

1. Narrative academic profile

I am **Heisenberg Professor** and **Head** of the **Department of Public Mental Health** at the Central Institute of Mental Health (CIMH), Mannheim, Germany, and **Visiting Professor** at the ESRC Centre for Society & Mental Health and the Centre for Epidemiology & Public Health, Institute of Psychiatry, Psychology & Neuroscience (IoPPN), King's College London, UK. My **main research interests** are in the **ecological translation of evidence-based innovations in public mental health provision** using innovative translational, participatory, evaluation, and implementation science frameworks for evidence-based mental health promotion, mental disorder prevention and mental health care.

The **vision** that I pursue in the Department of Public Mental Health – which was newly established in 2018 when I was appointed as Heisenberg-Professor at CIMH – is to transform evidence from social epidemiology into public mental health service innovations, with the overarching goal of including vulnerable groups in shifting the mental health curve in such a way as to achieve a clinically meaningful reduction of mental health problems in the population through ecological translation of scalable and sustainable interventions and services. To this end, my **mission** is to establish, conduct, and deliver internationally excellent public mental health research and reflect its interdisciplinarity across the entire mental ill-health spectrum based on integrated aetiological models using a **translational, transdisciplinary, and transdiagnostic research strategy**. This strategy is translational, as it aims to transform evidence on momentary risk and protective mechanisms identified in intensive longitudinal studies using Ecological Momentary Assessment (EMA) to Ecological Momentary Interventions (EMIs) targeting these mechanisms in real time and in individuals' living environments; it is transdiagnostic as it aims to move from single- to cross-disorder phenotypes across the mental ill-health spectrum; and it is transdisciplinary, as it centrally involves users and stakeholders in participatory, humancentred designs from the outset (such as in our living lab AI4U). Ecological translation in public mental health provision is at the very heart of my **research programme**, which aims to identify momentary risk and protective mechanisms as well as socio-environmental contexts and settings across mental ill-health continuum and, in a next step, translate this into novel digital interventions and services – ecological momentary interventions (EMI) in particular – that target these mechanisms, contexts and settings in real time and in the real world. To this end, I aim to deliver internationally excellent research along the following **three research lines**:

- 1) Calibration and validation of an integrated model of the entire spectrum of population mental health, including not only transdiagnostic dimensions and clinical staging models of psychopathology but also dimensions of positive mental health; this work is urgently needed for the public mental health field to progress and, in line with my vision and mission, to reflect its interdisciplinarity – at this level – across the entire mental ill-health spectrum
- 2) Investigating the socio-environmental risk architecture and identifying risk and protective mechanisms through which the social environment impacts on individuals, and interacts with genetic risk, to push them along transdiagnostic dimensions of mental ill-health
- 3) Participatory development, evaluation, and implementation of novel interventions and services for all domains of public mental health provision; this includes mental health

(literacy) promotion, mental illness prevention, early intervention and service delivery for complex mental health problems.

In pursuing my vision, mission, strategy, and research programme, my research career has been accelerated by **three competitive, doctoral, and postdoctoral fellowships** in two European countries (UK, Netherlands) and a **Heisenberg professorship**, through which I have developed a **strong record of publications** in leading international peer-reviewed journals, **research funding, project management and completion**. Since completing my PhD, I have secured, as principal investigator, research funding totalling around €4.3 Mio. (with a total grant income to date of €6.1 Mio.), all through open competition, primarily from the EU, German Research Foundation (DFG), Federal Minister of Education and Research (BMBF), UK National Institute for Health Research (NIHR), Dutch Research Council (NWO), and Netherlands Organisation for Health Research and Development (ZonMw). I have taken on **senior managerial and supervisory roles** from an early career stage and established an **excellent research team** (currently supported by 8 grants). This has resulted in **early promotions** (e.g., to Full Professor within 7 years of completing my PhD) and appointment as **Editor** of the international, peer-reviewed journal *Social Psychiatry and Psychiatric Epidemiology*, for which I commission a state-of-the-art review series on key topics (including on public mental health, youth mental health, integrated models in psychiatry, transdiagnostic factors of psychopathology, global mental health, large epidemiological cohort studies). Through my extensive experience from appointments at Queen Mary University of London (UK), University of Cambridge (UK), IoPPN (UK), and Maastricht (Netherlands), I have established and ongoing **international collaborations**, including as part of three international research programmes (i.e., EU-GEI, HiTOP, IMMERSE). Since I joined CIMH in 2018, I have also established an exchange programme for Early Career Researchers (ECRs) between the Department of Public Mental Health (CIMH) and the ESRC Centre for Society & Mental Health (King's College London, UK), with currently four ongoing internships for ECRs in Mannheim and London. Taken together, building on my research experience and achievements to date, my current appointment at CIMH continues to provide a unique **opportunity** for me to **pursue my vision, mission, and research strategy**, as well as to **consolidate and continue to extend my research programme**.

2. Key outputs of the years 2020-now (reported according to my research lines)

Research line 1

Kotov R, Jonas K, Carpenter W, ..., **Reininghaus U**, ..., HiTOP Utility Workgroup. Validity and utility of Hierarchical Taxonomy of Psychopathology (HiTOP): I. Psychosis superspectrum. *World Psychiatry*. 2020;19:151-172. This paper builds on several studies I led since 2013 into transdiagnostic dimensions of psychosis spectrum disorder. I currently seek to obtain funding for extending this further to calibrate the entire spectrum of population mental health (see above).

Research line 2

Daemen M, van Amelsvoort T, Group Investigators, **Reininghaus U**. Self-esteem and psychosis in daily life: An experience sampling study. *J Psychopathol Clin Sci. (formerly, J Abn Psychology)* 2022;131:182-

197. This paper sought to examine momentary self-esteem as a candidate momentary mechanism in the development of psychosis. It reflects a prime example of our translational strategy of identifying momentary mechanisms in daily life as a basis for novel digital ecological momentary intervention (EMI) that target these mechanisms in real time and in the real world, as we have done in the SELFIE intervention (see below, Daemen et al., *Trials*. 2021;22:641).

Rauschenberg C, Schick A, Goetzel C, ..., **Reininghaus U**. Social isolation, mental health, and use of digital interventions in youth during the COVID-19 pandemic: a nationally representative survey. *Eur*

Psychiatry. 2021;64:e20. This paper was among the first to report on social isolation and psychological distress in youth during the COVID-19 pandemic in Germany. Findings from this paper have been widely covered in the media (e.g., German News Agency (dpa), Sueddeutsche Zeitung) and in policy recommendations (e.g., by Leopoldina, Competence Network Public Health COVID-19)

Schick A, van Winkel R, Lin B, ..., **Reininghaus U**. Polygenic risk, familial liability, and stress reactivity in psychosis: an experience sampling study. *Psychol Med*. 2022;doi: 10.1017/S0033291721004761. This paper sought to investigate the interplay of polygenic risk, familial liability, and stress reactivity in pathways to psychosis. It forms part of my mission to deliver internationally excellent public mental health research based on *integrated aetiological models* (see above).

Paetzold I, Myin-Germeys I, Schick A, ..., **Reininghaus U**. Stress reactivity as a putative mechanism linking childhood trauma with clinical outcomes in individuals at ultra-high risk for psychosis: Findings from the EU-GEI High Risk Study. *Epidemiol Psychiatr Sci*. 2021;30:e40. doi: 10.1017/S2045796021000251. This output results from my long-standing work as coordinator of EMA data collection in the large-scale EU-GEI consortium and, again, feeds into our translational strategy of identifying momentary mechanisms and targeting them by novel EMIs, as we have done for stress reactivity in the EMIcompass trial (see below, Schick et al., *JMIR Res Protoc*. 2021;10(12):e27462).

Research line 3

Myin-Germeys I, van Aabel E, Vaessen T, ..., **Reininghaus U**. Efficacy of Acceptance and Commitment

Therapy in Daily Life (ACT-DL) in early psychosis: Results from the multi-centre INTERACT randomized controlled trial. *Psychoth Psychosom*. 2022; doi: 10.1159/000522274. This paper reports findings from a definitive trial that I coordinated over many years to investigate the efficacy of a novel EMI in early psychosis and, as such, addresses the public mental health domain of early intervention.

Daemen M, Postma MR, Lindauer R, ..., **Reininghaus U**. Efficacy of a transdiagnostic ecological momentary intervention for improving self-esteem (SELFIE) in youth exposed to childhood adversity: study protocol for a multi-centre randomized controlled trial. *Trials*. 2021;22:641. doi: 10.1186/s13063-021-05585-y. This output reports the protocol of another definitive trial of a novel

EMI and forms part of our translational strategy (see above, Daemen et al. *J Psychopathol Clin Sci.* 2022;131:182-197.). It addresses the public mental health domain of selective prevention. We are currently carrying out the statistical analysis for this trial.

Schick A, Paetzold I, Rauschenberg C, ..., **Reininghaus U**. Effects of a novel, transdiagnostic, hybrid ecological momentary intervention for improving resilience in youth (EMIcompass): protocol for an exploratory randomized controlled trial. *JMIR Res Protoc.* 2021;10(12):e27462. This paper reports the protocol from an exploratory RCT to investigate feasibility and initial signals of efficacy of a novel EMI targeting stress reactivity in daily life (in the public mental health domain of indicated prevention). It is another prime example of our translational strategy and the first RCT I set up at CIMH. We recruited fully to target, have completed the statistical analysis, and currently am addressing reviewer comments on the submitted paper reporting the findings from this trial.