Trust in Online symptom Checkers Across Cultures

Group 11:
Mona Amirsoleimani, Mats Frenk and Youssef Mansour

Try Pitch

Motivation

- Digital symptom checkers are becoming increasingly common in global healthcare.
- Impact depends on trust — especially across diverse cultural backgrounds.
- Lack of cultural adaptation → discourage to use them
- Understanding this could help **improve inclusivity, usability, and public health outcomes**.

Research Question

"Do **cultural differences** affect **trust and usability** of online symptom checkers?"

Study Design & Measures

Creating Online Surveys with SoSci Survey

Optimizing Questions

Online Questionnaire

Designed with SoSciSurvey

WebMD

Symptomate

Platform

WebMD and Symptomate for two scenarios (mild + severe).

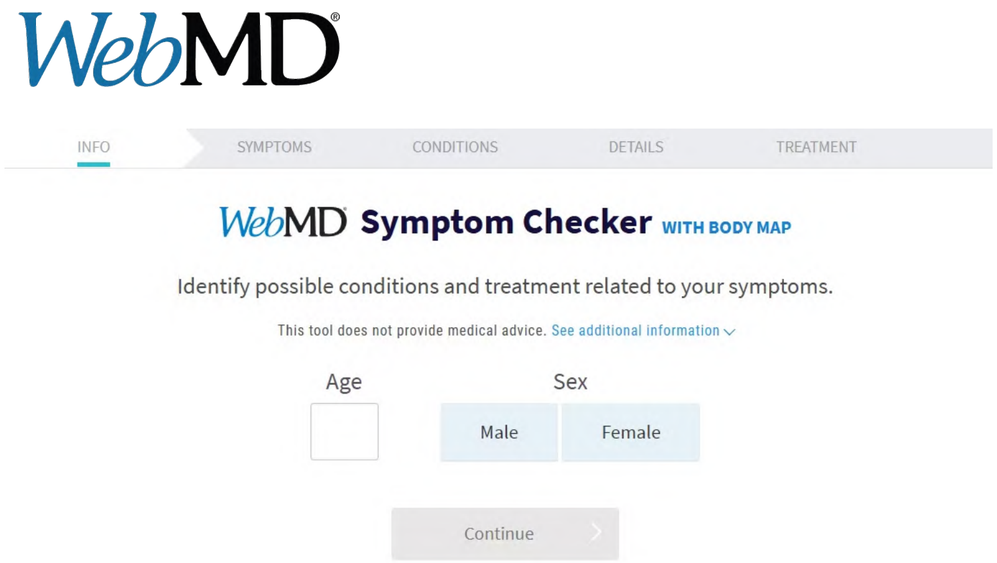
Evaluated Factors

- Trust
- Usability
- Likelyhood to follow advice

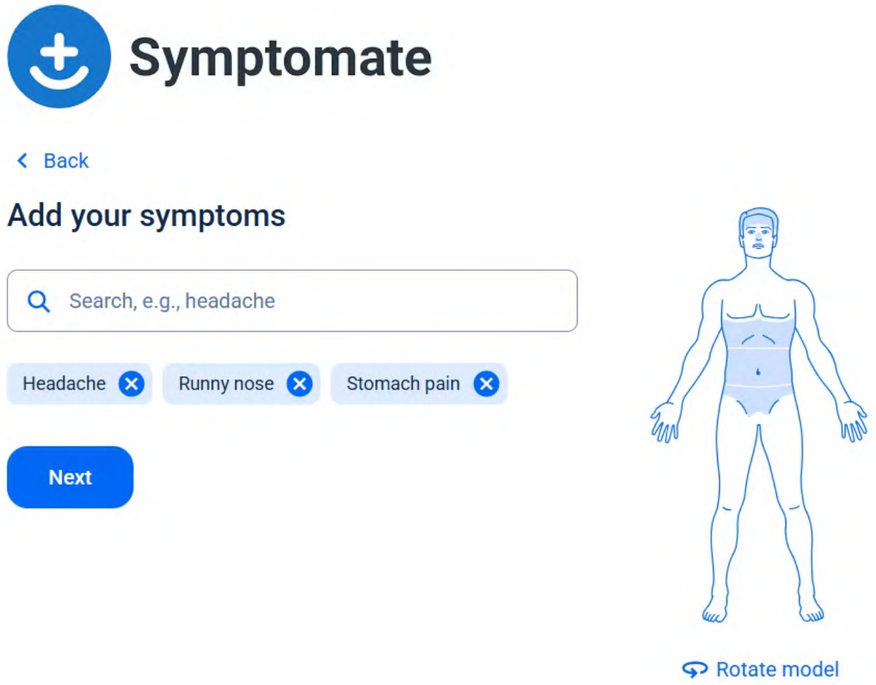
Open Ended Questions

Open-ended cultural and severity questions were included.

Symptom Checkers



- Free, no login
- Text-based, dropdown selections
- Well-known, quick
- Dense terminology, less intuitive



- Free, no login
- Takes specific regions into consideration
- Multiple Languages available

Questionnaire

- Test WebMD and Symptomate
- Use two example cases:
  - **Mild**: e.g. runny nose, sneezing
  - **Severe**: e.g. chest pain, fatigue
- Answer short questions

App Trust Rating

This symptom checker is trustworthy.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
I would feel safe following this symptom checker's advice.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

Likelihood to Follow Advice

I would follow the advice of this symptom checker.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
I would follow this symptom checker's advice if I have the same symptoms again.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

App Usability

The information was clearly presented.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
It was easy to navigate between steps and options.	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree

Sample Overview

Participant:

19 participant

Age:

21-73

Group :

“Germany” vs. “Non-German backgrounds”

Experience with Digital Health Tools:

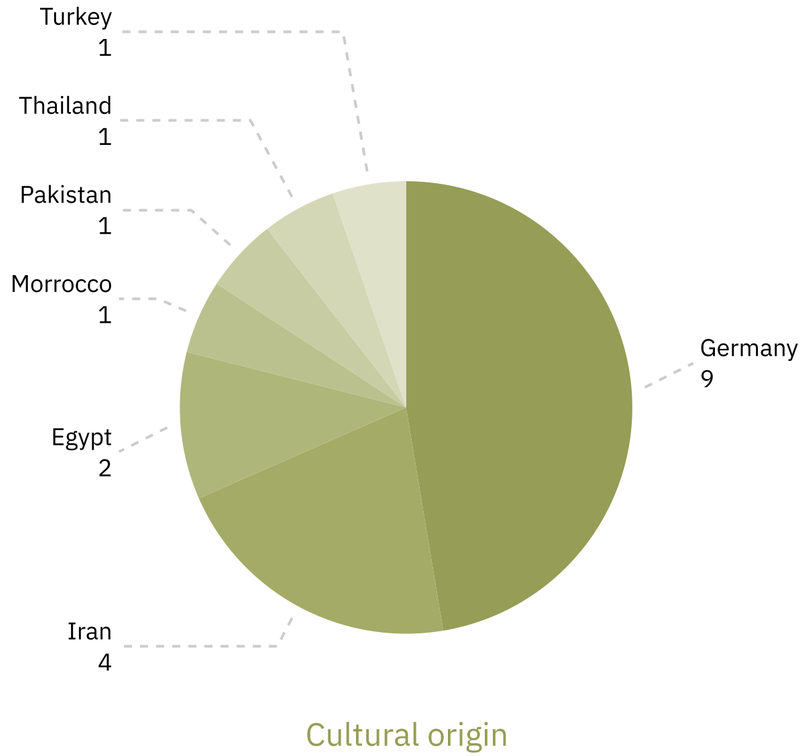
Never 6, occasionally 11, monthly 2, daily/ weekly 0

Preferences to Self-diagnose:

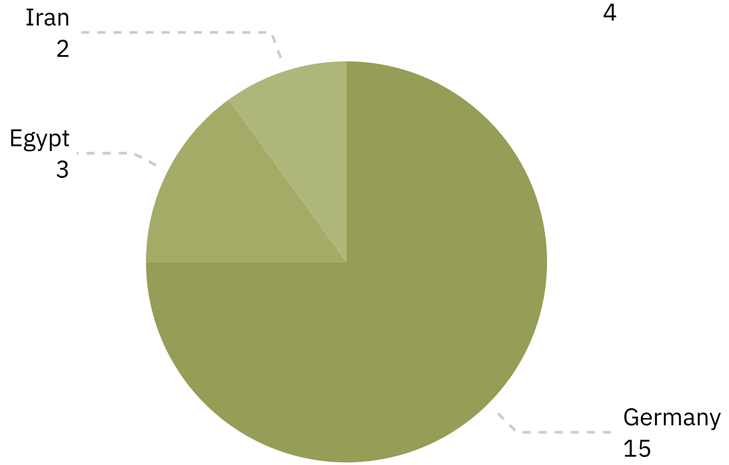
Usually 3, rather 0, both 9.

Speak to a medical professional:

Rather 3, prefer 4, never 6.



Cultural origin



Current Country

Key Measures & Statistical Analysis

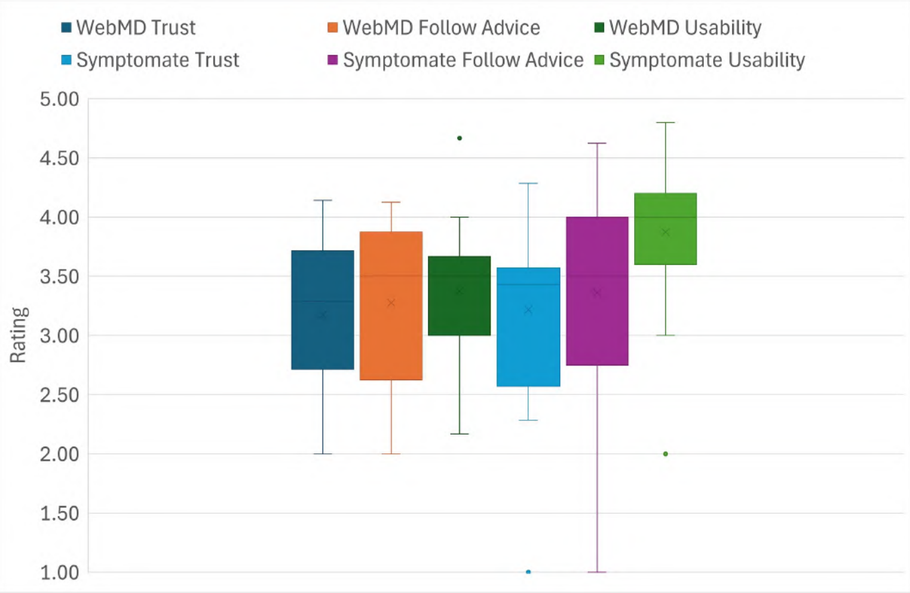
- **Cronbach's α** calculated for each construct
  - **Trust**: up to 0.92
  - **Likelihood**: up to 0.93
  - **Usability**: up to 0.75

- **Descriptive statistics** for means and SDs
- **Paired t-tests** (within-subject: WebMD vs. Symptomate)
- **Independent t-tests** (between groups: German vs. Non-German)

App Comparison

- **No significant difference** in **Trust and Likelihood to follow Advice** between **WebMD** and **Symptomate**
- *Trust: z* = 57, p = .586, *Rank biserial correlation* = -0.16
- *Follow Advice: z* = 34, p = .251, Rank biserial correlation = -0.35

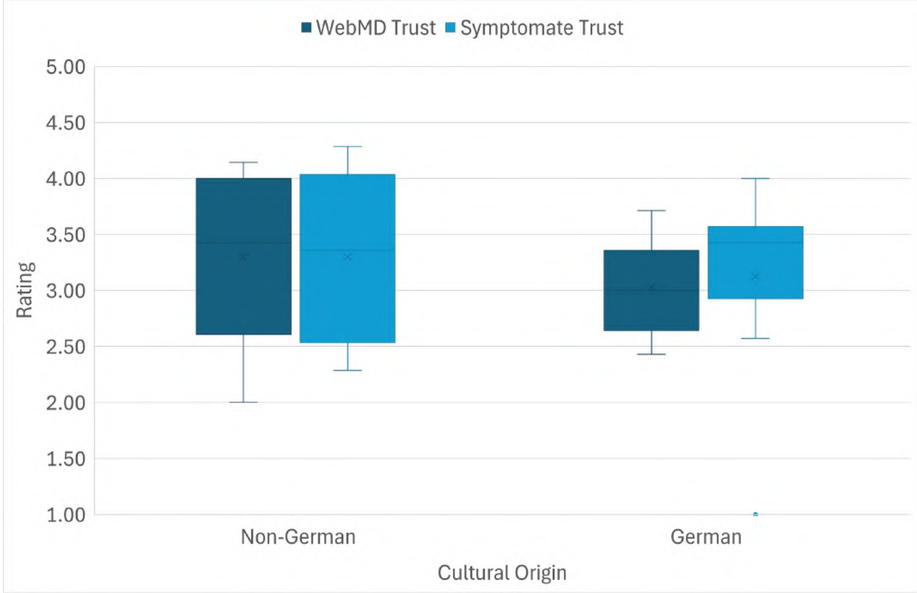
- **Significant difference** in the perceived **Usability** between **WebMD** (*M* = 3.38, *SD* = 0.59) and **Symptomate** (*M* = 3.87, *SD* = 0.64)
- *t*(18) = -3.56, **p = .002**, *Cohen's d* = -0.82



Trust Rating

- **No significant difference** in **Trust** towards **WebMD** between **Germans** (*M* = 3.03, *SD* = 0.43) and **Non-Germans** (*M* = 3.30, *SD* = 0.75)
- *t*(17) = -0.95, p = .357, *Cohen's d* = -0.44

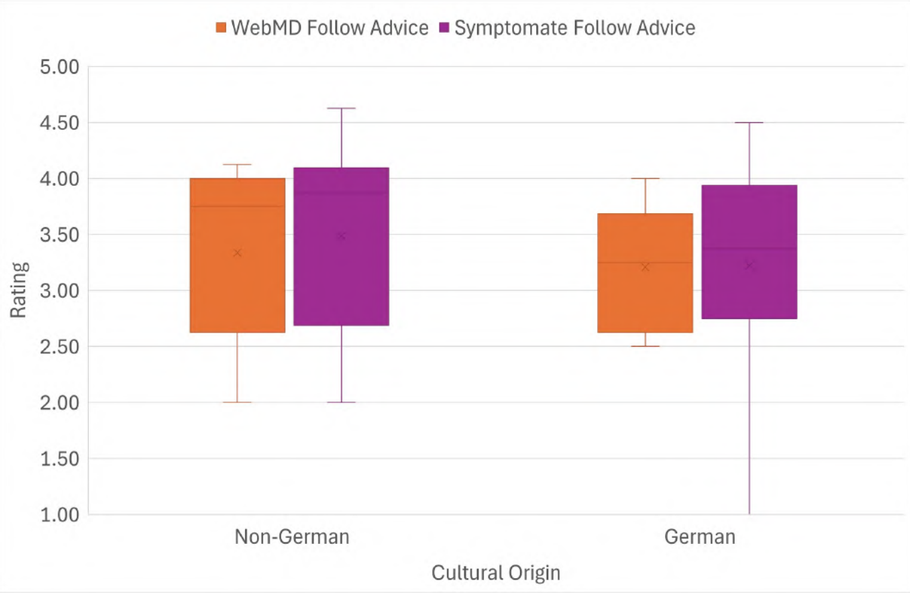
- **No significant difference** in **Trust** towards **Symptomate** between **Germans** (*M* = 3.13, *SD* = 0.88) and **Non-Germans** (*M* = 3.30, *SD* = 0.72)
- *t*(15.5) = -0.47, p = .648, *Cohen's d* = -0.22



Likelihood to Follow Advice

- **No significant difference** in **Likelihood to follow advice towards WebMD** between **Germans** (*M* = 3.21, *SD* = 0.55) and **Non-Germans** (*M* = 3.34, *SD* = 0.80)
- *t*(16) = -0.42, p = .685, *Cohen's d* = -0.19

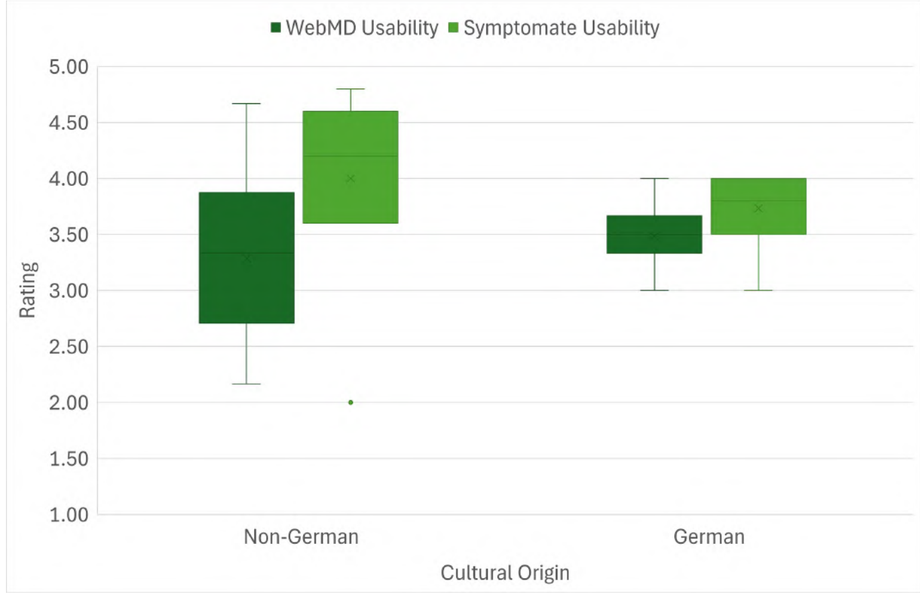
- **No significant difference** in **Likelihood to follow advice towards Symptomate** between **Germans** (*M* = 3.22, *SD* = 1.01) and **Non-Germans** (*M* = 3.49, *SD* = 0.88)
- *t*(17) = -0.61, p = .550, *Cohen's d* = -0.28



App Usability

- **No significant difference** in **App Usability towards WebMD** between **Germans** (*M* = 3.48, *SD* = 0.28) and **Non-Germans** (*M* = 3.28, *SD* = 0.77)
- *t*(11.6) = 0.76, p = .465, *Cohen's d* = 0.34

- **No significant difference** in **App Usability towards Symptomate** between **Germans** (*M* = 3.73, *SD* = 0.37) and **Non-Germans** (*M* = 4.00, *SD* = 0.81)
- Mann-Whitney *U* = 25, p = .107, *Rank biserial correlation* = 0.444



Limitations

- **Sample size and diversity:** 19 participants, student milieu
- **Unknown app usage:** Low control and insights in the app usage
- **Concrete Apps vs. general Technology:** Users tested specific apps
- **Broad cultural groups:** One group with a Non-German origin instead of concrete countries.
- **Missing background details**: No information on gender or education.

Conclusion

- Different cultures = different trust in digital health technology
- German vs Non-Germans rated online symptom checkers
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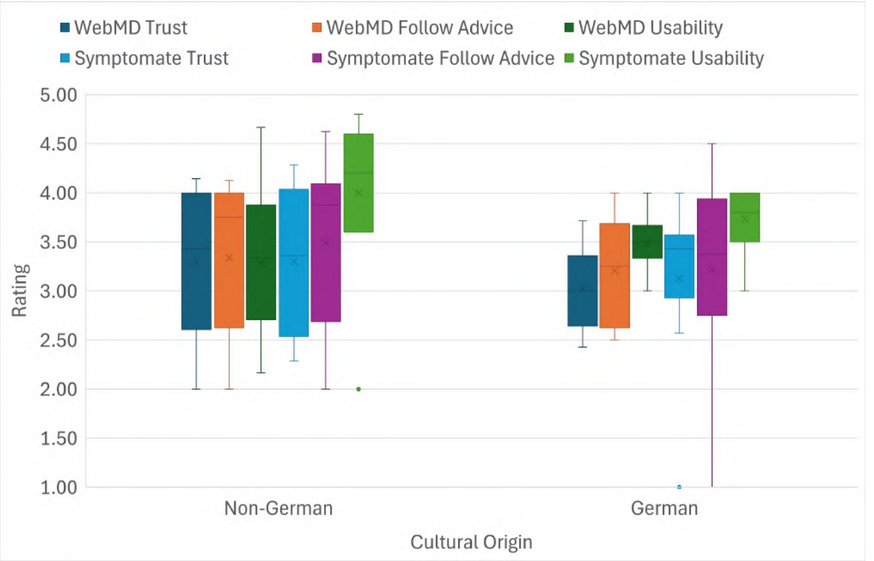
- No significant difference in trust or follow scores.
- Symptomate significantly more usable than WebMD
- Trend: Non-Germans rated Symptomate slightly more usable
- Self-diagnosis preferences may shape app trust.



"I think germans dont have much faith in internet information"

"In general, in germany people like speaking to doctors"

Pitch

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