

Wer Homo Digitalis
verstehen will, muss Big
Data sprechen können.

Psychologische Forschung mit Big Data Technologien

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Referentin

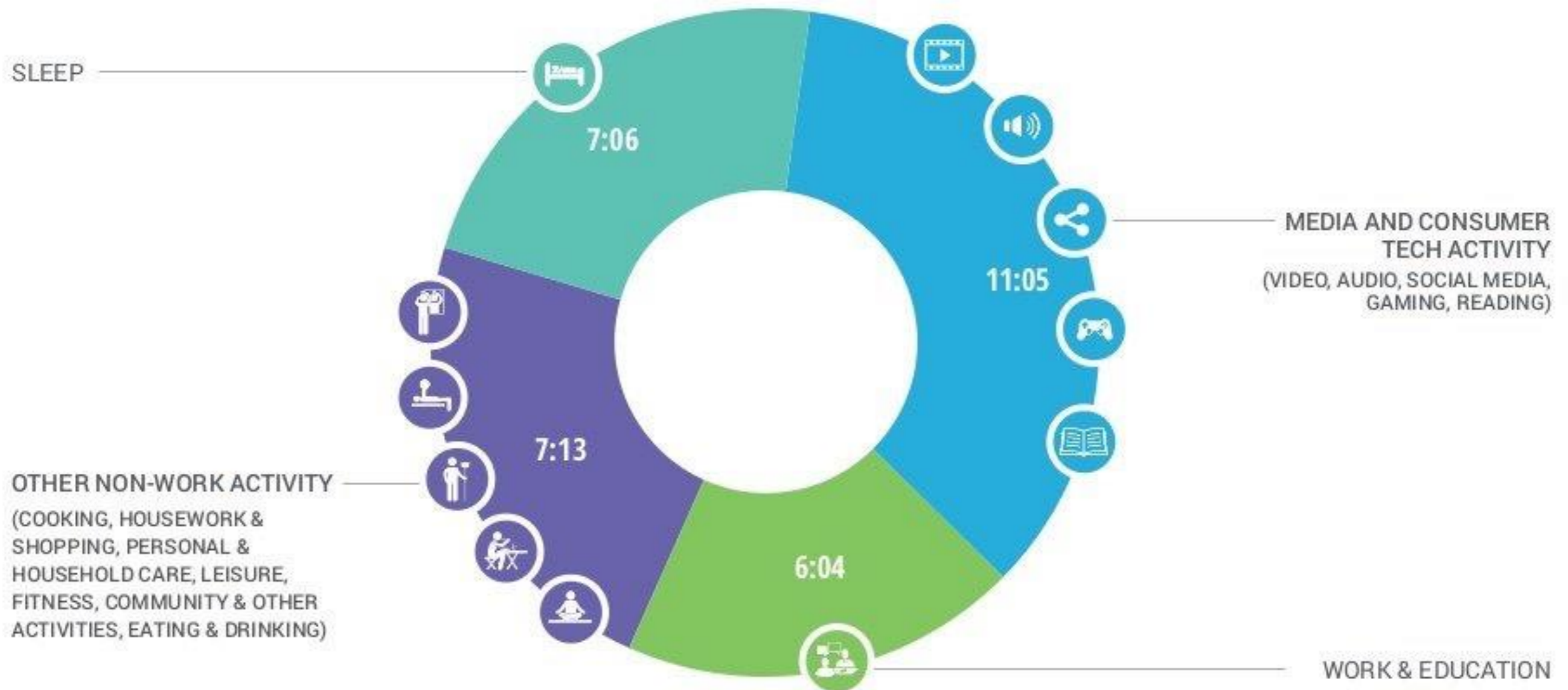
- Dipl-Psych.
- promoviert an der Uni Ulm zum Thema Internetnutzung
- R-Fan
- redet gerne mit APIs (vor allem von Twitter und Instagram)
- ihre Freizeit verbringt sie am liebsten mit Datenanalysen



The total tech and media attention up for grabs is enormous: more than half the waking day is spent on tech and media

Average Employed Adult Daily Behavior, U.S., 2014, Hours : Minutes

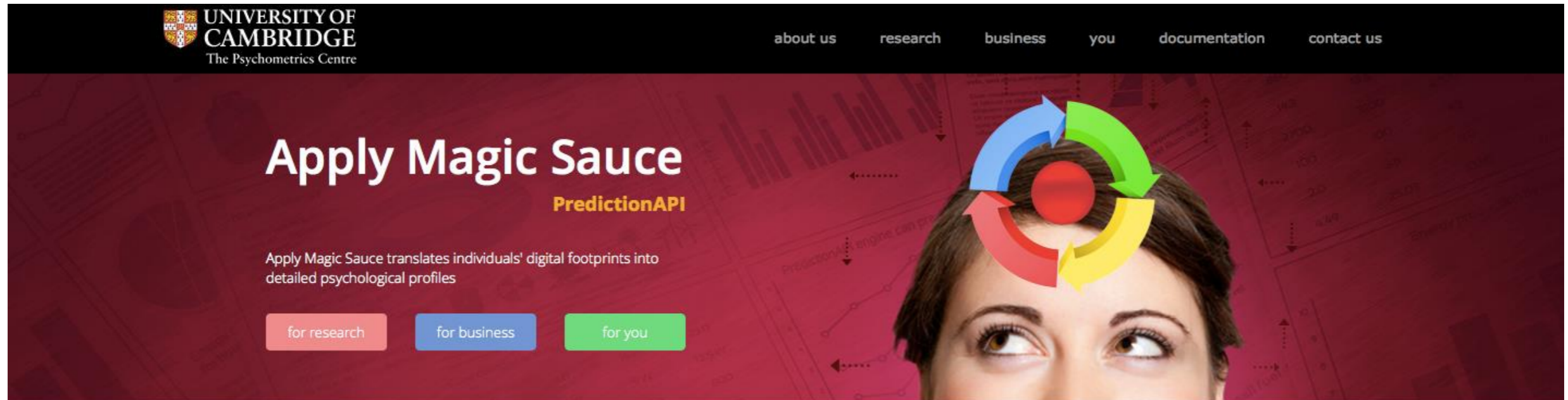
TOTAL: 31 HOURS 28 MINUTES



Überblick

- Beispiele für psychologische Forschung mit Big Data Technologien
- Sinn und Unsinn von Big Data Technologien in psychologischer Forschung

1. Apply Magic Sauce



The screenshot shows the top section of the 'Apply Magic Sauce' website. At the top left is the University of Cambridge logo and the text 'UNIVERSITY OF CAMBRIDGE The Psychometrics Centre'. To the right is a navigation menu with links: 'about us', 'research', 'business', 'you', 'documentation', and 'contact us'. The main content area has a dark red background with a woman's face looking up, overlaid with a circular diagram of four colored arrows (blue, green, yellow, red) pointing clockwise. The text 'Apply Magic Sauce' is prominently displayed in white, with 'PredictionAPI' in orange below it. A sub-headline reads: 'Apply Magic Sauce translates individuals' digital footprints into detailed psychological profiles'. Below this are three buttons: 'for research' (pink), 'for business' (blue), and 'for you' (green).

[Predict My Profile](#)

Click on Predict My Profile to receive an instant prediction of your psycho-demographic profile based on your Facebook Likes. Our models were built using actual psychological data and social media profiles from over 6 million people, allowing us to accurately predict a range of traits without asking you any questions. We share anonymised samples of this data with academics in order to support high-quality research into online behaviour, resulting in over 40 journal publications since 2011.

1. Apply Magic Sauce

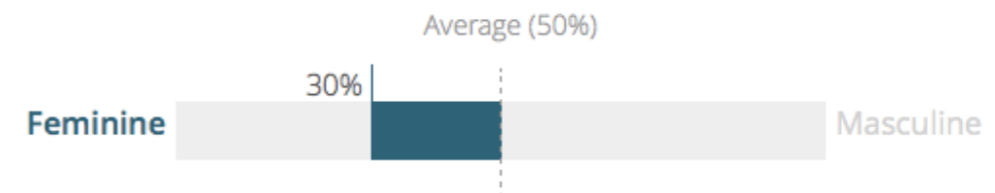
- Einloggen mit Facebook-Profil: Vorhersage und Möglichkeit, Tests durchzuführen
- 6 Mio Probanden zur Bildung des Vorhersagemodels
- Prediction API

1. Apply Magic Sauce

Age ?

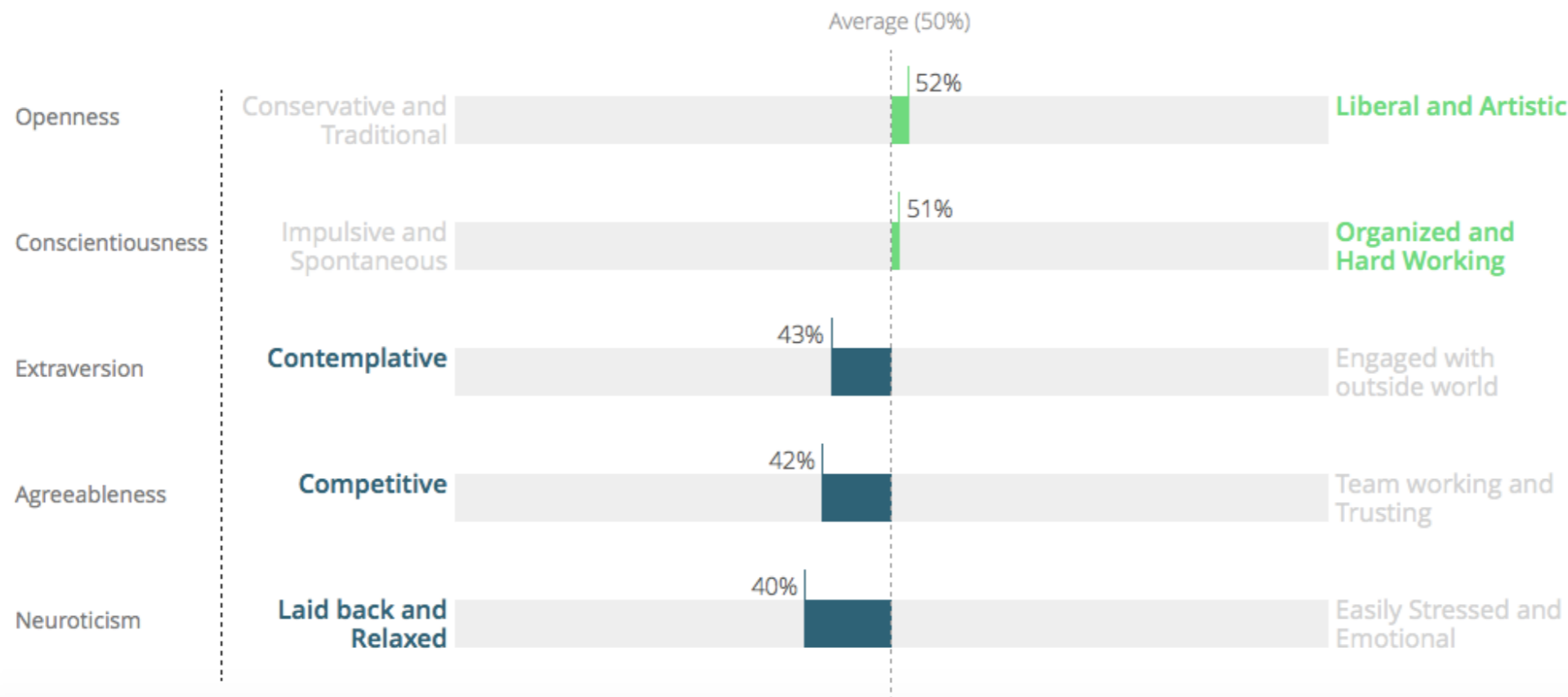
27

Psychological Gender ?



Big 5 Personality (Predictions are expressed as percentiles) ?

[Take personality test](#)



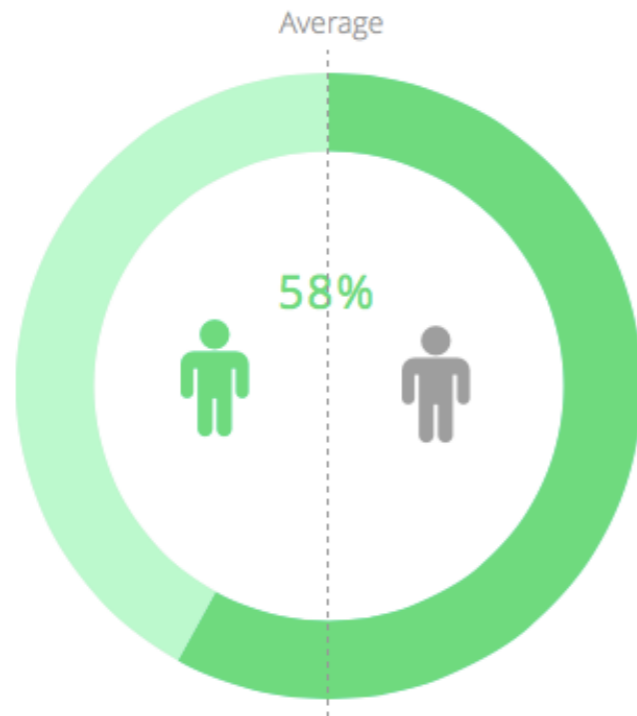
1. Apply Magic Sauce

Intelligence ?

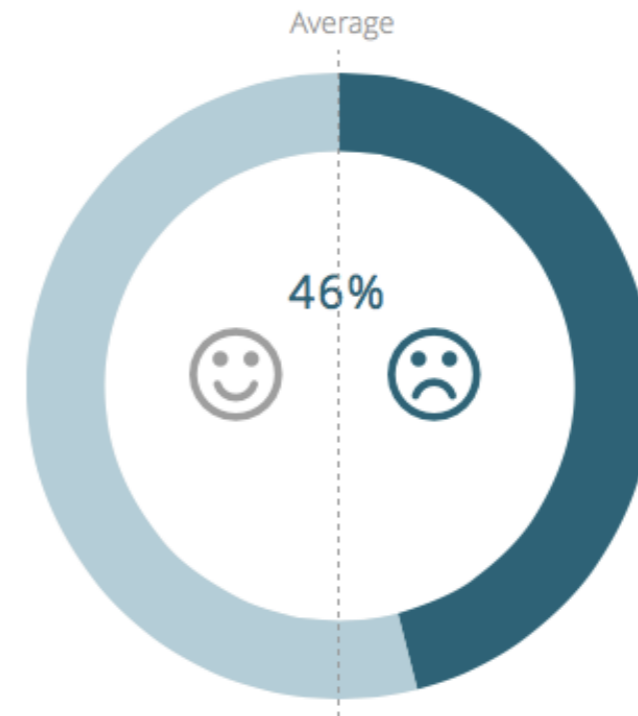
Take IQ test

Life Satisfaction ?

Take satisfaction test



You are more intelligent than 58% of the population



You are more satisfied with life than 46% of the population

AMS Ergebnisse

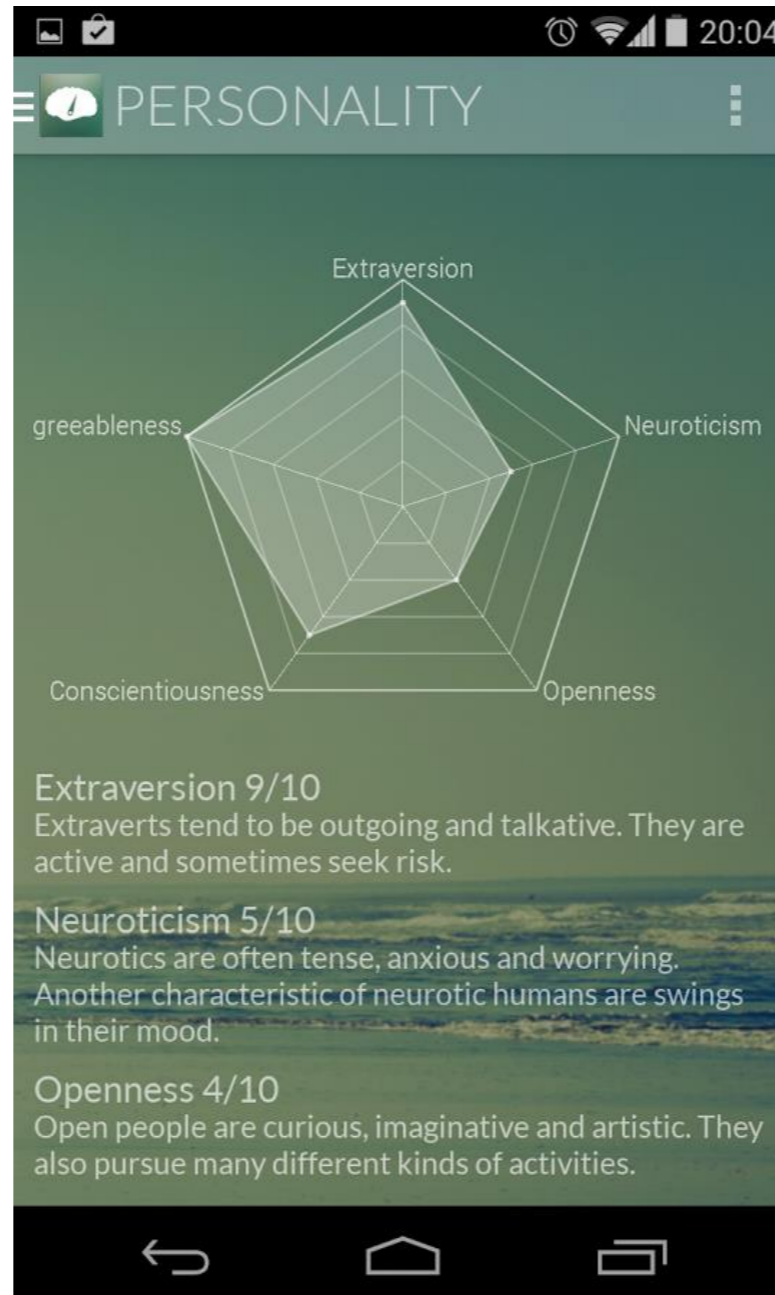
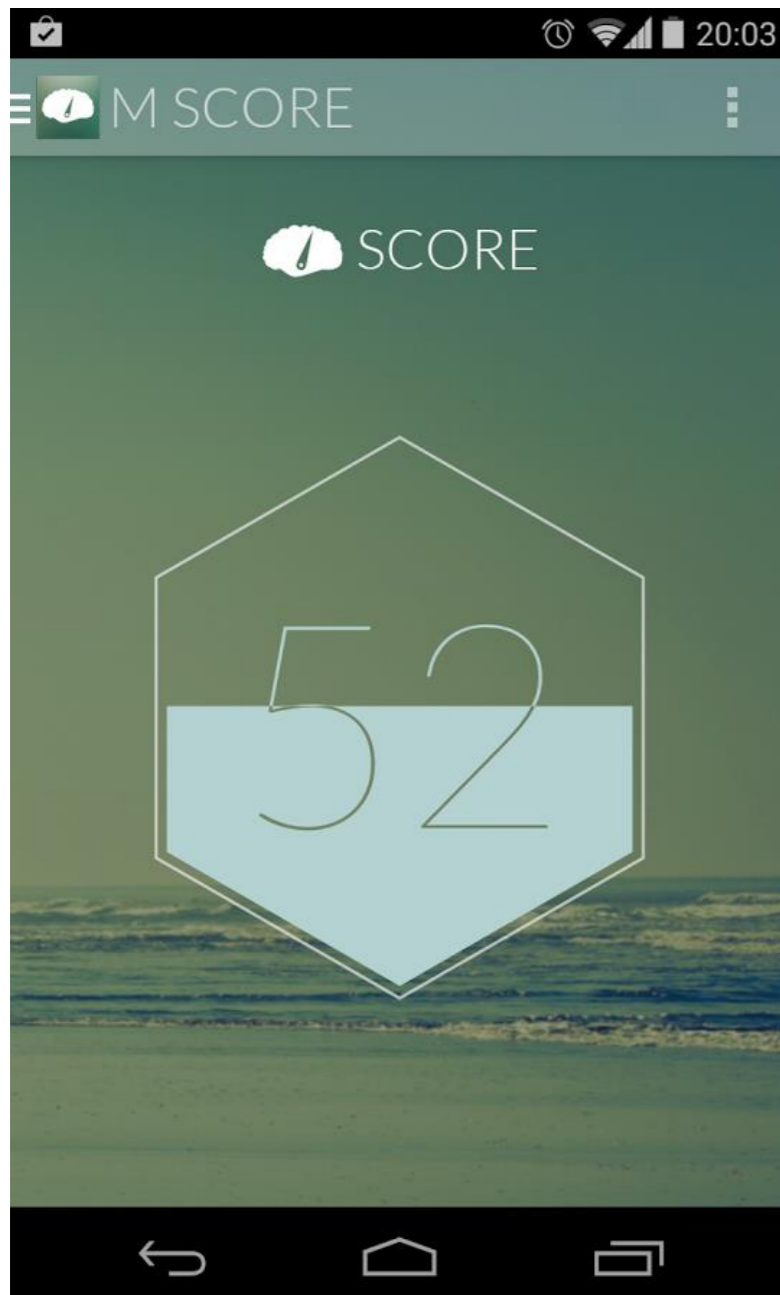
- Emotionen und Facebook Posts:
 - Frauen sind emotionaler als Männer,
 - Ältere User sind emotionaler als jüngere User,
 - saisonale Effekte: weniger emotionale Posts im Sommer
 - korreliert mit Persönlichkeitsmerkmalen
 - knapp 6.000 user und 1 Mio Statuse
- Computer können Persönlichkeit besser vorhersagen als Menschen

2. Mental Balance

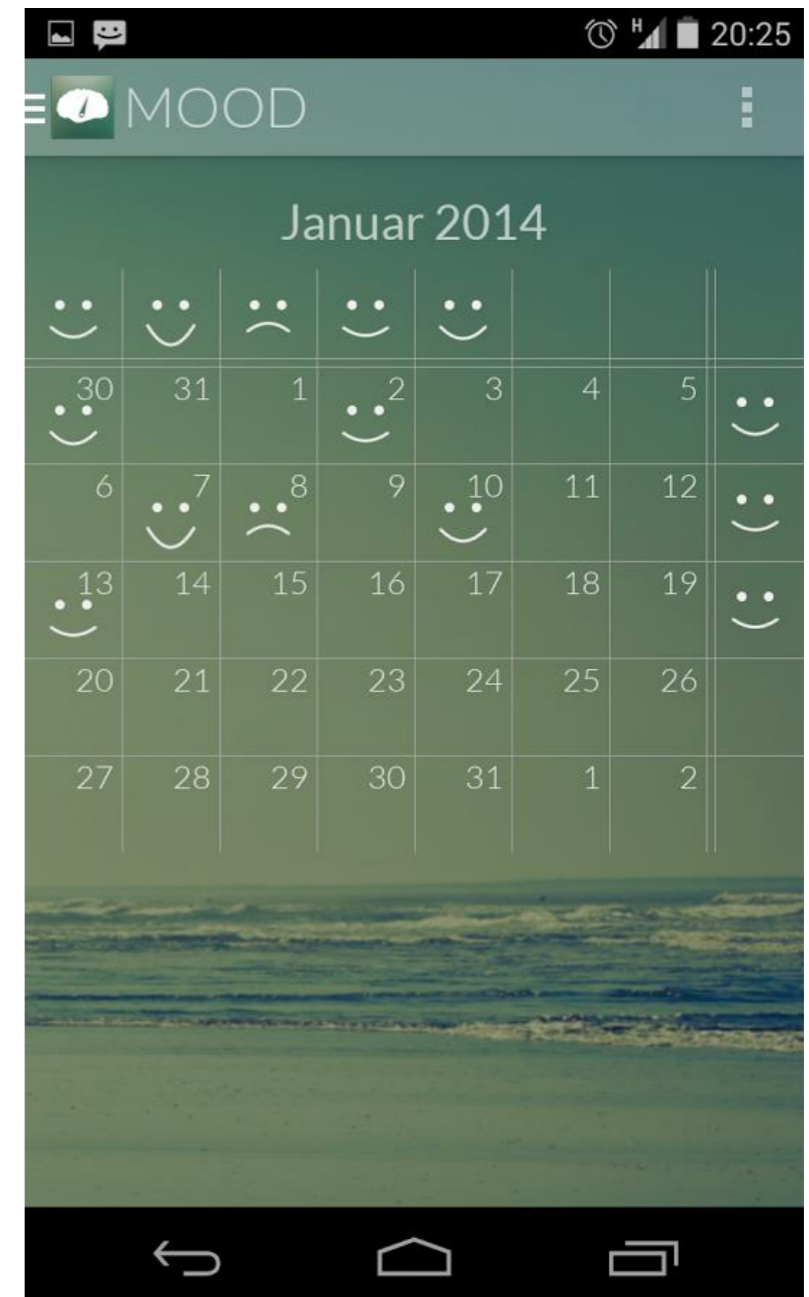
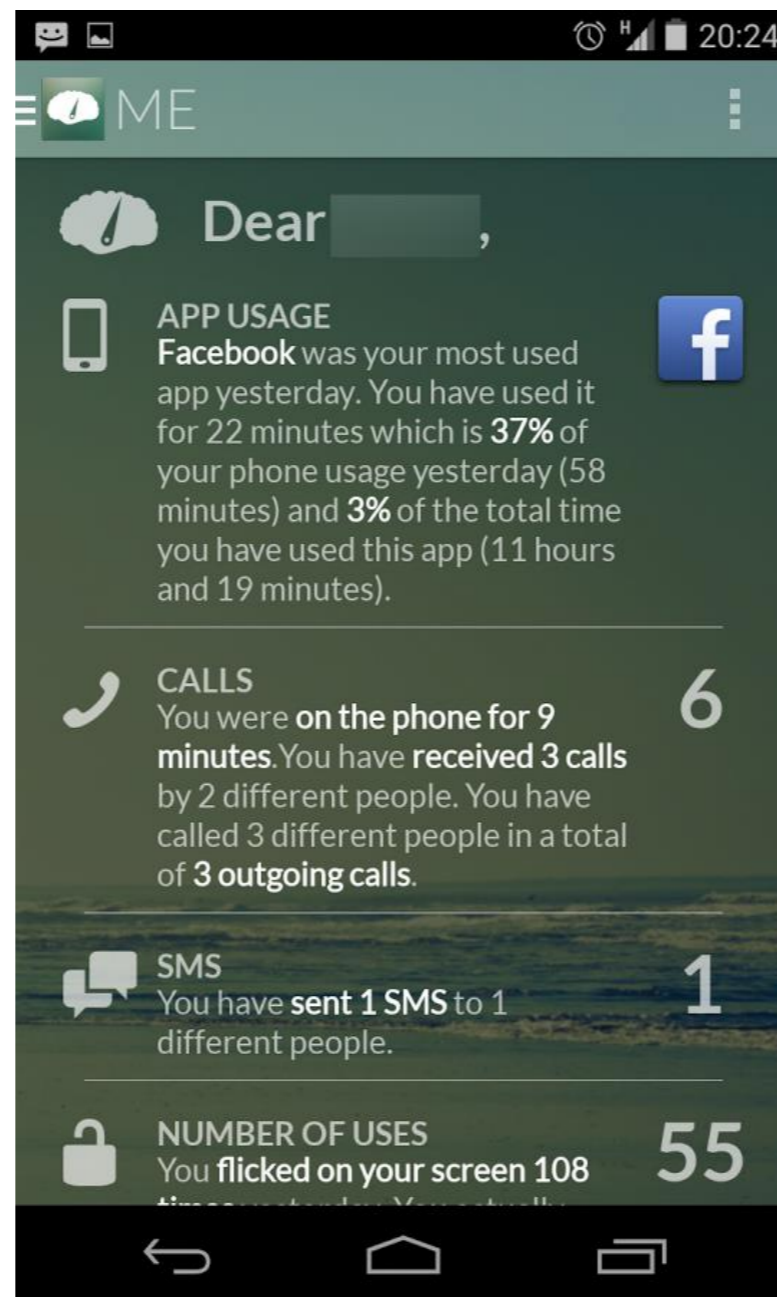
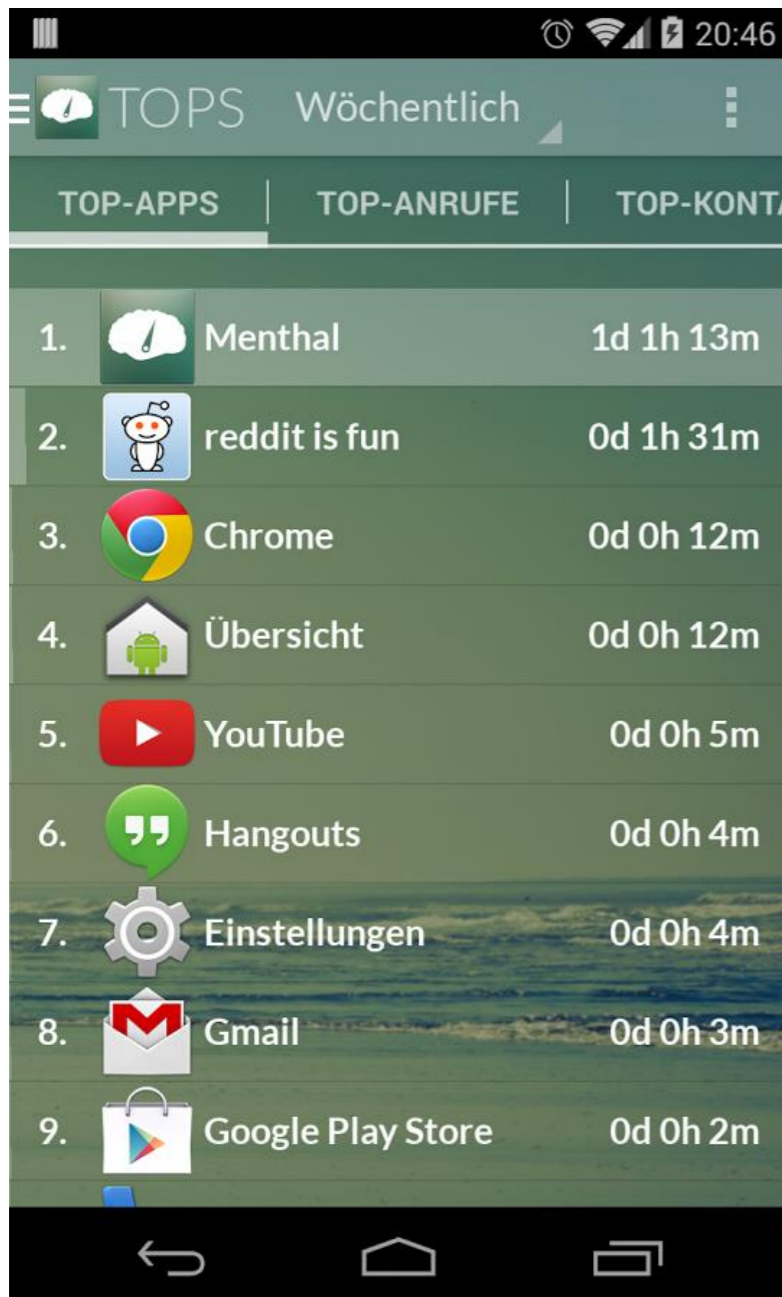
- ca. 300.000 Downloads
- ca. 30.000 aktive User
- Daten im Terabyte Bereich



2. Mental Balance



2. Mental Balance



Menthal Ergebnisse

- Kommunikationsverhalten korreliert mit Persönlichkeitsmerkmalen
- WhatsApp:
 - von ca. 162 Minuten wird WA ca. 32 Minuten am Tag verwendet
 - Frauen & jüngere User nutzen WA signifikant länger als Männer und ältere User
 - Stichprobe: knapp 2.500 User über 4 Wochen

A billion dollar business can be built by capturing less than a minute of an average user's daily attention

Average Time per User (MUV) per Day, U.S., Valuation (in billions)



9 SECONDS
\$2.9 B



16 SECONDS
\$2.5 B



10 SECONDS
\$1.8 B



36 SECONDS
\$1.5 B



19 SECONDS
\$1.0 B



17 SECONDS
\$1.0 B

Mehr Daten = besser?

- Andere Zielgruppen erreichen, nicht nur WEIRDs: white, educated, industrialized, rich, democratic people
- Wesentlich größere Stichproben
- Interdisziplinäre Zusammenarbeit: bessere Replizierbarkeit, Psychologie als „open science“

Referenzen

- <http://applymagicsauce.com>
- https://4f46691c-a-dbc5f65-sites.googlegroups.com/a/michalkosinski.com/michalkosinski/EMPIRE2014.pdf?attachauth=ANoY7cr5EQwE_j7l3YpSq3440tERXEVzNdogcb0pz5RWvbcQLRa_eu7Zk7VwsFSR9Dlla9UKTNumGpZg2ZZ5BmggSKRvyFRslyl4kgnQigwewq55NXfwgP7V3yP-R-exQBHTZgQPa7_5lRYYw1fkkzUJ_-tUhHsk3HA-nHwZAe8gPftho48OG-Q8qBQ48V6k43tKMpDPe8xnx4U1iFVO2EKIly3j0LWC7nEUXFS2fLFBvwzpHwHzc4M%3D&attredirects=1
- <https://menthal.org>
- <http://www.biomedcentral.com/1756-0500/8/331>
- <https://osf.io/ezcu/j/wiki/home/>
- <http://collabra.org/articles/10.1525/collabra.13/>
- <http://www.pnas.org/content/112/4/1036.abstract>