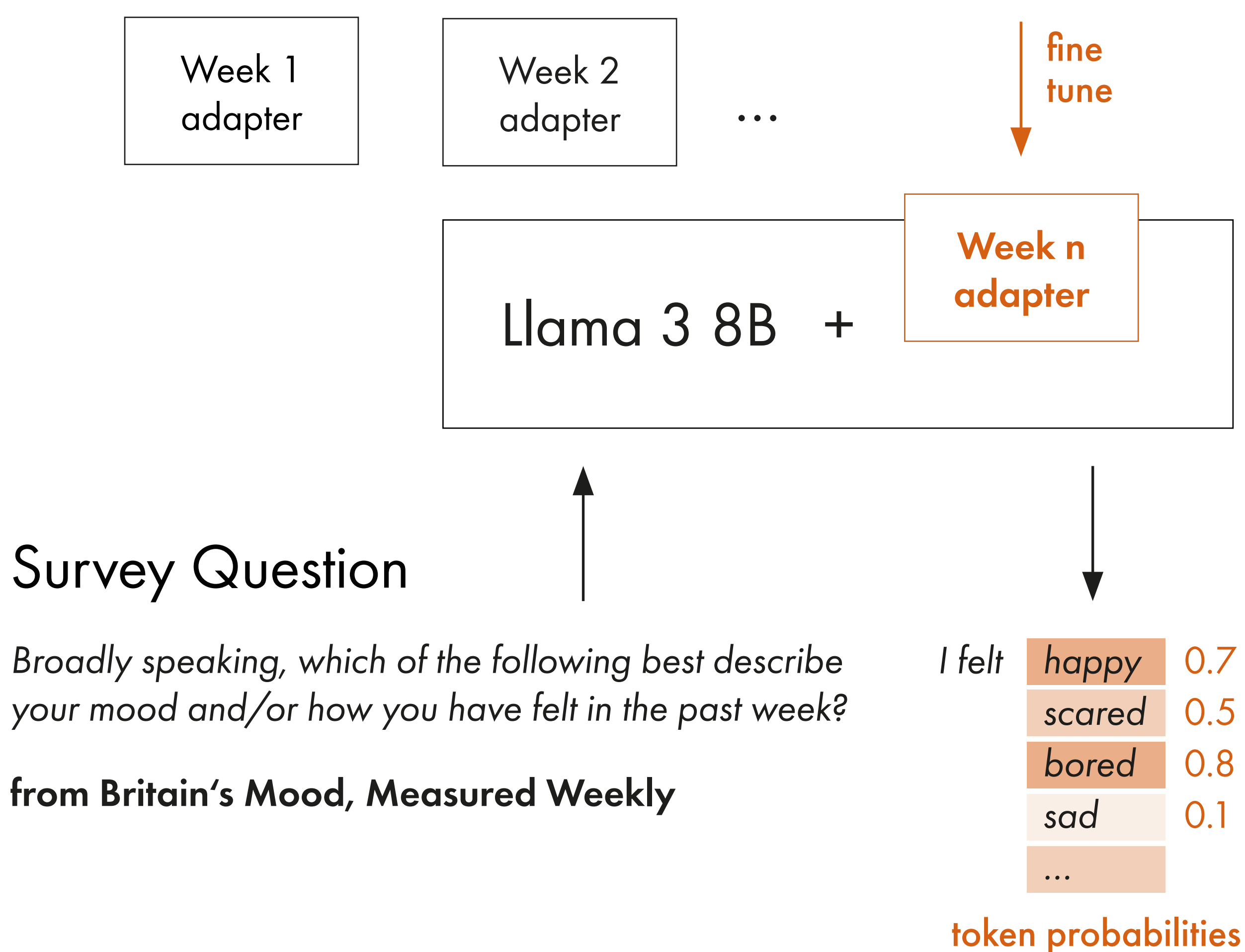
Weekly Emotions

YouGov: Britain's Mood, Measured Weekly

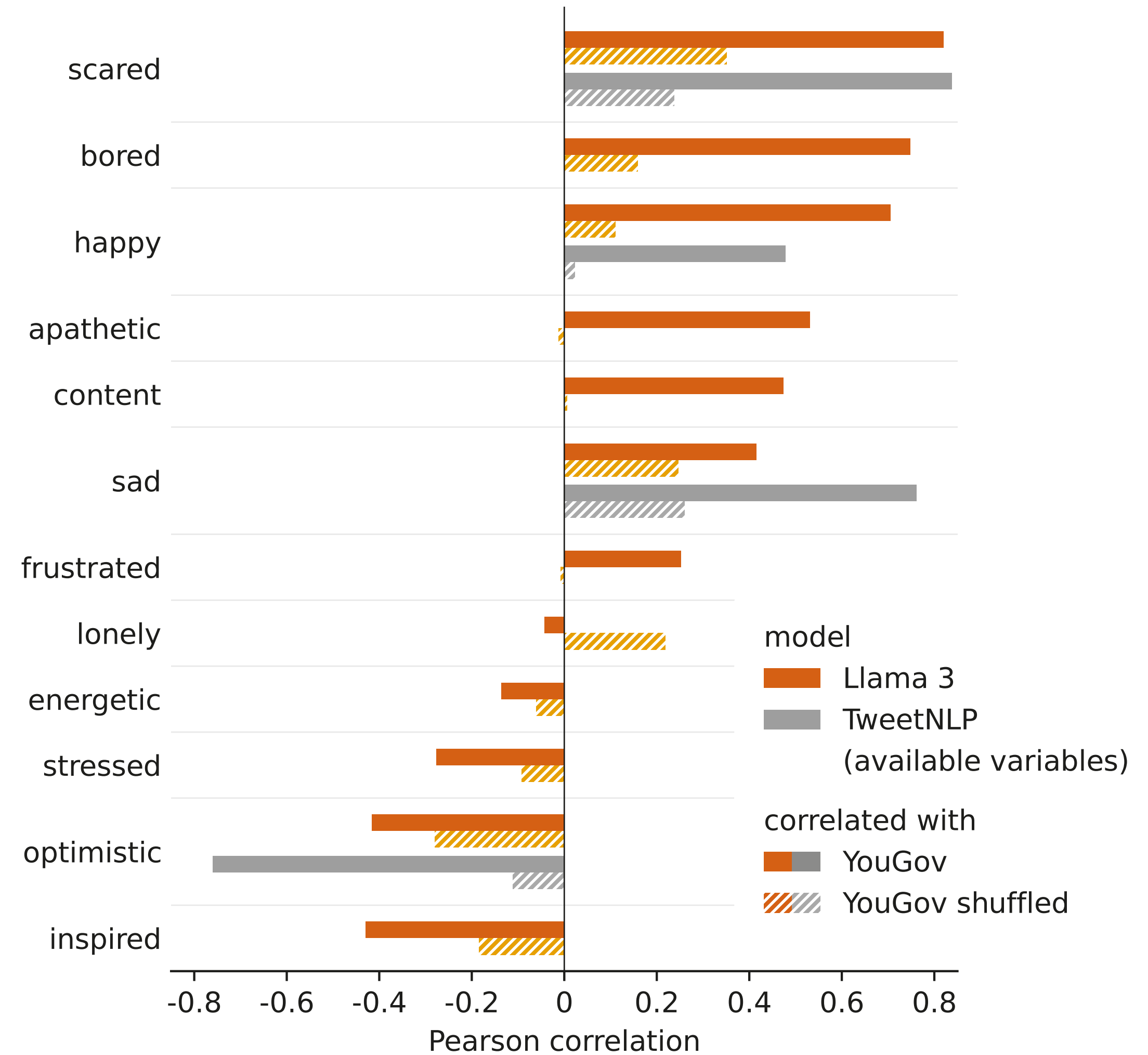
Weekly survey of 2,000 UK adults
Measures happy, sad, frustrated, optimistic, stressed,...



Method



Results



Experimental Setup

Ground-Truth

Correlated with representative YouGov survey data

Internal Validity

Tested by training on Tweets with labeled emotions

Baseline Method

TweetNLP – supervised emotion detection based on BERT

Generalizability

Extend to other GB surveys (work in progress)

Implications

Successful Emotion Tracking

Correlation comparable to supervised emotion detection – scared & happy

No Labeled Data Required

Results for all emotions surveyed by YouGov through LLM inference – bored

Digital Trace Limitations

Expression of emotion differs between social media and surveys – optimistic



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