
Summary

The **Heymans Institute for Psychological Research** (HI) was founded in 1992 to integrate and strengthen psychological research within the Department of Psychology at the University of Groningen. The University of Groningen (UG) is an innovative, research-driven, and internationally oriented university in the north of the Netherlands, with 37,000 students and 6,400 fte staff. The Department of Psychology is part of the **Faculty of Behavioural and Social Sciences**, and offers both Dutch and English Bachelor's and Master's programs to over 2,500 students.

The research of the Department of Psychology is embedded in the Heymans Institute. The mission of the HI is to conduct excellent, impactful research in the main fields of psychology, with a special focus on collaborative projects and society-driven research. These collaborations include different areas of psychology working together, interdisciplinary research, and cooperation with non-academic partners. The society-driven focus implies that we aim to research challenges and questions that current society faces, but also that our research is expected to have direct visibility and impact in society. Our underlying vision is that: (1) Fundamental curiosity driven research expands our knowledge of human behaviour and obtains societal relevance by providing a foundation for applied psychological research. (2) Application and fundamental scientific progress mutually reinforce each other, making this interaction pivotal to psychological science. (3) Truly exciting innovations tend to emerge bottom-up through collaborations among creative and focused researchers within the institute.

This vision informs the HI's three key targets: We aim for (1) high quality staff in all research units; (2) strong collaborations within the institute and with other academic partners, resulting in impactful research; (3) a clear and visible position in the societal landscape with demonstrable societal impact, both within our region – the north of the Netherlands – as beyond. We adopt a facilitative leadership style with effective incentives and facilitators to promote growth and collaboration.

As a result, the quality of HI research is generally high (as evidenced by an international benchmark analysis). Many HI researchers play active roles in society at various positions, such as at mental health institutions, members of committees such as the IPCC, and writing for national newspapers. HI research tends to have a high societal impact; the areas that HI researchers have impact in include education, psychological testing, clinical practice, development of treatment protocols, reflections on science, and policy and organizational advice. HI researchers are thereby able to reach a broad audience with their work. This has resulted in impact on policy and practice, including a willingness of various societal parties to contribute substantial funds to researchers of the HI.

The future viability of the HI is high and stable. Using the new SSH Sector Plan funding, we can increase our visibility in our three key research themes – Societal Transitions and Behavioural Change, Mental Health, and Resilience in Youth. Our institute is an inclusive institute that embraces open science, team science and other modern views on how to propagate academic citizenship. The HI is well equipped to perform outstanding academic and societally impactful research in the coming.

The present self-evaluation of the Heymans Institute has been written in compliance with the national 'Standard Evaluation Protocol' (SEP 2021-2027). This self-evaluation covers the period 2017–2022 and consists of three parts: Part A, is written under responsibility of the Dean of the Faculty of Behavioural and Social Sciences, and has been compiled by the director of research in co-operation with the nine research units. Part B presents the appendices created for this report (case studies and tables with quantitative information). Part C is a collection of relevant existing policy documents from the HI, BSS and UG.

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.

References

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⁴ www.groningsperspectief.nl

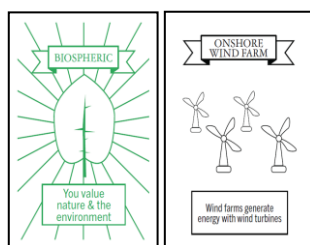
⁵ www.kennisplatformleefbaar.nl

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.

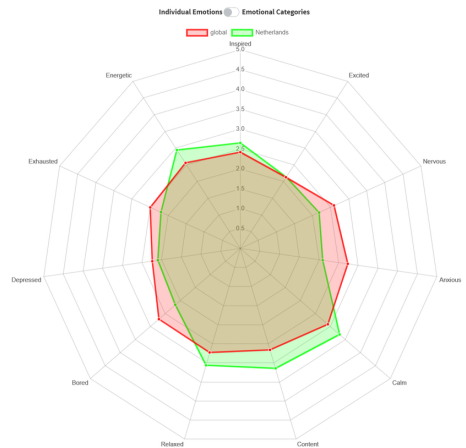


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4. PsyCorona: The Covid pandemic as a natural experiment

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.

References

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