



university of
 groningen

Heymans Institute for Psychological Research

Research assessment Psychology
2017 – 2022
Part B: Case Studies & Tables

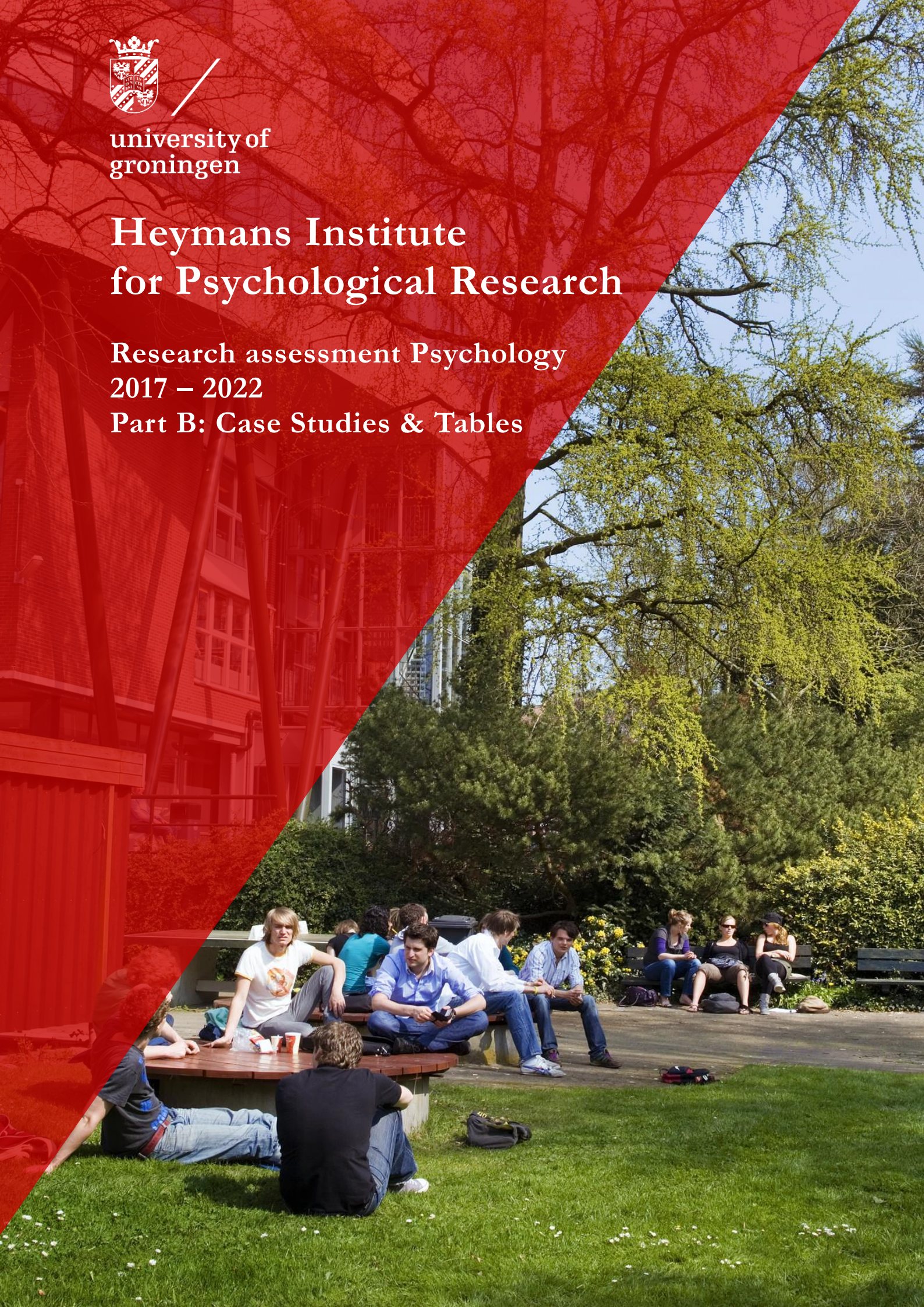


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Obligatory tables

Tables E2, E3, and E4 on the following pages are obligatory according to the Self Assessment Protocol. To add more information, some tables have been extended with additional tables.

Table E2: Research staff

Table E2: Research staff

Each cell lists the frequency and the corresponding research FTE.

Scientific Staff	Year 5 2017	Year 4 2018	Year 3 2019	Year 2 2020	Year 1 2021	Current year 2022
Assistant professor	35 / 12.8	40 / 14.8	40 / 14.8	40 / 14.4	37 / 13.5	36 / 13.2
Associate professor	30 / 10.5	32 / 11.0	35 / 11.7	34 / 11.2	33 / 10.8	33 / 10.8
Full professor	18 / 7.2	17 / 6.5	16 / 6.2	16 / 6.2	16 / 6.2	15 / 6.0
Postdocs	27/22.6	30 / 21.7	29 / 21.2	19 / 13.7	17 / 12.2	17 / 13.3
PhD-candidates	65 / 48.9	71 / 53.4	81 / 62.5	72 / 52.5	79 / 57.9	80 / 59.6
Total research staff	175 / 102.0	190 / 107.6	201 / 116.3	181 / 97.9	182 / 100.6	181 / 102.9

Notes:

- All figures are provided for 31 December of the given year.
- Our administrative systems only record total FTE employment per staff member, not each individual's allocation towards research and teaching/other duties. To convert total FTE into the reported research FTE, we've used the following conversions: (assistant/associate/full) professor: 40% research, PhD-candidates: 80% research, postdocs 100% research.
- The HI does not employ any support staff, as support staff is employed for all departments simultaneously at the faculty level.
- Table E2b below provides the same information as Table E2, now broken down per gender.
- Table E2c provides a breakdown of the numbers on 1 January 2023 based on nationality.
- All FTE's in this Table, as well as Tables E2b and E2c, are rounded to one decimal place.

Table E2b: Research staff by gender

Scientific Staff	2017		2018		2019		2020		2021		2022	
	F	M	F	M	F	M	F	M	F	M	F	M
Assistant professor	14/5.4	21/7.4	19/7.4	21/7.4	20/7.5	20/7.3	23/7.8	17/6.6	20/7.1	17/6.4	20/7.2	16/6.0
Associate professor	18/5.9	12/4.6	18/5.6	14/5.4	20/6.5	15/5.2	19/5.8	15/5.4	19/5.8	14/5.0	19/5.8	14/5.0
Full professor	6/2.3	12/4.2	6/2.3	11/4.2	6/2.3	10/3.8	7/2.8	9/3.4	7/2.8	9/3.4	7/2.8	8/3.2
Postdocs	19/15.4	8/7.2	22/14.7	8/7.0	21/14.9	8/6.3	13/8.2	6/5.5	10/7.1	7/5.1	12/8.8	5/4.5
PhD-candidates	47/34.5	18/14.4	46/33.4	25/20.0	53/40.6	28/21.9	49/34.9	23/17.6	54/38.2	25/19.7	56/40.8	24/18.9
Total research staff	104/63.5	71/37.8	111/63.5	79/44.0	120/71.8	81/44.6	111/59.4	70/38.5	110/61.0	72/39.6	114/65.3	67/37.6

Table E2c: Research staff by nationality

As measured on 1 January 2023

	Dutch # / FTE	International # / FTE
Assistant professor	31 (70%) / 10.2	13 (30%) / 5.2
Associate professor	28 (76%) / 9.3	9 (24%) / 3.4
Full professor	16 (80%) / 5.2	4 (20%) / 1.6

Table E3: Funding

Table E3: Funding (in k€)

	Year 5 2017	Year 4 2018	Year 3 2019	Year 2 2020	Year 1 2021	Current Year 2022
<i>Funding:</i>						
Direct funding (1)	10,802 / 72%	11,449 / 71%	12,088 / 75%	13,173 / 79%	13,313 / 75%	14,635 / 77%
Research grants (2)	1,504 / 10%	1,711 / 11%	1,745 / 11%	1,854 / 11%	2,030 / 11%	2,197 / 12%
Contract research (3)	2,071 / 14%	2,386 / 15%	1,888 / 12%	1,214 / 7%	1,614 / 9%	1,658 / 9%
Other (4)	571 / 4%	544 / 3%	462 / 3%	493 / 3%	736 / 4%	505 / 3%
Total funding	14,949 / 100%	16,090 / 100%	16,183 / 100%	16,734 / 100%	17,694 / 100%	18,994 / 100%
<i>Expenditure:</i>						
Personnel costs	13,533 / 89%	14,518 / 90%	16,005 / 92%	16,086 / 95%	16,391 / 94%	16,409 / 93%
Material costs	91 / 1%	90 / 1%	120 / 1%	103 / 1%	83 / 0%	89 / 1%
Other costs	1,616 / 11%	1,499 / 9%	1,279 / 7%	816 / 5%	1,043 / 6%	1,157 / 7%
Total expenditure	15,240 / 100%	16,107 / 100%	17,403 / 100%	17,005 / 100%	17,517 / 100%	17,656 / 100%

All amounts in k€.

Requested notes:

- Note 1. Direct funding (basisfinanciering / 1e geldstroom, lump-sum budget)
- Note 2. Research grants obtained in national scientific competition (e.g. grants from NWO)
- Note 3. Research contracts for specific research projects from external organisations.
- Note 4. Funds that do not fit into the other categories

Further notes:

- The posts direct funding and personnel costs contain funding and costs for *all* staff. The vast majority of staff has both research and teaching duties. On average, roughly 60% of employment is spent on research. Using this percentage, the total revenues for the assessment period are direct funding k€ 45,276 (64%), research grants k€ 11,041 (16%), contract research k€ 10,831 (15%) and other k€ 3,311 (5%). The total costs for the assessment period are personnel costs k€ 55,765 (88%), material costs k€ 576 (1%), and other costs k€ 7,370 (12%);
- Bursary PhD-students (VSNU Type 2; cf. Table E3) are not part of this overview as these are budgetted on the faculty level;
- Costs for housing, ICT, research support, etc., are all budgetted on the faculty level.

Table E4: PhD candidates

Table E4a: PhD candidates

This table provides a breakdown of the 82 fulltime (i.e., ≥ 0.8 fte) PhD students of UvNL classification¹ 1 or 2.

Starting year	Enrolment		Total (M+F)	Success rates					Not yet finished	Discontinued
	Enrolment (male/female)			Graduated in year 4 or earlier	Graduated in year 5 or earlier	Graduated in year 6 or earlier	Graduated in year 7 or earlier			
2014	2 M	10 F	12	0 / 0%	5 / 41.7%	5 / 41.7%	10 / 83.3%	1 / 8.3%	1 / 8.3%	
2015	8 M	8 F	16	0 / 0%	7 / 43.8%	12 / 75%	13 / 81.25%	2 / 12.5%	1 / 6.25%	
2016	5 M	10 F	15	0 / 0%	4 / 26.7%	8 / 53.3%	9 / 60%	5 / 33.3%	1 / 6.7%	
2017	8 M	13 F	21	1 / 4.8%	8 / 38.1%	10 / 47.6%		8 / 38.1%	3 / 14.3%	
2018	8 M	10 F	18	1 / 5.6%				15 / 83.3%	2 / 11.1%	

Table E4b: PhD candidates broken down into type of candidate and year

A breakdown of Table E4, using the full classification of UvNL.¹

Starting year	UvNL type	Total (M+F)	Graduated in year 4 or earlier	Graduated in year 5 or earlier	Graduated in year 6 or earlier	Graduated in year 7 or earlier	Not yet finished	Discontinued
2014	VSNU1a	12	0	6	6	8	1	1
	VSNU2b	2	0	0	0	1	1	0
	VSNU3	1	0	1	1	1	0	0
	VSNU4	8	1	1	2	3	0	4
2015	VSNU1a	12	0	4	8	9	2	1
	VSNU1b	1	0	0	0	1	0	0
	VSNU2a	1	0	0	0	0	1	0
	VSNU2b	4	0	3	4	4	0	0
	VSNU3	8	0	1	1	2	5	1
VSNU4	1	0	0	1	1	0	0	
2016	VSNU1a	17	0	4	8	9	8	0
	VSNU2b	2	0	0	1	1	0	1
	VSNU3	6	0	1	2	2	4	0
	VSNU4	5	2	2	2	2	2	1
2017	VSNU1a	12	1	5	7		2	3
	VSNU1b	1	0	0	0		0	1
	VSNU2a	8	0	3	3		5	0
	VSNU2b	1	0	0	0		1	0
	VSNU3	13	1	1	3		5	5
VSNU4	2	0	1	1		1	0	
2018	VSNU1a	9	0				8	1
	VSNU1b	1	0				1	0
	VSNU2a	7	1				5	1
	VSNU2b	2	0				2	0
	VSNU3	2	1				1	0
	VSNU4	6	0				3	3

¹ https://www.universiteitenvanderland.nl/files/documenten/Feiten_en_Cijfers/Typering_promovendi_2019.pdf

Table E4c: Graduate School membership

This table indicates how many PhD-students were member of a national graduate school (e.g., KLI, EPP or IOPS). Out of all 92 VSNU Type 1/2 PhD-students from Table E4b, only 5 (5%) were not a member of a national graduate school.

Starting year	Total enrolment	GS member	Reasons for not being a member
2014	23	14 / 61%	All 9 non-members were VSNU Type 3/4
2015	27	18 / 67%	8 out of 9 non-members were VSNU Type 3/4
2016	30	18 / 60%	10 out of 12 non-members were VSNU Type 3/4
2017	37	29 / 78%	6 out of 8 non-members were VSNU Type 3/4
2018	27	19 / 70%	All 8 non-members were VSNU Type 3/4

Table E4d: Supervision of PhD students

All PhD students have at least two supervisors, of which at least one is a HI staff member. Most PhD students (88 out of 144) are solely supervised by HI staff members, but others also supervisor(s) elsewhere.

Starting year	HI only	BSS ^a	UG ^b	NL, non UG ^c	Foreign ^d
2014	12 / 52%	0 / 0%	5 / 22%	1 / 4%	5 / 22%
2015	17 / 63%	2 / 7%	2 / 7%	3 / 11%	3 / 11%
2016	18 / 60%	1 / 3%	3 / 10%	5 / 17%	3 / 10%
2017	25 / 68%	2 / 5%	1 / 3%	9 / 24%	0 / 0%
2018	16 / 59%	1 / 4%	5 / 19%	1 / 4%	4 / 15%

Notes:

^a These PhD students have a supervisor in another BSS department

^b These PhD students have a supervisor at another UG faculty

^c These PhD students have a supervisor at another Dutch institute; which can be a university or university of applied sciences (*bogeschool*), mental health care institute, etc.

^d These PhD students have a supervisor at a foreign university.

Motivation of Evidence Measures

Measuring the quality of research and its (societal) relevance undeniably contains some arbitrariness. Data and indicators may be prone to selection bias rendering objective assessments a challenge. Here, this challenge amplifies due to a diversity of quality and impact definitions must adhere to the internal agreements within different universities.

In the subsequent two subsections we briefly explain the choice of the common indicators. For their more detailed definitions of the indicators, we refer to Appendix E – *Merit and Metrics* – of the Strategic Evaluation Protocol.

Research quality domains

Bibliometric measures can serve to express the degree of research or academic output. They are meant to support the narrative on strategy, ambitions and accomplishments spanning the period of the (individual) self-evaluation(s). We consider this approach useful to estimate (the amount) of research products for and their use by peers (Categories 1 & 2 in Table E1). As such we incorporate

(i) (open access) journal articles, reviews, books, book chapters, source publications and exhibition catalogues.

Here we would like to note that since 2013 the Dutch government has expressed the ambition to make all publicly funded scientific publications openly accessible.² All Dutch universities are strongly committed to the accessibility of research output, as this benefits the distribution of scholarly knowledge among researchers, teachers, students, and society. As such under indicator (i) we will put particular emphasis on the open dissemination of research results (open access).

Obviously, the (academic) use of this type of research output can be estimated via the

(ii) citation of articles, books, and other products.

Next to these more traditional forms of dissemination, (use of) research output may also manifest in digital frameworks. Hence, we include:

(iii) digital infrastructures and databases, datasets and software and the use of data sets, software, and facilities.

Arguably this will underscore more team-based, sustainable research successes than sometimes isolated researcher-specific efforts. For the latter, however, we list customary indicators of esteem like

(iv) grants and prizes awarded to individuals or collaborative research projects.

Here, we would like to stress that we will equally consider both individual and collaborative research projects, in line with our universities' aims to (also) strengthen research teams and synergistic networks working at the frontiers of science rather than (only) individual researchers.

We trust that these indicators will suffice to comparably cover our efforts and successes, from the more fundamental to the more applied research.

² <https://zoek.officielebekendmakingen.nl/kst-31288-354.html>

Societal relevance domains

“Societal impact refers to the effect of research beyond academia, or the effect or change experienced by society from that research.”³ This impact comes in various forms but in unison our indicators will demonstrate the societal relevance of the research in psychology in the Netherlands. It goes without saying that each of the topics covered by plenitude of research units contributes to the sustainable development goal "Good health and Wellbeing (SDG-3), be that via contribution to the societal debate, creation of awareness across stakeholders – from the public to the policy maker – to topic-specific problem solving. To measure it, we build on more conventional outputs, namely,

(v) books, source publications, guidelines, catalogues, blogs, forums and websites for a professional readership and visitor; as well as,

(vi) lectures, masterclasses, and conferences for a general audience.

Next to short- and long-term contributions to changes in or development of societal sectors and to societal challenges, we demonstrate the relevance of our research products also by their contribution of knowledge to developments in the economy and society³. Therefore, we incorporate:

(vii) projects in cooperation with societal parties; and

(viii) contract research.

And, of course, we will not break the mould and look at

(ix) memberships and/or secondary appointments of/within civil-society organisations.

Finally, an explanation of the Heymans Institute-specific metric of the international benchmark analysis is given on the following pages.

³ <https://www.springernature.com/gp/researchers/the-source/blog/blogposts-communicating-research/towards-societal-impact-maximizing-relevance/18287584>

Additional Tables

The tables on the following pages provide additional information evidencing the research quality, societal impact and viability of the Heymans Institute. These are tables on the international bibliographic benchmark and a list of all professors of the institute.

Tables HI International Benchmark

Core 27 Area: Top Topics

This table shows the Top 27 Elsevier Topics based on the international benchmark 2017 - 2021. Each topic accounts for at least 0.5% of the research output of the HI. For each Topic, the number of publications, the number of citations (up to 1 January 2023) and the prominence percentile are listed. The prominence percentile is a proxy for the topic's visibility and impact and is based on number of citations, Scopus views count and average CiteScore.

Rank	Topic	#Pub.	#Cit.	Prom.
1	Bereavement,Grief,Coping Behavior	69	1,433	99
2	Community Participation,Green Product,Environmental Attitudes	47	1,118	100
3	Emotion,Collective Action,Social Identification	32	607	94
4	Reproducibility,Open Science,P-Value	31	470	99
5	Ecological Momentary Assessment,Sampling Studies,E-Health	20	268	97
6	Interval Timing,Time Perception,Young Adult	20	113	94
7	Psychopathology,Network Analysis,Involutional Depression	17	579	97
8	Attention Deficit Hyperactivity Disorder,Young Adult,Comorbidity	15	454	98
9	Traumatic Brain Injury,Brain Concussion,2003-2011 Iraq War	15	522	95
10	Cognitive Behavioral Therapy,Mental Health,Patient Health Questionnaire	14	177	100
11	Involutional Depression,Recurrent Disease,Depressive Disorder	14	231	88
12	Elderly Driver,Automobile Driving,Traffic Behavior	13	121	94
13	Connectome,Functional Magnetic Resonance Imaging,Functional Connectivity	13	125	100
14	Social Dominance Orientation,Authoritarianism,Political Attitudes	13	278	98
15	Psychotic Disorders,Psychosis,Prodromal Symptoms	12	166	98
16	Hallucinations,Psychotic Disorders,Schizophrenia	12	294	90
17	Implicit Attitude,Implicit Measures,Avoidance Conditioning	11	87	98
18	Communication,Traumatic Brain Injury,Aphasia	11	118	86
19	Negative Syndrome,Schizophrenia,Psychotic Disorders	10	359	95
20	Intergroup Contact,Outgroup,Prejudices	10	171	97
21	Drift-Diffusion Model,Decision Making,Mathematical Psychology	10	266	97
22	Mental Recall,Testing Effect,Category Learning	10	28	95
23	Craving,Attentional Bias,Cues	9	94	92
24	Emerging,Foreclosure,Erik Erikson	9	42	85
25	Wounds And Injuries,Posttraumatic Stress Disorder,Depersonalization	9	85	90
26	Developmental Coordination Disorder,Motor Skills,Exercise	9	115	98
27	Anxiety Disorders,Specific Phobia,Anxiety	9	108	96

Core 27 Area: International Comparison

The output in the HI Core 27 Area of the UG is compared to that of the 12 best performing other universities in the world in these 27 areas. Out of 739 publications written by UG staff, 464 were written by HI staff. This difference is mainly due to that many clinical topics, such as brain injury, are also studied by colleagues from the University Medical Centre.

University	# Publications	# Citations
Harvard, USA	1,248	32,256
University of Amsterdam, Netherlands	769	28,347
University of Groningen, Netherlands	739	13,749
King's College London, UK	685	15,501
Yale, USA	635	17,309
University of Melbourne, Australia	582	14,789
University of Toronto, Canada	580	11,745
CNRS, France	575	8,940
University of Oxford, UK	574	17,501
Vrije Universiteit, Netherlands	570	14,027
University College London, UK	554	12,801
Penn State University, USA	540	20,317
Utrecht University, Netherlands	536	12,151

Most influential papers

Top 15 papers based on field-weighted citation index score per author. The first column lists the rank, the last two the number of citations (#C) and FWCI-score per co-author (F/A) respectively. Highlighted authors are affiliated with the HI.

#	Paper	#C	F/A
1	van Valkengoed, A.M., Steg, L. (2019). Meta-analyses of factors motivating climate change adaptation behaviour. <i>Nature Climate Change</i> . doi:10.1038/s41558-018-0371-y	226	12.82
2	Eisma, M.C. , Tamminga, A., Smid, G.E., Boelen, P.A. (2021). Acute grief after deaths due to COVID-19, natural causes and unnatural causes: An empirical comparison. <i>Journal of Affective Disorders</i> . doi:10.1016/j.jad.2020.09.049	95	11.07
3	Stroebe, M. , Schut, H. (2021). Bereavement in Times of COVID-19: A Review and Theoretical Framework. <i>Omega</i> . doi:10.1177/0030222820966928	73	8.75
4	Steg, L. (2018). Limiting climate change requires research on climate action. <i>Nature Climate Change</i> . doi:10.1038/s41558-018-0269-8	69	8.74
5	Eronen, M.I., Bringmann, L.F. (2021). The Theory Crisis in Psychology: How to Move Forward. <i>Perspectives on Psychological Science</i> . doi:10.1177/1745691620970586	72	8.71
6	van Zomeren, M. , Louis, W.R. (2017). Culture meets collective action: Exciting synergies and some lessons to learn for the future. <i>Group Processes and Intergroup Relations</i> . doi:10.1177/1368430217690238	37	7.94
7	Albers, C.J. (2019). The problem with unadjusted multiple and sequential statistical testing. <i>Nature Communications</i> . doi:10.1038/s41467-019-09941-0	21	7.11
8	Albers, C.J. , Lakens, D. (2018). When power analyses based on pilot data are biased: Inaccurate effect size estimators and follow-up bias. <i>Journal of Experimental Social Psychology</i> . doi:10.1016/j.jesp.2017.09.004	140	7.04
9	Bouman, T., Steg, L. (2019). Motivating Society-wide Pro-environmental Change. <i>One Earth</i> . doi:10.1016/j.oneear.2019.08.002	48	5.86
10	Eisma, M.C. , Tamminga, A. (2020). Grief Before and During the COVID-19 Pandemic: Multiple Group Comparisons. <i>Journal of Pain and Symptom Management</i> . doi:10.1016/j.jpainsymman.2020.10.004	62	5.53
11	Kleine, A.-K. , Rudolph, C.W., Zacher, H. (2019). Thriving at work: A meta-analysis. <i>Journal of Organizational Behavior</i> . doi:10.1002/job.2375	151	5.37
12	Mathôt, S. (2018). Pupillometry: Psychology, physiology, and function. <i>Journal of Cognition</i> . doi:10.5334/joc.18	227	5.18
13	Fisher, A.J., Medaglia, J.D., Jerominus, B.F. (2018). Lack of group-to-individual generalizability is a threat to human subjects research. <i>Proceedings of the National Academy of Sciences of the United States of America</i> . doi:10.1073/pnas.1711978115	414	5.18
14	Cheplygina, V., Hermans, F., Albers, C.J. , Bielczyk, N., Smeets, I. (2020). Ten simple rules for getting started on Twitter as a scientist. <i>PLoS computational biology</i> . doi:10.1371/journal.pcbi.1007513	29	4.65
15	Jans, L. (2021). Changing environmental behaviour from the bottom up: The formation of pro-environmental social identities. <i>Journal of Environmental Psychology</i> . doi:10.1016/j.jenvp.2020.101531	20	4.62

List of all HI professors

Below we list all (non-endowed) professors that were employed at the HI during the assessment period and the chairs they hold. Those marked with * are no longer employed (e.g., due to retirement) as of 1 January 2023.

Clinical Psychology and Experimental Psychopathology

- Claudi Bockting* : Depression: etiology, recidivism and chronicity
- Theo Bouman: Dissemination and practice of clinical psychology in healthcare
- Judith Daniels: Clinical psychology, in particular clinical neuroscience of dissociative and trauma-related disorders
- Rafaele Huntjens: Experimental clinical psychology, in particular of trauma-related and dissociative disorders
- Peter de Jong: Experimental psychopathology
- Maaïke Nauta: Clinical psychology, in particular with regard to children and young people
- Robbert Sanderma*: Health psychology

Clinical and Developmental Neuropsychology

- Karel Brookhuis*: Traffic psychology
- Jaap van der Meere*: Bio and neuropsychology of developmental disorders
- Marieke Pijnenborg: Clinical psychology, in particular of psychotic disorders
- Joke Spikman: Clinical neuropsychology in neurological disorders
- Oliver Tucha*: Clinical neuropsychology
- Dick de Waard: Traffic psychology and retention of mobility

Developmental Psychology

- Marijn van Dijk: Developmental processes in childhood
- Peter de Jonge: Developmental psychology
- Nico van Yperen: Sport and performance psychology

Environmental Psychology

- Goda Perlaviciute: Public acceptability of sustainable transitions
- Linda Steg: Environmental psychology

Experimental Psychology

- Elkan Akyürek: Cognitive neuroscience
- Ritske de Jong*: Cognitive psychology
- Monique Lorist: Cognitive neuroscience, i.p. dynamics of the healthy brain
- Hedderik van Rijn: Cognitive science and neuroscience

Organisational Psychology

- Susanne Scheibe: Lifespan development and organisational behavior
- Barbara Wisse: Organisational behavior and leadership processes

Psychometrics & Statistics

- Casper Albers: Applied statistics and data visualisation
- Henk Kiers: Methods and techniques of data processing
- Rob Meijer: Psychometric and statistical techniques
- Don van Ravenzwaaij: Bayesian statistics
- Marieke Timmerman: Multivariate data analysis

Social Psychology

- Bram Buunk*: Evolutionary social psychology
- Arie Dijkstra: Social psychology of health and illness
- Ernestine Gordijn: Social cognitions and emotions
- Nina Hansen: The social psychology of cultural change
- Sabine Otten: Intergroup relations and social integration
- Tom Postmes: Social psychology
- Russell Spears: Social psychology, in particular social identity
- Katherine Stroebe: Social psychology: Justice and resilience
- Martijn van Zomeren: Political and cultural psychology of social relations

Theory & History of Psychology

- Douwe Draaisma*: History of psychology
- Annette Mülberger: Theory and history of psychology

Case studies

The case studies on the following five pages showcase our institute and highlight our societal relevance and research quality. Permission has been obtained to use all the figures and photos in these case studies.

1. The psychological impact of induced earthquakes



The Groningen gas field is the largest in Europe. Industry, government and regulator initially denied and then downplayed negative consequences. But in fact, gas extraction caused hundreds of small to medium earthquakes in an area of 390,000 to 590,000 residents. In this region, earthquakes are amplified by the humid soil. Like in jelly, small tremors can cause big waves: there were >240,000 damage claims this decade. In 2013 it was established that bigger earthquakes could occur and that people's safety was at risk, but government and industry were slow to reduce extraction and reluctant to mitigate. A creeping crisis resulted.

Since 2013, the societal impact has been charted by Postmes, Stroebe, Dückers, Busscher, Hupkes, Perlaviciute, Vlek, Hoekstra, Vrieling and Steg. The project⁴ *Gronings Perspectief* has established a dedicated longitudinal panel with adequate representativeness, assembled other datasets (including representative health data), and has complemented this with a battery of qualitative in-depth studies (Postmes et al., 2018; Stroebe et al., 2022). It involves stakeholders in the design, implementation and interpretation of findings. It is interdisciplinary, involving the Netherlands Institute for Health Services Research, Hanze University of Applied Sciences and Public Health authority. And it is broad: the research focuses not just on the impact for residents but also on explanations.

In a nutshell, this research has demonstrated that earthquakes and damage both substantially reduce safety perceptions (Perlaviciute et al., 2017; Postmes et al., 2018). This, combined with carefully documented shortcomings in mitigation and damage repair, cause chronic stress and reduces trust in authorities (Stroebe et al., 2021, 2022). This research has increased public awareness of the magnitude and seriousness of this crisis, informed court rulings against government extraction decisions and corporate mitigation, and since 2018 has become integral to policies of regulator and government (Hupkes et al., 2021; Vlek, 2019). The policy impact of this research is due, in part, to a national knowledge platform⁵ established on behalf of national and regional government, in order to promote interdisciplinary integration (e.g., across the social and technical sciences) and transdisciplinary collaboration (e.g., with government institutions, regulator and industry). As part of this translational work, the platform advises government in various matters including improvement of resident participation in safety policy and building reinforcement (Busscher et al., 2021). Funding for the knowledge platform and for *Gronings Perspectief* are guaranteed until 2027.

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⁴ www.groningsperspectief.nl

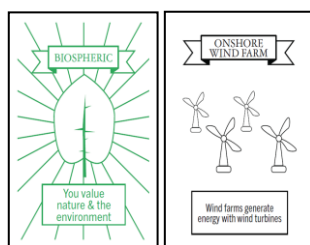
⁵ www.kennisplatformleefbaar.nl

2. Environmental psychology: combining science & practice

There is broad consensus that environmental problems, such as climate change, are not only technical and natural science problems, but also societal and behavioural problems. The Environmental Psychology (EP) unit examines which factors influence environmental behaviour, the effects and acceptability of strategies and policies aimed at promoting pro-environmental behaviour, and public perceptions of sustainable technology and system changes. The EP group also studies the relationship between pro-environmental actions and wellbeing. The research focuses on various urgent environmental problems, including climate mitigation and adaptation; the transition to sustainable energy, mobility, and food systems; and the circular economy. The research of the unit is unique in the Netherlands. It has developed different novel research lines that have inspired and been followed up by many other researchers across the world, including the influence of intrinsic motivation and environmental considerations on pro-environmental actions and acceptability of policies and system changes, when and how groups can encourage pro-environmental actions, and the critical role of distributive and procedural fairness in securing public acceptability of policies and system changes.

The unit combines scientific excellence with high societal impact, as evidenced by publications in high impact journals (including *Nature Climate Change*, *Nature Energy*, *Nature Human Behaviour*, *Nature Sustainability*, *One Earth*), and collaborations with international organisations (e.g., IPCC, UNEP), governments (e.g., ministries and municipalities), companies (e.g., ING bank, Royal Haskoning, Apenheul) and NGOs (e.g., Stichting Natuur en Milieu).

EP staff participate in and lead different large transdisciplinary projects aimed at achieving a climate neutral society, in which they collaborate with other disciplines (e.g., engineering, law, philosophy, economics), universities (in the Netherlands and abroad), and societal partners. In addition, Linda Steg was co-chair of the Taskforce Dutch Climate Research Initiative,⁶ established by NWO and the KNAW.



EP members strongly focus on outreach and sharing their knowledge with practitioners and the public, among others by collaborating with practitioners in research and teaching (e.g., in living labs, together with local governments and organisations, in which research questions are defined together with societal partners, and research findings are shared continuously), presentations for practitioners, advice to companies and governments (e.g., ministries of Infrastructure, Economic Affairs &

Climate, committees of the House of Representatives, and various official advisory bodies of the government), contributions to reports and policy advice of international organisations such as the IPCC and UNEP, and interviews in media and participating in the BSS Publicsacademie. The unit uses innovative tools for knowledge sharing, such as developing a game that educates practitioners how to manage negative emotions elicited by sustainable innovations.⁷

The EP unit is (inter)nationally highly recognised, as evidenced by prestigious awards and prizes received. For example, Linda Steg received the NWO Stevin Prize (2020), a royal decoration (Knight of the Order of the Netherlands Lion; 2019), the Dutch Sustainability Ribbon for her contribution to the IPCC (2022), and the Newman-Proshansky Career Achievement Award of the Society for Environmental, Population, and Conservation Psychology (APA Division 34, 2021). Moreover, in the years of the reporting period, she was selected as one of the “world’s most influential scientific minds” (Thomson Reuters). Also, Linda Steg is member of the Royal Netherlands Academy of Arts and Sciences and the European Academy of Sciences and Arts.

⁶ KIN, see <https://www.nwo.nl/en/kin>

⁷ <http://viewsthegame.com>. The images on this page are cards from this game

3. Time will Tell: an interactive exhibition and citizen science project



“Time will Tell” was an exhibition that was held at the UG’s University Museum and ran from April 2022 until May 2023. The exhibition had multiple goals. On the one hand it focused on the life and work of **Gerard Heymans**, a pioneering psychologist and one of the first experimental psychologists in the Netherlands, whereas on the other hand it invited attendees to learn more about experimental psychological research by participating in a number of gamified, interactive experiments. As a part of this project, we reconstructed a number of experiments designed by Heymans and his students, the logbooks of which are still available in the Groninger Archives. This will hopefully result in a number of posthumous publications. The citizen science project replicated a number of important studies on how humans time short intervals, and at the same time allowed them to experience first-hand some of the psychological phenomena that Heymans studied. The exhibition was designed in a close collaboration between the VICI-funded research group of prof. Van Rijn, and the conservators of the University Museum. The exhibition was a huge success; whereas most museums and exhibitions showed markedly lower visitor counts due Covid restrictions, the University Museum Groningen had its most successful year with more than 60.000 visitors.

Even though not all visitors participated in all experiments (or did not provide consent for using their data), the exhibition resulted in about 40.000 datapoints on a number of experimental studies. Importantly, these participants are a more representative sample of the Dutch population, at least in age and gender, than typical psychological experiments. With this dataset, we can now, for the first time, address the question whether subjective time truly slows down when getting older. In contrast to the existing memory-based explanations that are based on theoretical argumentation and hypotheses, our data indicates that subjective time itself speeds up until about 30 years of age, and then indeed slows down, reaching an asymptote around 70 years of age (but note that there are not many participants much older than that). In addition to this experiment, this exhibition provided data consolidating effects we described in earlier publications (e.g., Van der Mijl et al, 2021, Salet et al, 2021, 2022).

Overall, “Time will Tell” was a unique and engaging exhibition that blended the worlds of science and history, provided visitors with a hands-on experience of experimental psychology that has had an impact far beyond most other outreach projects, and contributed to new scientific insights.

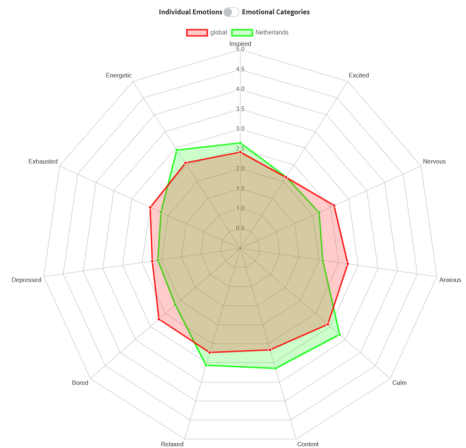


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4. PsyCorona: The Covid pandemic as a natural experiment

PsyCorona⁸ was a spontaneous, informal collaboration of >100 academics in all career stages from 37 countries, centrally organized by a core team at the UG (PIs: Dr. Leander, then at HI, & Dr. Belanger). This team coordinated survey design, data collection, collaboration, and communication. The national team disseminated translated surveys to participants in 30 languages across >50 countries, on a regular basis from the launch in March 2020 (~60k baseline surveys during the virus surge period, a total of 25 waves). This project set out to create a historical record of certain psychological and behavioural responses to the pandemic, and to disseminate this knowledge to the public via popular media contributions, interviews, radio and television presentations, and an online visualization tool⁹ that allowed citizens to explore the data in real-time themselves. The figure to the right gives an example of emotional responses early 2020. So far, PsyCorona resulted in over 15 academic publications¹⁰ and demonstrated how academics across disciplines can collaborate and use the pandemic as a natural experiment to study individual and societal differences and share knowledge publicly.



The global collaboration allowed the team to study the role of culture and to make generalisable predictions on societal responses to virus infections. We focused on behaviours that curb virus transmission and psychosocial consequences of social distancing strategies and societal lockdown. Some highlights were the emotional recovery over the first 12 weeks of the pandemic and first lockdown, which proved largely similar across all age groups with large individual but small country differences (Reitsema et al., 2022), which predicted later mental health (Han et al., 2021). Mitigation behaviour and policy support was more driven by perceived economic and job loss (agentic values) than perceived health risk (Nisa et al., 2021; Lemay et al., 2021). Individual-level injunctive norms (“ought”) were found the most powerful predictors of prevention behaviours (Van Lissa et al., 2022). Behavioural mandates received more support among people who trusted their government and preferred cultural tightness, whereas anti-lockdown protests were predicted by (lower) perceived clarity of communication about the virus (Schumpe et al., 2022). Covid-threat increased the desire for tightness which over time predicted more negative attitudes towards immigrants (Mula et al., 2021). Online contact could reduce loneliness, but lonely people were less likely to use that strategy (Van Breen et al., 2021).

In terms of health behaviour, a higher perceived infection risk was associated with reduced diet and sleep quality and more smoking, but had no effect on binge drinking or exercise (Keng et al., 2022). In terms of vaccination intentions in 2020 (before their availability) ~73% of our participants were positive (~17% undecided), and we could advise governments to focus communication on prosocial motives and generic conspiracy beliefs and religiosity (negative predictors), while country-level differences such as individualism/power-distance played little role (Enea et al., 2022).

This pandemic was an unique period in time to learn about human psychology and preparedness, as engagement with natural hazards is a master task of civilisation, and PsyCorona was fast and meaningful, contributed to the collaboration of a large number of scientists across the globe, and strengthened the ties within the HI.

⁸ <https://psycorona.org>

⁹ <https://psycorona.shinyapps.io/WebApp/>

¹⁰ <https://research.rug.nl/en/projects/psycorona>; which also contains the papers referred to on this page.

5. Eating disorders

Anorexia nervosa (AN) is a life-threatening condition affecting around 1-4% of women during their lifetime, and involves a high mental, social, societal and economic impact. Almost half of those with AN do not improve after treatment, and the relapse rate is high. The same applies to other eating disorders (EDs). For developing more effective interventions, it is crucial to have insight in the mechanisms that drive EDs. To improve insight in the etiology of EDs and to design more effective interventions, HI and Accare (a regional mental health care institute) joined forces and developed a solid infrastructure for conducting scientific research in clinical practice resulting in a dedicated team of research-minded practitioners and practice-minded researchers. This **academic healthcare setting** contributes significantly to the quality of diagnostics and treatments of EDs, and promotes research that is fueled by urgent questions from the field. This mutual reinforcement is further secured by the team's key positions in all important Dutch ED networks: Eating Disorder Academy (NAE: board; congress committee), Association of Behaviour and Cognitive Therapies (VCGt: chair section of EDs and obesity), and a national expert network supported by the government to improve early detection and treatment for EDs across the country.

To structurally support this societally important interconnection between HI and clinical practice, HI appointed two scientist-practitioners (Glashouwer, 2016; Neimeijer, 2019) with permanent positions and facilitated a tenure track position (Jonker, 2022) to extend the science-practice link to also include obesity. Accare invested in this collaborative effort via granting substantial research time to ED-therapists and via co-financing combined PhD-clinical training trajectories.

Diagnostics. When starting research at Accare, the Child Eating Disorders Examination (ChEDE) was introduced to standardise diagnostics. This not only secured the quality of research, but also greatly improved the reliability of the diagnostic procedures, and in its slipstream also the quality of care. As one example of further concrete spin-off, we took the lead in updating the ChEDE (2019) and developed an online e-learning module to train practitioners in using the ChEDE (financed by a grant of the VGCT). This e-learning is now freely online available.

Treatment. The HI-Accare connection facilitates the critical evaluation of promising new interventions. As one example, Glashouwer tested within the context of her Veni project (2016-2020) the clinical applicability of evaluative conditioning procedures to reduce ED-symptoms in AN. As another example, we developed a meaning centred treatment protocol based on patient studies indicating that low experienced meaning in life seems a critical factor in the persistence of EDs. This innovative intervention was very positively received by the field, as is underscored by the NAE Best Research Award 2022 granted to the scientist-practitioner PhD-student van Doornik for her RCT, and the selection of her article for Continuous Education Credits by the International Academy of Eating Disorders.

Theory development. To identify promising targets for improving current treatments, research efforts focus on core clinical puzzles such as: "How do individuals with AN succeed in persisting their rigorous restriction of food"? A series of clinical and analogue studies supported our newly designed model (Glashouwer & de Jong, 2021) implying that self-disgust is the key driving force. Supported by local grants, we are currently translating this insight into a novel VR-intervention allowing to realistically expose people with AN to their normal-weight bodies as a means to improve their acceptance of a healthy body size via a decrease in disgust experiences.

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