You Retweeted

EXTRA THICC (VIII)
@NinaStrohminger

Big data is just personality psychology without the theory

The power of personality in predicting and explaining important life outcomes

Prof. Uku Vainik
Institute of Psychology & Institute of Genomics,
University of Tartu, Estonia
Montreal Neurological Institute, Mcgill University, Canada

XXV Baltic Actuarial Summer Seminar
30.06.2025, Mäeotsa

Dawes, R. M., Faust, D., & Meehl, P. E. (1989) Clinical versus actuarial judgment. *Science*, *243*:1668-1674. Including Kleinmuntz, B. (1990) Letter: Clinical and actuarial judgment. Response by Faust, Meehl, & Dawes. *Science*, *247*:146-147.

#138

Clinical Versus Actuarial Judgment

ROBYN M. DAWES, DAVID FAUST, PAUL E. MEEHL

Professionals are frequently consulted to diagnose and predict human behavior; optimal treatment and planning often hinge on the consultant's judgmental accuracy. The consultant may rely on one of two contrasting approaches to decision-making—the clinical and actuarial methods. Research comparing these two approaches shows the actuarial method to be superior. Factors underlying the greater accuracy of actuarial methods, sources of resistance to the scientific findings, and the benefits of increased reliance on actuarial approaches are discussed.

Psychology in actuarial science?

Q: I am a soon to be entering my last year of college with a double major in statistics and psychology. /…/ I was wondering if there is any field of actuarial science where it could be useful to have a psychology background?

A1: I think there's opportunity for crossover between actuarial work and psychology, but I have doubts about it happening early in your career /…/ but if you want to use it later in your career you could probably find a role to do so.

A1.1: I agree with this as well. I have a degree in psyche and I have no clue how you'd realistically apply it.

A2: Look up the work of Kahneman and Tversky /…/ there are many interesting findings about the way humans make predictions.

A2: I initially double majored in psych and econ until dropping the psych major for a minor. Imo, the one psych class i strongly suggest to any college student is industrial/organizational psych if available. **Everything else that i took was useless as an actuary**

https://www.reddit.com/r/actuary/comments/b0ije5/psychology_in_actuarial_science/

The utility & genomics of personality

- What is personality
- Personality & life outcomes
- Personality measurement & more outcomes
- Genomics of personality & causal inference
- Personality & job choice

Personality & wellbeing

Front: René Mõttus

Middle: Liisi Ausmees

Sam Henry

Anu Realo

Kadri Arumäe

Kerli Ilves

Kätlin Anni

Helo Liis Soodla

Maris Vainre

Back: Uku Vainik

Kenn Konstabel

Kirsti Akkermann + many more

Choosing Prediction Over Explanation in Psychology: Lessons From Machine Learning

Tal Yarkoni and Jacob Westfall View all authors and affiliations

Volume 12, Issue 6 | https://doi.org/10.1177/1745691617693393

Abstract

Psychology has historically been concerned, first and foremost, with explaining the causal mechanisms that give rise to behavior. Randomized, tightly controlled experiments are enshrined as the gold standard of psychological research, and there are endless investigations of the various mediating and moderating variables that govern various behaviors. We argue that psychology's near-total focus on explaining the causes of behavior has led much of the field to be populated by research programs that provide intricate theories of psychological mechanism but that have little (or unknown) ability to predict future behaviors with any appreciable accuracy. We propose that principles and techniques from the field of machine learning can help psychology become a more predictive science. We review some of the fundamental concepts and tools of machine learning and point out examples where these concepts have been used to conduct interesting and important psychological research that focuses on predictive research questions. We suggest that an increased focus on prediction, rather than explanation, can ultimately lead us to greater understanding of behavior.

Humans vary in their behaviour

https://entwine-itn.eu/does-personality-matter-the-role-of-individual-differences-in-caregiving/

https://www.audleytravel.com/us/inspiration/safaris/the-big-five

High Five Tendencies	Low Five Tendencies
Imaginative	Practical
Curious	Narrow interest range
Experimental	Resists change
Embraces challenges	Conventional
Abstract thinker	

https://www.michiganstateuniversityonline.com/resources/leadership/lead-your-team-with-big-five-model/

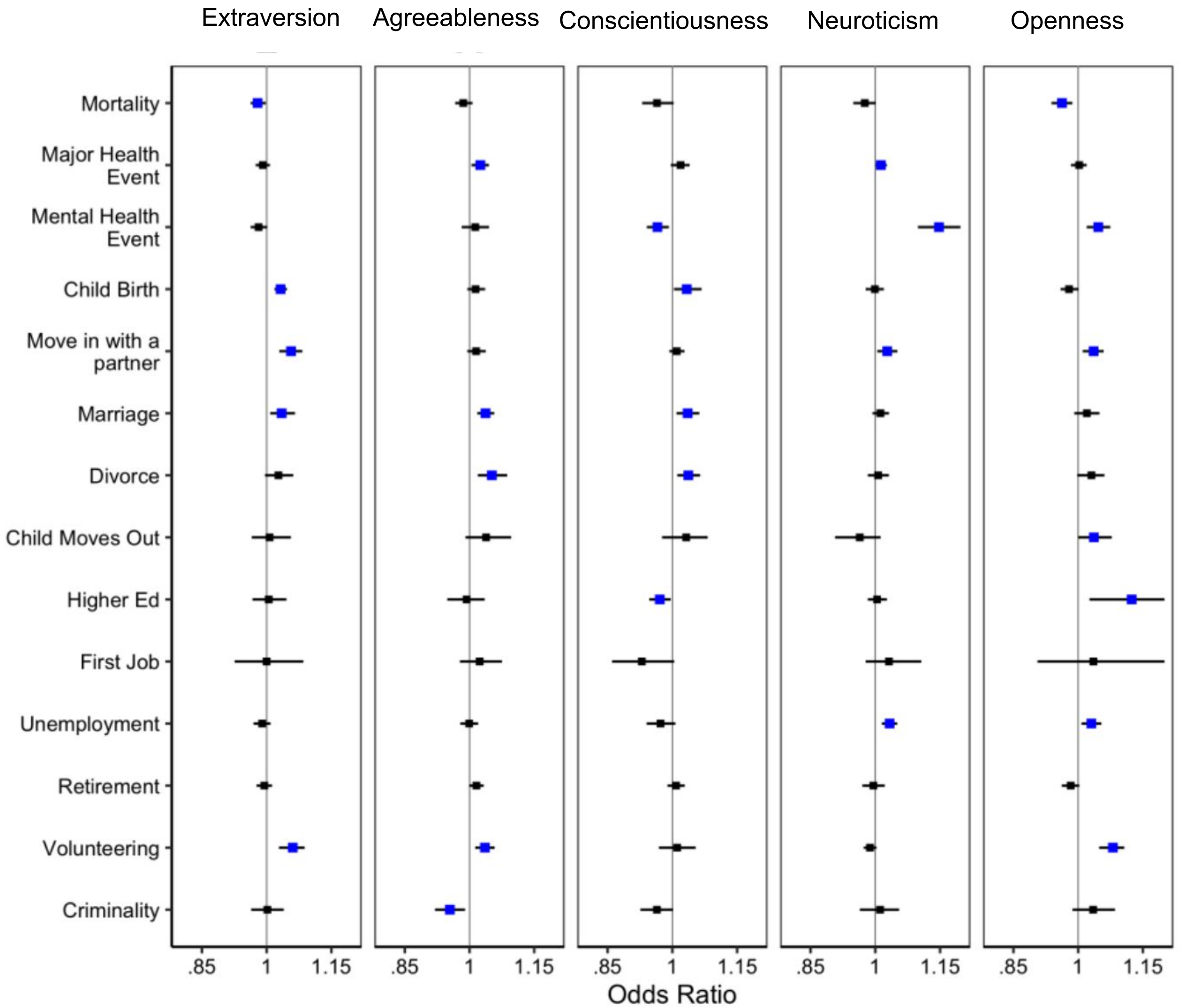
High Five Tendencies	Low Five Tendencies
Disciplined	Spontaneous
Detail-oriented	Flexible
Dutiful	Procrastinates
Organized	Negligent
Reliable	Unreliable

High Five Tendencies	Low Five Tendencies
Social	Introverted
Enthusiastic	Self-sufficient
Assertive	Passive
Opinionated	Reserved
Adventurous	Quiet

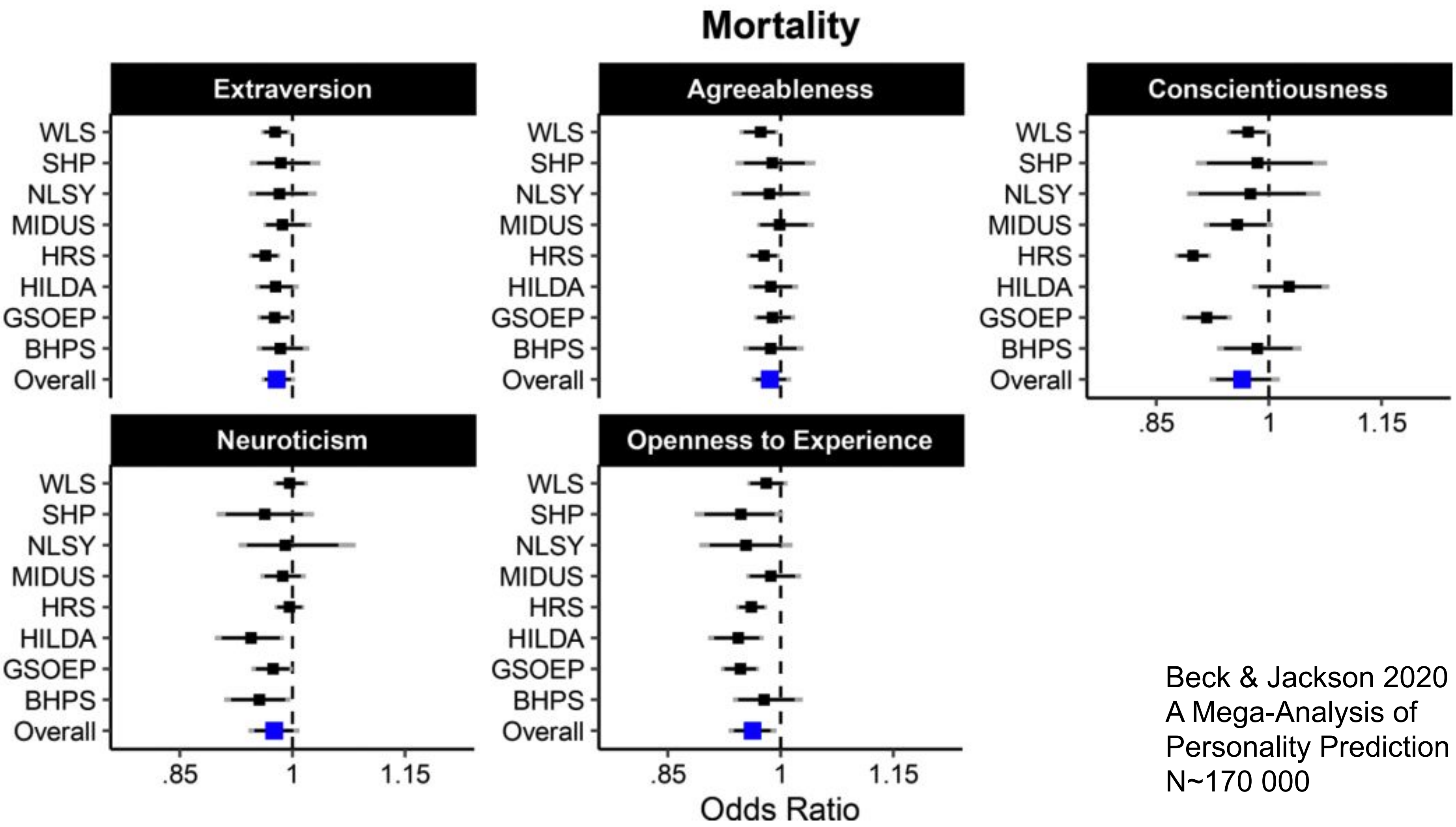
High Five Tendencies	Low Five Tendencies
Empathetic	Independent
Cooperative	Uncooperative
Trustworthy	Overly Critical
Good-natured	Dominant
Straightforward	Antagonistic

High Five Tendencies	Low Five Tendencies
Unstable	Composed
Anxious	Calm
Irritable	Even-tempered
Self-conscious	Confident
Worrier	Resilient

Personality & life events



Beck & Jackson 2020
A Mega-Analysis of Personality Prediction



Beck & Jackson 2020
A Mega-Analysis of
Personality Prediction
N~170 000

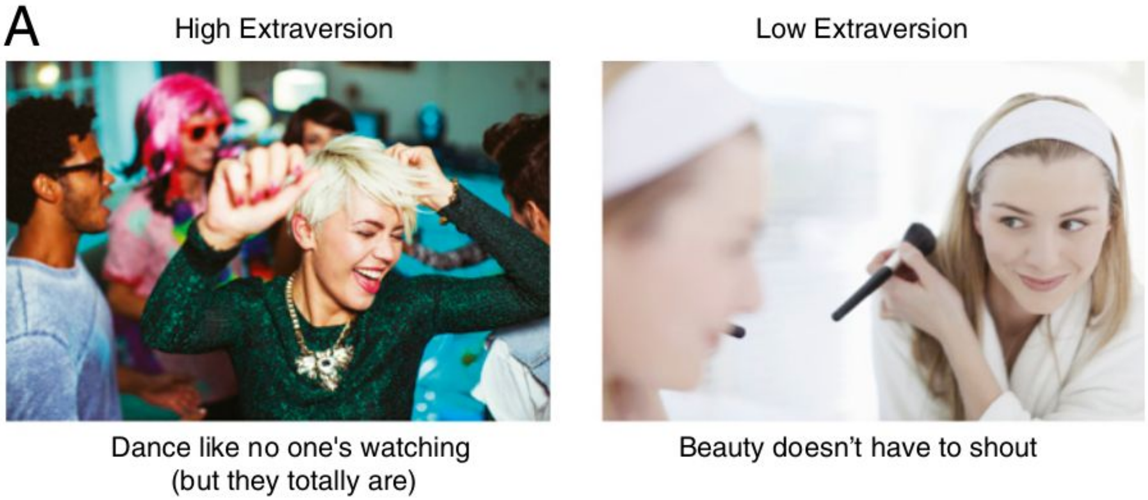
Cumulative value of small effects

- Personality is linked with many life events
- Effects are SMALL but robust
- They become consequential over time
- E.g. extraversion and shopping r = 0.09
  - One person - hard to tell. Full Christmas season → consequential

Evaluating Effect Size in Psychological Research: Sense and Nonsense

David C. Funder and Daniel J. Ozer
Department of Psychology, University of California, Riverside

Personality-tailored ads



Matz et al. (2017) Psychological targeting as an effective approach to digital mass persuasion

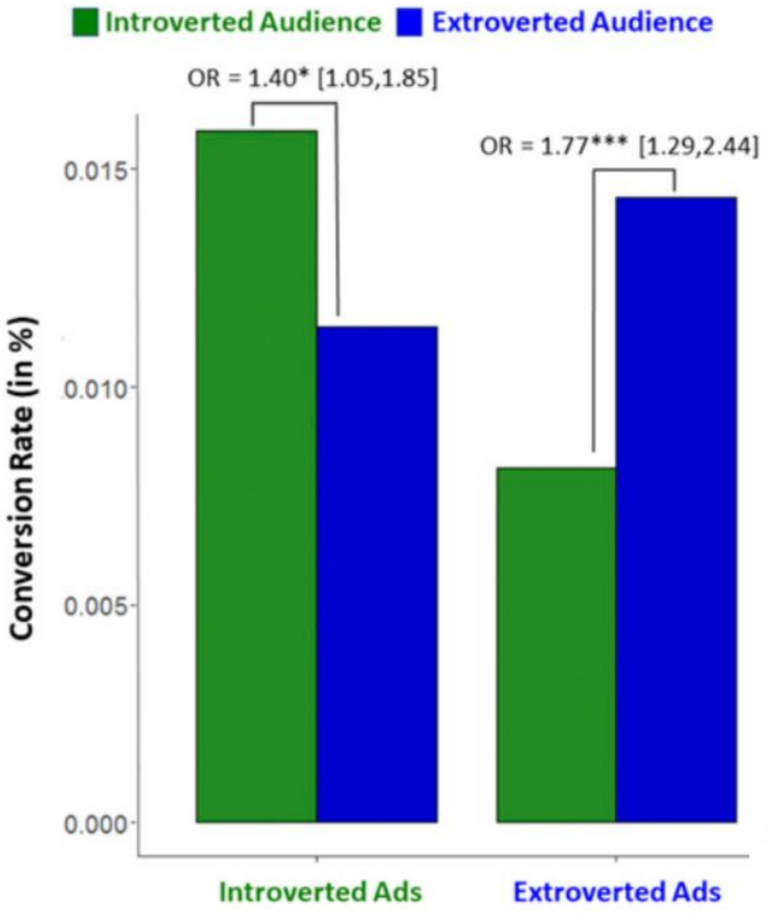
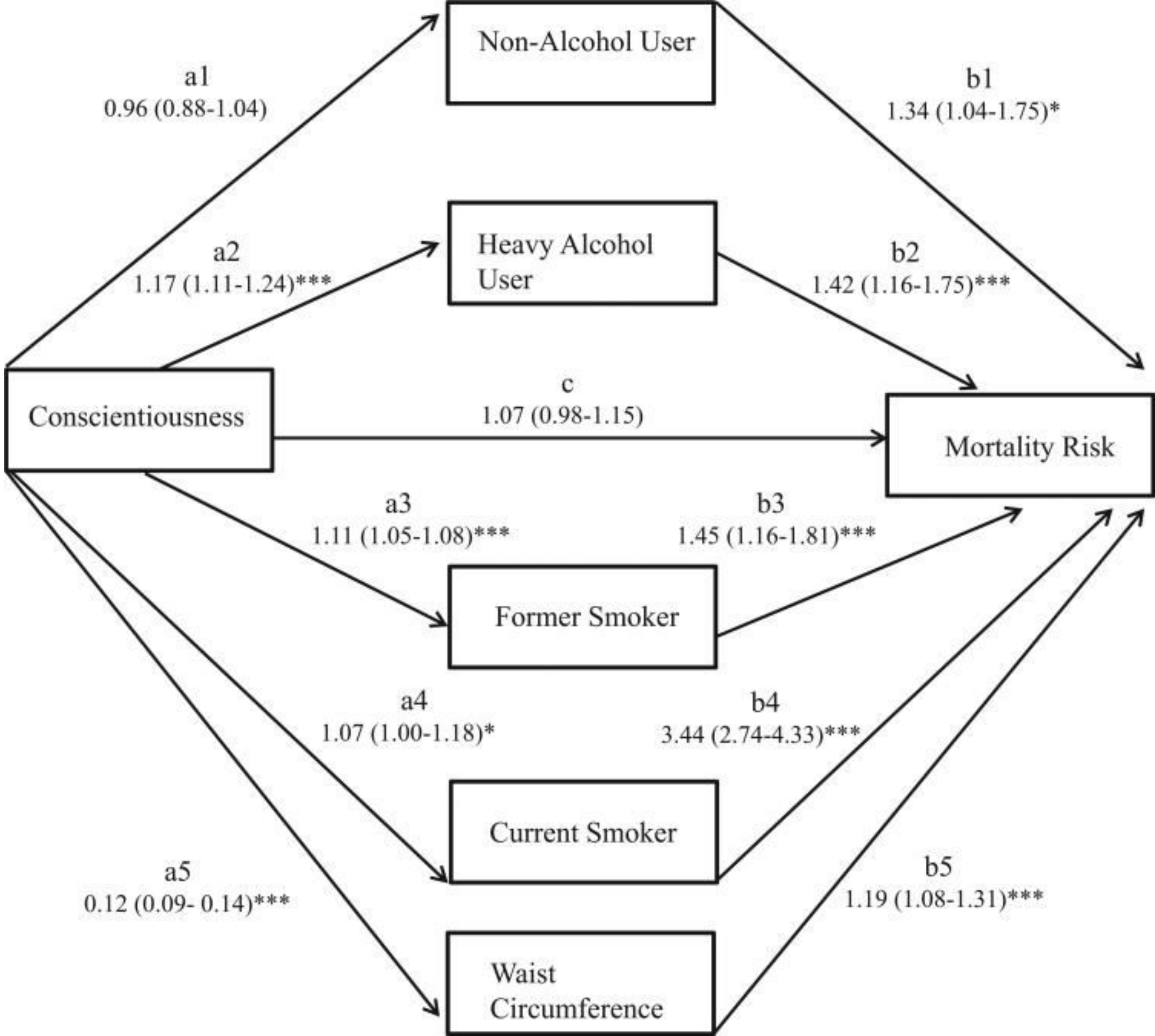


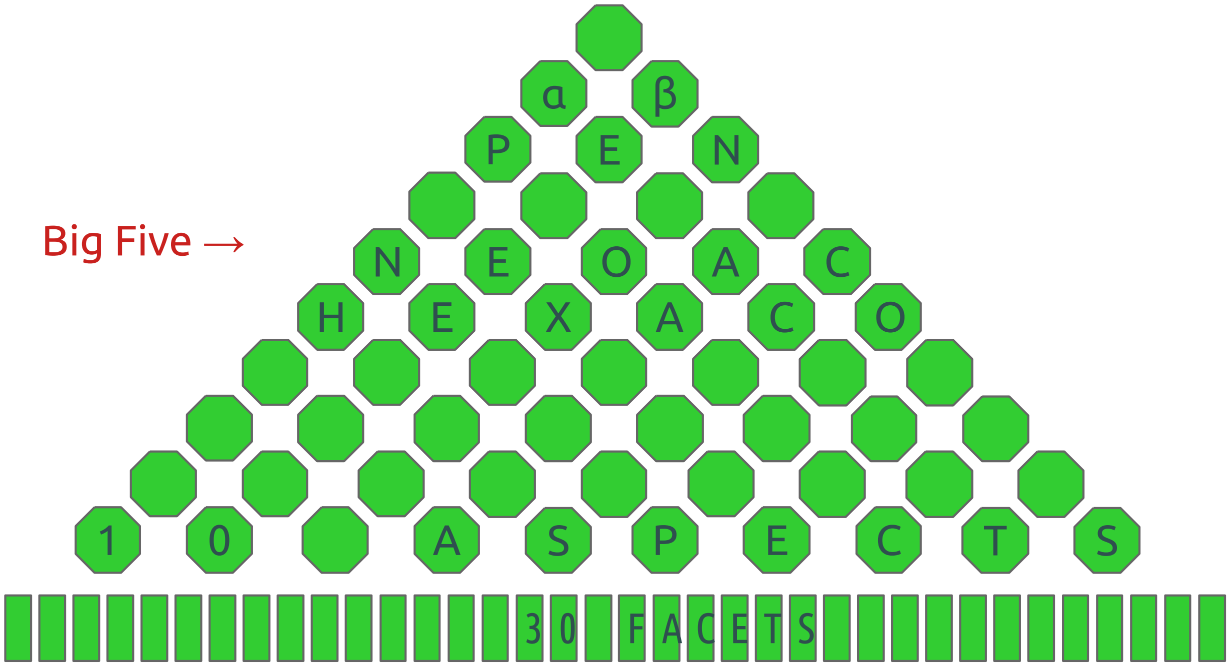
Fig. 2. Interaction effects of audience and ad personal

B
tl

Does personality cause aging?



Turiano et al., (2015). Personality and the Leading Behavioral Contributors of Mortality



Courtesy of René Mõttus

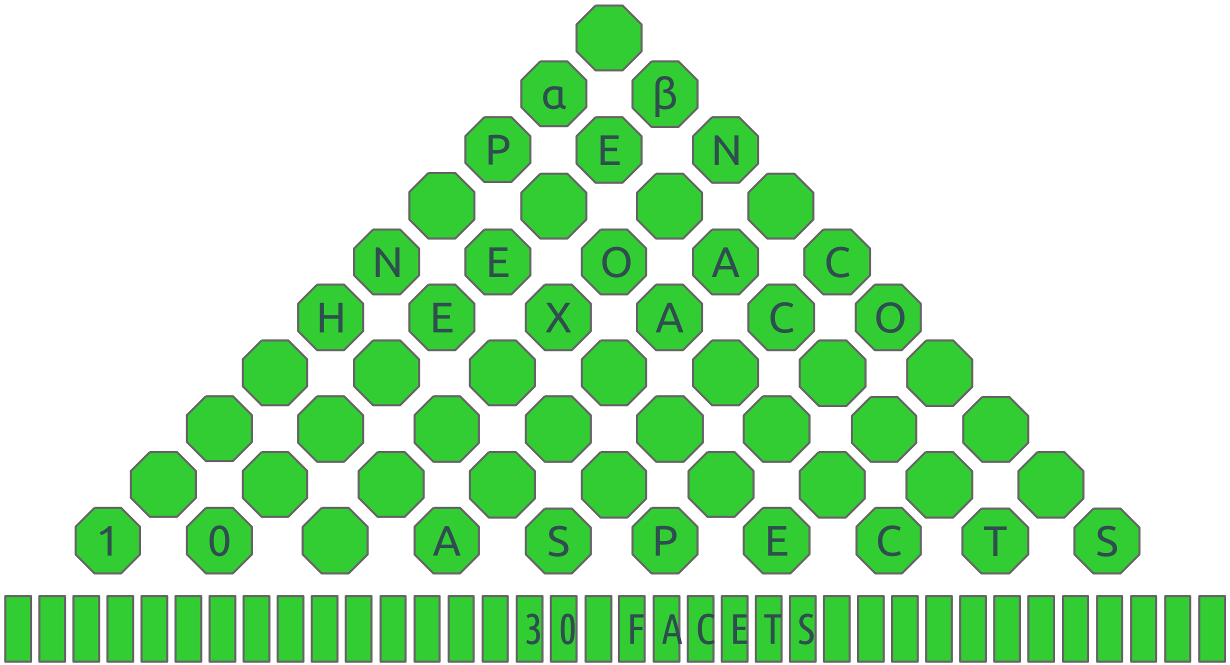
Neuroticism facets differentially predict mortality

- Increased mortality:
  - vulnerability, cynicism, pessimistic, anxious, and depressive
- Decreased mortality:
  - Inadequacy, and worried-vulnerable

Butler et al., (2023). Neuroticism facets and mortality risk in adulthood: A systematic review and narrative synthesis

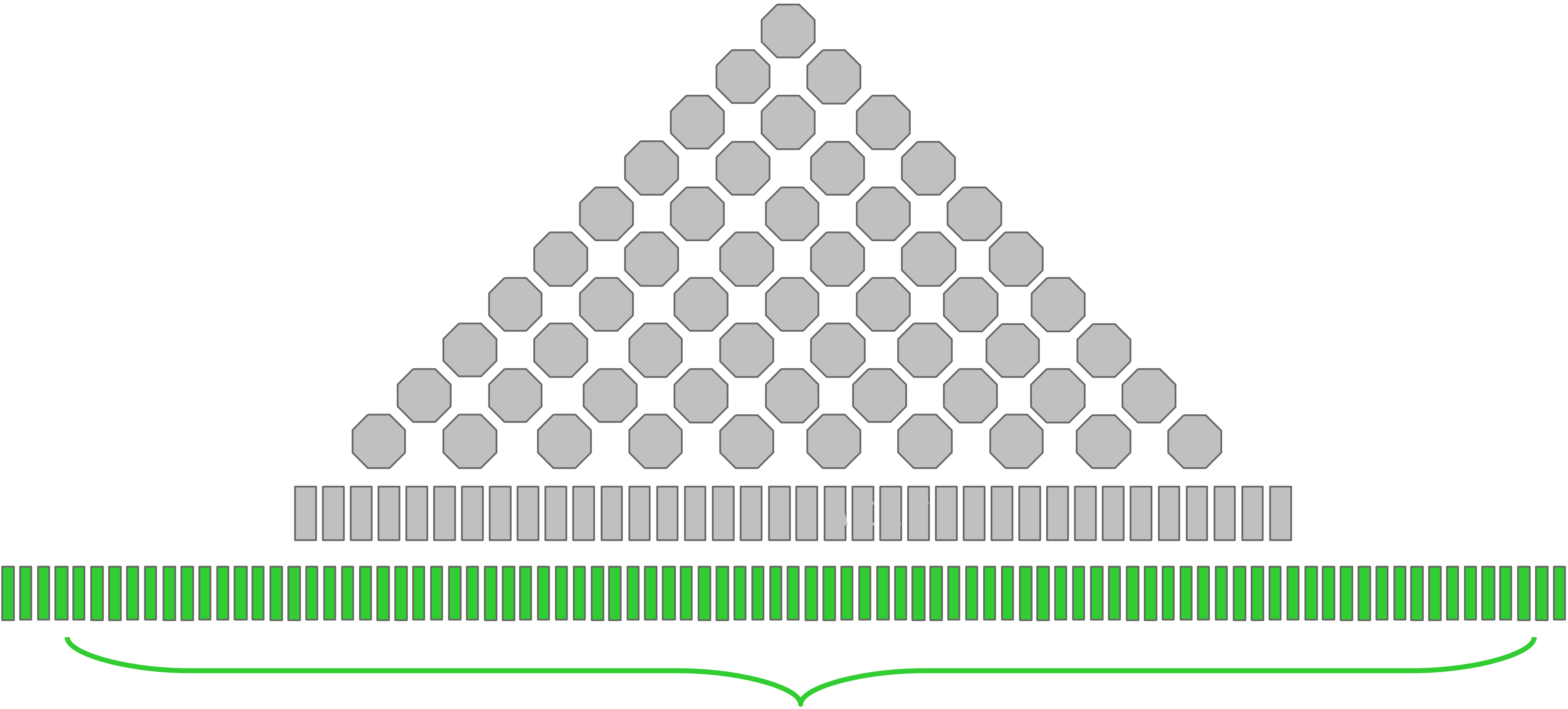
Personality & addictive behaviours

Vainik et al., (2020). Obesity has limited behavioural overlap with addiction and psychiatric phenotypes



???

Courtesy of René Mõttus



Many items represent unique traits – nuances

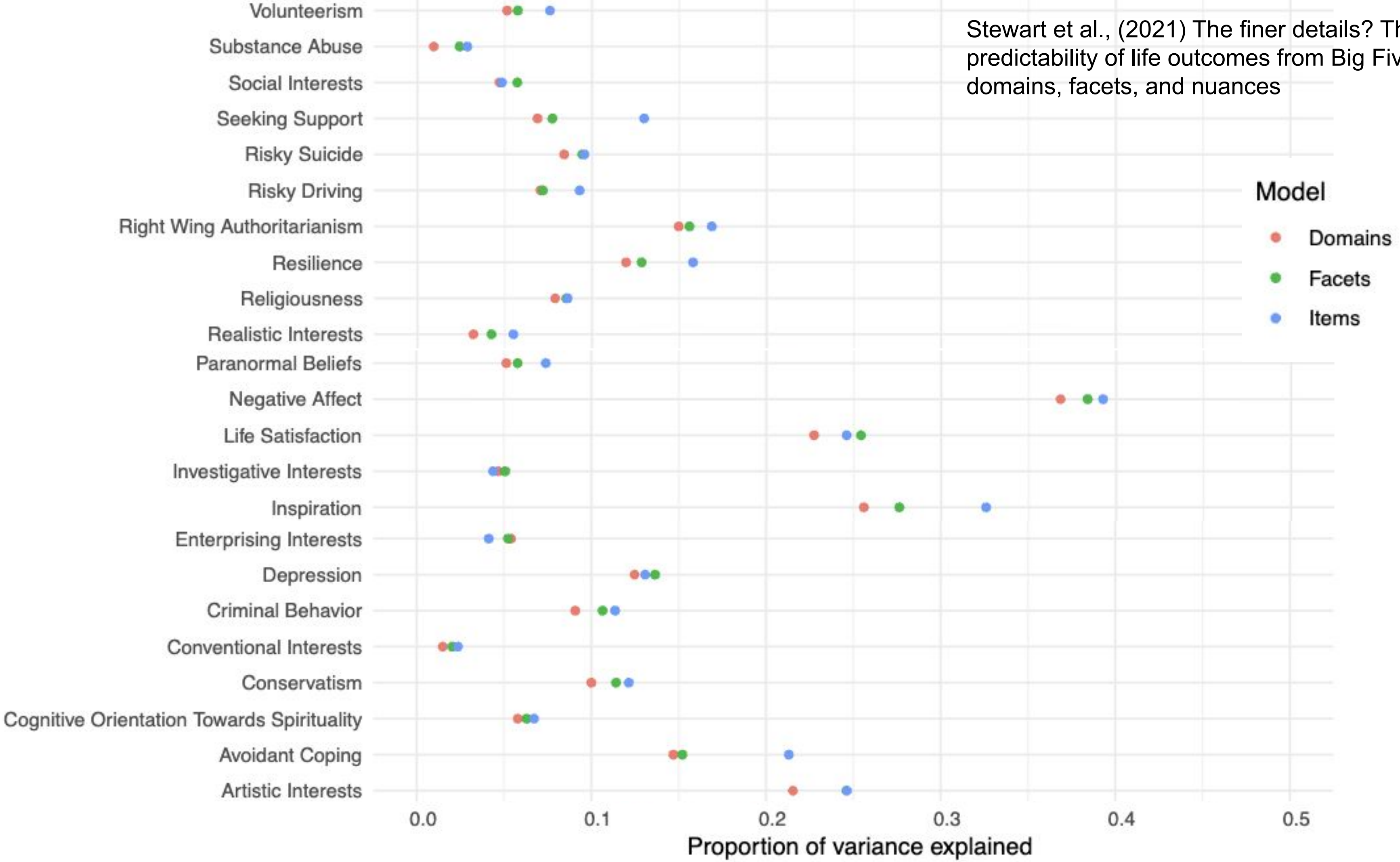
Courtesy of René Mõttus

Increased R^2 with more detailed personality measurement

Phenotype	Big5 domain	Facet	Nuance
Body mass index	0.03	0.06	0.12
Internet use	0.13	0.17	0.24
Cannabis	0.11	0.14	0.18
Tobacco	0.13	0.19	0.25
Countryside/city	0.01	0.05	0.06

Päll (2024). Vainik et al. (2020) partial replication: Optimal level of personality evaluation in obesity and uncontrolled eating, and their behavioral overlap with addictions

Stewart et al., (2021) The finer details? The predictability of life outcomes from Big Five domains, facets, and nuances



The most comprehensive personality study in the world

Hundred nuances of personality (100 NP)

198 questions from International Personality Item Pool

Takes 15-25 minutes to complete

Compatible with Big Five and other legacy instruments

Item test-retest reliability ~.70 (other tests ~.65)

Item validity (cross-rater agreement) ~.36 (other tests ~.30)

Available in 10+ languages

Questions maximally independent

Henry & Mõttus (2024). The 100 Nuances of Personality: Development of a Comprehensive, Non-Redundant Personality Item Pool

Behavioural measures at Estonian Biobank (EstBB)

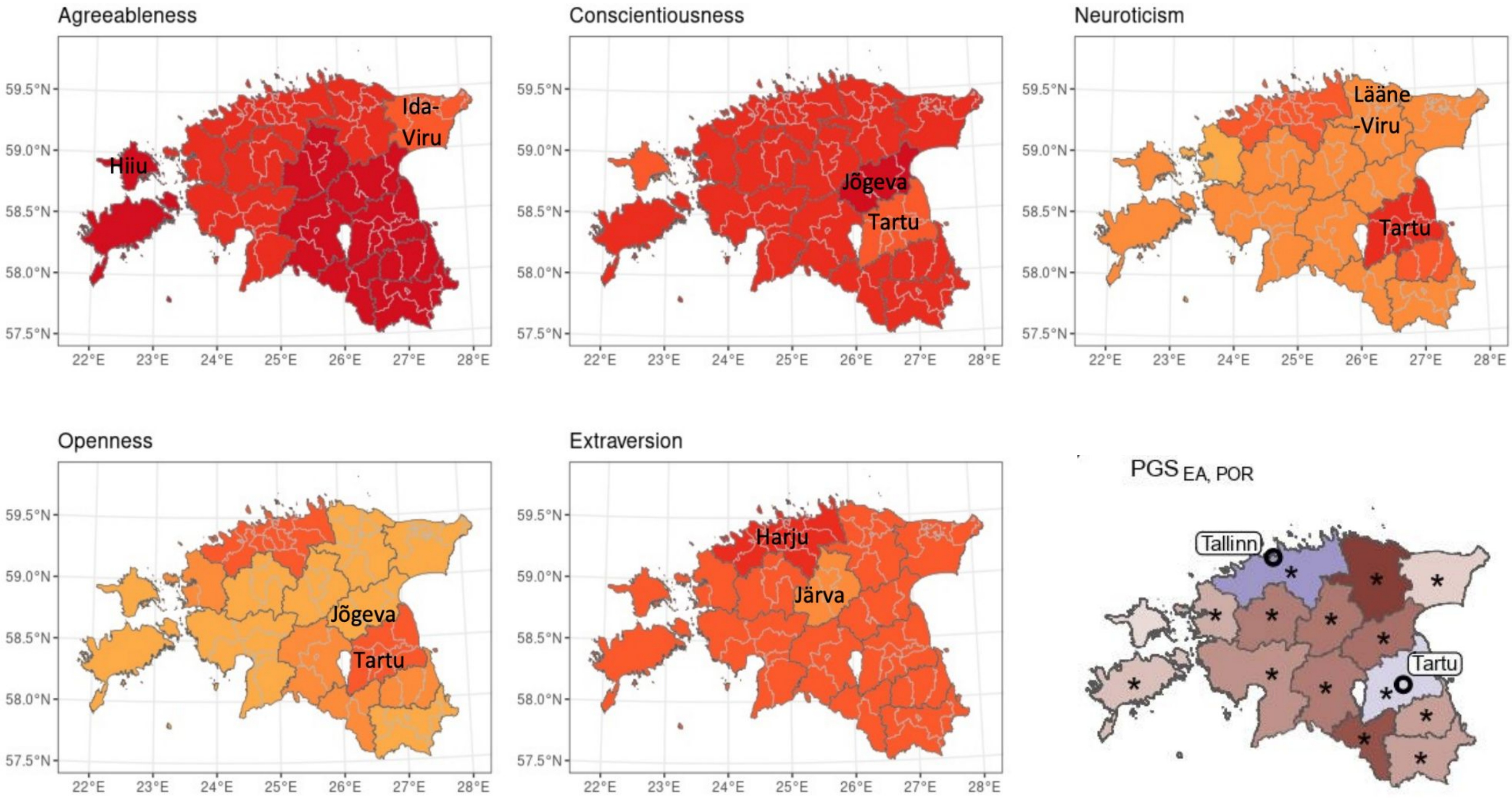
200k genotyped participants, 20% of adult population
- electronic health records, metabolomics, mental health.

2021-22: 100NP + optional SES, life events, attitudes
- Smartphone and computer-proof
- Instant feedback

Data collected & filtered:
- Self-report 77,400 (3% excluded);
- 31,000 50% related
- Other-report 21,986 (5% excluded)
- 30% male, 5% Russian-speaking, 58% higher education

Upcoming cognition measurement with Test My Brain
3 times over 10 years

Things we have found



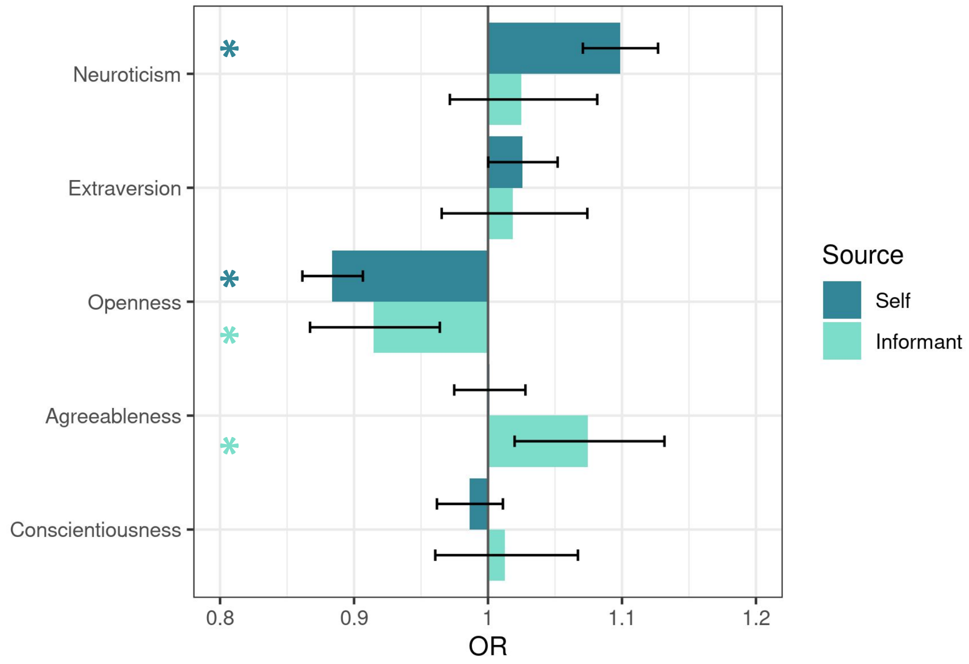
Xu et al., (2024). Does a Small Country Have Meaningful Regional Personality Differences? The Case of Estonia
Kuznetsov et al., (2023). Assessing the impact of 20th century internal migrations on the genetic structure of

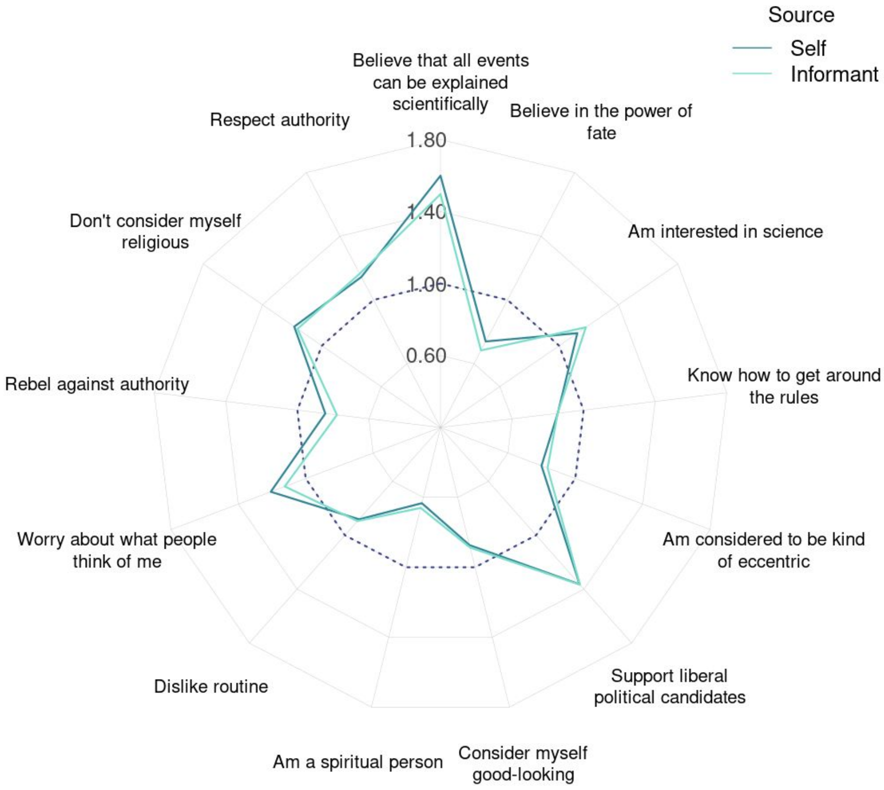
Personality and covid vaccination

Objective data from medical records
90% of sample vaccinated
56,575 participants, 15,244 other-reports

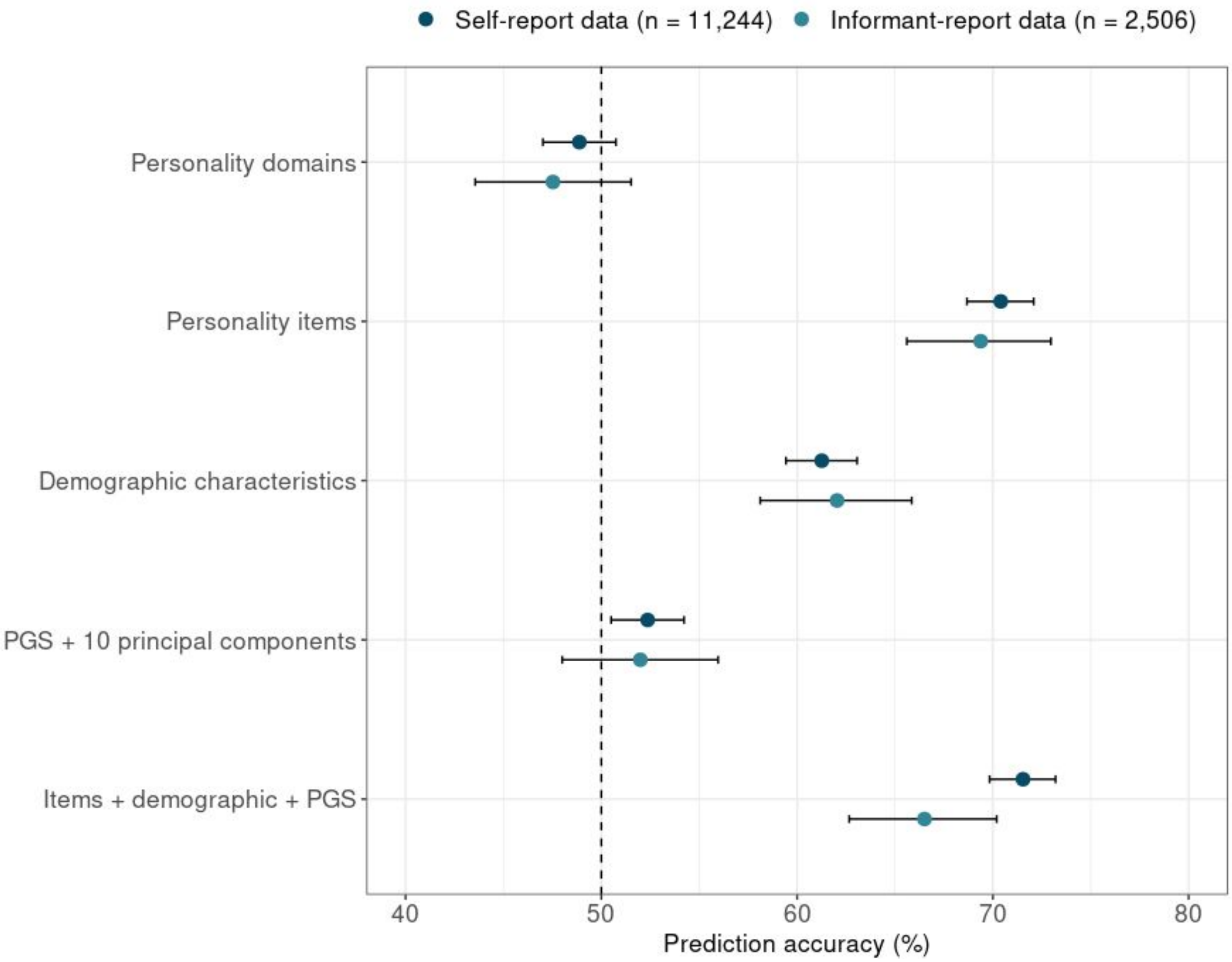
Arumäe et al., (2024). Self-and informant-reported personality traits and vaccination against COVID-19

Results: trait-level associations





Results: prediction



True correlations with life satisfaction

- Among most desired life outcomes
- Multidomain - satisfaction with work, relationships, etc
- Known associations with personality
- Limitations:
  - single method
    - biased self-perception
    - characteristic response styles
  - single measurement occasion
    - mood
    - recent events
- Here we combine self & other reports
- 20,866 EST; 768 RUS; 600 ENG

Mõttus et al., (2024). Most people's life satisfaction matches their personality traits: True correlations in multitrait, multirater, multisample data.

Getting rid of method effects

- Cross-rater, cross-variable correlations
  - Eg: LS-self ↔ extraversion informant
  - Variables valid co-variance, assuming at least some agreement
  - Not inflated by single-method effects
  - But deflated by random error, occasion, asymmetric information
- Cross-rater, same-variable correlations
  - Eg: LS self ↔ LS informant
  - Variables valid information (variance + any covariances)
  - Also deflated by random error, occasion, asymmetric information

True correlations

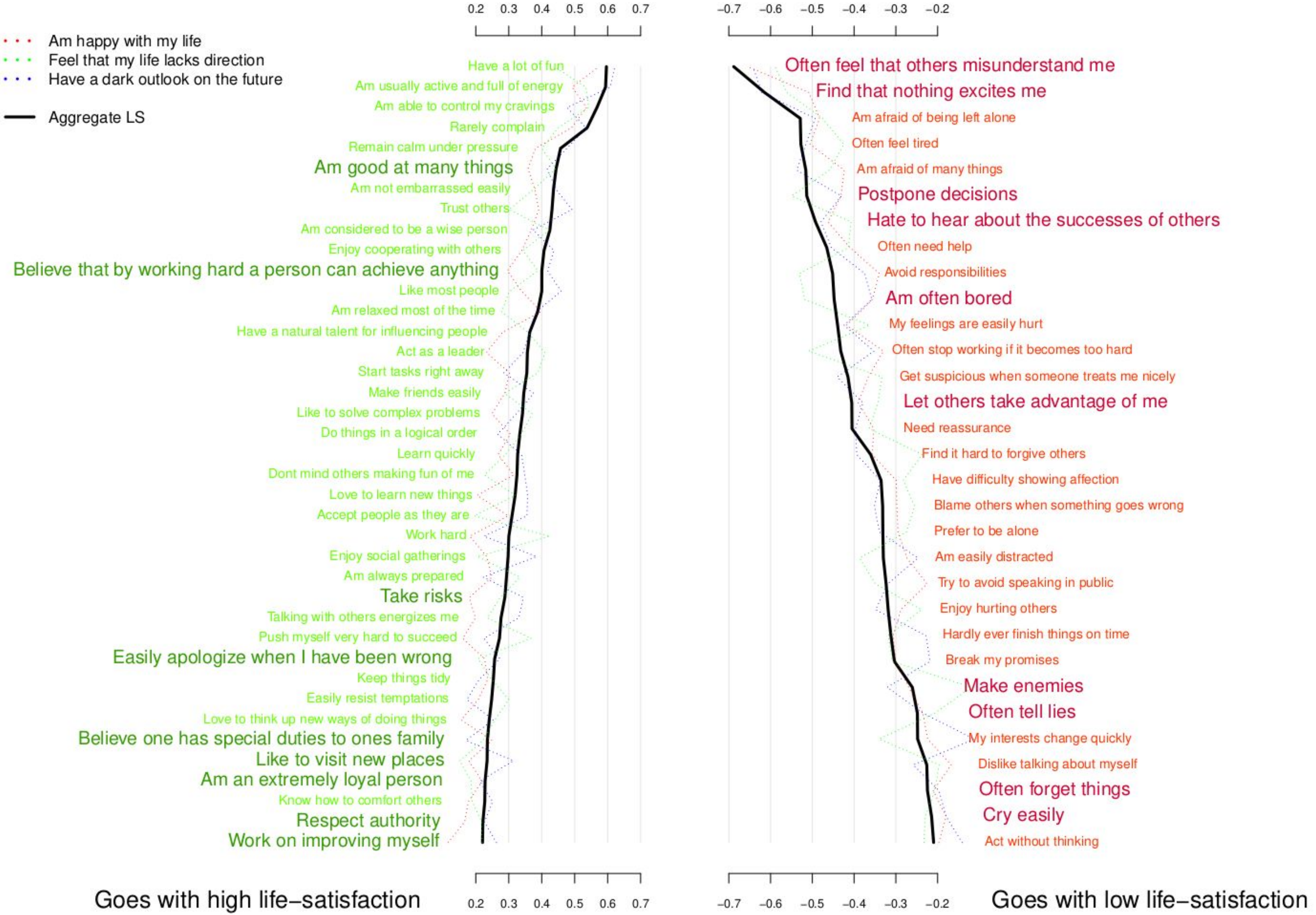
$$\rho_{X,Y} = \frac{\mathrm{cov}(X,Y)}{\sigma_X \sigma_Y}$$

$$\frac{\text{Ratio of valid variances co-variance}}{\text{total valid variance}}$$

- Occasion effects, asymmetrical information and error cancel out

Provide very high estimates for items with same content

Item1	Item2
Break my promises	Keep my promises
Have no need for close friendships	Having good friends is important for me
Have strong sexual urges	Don't think much about sex
Am always worried about something	Rarely worry
Act without thinking	Make rash decisions
Keep things tidy	Leave a mess in my room
Am good at saving money	Spend more money than I should



Am happy with my life
Feel that my life lacks direction
Have a dark outlook on the future
Aggregate LS
0.2 0.3 0.4 0.5 0.6 0.7
Have a lot of fun
Am usually active and full of energy
Am able to control my cravings
Rarely complain
Remain calm under pressure
Am good at many things
Am not embarrassed easily
Trust others
Am considered to be a wise person
Enjoy cooperating with others
Believe that by working hard a person can achieve anything
Like most people
Am relaxed most of the time
Have a natural talent for influencing people
Act as a leader
Start tasks right away
Make friends easily
Like to solve complex problems
Do things in a logical order
Learn quickly
Dont mind others making fun of me
Love to learn new things
Accept people as they are
Work hard
Enjoy social gatherings
Am always prepared
Take risks
Talking with others energizes me
Push myself very hard to succeed
Easily apologize when I have been wrong
Keep things tidy
Easily resist temptations
Love to think up new ways of doing things
Believe one has special duties to ones family
Like to visit new places
Am an extremely loyal person
Know how to comfort others
Respect authority
Work on improving myself
Goes with high life−satisfaction
−0.7 −0.6 −0.5 −0.4 −0.3 −0.2
Often feel that others misunderstand me
Find that nothing excites me
Am afraid of being left alone
Often feel tired
Am afraid of many things
Postpone decisions
Hate to hear about the successes of others
Often need help
Avoid responsibilities
Am often bored
My feelings are easily hurt
Often stop working if it becomes too hard
Get suspicious when someone treats me nicely
Let others take advantage of me
Need reassurance
Find it hard to forgive others
Have difficulty showing affection
Blame others when something goes wrong
Prefer to be alone
Am easily distracted
Try to avoid speaking in public
Enjoy hurting others
Hardly ever finish things on time
Break my promises
Make enemies
Often tell lies
My interests change quickly
Dislike talking about myself
Often forget things
Cry easily
Act without thinking
Goes with low life−satisfaction

Estonian correlation
Russian + English correlation
CIs span Estonian correlation
CIs don't span Estonian correlation
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8
−0.8 −0.7 −0.6 −0.5 −0.4 −0.3 −0.2 −0.1
Am usually active and full of energy
Have a lot of fun
Believe that by working hard a person can achieve anything
Trust others
Am good at many things
Am relaxed most of the time
Make friends easily
Am always prepared
Remain calm under pressure
Like most people
Respect authority
Rarely complain
Start tasks right away
Work hard
Enjoy social gatherings
Talking with others energizes me
Have a natural talent for influencing people
Am considered to be a wise person
Act as a leader
Learn quickly
Believe one has special duties to ones family
Am able to control my cravings
Am not embarrassed easily
Enjoy cooperating with others
Accept people as they are
Like to visit new places
Do things in a logical order
Like to solve complex problems
Know how to comfort others
Dont mind others making fun of me
Keep things tidy
Love to learn new things
Easily apologize when I have been wrong
Push myself very hard to succeed
Easily resist temptations
Am an extremely loyal person
Love to think up new ways of doing things
Take risks
Find that nothing excites me
Often feel that others misunderstand me
Get suspicious when someone treats me nicely
Avoid responsibilities
Postpone decisions
Often stop working if it becomes too hard
Hate to hear about the successes of others
Am afraid of many things
Am often bored
Often feel tired
Often need help
Break my promises
Prefer to be alone
Enjoy hurting others
Hardly ever finish things on time
Am easily distracted
My feelings are easily hurt
Need reassurance
Let others take advantage of me
Try to avoid speaking in public
My interests change quickly
Often tell lies
Blame others when something goes wrong
Find it hard to forgive others
Often forget things
Have difficulty showing affection
Am afraid of being left alone
Make enemies
Cry easily
Dislike talking about myself
Act without thinking
0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8
−0.8 −0.7 −0.6 −0.5 −0.4 −0.3 −0.2 −0.1
Goes with high life−satisfaction
Goes with low life−satisfaction

Prediction

	Estonian-based data		Russian-based data		English-based data	
	r_{true}	SE	r_{true}	SE	r_{true}	SE
Five domains	.79	.008	.74	.046	.64	.049

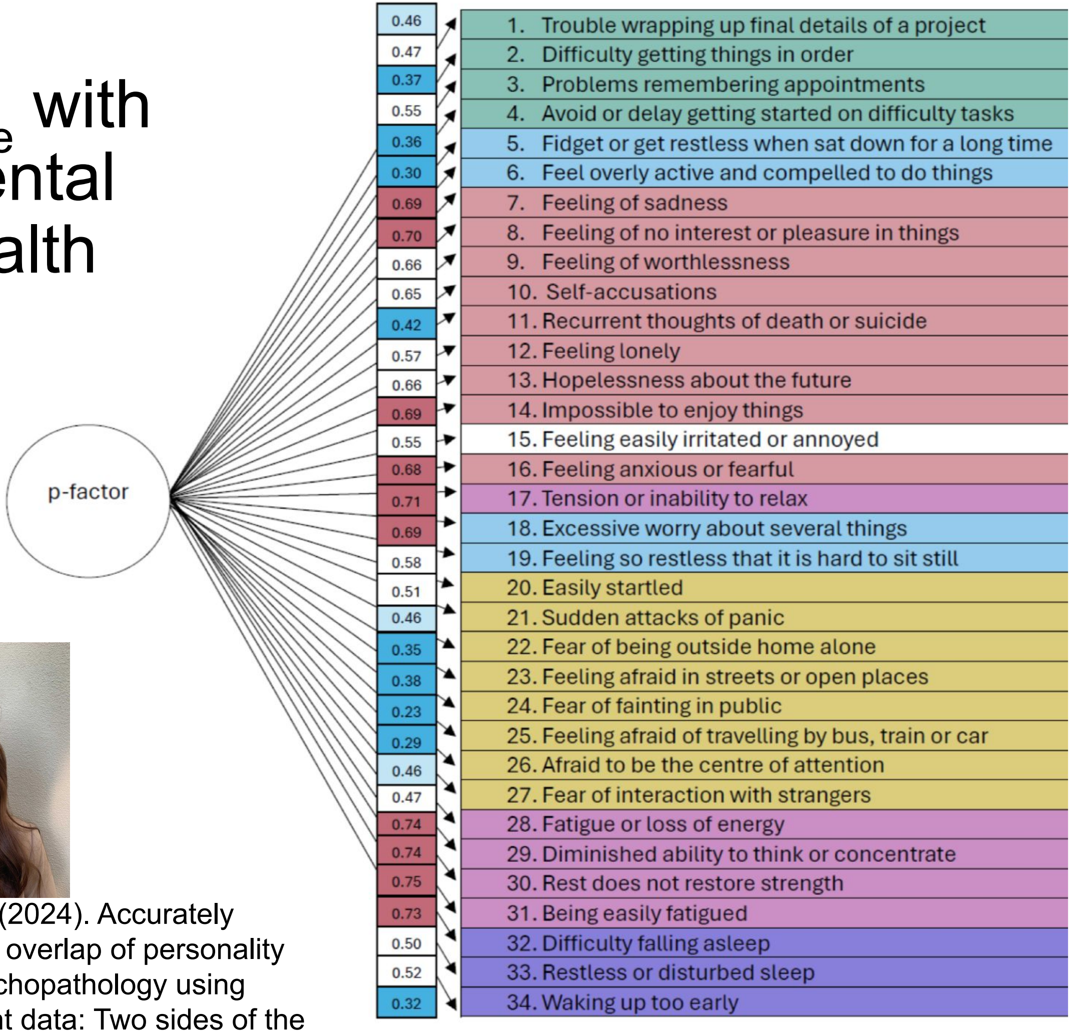
“Often feel that others misunderstand me”

“Find that nothing excites me”

“Postpone decisions”

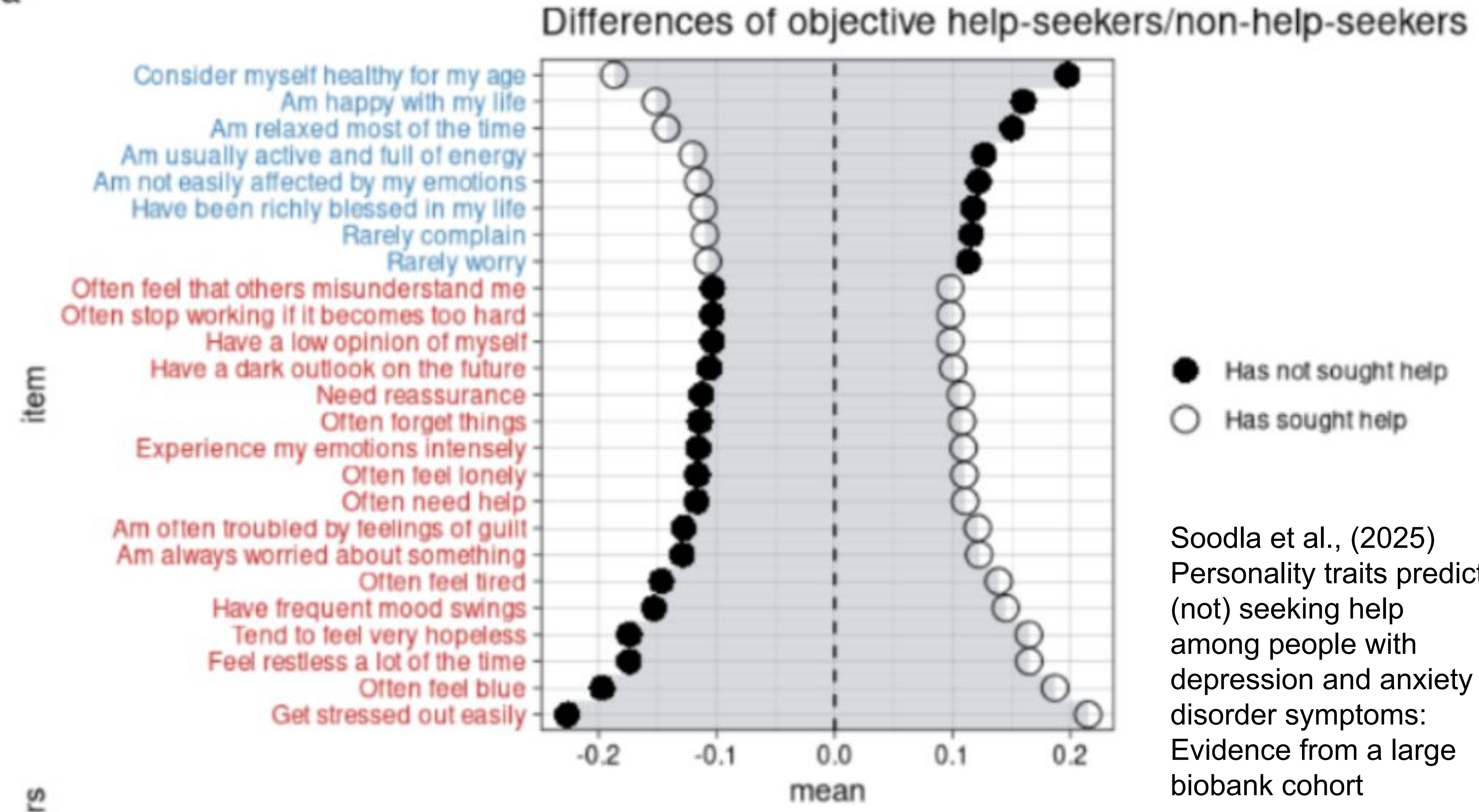
r_{true} with mental health

0.52



Soodla et al., (2024). Accurately assessing the overlap of personality traits and psychopathology using multi-informant data: Two sides of the same coin?

a



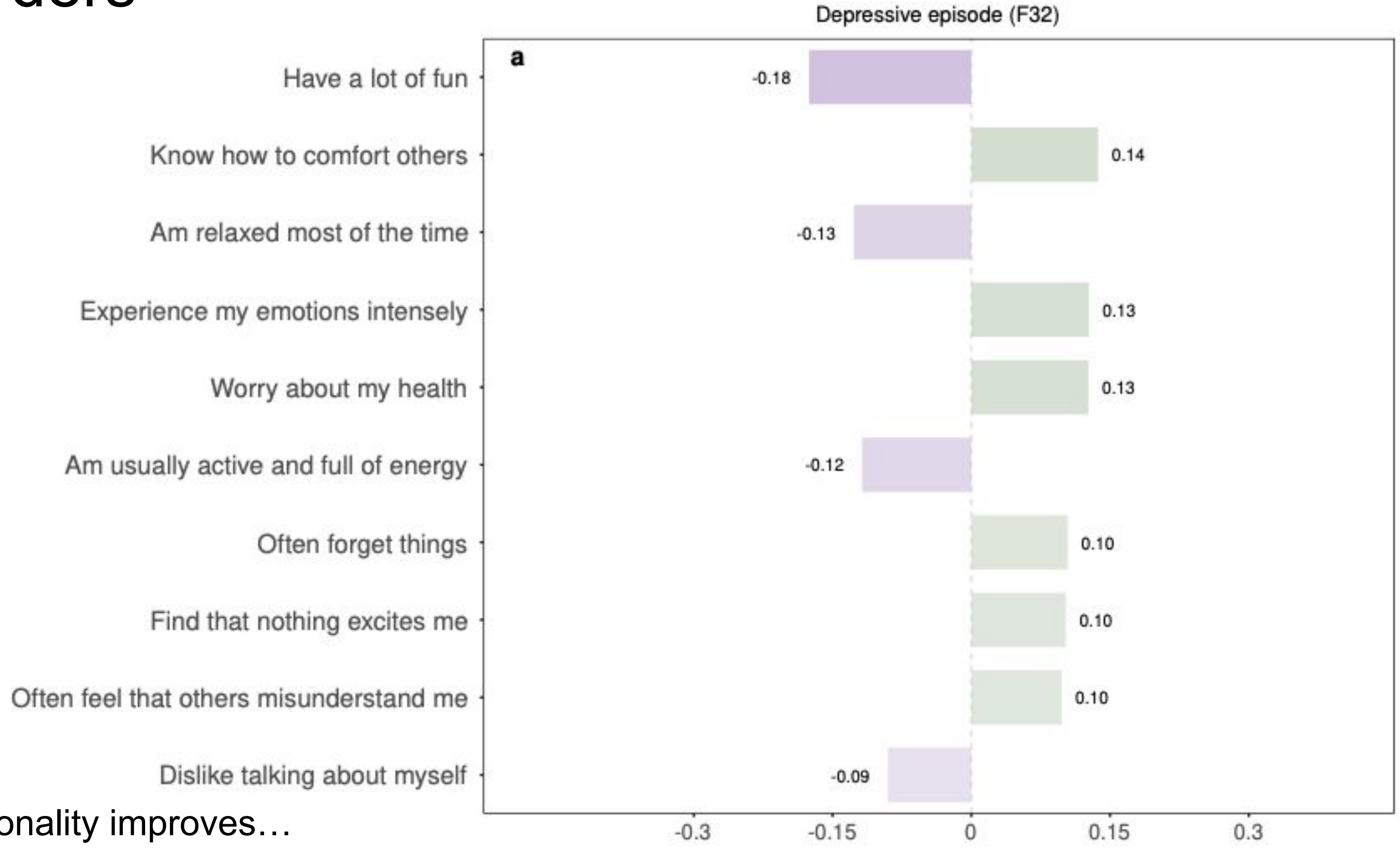
Soodla et al., (2025) Personality traits predict (not) seeking help among people with depression and anxiety disorder symptoms: Evidence from a large biobank cohort

Personality improves prediction of the onset of common mental disorders

Item-level personality model: mean AUC=0.71

Demographic factors: mean AUC=0.59

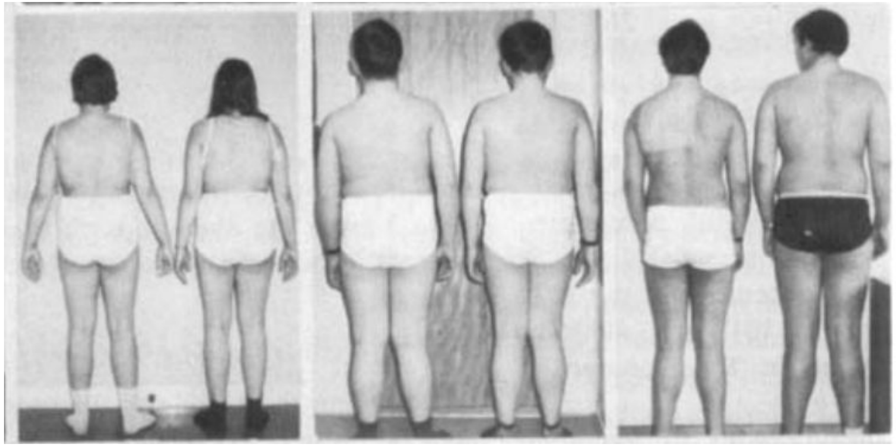
Depression: AUC=0.8



Zhang et al., (2025). Personality improves…

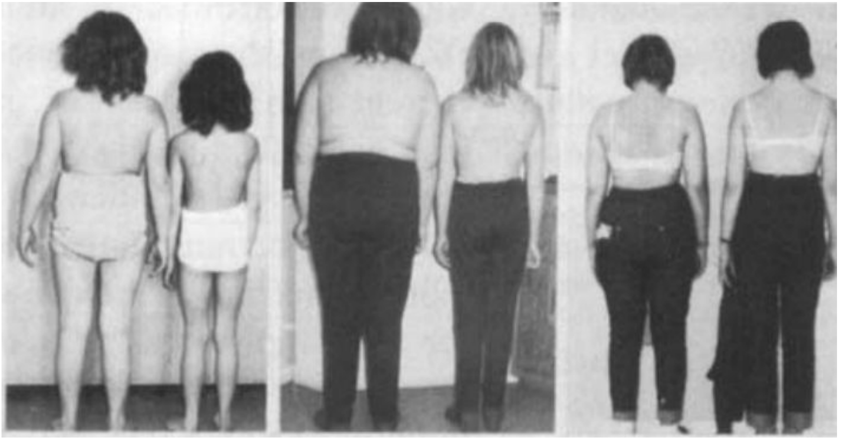
https://vikerraadio.err.ee/1061406/kabi-ei-kuku
https://purepng.com/public/uploads/large/purepng.com-applef

Heritability: genetic similarity → phenotypic similarity



Monozygotic twins:

100% shared genes



Dizygotic twins:

50% shared genes

Börjeson, 1974, Aetiology of obesity in children

How similar are relatives' personalities?

r_{true} parent-offspring personality

- typical estimate r=.11-.15
  - little more similar than strangers
  - →narrow h^2 ~.22- .28
- We applied r_{true} to self & other ratings of:
  - parent-offspring (N pairs= 522)
  - sibling-sibling pairs (N pairs= 388),
  - 2nd degree relatives (N pairs= 475)
- parent offspring r_{true} ~. 30
  - →narrow h^2 ~.40
  - parents and offspring are not strangers after all
  - but also not the same person

Mõttus et al., (2024). Familial Transmission of Personality Traits and Life Satisfaction Is Much Higher Than Shown in Typical Single-Method Studies

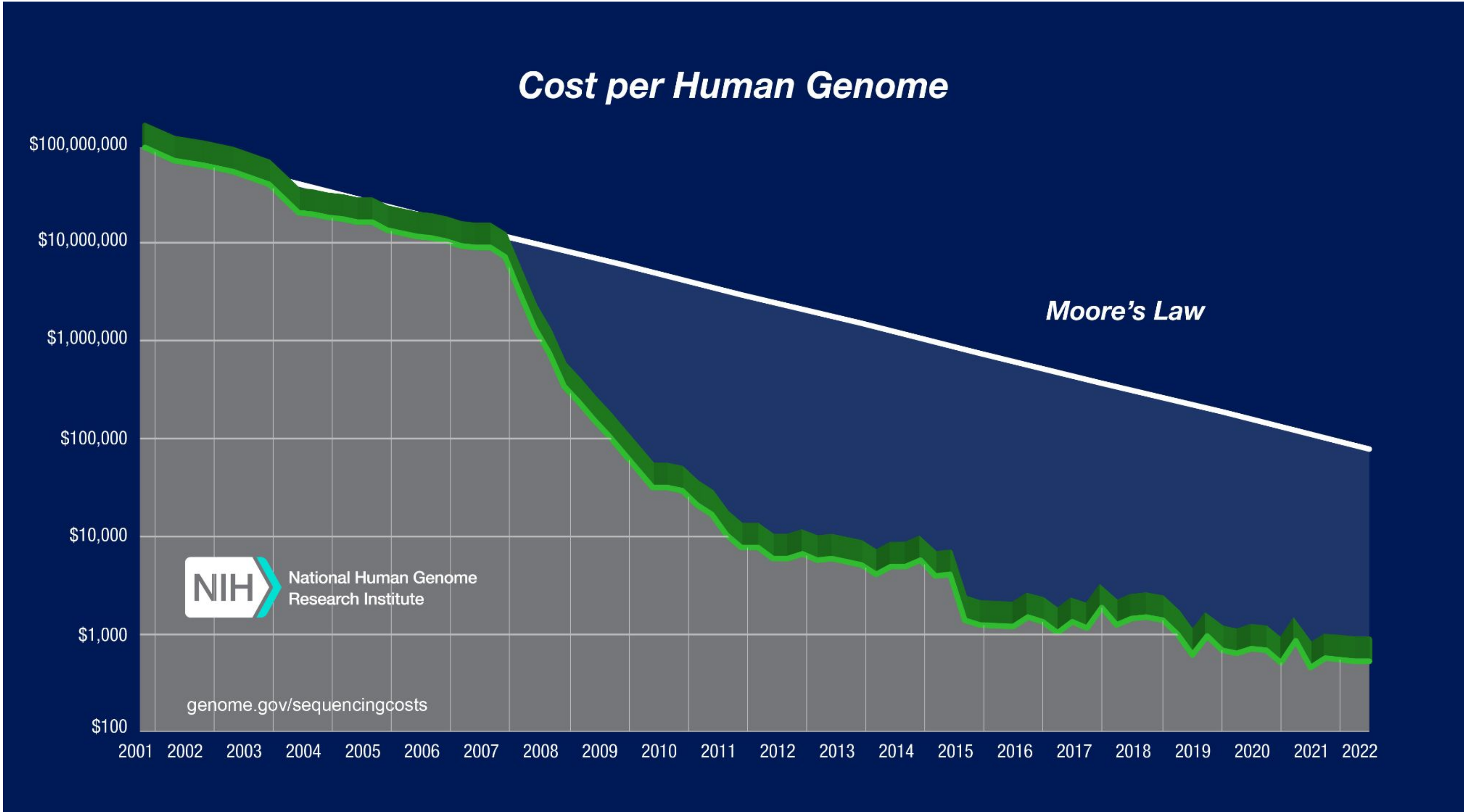
Molecular genetics of personality

Genome-wide profiles

Genetic correlations

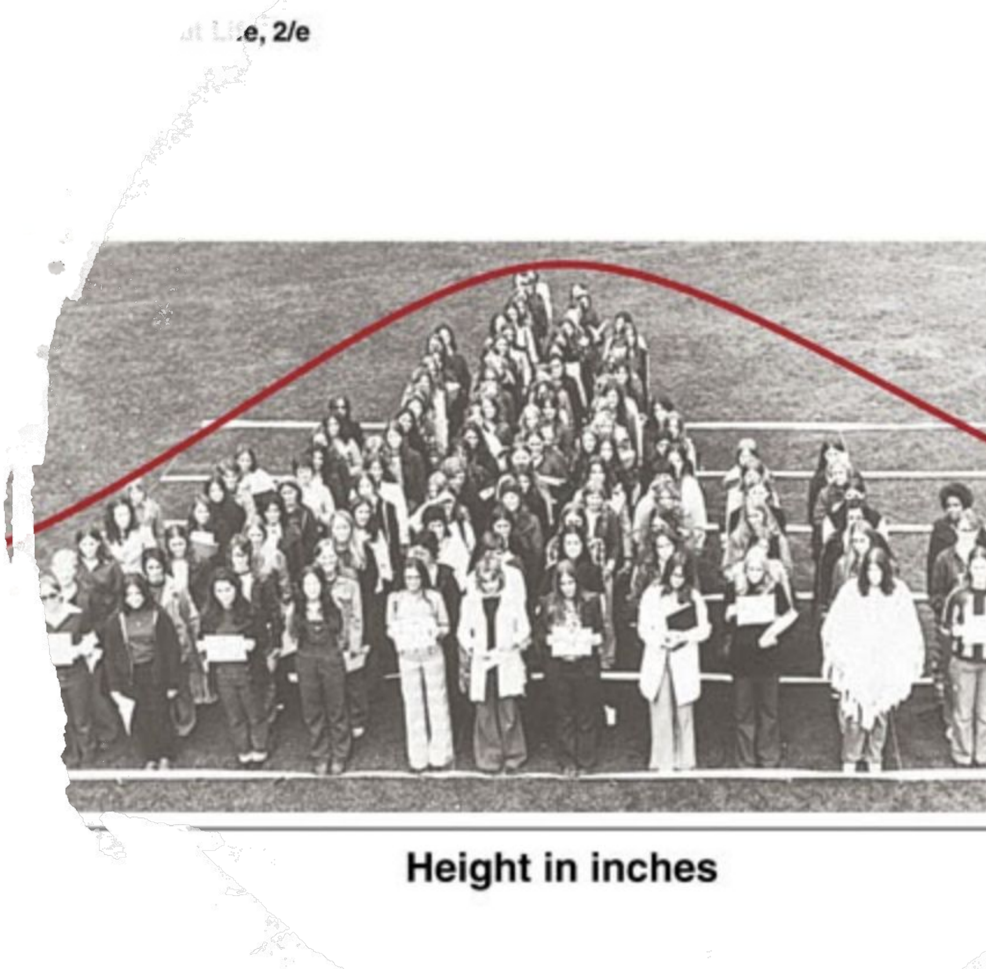
Polygenic scores

Causal inference

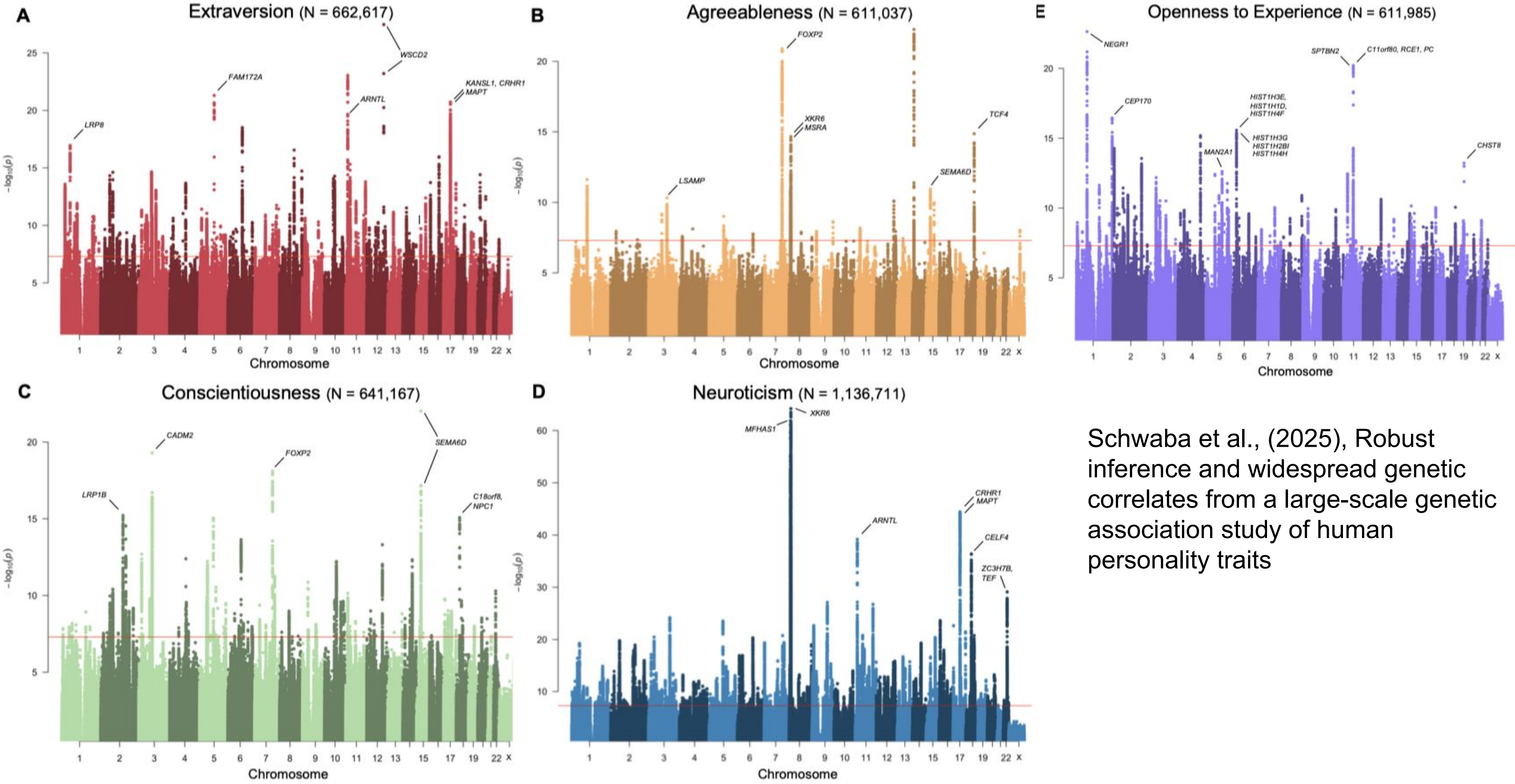

Cost per Human Genome
$100,000,000
$10,000,000
$1,000,000
$100,000
$10,000
$1,000
$100
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
Moore's Law
NIH
National Human Genome
Research Institute
genome.gov/sequencingcosts

Many genes influence complex traits

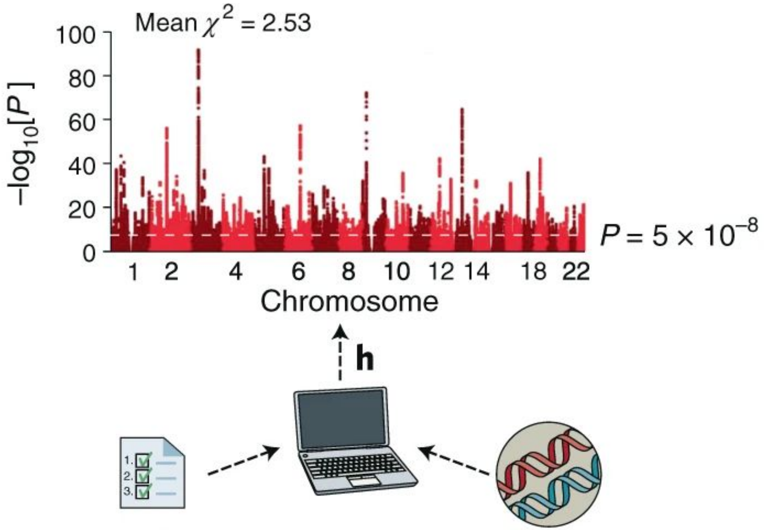
- Each gene has small effect (few mm regarding height)
- Effects tend to be additive
- Effects form a normal distribution
- We need 100k to millions of participants → collaboration

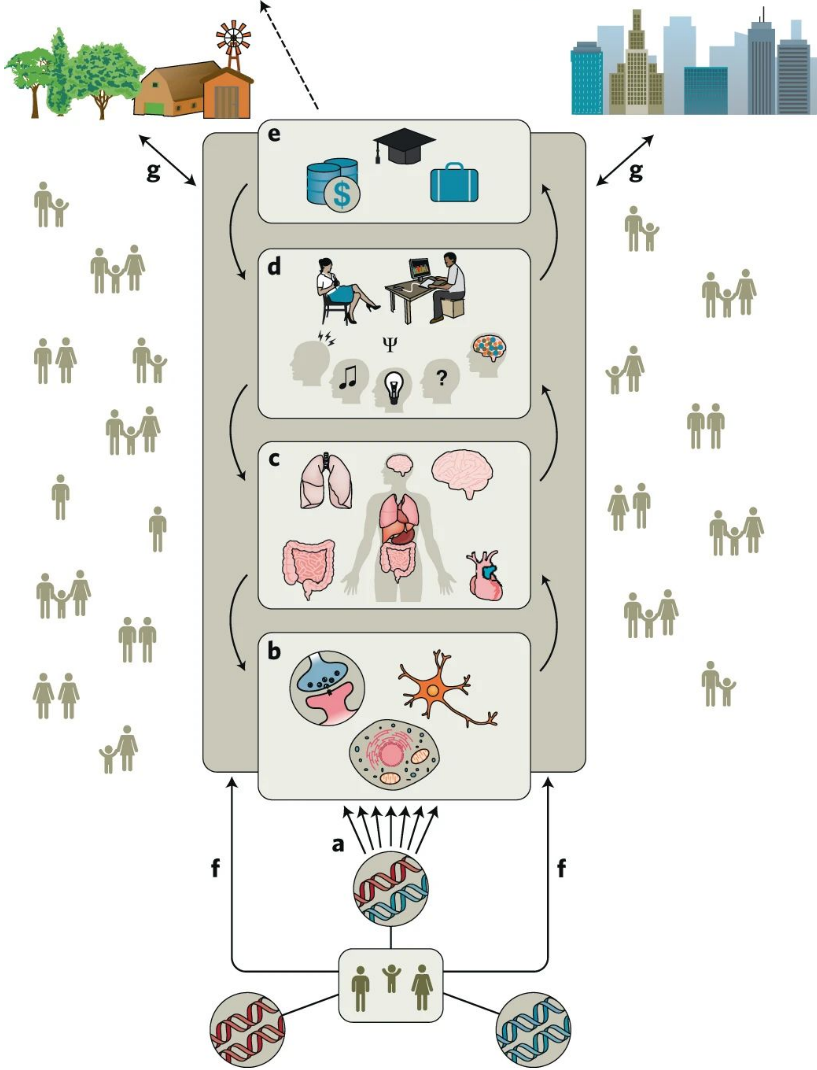


https://sites.google.com/a/canacad.ac.jp/hl2-biology-ferguson/08-genetics/10-3-polygenic-inheritance

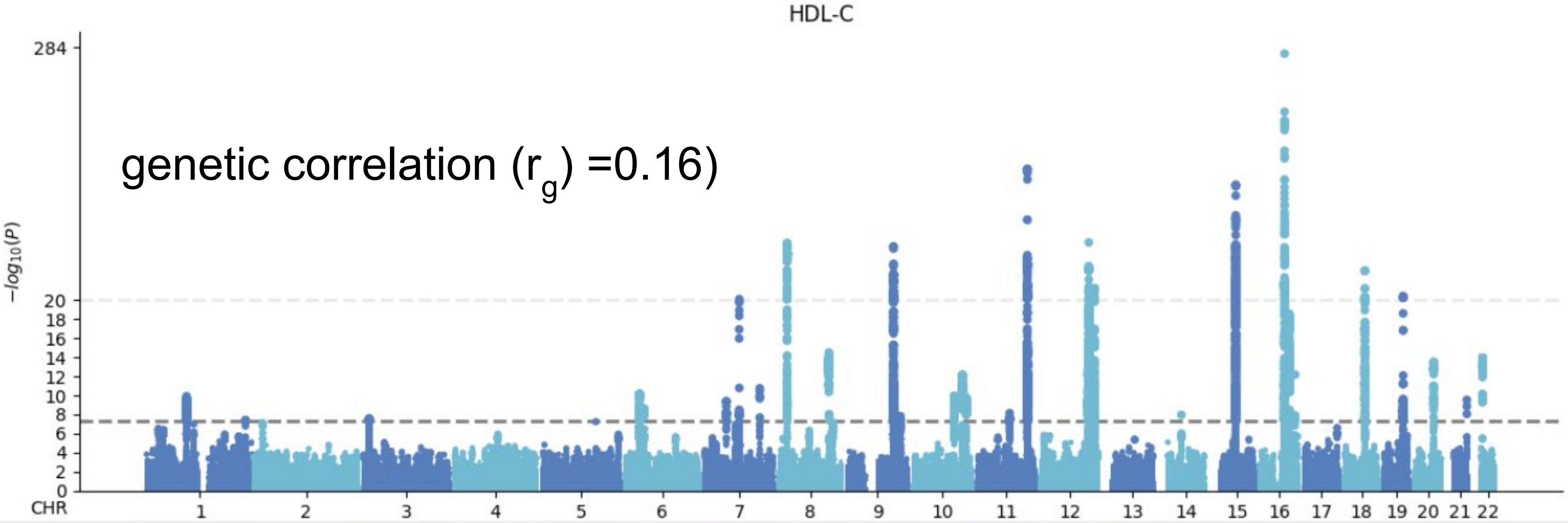


Schwaba et al., (2025), Robust inference and widespread genetic correlates from a large-scale genetic association study of human personality traits





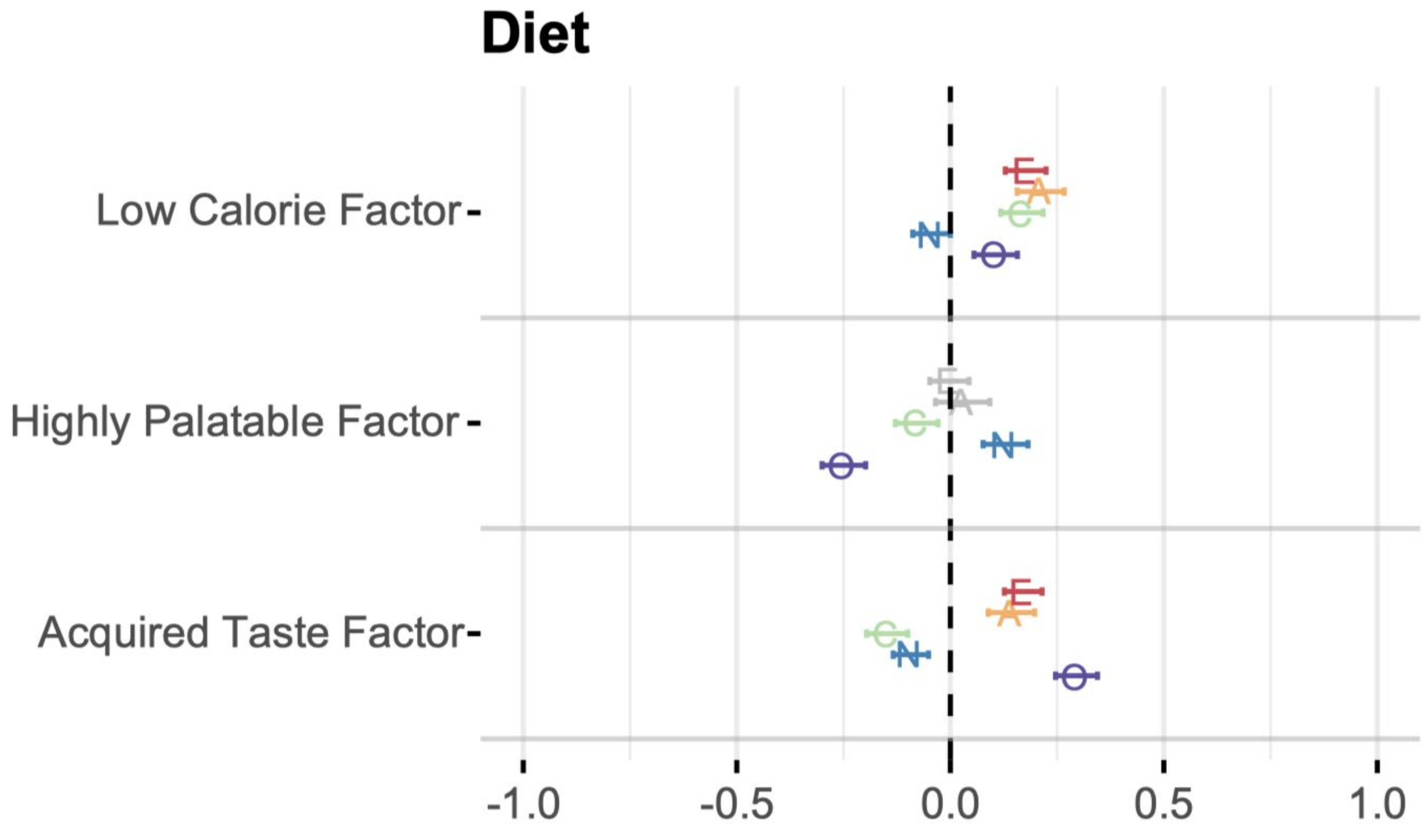
Abdellaoui & Verweij (2021) Nature Human Behavior genetic correlation (r_g) =0.16)

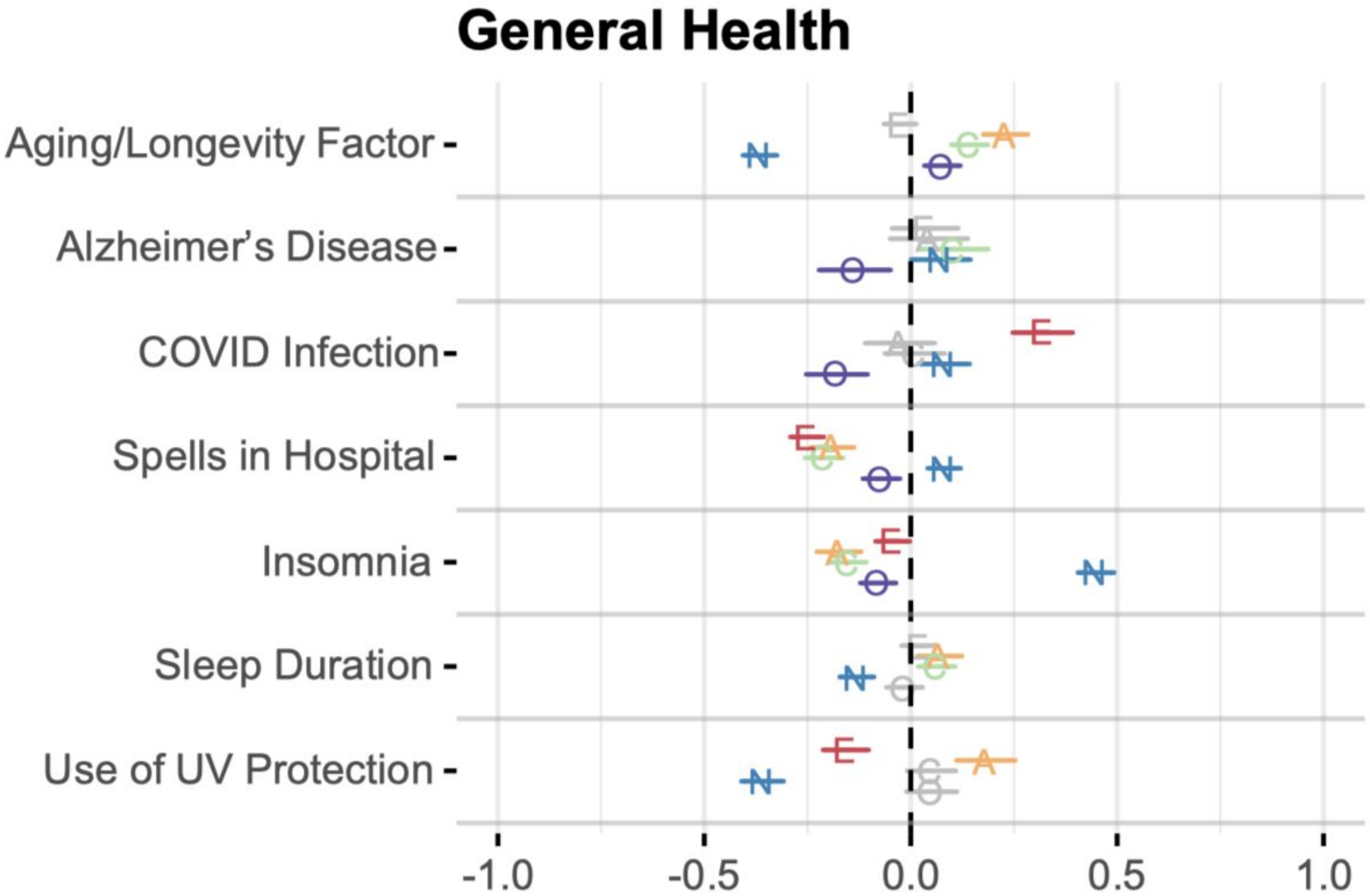


https://cloufield.github.io/GWASTutorial/08_LDSC

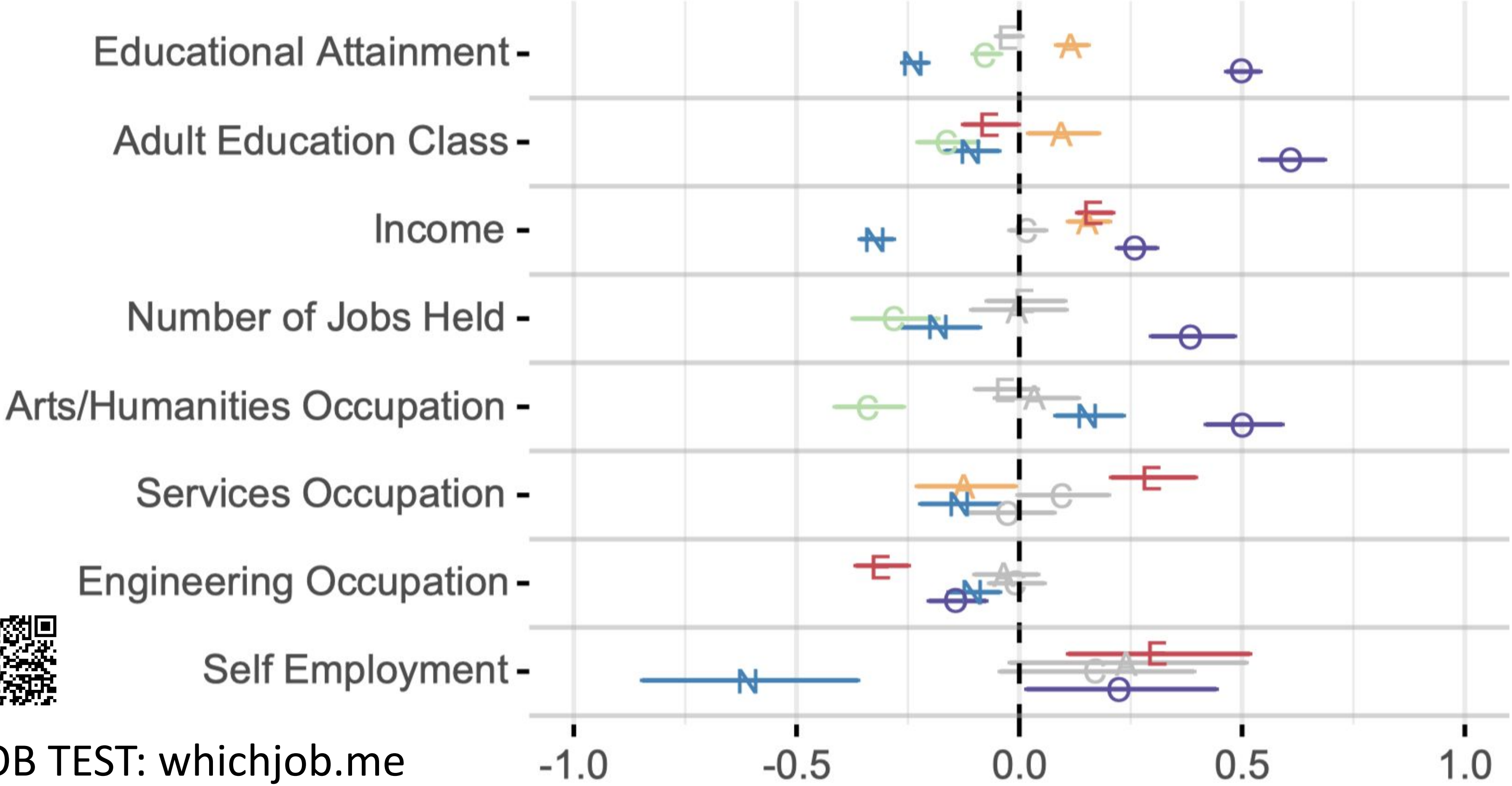
Personality and health correlations

Schwaba et al., (2025), Robust inference and widespread genetic correlates from a large-scale genetic association study of human personality traits


Diet
Low Calorie Factor
Highly Palatable Factor
Acquired Taste Factor
-1.0
-0.5
0.0
0.5
1.0
E
A
C
N
O

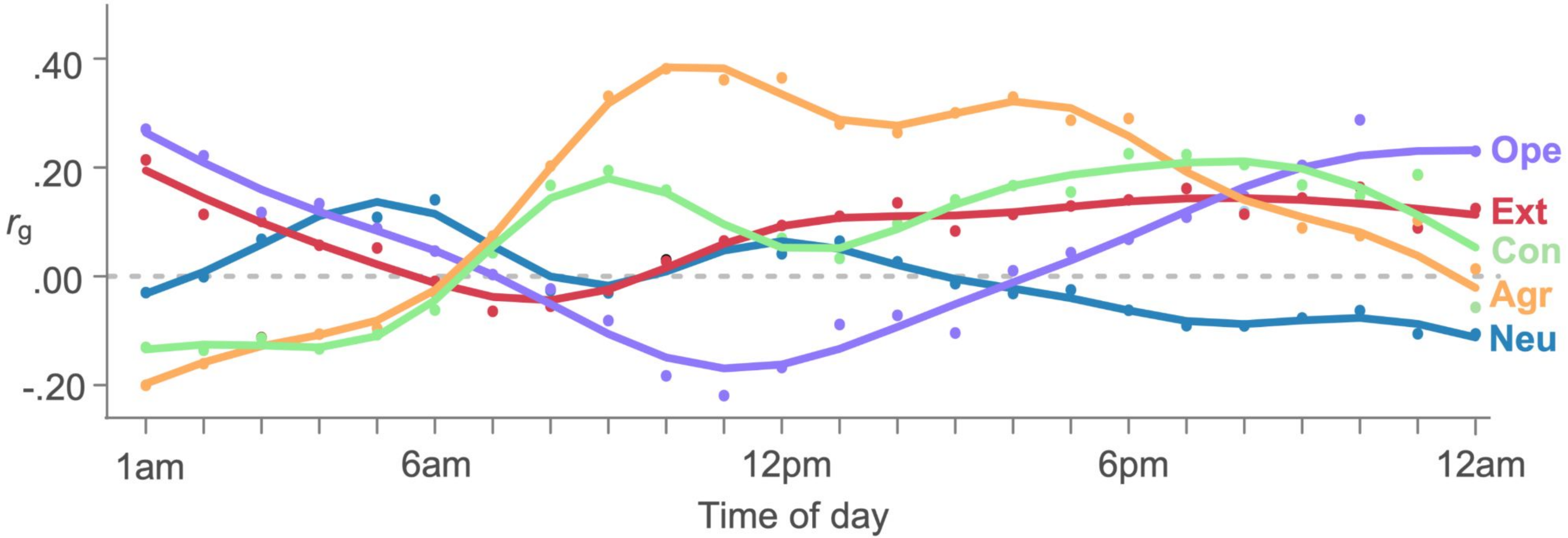

General Health
Aging/Longevity Factor
Alzheimer's Disease
COVID Infection
Spells in Hospital
Insomnia
Sleep Duration
Use of UV Protection
-1.0
-0.5
0.0
0.5
1.0

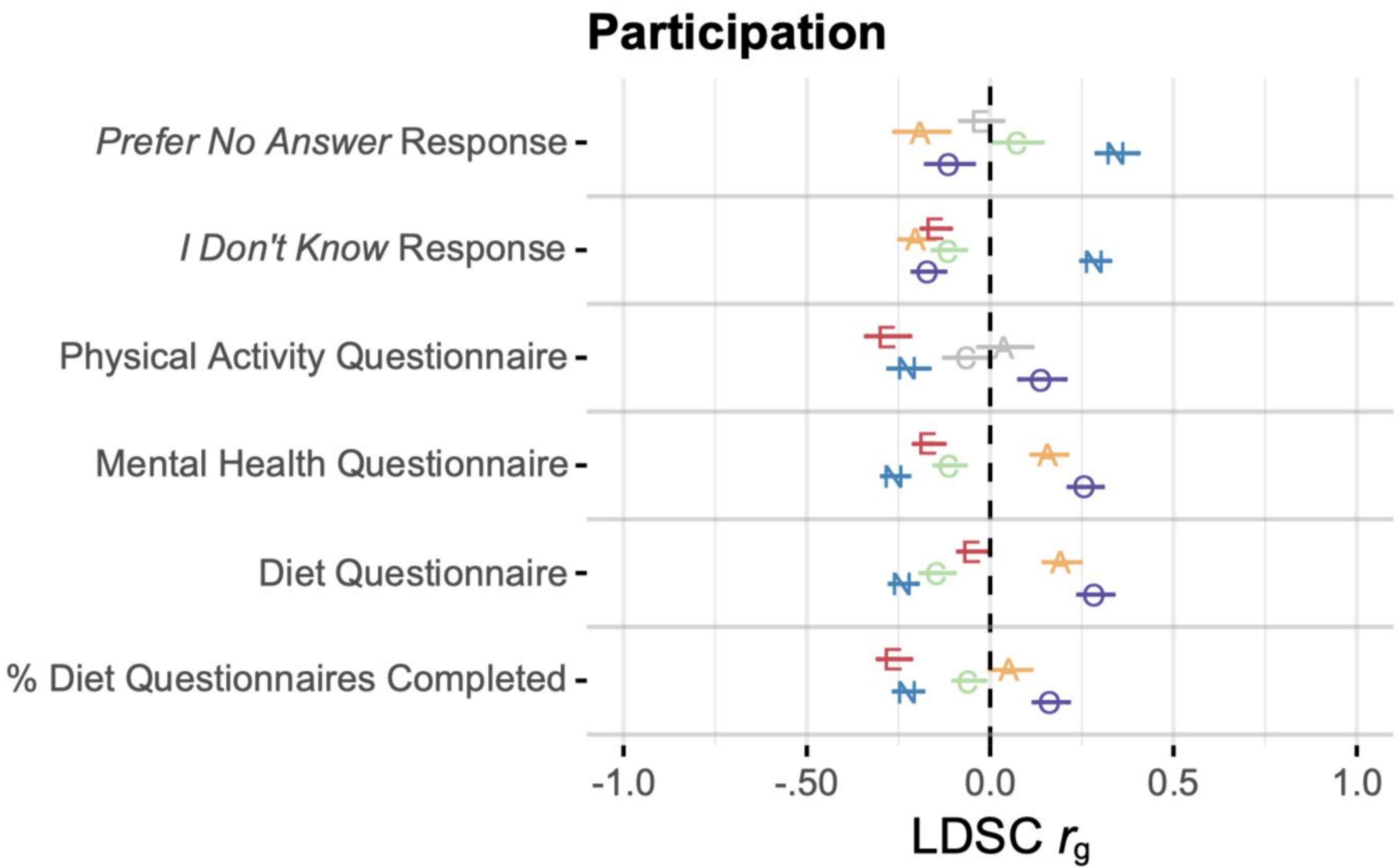
Education and Employment



JOB TEST: whichjob.me

D Genetic Correlations with Accelerometer in UK Biobank (NEUR ≈ 95,000)




Participation
Prefer No Answer Response
I Don't Know Response
Physical Activity Questionnaire
Mental Health Questionnaire
Diet Questionnaire
% Diet Questionnaires Completed
-1.0
-.50
0.0
0.5
1.0
LDSC r_g

Polygenic scores - genetic potential

Genetic risk scores

Polygenic indices

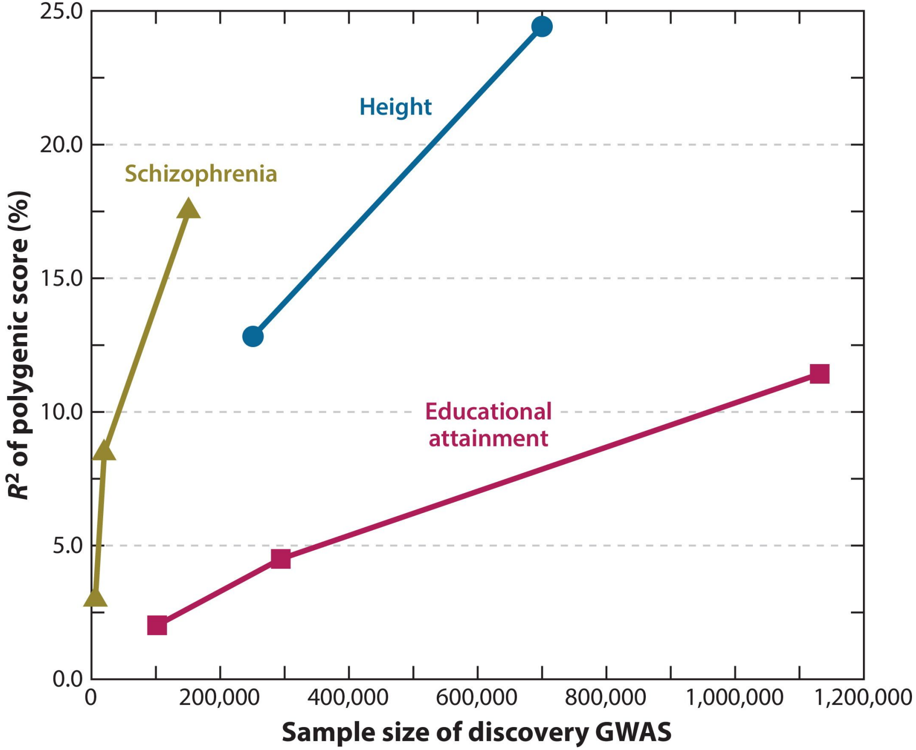
Discovery GWAS
$N = 30K–1,000K$

SNP	$\hat{b}$
rs5	0.013
rs26	0.011
rs47	0.0001
. . .	
rs9999	0.002

Polygenic Scoring
$N = 300+$

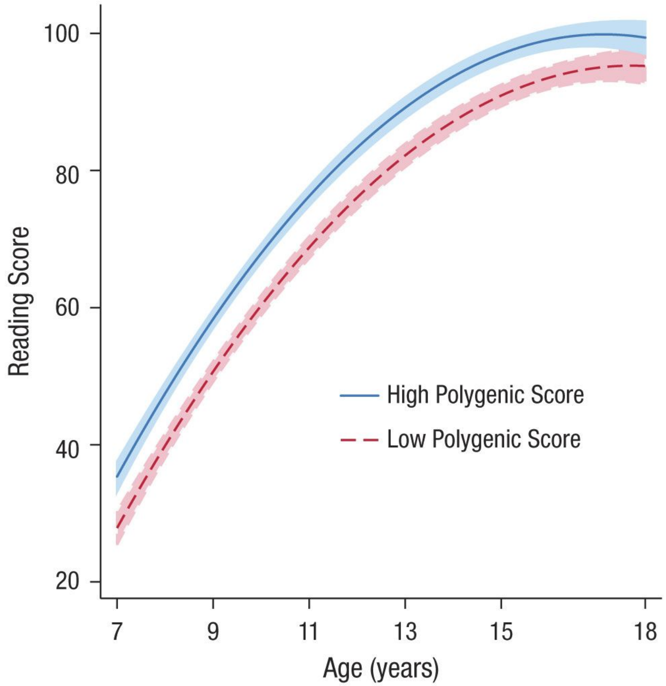
https://www.physoc.org/magazine-articles/polygenic-scores-and-precision-genetics/

Larger discovery sample → better prediction



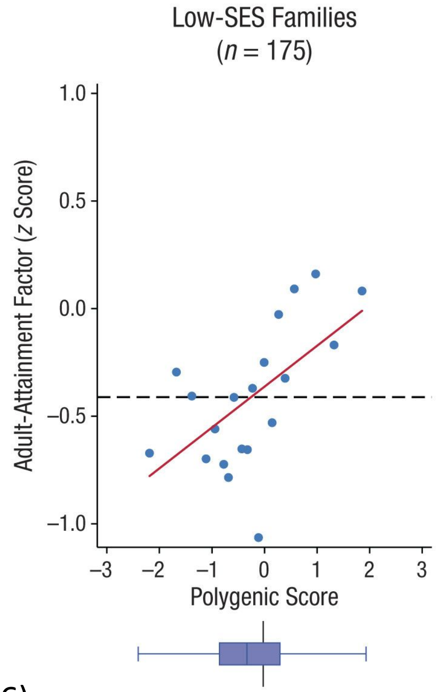
Raffington L, et al. 2020
Annu. Rev. Dev. Psychol. 2:389–411

Education PGS and reading



Belsky et al., (2016)
Psychological Science

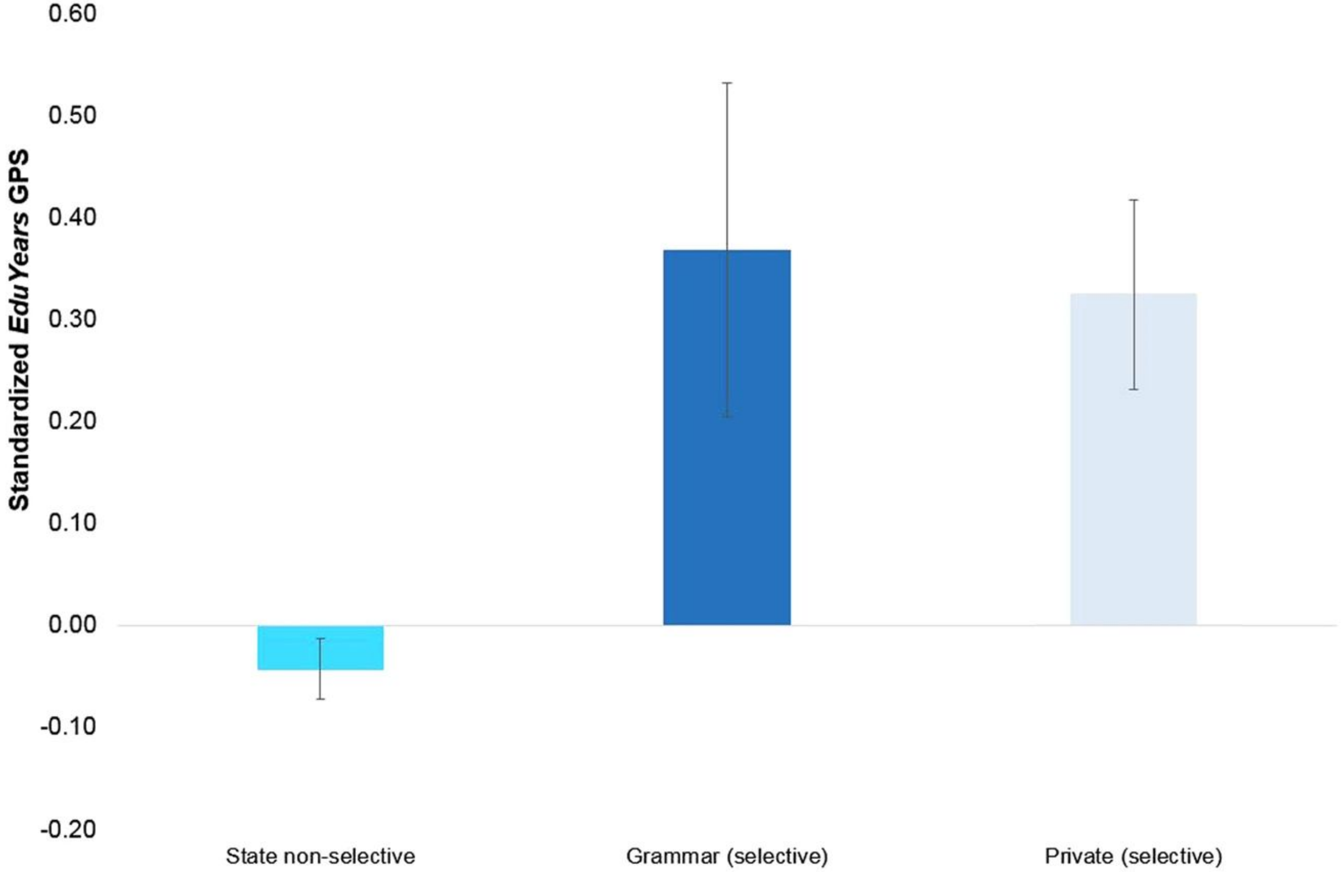
Higher education PGS makes more from the SES



Belsky et al., (2016)
Psychological Science

Smith-Woolley et al 2018 Science of Learning

Selective schools have higher Edu PGS students

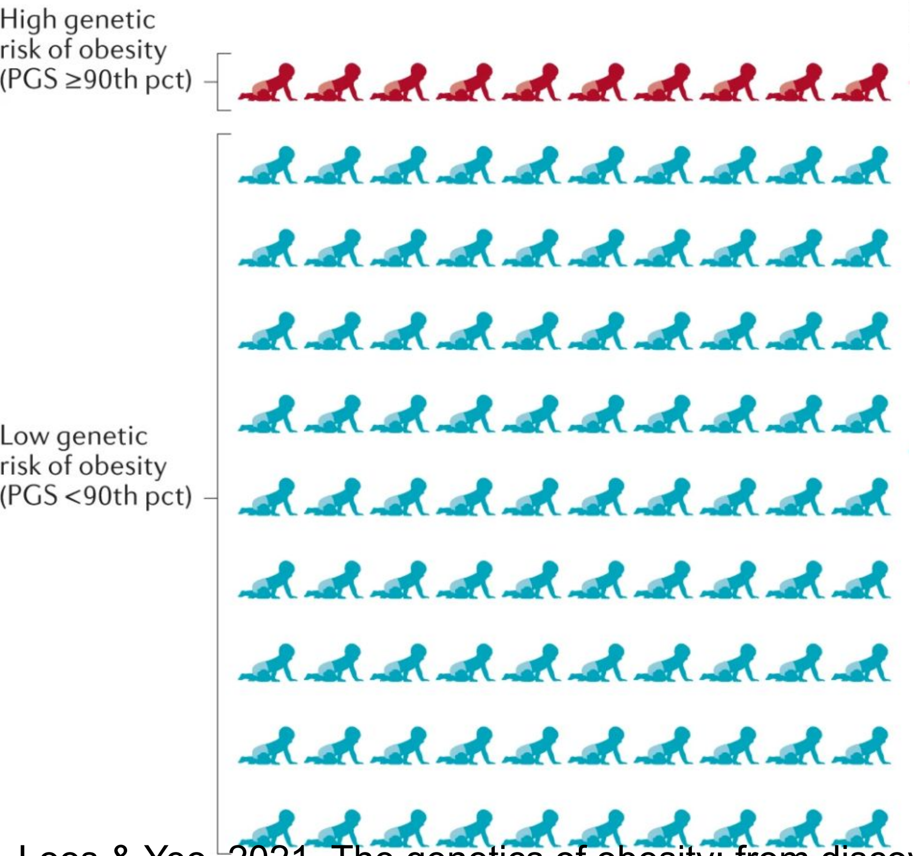


Adding excotic phentypes to datasets

- Church attendance
- Childhood math and reading skills
- Narcissism
- Rhythm perception

Alemu et al., (2025). An Updated Polygenic Index Repository: Expanded Phenotypes, New Cohorts, and Improved Causal Inference

Polygenic score is potential not destiny



Loos & Yeo, 2021, The genetics of obesity: from discovery to biology

Insurance (Australia)

This article is more than **9 months old**

Australia to ban life insurance companies from discriminating based on genetic testing results

Albanese government says people have been reluctant to get life-saving early testing because of the risk of being refused insurance

- Follow our Australia news live blog for latest updates
- Get our breaking news email, free app or daily news podcast

Karen Middleton *Political editor*

Tue 10 Sep 2024 14.55 CEST

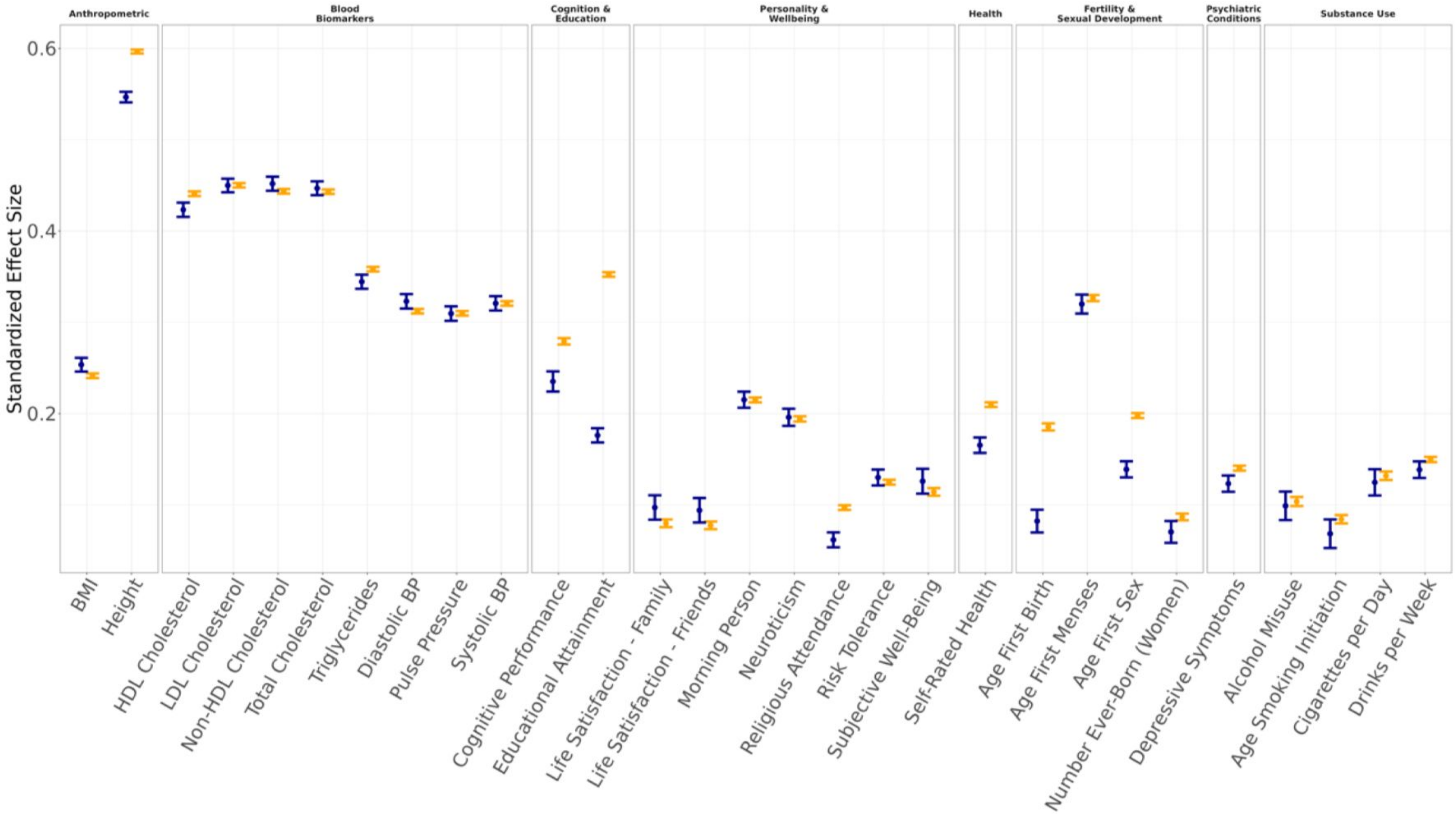
Share

https://www.theguardian.com/australia-news/article/2024/sep/10/australia-insurance-company-discrimination-genetic-testing

Within -family PGI-s

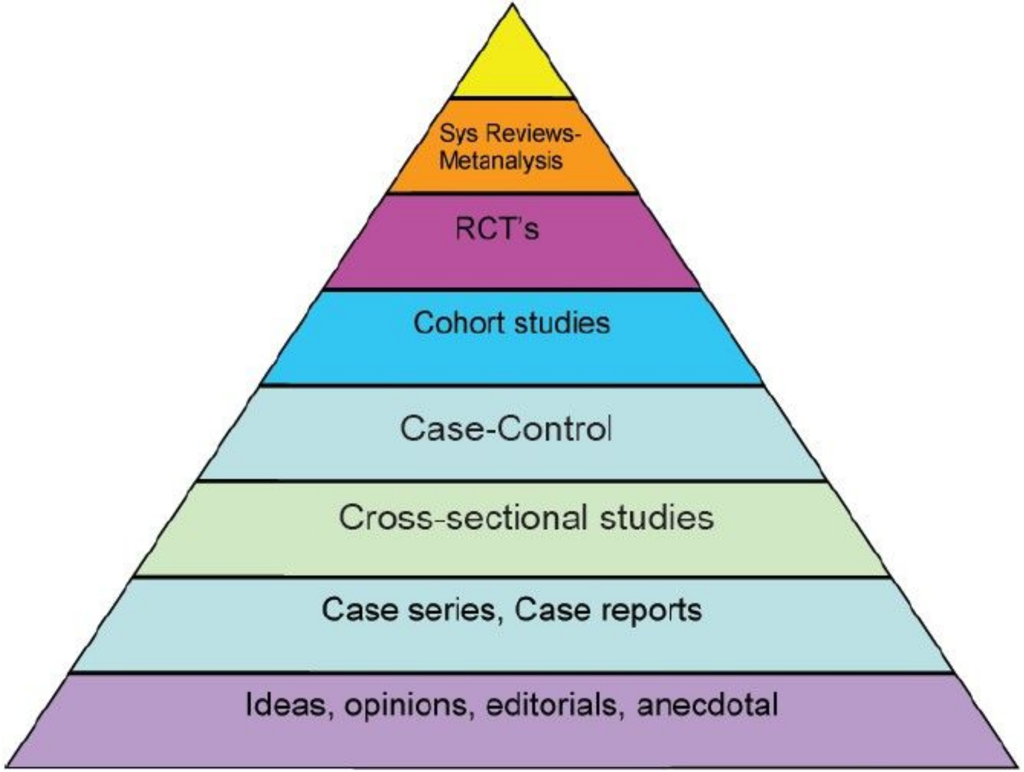
Alemu et al., (2025). An Updated Polygenic Index Repository: Expanded Phenotypes, New Cohorts, and Improved Causal Inference

B.

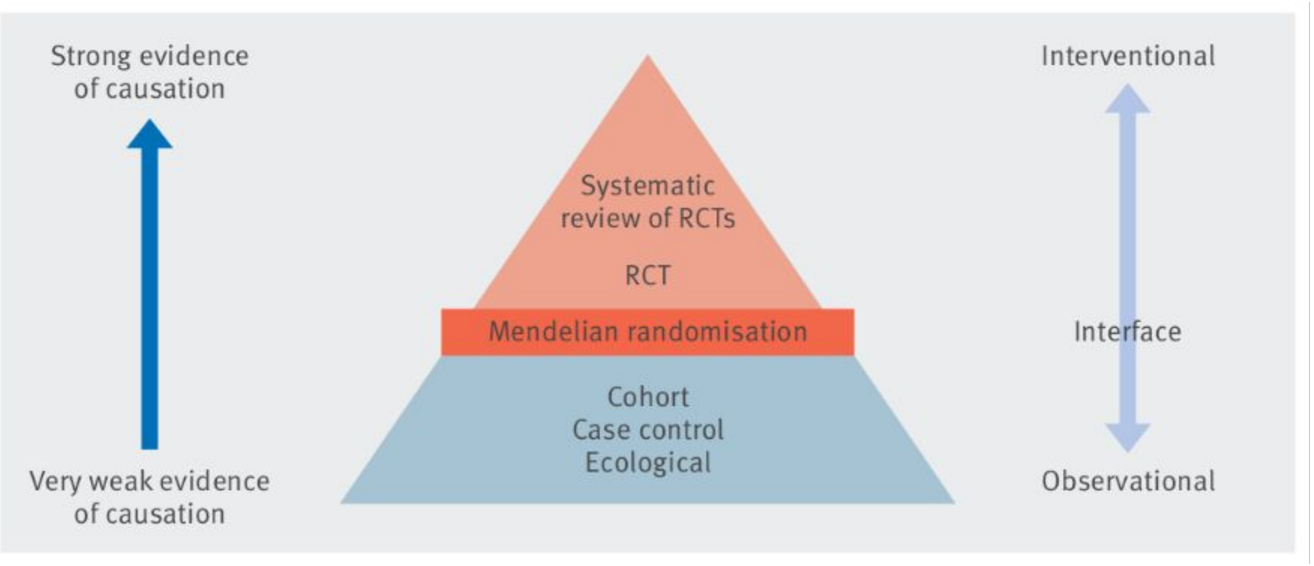


Notes: Causal effects and population associations of PGIs in UKB. Causal effects were estimated in the sample of first-degree relatives, and population associations in a sample of unrelated individuals (third partition of UKB). For binary phenotypes, population associations were estimated using logistic

Causality



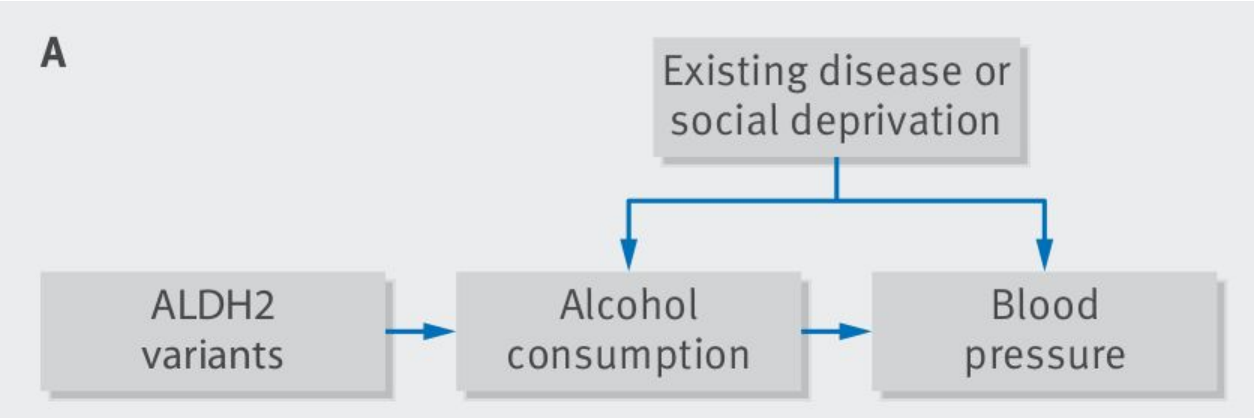
https://blogs.bmj.com/adc/2014/11/03/the-crumbling-of-the-pyramid-of-evidence/



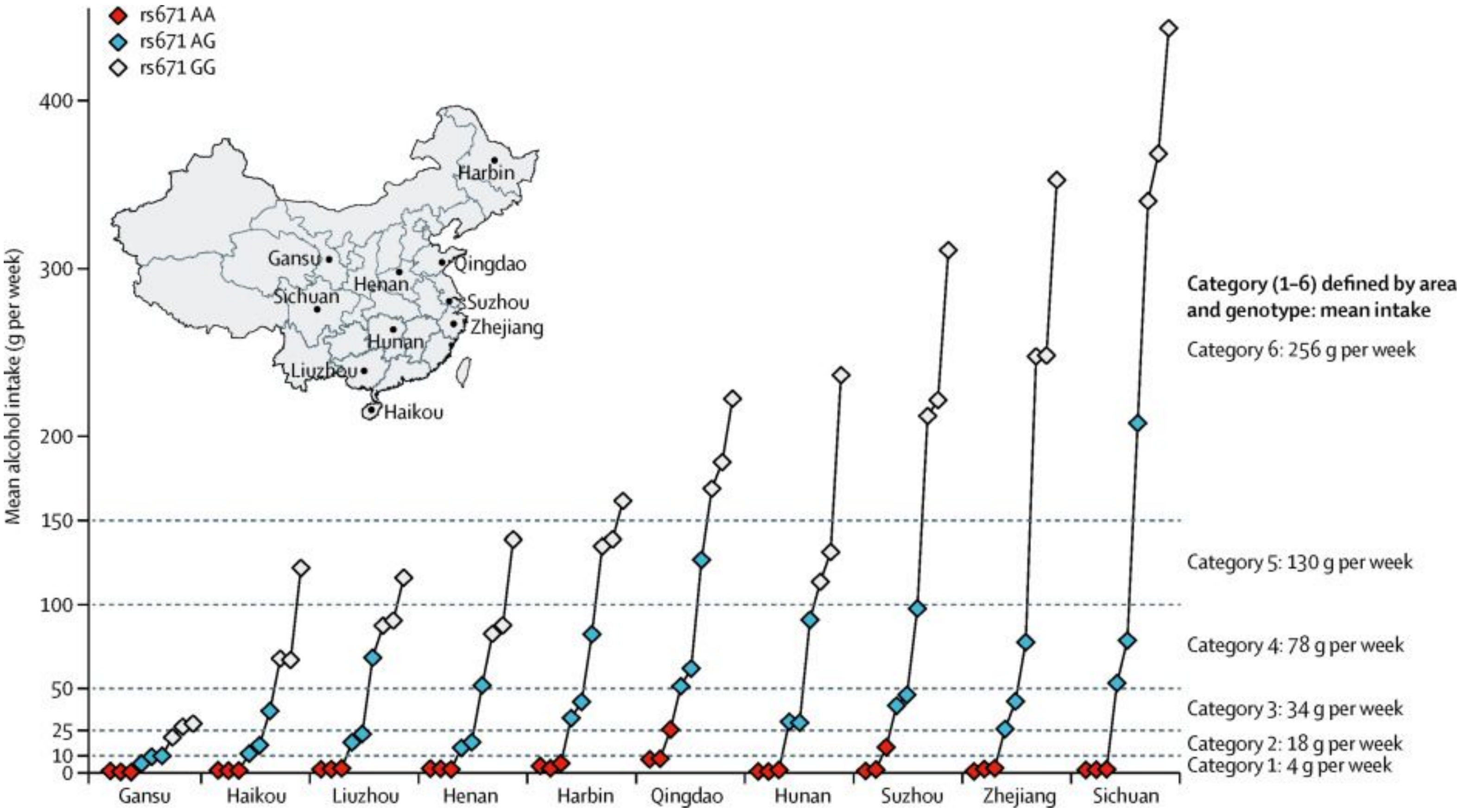
Davies et al., 2018, BMJ

Lawlor et al., (2016) Int. J. Epidemiol.Munafò & Smith (2018) Nature

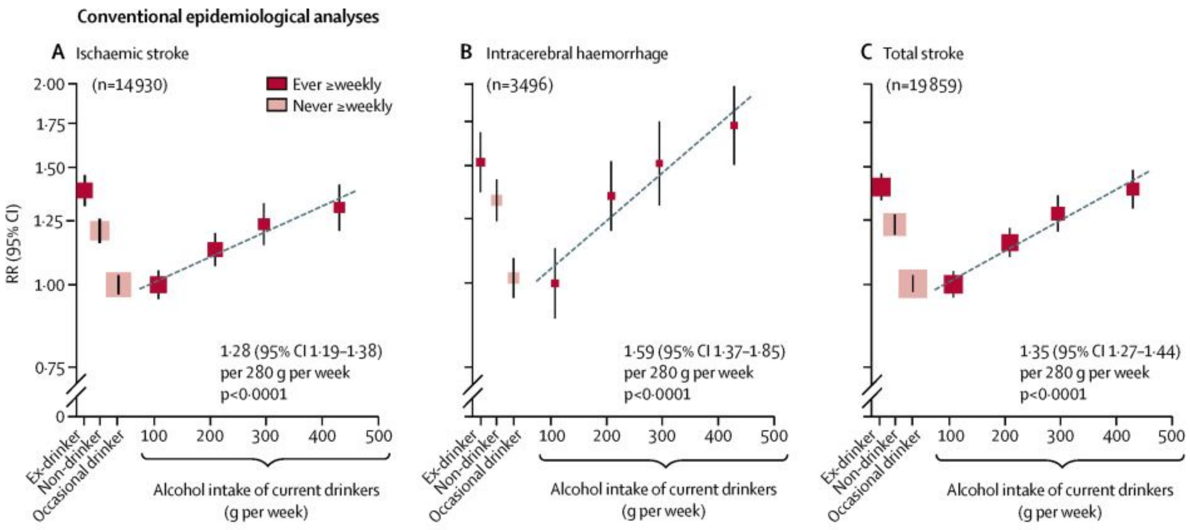
Mendelian randomisation –natural lottery (RCT)



Davies et al., 2018, BMJ



Millwood et al., 2019 Lancet



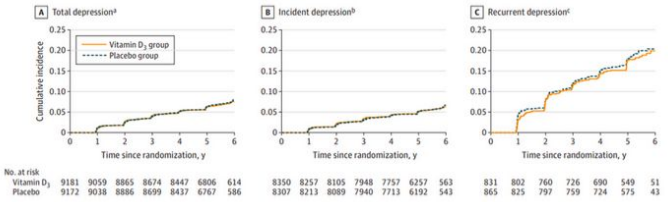
Millwood et al., 2019 Lancet

Sek Kathiresan MD @skathire · Aug 5

Observational studies: Vitamin D supplementation associated with improvement of every disease under the sun

Hundreds of millions of $ of Vitamin D randomized controlled trials: NO

Below latest: Vitamin D and depression in 18,000 people.



Effect of Vitamin D3 Supplementation vs Placebo on Risk of Depression...

This randomized clinical trial compares the effects of vitamin D_3 supplementation vs placebo on depression risk and mood scores in me...

jamanetwork.com

13 77 188

george davey smith
@mendel_random

Yet another example of when RCT and Mendelian randomization data triangulate to give a clear answer in an area where conventional naive observational epidemiology has delivered a mass of conflicting and confusing evidence. Viva triangulation! nature.com/articles/d4158...

> **Martijn Katan** @martijnkatan · Aug 5
> It's final: vitamin D does not reduce risk of depression or mood changes. Doctors at Harvard compared vitamin D with placebo in 18 000 people for 5 years, and found no effect. Earlier trials and Mendelian randomization studies also found no effect. jamanetwork.com/journals/jama/...

2:22 PM · Aug 5, 2020 · Twitter for iPhone

60 Retweets and comments **165** Likes

Interesting experiments

- Education causes higher short-sightedness and better cardiovascular health
- Obesity causes personality, cognition, and brain structure. Some effects in reverse
- Coffee has negative impact on cardiovascular health
- Low birth weight causes mental disorders
- Schizophrenia likely causes cannabis use

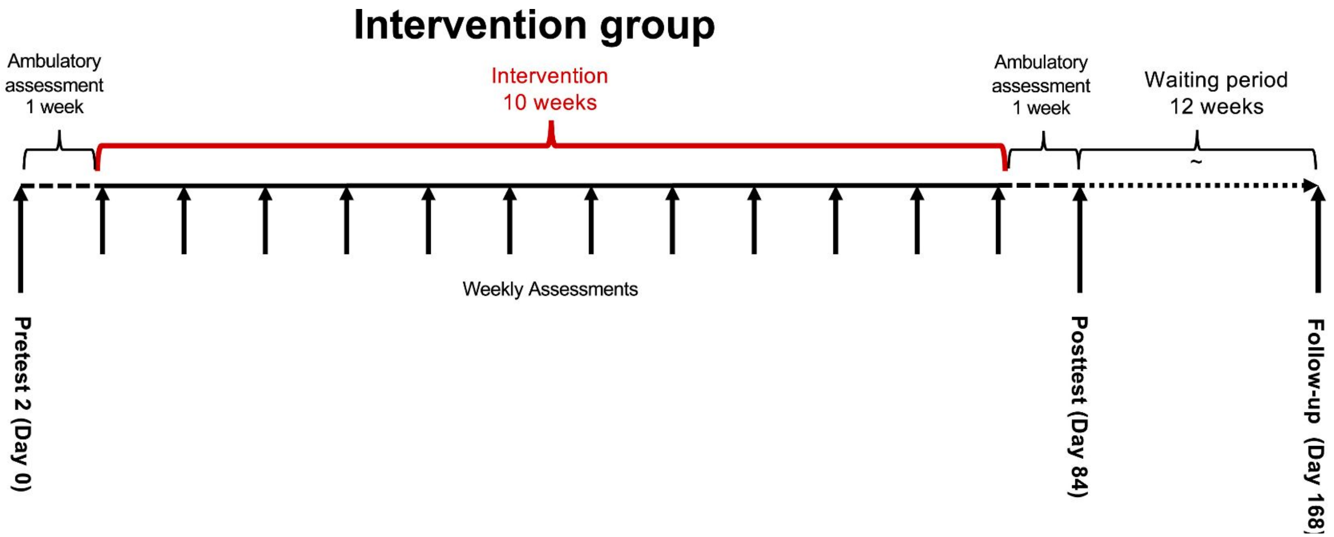
https://www.bmj.com/content/358/bmj.j3542
https://www.nature.com/articles/s41366-021-00885-4 ; https://onlinelibrary.wiley.com/doi/full/10.1111/desc.13392
https://www.bmj.com/content/361/bmj.k2022
https://novaator.err.ee/1608082954/varske-uuring-toob-valja-kohvi-kahjuliku-moju
https://www.cambridge.org/core/journals/the-british-journal-of-psychiatry/article/contribution-of-birth-weight-to-mental-health-cognitive-and-socioeconomic-outcomes-twosample-mendelian-randomisation/66F6555503E55EC367B285DD04912250
https://jamanetwork.com/journals/jamapsychiatry/article-abstract/2772632

Table S38: Results of putatively causal Mendelian randomization tests					
			Mendelian Randomization Estimator		
Direction	Exposure	Outcome	Weighted median	MR-CAUSE	Weighted mode
Personality -> Biobehavioral outcome	Extraversion	Age at first sex	**-.15** (-.09, -.20)	**-.06** (-.10, -.02)	**-.15** (-.04, -.27)
		COVID infection	**.16** (.09, .24)	**.09** (.04, .13)	.15 (-.07, .36)
		Drinks per week	**.11** (.08, .14)	**.07** (.05, .10)	.06, (-.07, .18)
		Spells in hospital	**-.09** (-.14, -.05)	**-.09** (-.12, -.07)	-.11 (-.30, .07)
		Study part.: IDK	**-.04** (-.06, -.01)	**-.04** (-.06, .02)	-.05 (-.13, .04)

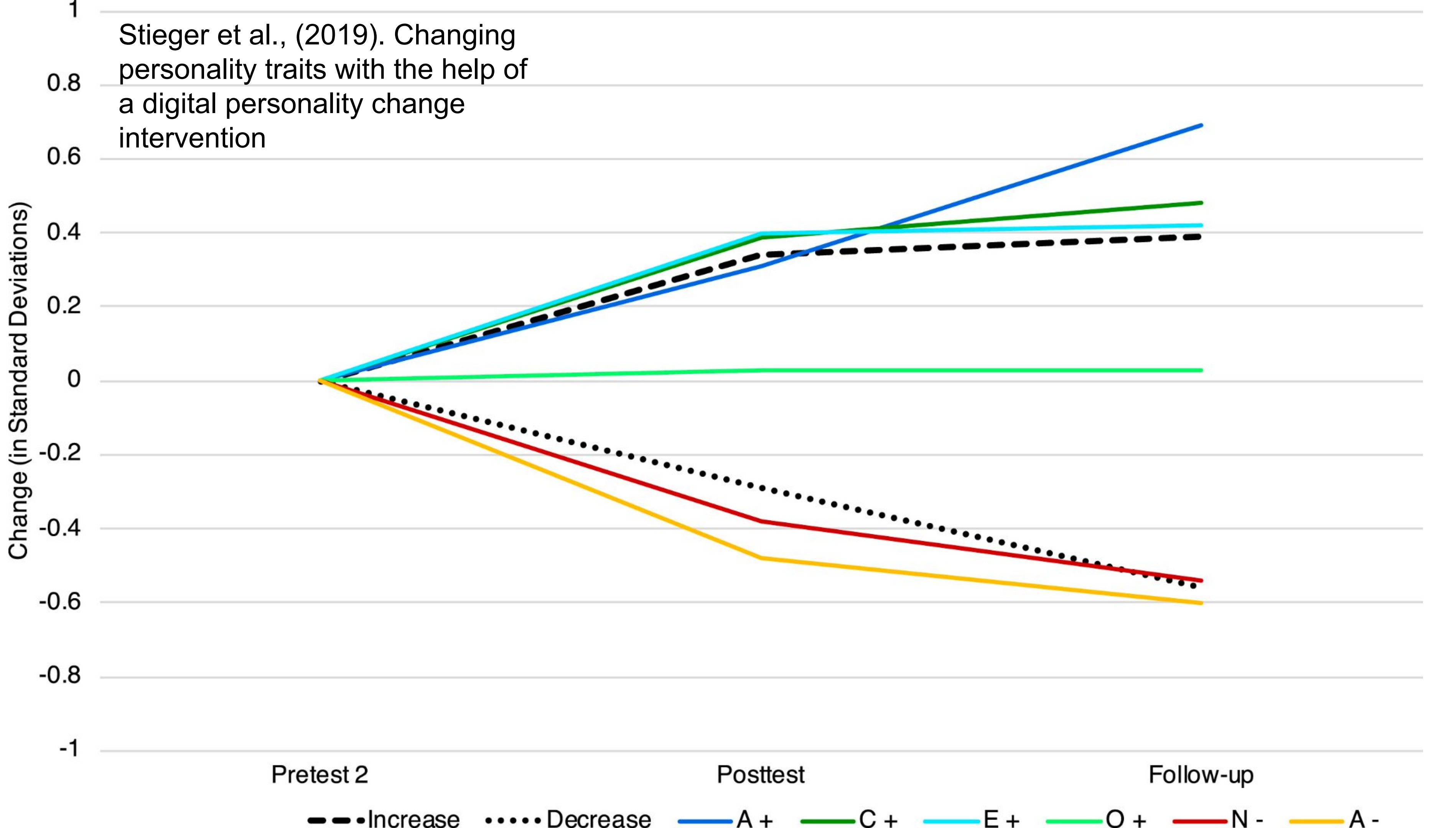
Biobehavioral Outcome -> Personality	BMI	Agreeableness	**-.04** (-.05, -.02)	**-.04** (-.06, -.02)	**-.06** (-.12, -.00)
		Conscientiousness	**-.06** (-.07, -.04)	**-.05** (-.08, -.02)	**-.05** (-.11, -.00)

Note: MR-CAUSE = Mendelian Randomization Causal Analysis Using Summary Effect estimates. Study Part.: = Study participation. IDK = "I don't know" response. Summary statistics for outcomes are described in Supplementary Table S31. Numbers in parentheses indicate 95% confidence intervals (for weighted median and weighted mode tests) or 95% credible intervals (for MR-CAUSE tests). Bolded numbers indicate 95% confidence/credible interval excludes 0. Results presented here only include exposure-outcome pairs where the 95% credible interval/confidence interval for at least 2 out of 3 tests excludes zero, and all three tests produce estimates in the same direction.

How to change personality? With an app!



Stieger et al., (2019). Changing personality traits with the help of a digital personality change intervention



Stieger et al., (2019). Changing personality traits with the help of a digital personality change intervention
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
Change (in Standard Deviations)
Pretest 2
Posttest
Follow-up
Increase
Decrease
A +
C +
E +
O +
N -
A -

https://www.scoutnetworkblog.com/10-characteristics-of-a-professional-plumber/

Personality Profiles of 263 Occupations

While HR testing common, public norms are missing

ISCO / Onet mapped to personality

2-7% Big Five variance, 12% nuance variance

Anni et al., (2024). Personality Profiles of 263 Occupations

Neuroticism

Highest-scoring jobs			
Job	Mean	*SD*	*N*
Actors	57.94	10.97	63
Visual Artists	55.06	9.60	208
Graphic and Multimedia Designers	54.76	10.86	232
Musicians, Singers and Composers	54.03	9.81	188
Translators, Interpreters & Other Linguists	53.97	11.29	313
Authors & Rel. Writers	53.96	11.82	41
Journalists	53.87	11.28	219
Web & Multimedia Developers	53.82	11.25	38
Handicraft Workers	53.52	12.22	80
Broadcasting & Audiovisual Technicians	53.49	9.42	67

Extraversion

Highest-scoring jobs			
Job	Mean	*SD*	*N*
Advertising & Public Relations Managers	55.11	9.19	136
Actors	55.01	10.13	63
Conference & Event Planners	54.83	8.71	29
Fitness & Recreation Instructors & Programme Leaders	54.78	8.39	29
Sports, Recreation & Cultural Centre Managers	54.55	8.72	84
Sales & Marketing Managers	54.29	9.91	1000
Human Resource Managers	54.17	9.45	362
Child Care Services Managers	53.98	8.70	97
Training & Staff Development Professionals	53.69	9.28	216
Restaurant Managers	53.60	10.03	80

Openness

Highest-scoring jobs			
Job	Mean	*SD*	*N*
Visual Artists	58.52	9.53	208
Language Teachers	57.04	10.76	87
Authors & Rel. Writers	56.89	8.72	41
Psychologists	56.47	8.98	245
University & Higher Education Teachers	56.18	9.44	1000
Research Professionals N.E.C.	56.07	9.40	70
Actors	55.66	8.81	63
ICT Services Managers	55.56	10.33	172
Religious Professionals	55.56	9.64	29
Secondary Education Teachers	55.40	9.64	45

Agreeableness

Highest-scoring jobs			
Job	Mean	*SD*	*N*
Electronics Engineers	55.71	9.81	50
Web & Multimedia Developers	54.63	8.91	38
Psychologists	54.34	9.87	245
Religious Profs	54.11	10.44	29
Health Profs N.E.C.	53.36	11.18	59
Audiologists and Speech Therapists	53.16	9.49	122
Child Care Services Managers	53.06	10.04	97
Software Developers	52.96	10.16	876
Research Profs N.E.C.	52.61	9.38	70
Garment Patternmakers/ Cutters	52.60	9.38	68

Conscientiousness

Highest-scoring jobs			
Job	Mean	*SD*	*N*
Ships' Engineers	53.90	8.50	40
Dental Assistants & Therapists	53.68	11.70	25
Construction Managers	53.45	9.12	108
Finance Managers	53.42	8.99	393
Health Profs (unsp.)	53.25	9.47	140
Sheet Metal Workers	53.07	10.43	34
Chefs	52.94	10.03	115
Ships' Deck Crews & Rel. Workers	52.84	9.79	40
Ships' Deck Officers & Pilots	52.66	7.96	134
Unsp. Deputy Managers	52.66	8.51	161

Apps

https://apps.psych.ut.ee/JobProfiles/

www.whichjob.me

Show 10 entries

Search: actuaries

	Code	Job	N	Neuroticism (M)	Extraversion (M)	Openness (M)	Agreeableness (M)	Conscientiousness (M)
159	2120	Mathematicians, Actuaries and Statisticians	106	49.82	46.98	52.62	51.1	47.98

Showing 1 to 1 of 1 entries (filtered from 263 total entries)

Previous 1 Next

1. Psychologist
2. Religious professional
3. Health professional
4. Research professional
5. Uni teacher
6. Database & network specialist
7. Language teacher
8. ICT service management
9. Aircraft pilot
0. Training & staff development

1. Painter
2. Plumber
3. Pre-press technician
4. Manufactoring labourer
5. Sales worker
6. Transport & storage labourer
7. Assembler
8. Electric & electronic equipment assembler
9. Operator
10. Mail carrier & sorter

Summary

- Personality ties to many health & life outcomes
  - More so than demographics
  - Useful for predictions & personalised messages
- Those ties become stronger when combining multiple information sources
- Personality genetics widen the outcomes further
- Personality has causal impact on health and behaviour.
  - Some associations also in reverse
- Practical app - whichjob.me
- Reach out: uku.vainik@ut.ee
- https://bsky.app/profile/ukuvainik.bsky.social