

## Presentation of Scientific Institutions

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# Research Training Group (RTG) / Graduiertenkolleg (GRK) 2350



## “Impact of Adverse Childhood Experiences on Psychosocial and Somatic Conditions Across the Lifespan”

<https://doi.org/10.1515/nf-2019-0022>

In April 2018, the Research Training Group (RTG) 2350 “Impact of Adverse Childhood Experiences on Psychosocial and Somatic Conditions Across the Lifespan” which is funded by the German Research Foundation (DFG) started. The RTG 2350 investigates psychosocial, neurobiological, and somatic sequelae of adverse childhood experiences (ACE) in 15 different projects. It is embedded in the central lines of research at the Central Institute of Mental Health (CIMH) and the Medical Faculty Heidelberg (MFH), with two already existing BMBF funded networks on trauma-related disorders and existing patient cohorts, and based on long-lasting experience with doctoral training programs. ACE such as sexual and physical abuse or neglect are frequent in childhood and constitute a massive stressor with long-lasting consequences for mental and physical health. Despite their obvious relatedness, neither the causal relation nor the mechanisms involved are clear. On the one hand, traumatic experiences are diverse, differing in type, timing, and intensity with social support and other protective factors contributing to this. On the other hand, ACE-related manifestations range from psychosocial to somatic problems such as heightened stress sensitivity, emotional disturbances, interpersonal problems, depression, substance dependence, chronic pain, or inflammatory and metabolic diseases.

Therefore, the central aims of the RTG are (1) Investigation of the role of type, timing and intensity of ACE and protective factors in the emergence of ACE-related disorders; (2) Elucidation of the psychosocial, neurobiological and epigenetic mechanisms underlying ACE-related

psychiatric and somatic disorders; (3) Development of novel psychosocial and pharmacological treatment possibilities as well as public health programs for ACE-related conditions.

To cover the interdisciplinary research area, namely the consequences of adverse childhood experiences (ACE) on psychosocial and somatic conditions broadly and profoundly and reach all aims of the RTG, a representative selection of research topics across the psychological and biological medical domains was made and senior as well junior PIs with a wide spectrum of expertise are part of the RTG. The individual projects span a broad range from epidemiological and clinical research to experimental studies in animals and humans including genetics, neuroimaging and ecological momentary assessment. A special feature of the RTG is the integration of psychological, psychiatric and somatic topics, which is mirrored by close working together of PhD and MD students. As an example, one of the projects investigates the impact of abuse and neglect in childhood on psychological wellbeing during pregnancy and childbirth. Besides, biological parameters such as pain sensitivity and hormonal level are assessed and will be used in combination with the psychological data to develop better care for traumatized pregnant women.

After passing an application procedure and assessment center, 21 international postgraduates with a background in medicine, psychology, biology, and related natural sciences were selected as RTG members and started their work on doctoral theses. Additional to their experimental studies the doctoral students participate at the structured concept for qualification and supervision. The RTG 2350 trains doctoral researchers to provide a substantial basis for a potential international scientific career. Scientific development is facilitated by the participation in regular events like research presentations and scientific exchange at journal clubs, progress reports and at international conferences, symposia, and a master class with international experts. Also, the doctoral researchers

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have the possibility to gain practical experience during internships in internationally leading RTG partner research groups. Beside intensive training in scientific excellence, providing key knowledge, hard and soft skills the doctoral students receive additional support through mentoring and coaching to promote personal development.

Taken together, the RTG 2350 aims to support self-responsible, personal, and professional development of young researchers and to provide them with skills and competencies for their further careers in either academia or other areas.

The understanding of the complex ACE-related characteristics and mechanisms is relevant for mental and somatic disorders. Identifying and validating psychosocial and somatic risk factors and diagnostic markers shall result in the development of innovative somatic and psychological treatment options for patients suffering from ACE-related disorders.

Website: <https://www.grk2350.de/>