## **Epistemological and Ethical Dimensions of Current Concepts of Human Resilience in the Neurosciences**

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Abstract: Since a number of years, scientific interest in human resilience is rapidly increasing especially in psychology and more recently and highly visible in neurobiological research. Concepts of resilience are regularly discussed in the light of liminal experiences and existential challenges in human life. Resilience research is providing both, explanatory models and strategies to promote or foster human resilience. Surprisingly, these approaches attracted little attention so far in philosophy in general and in ethics in particular. This is even more astonishing given the fact that the neurosciences as such have been and still are of major interest to philosophy and ethics and even brought about the specialized field of neuroethics, which, however, is not concerned with concepts of resilience, so far. As a result of the little attention given to the topic of resilience, the whole concept has to date been a philosophically under-theorized. This abstinence of ethics and philosophy in resilience research is lamentable because resilience as a concept as well as resilience interventions based on neurobiological findings do undoubtedly pose philosophical, social and ethical questions. In this paper, we will argue that particular notions of resilience are crossing the sometimes fine line between maintaining a person's mental health despite the impact of severe psychological or physical adverse events and ethically more debatable discourses of enhancement. While we neither argue for or against enhancement nor re-interpret resilience research and interventions by subsuming them strategies of psychological and/or neuro-enhancement, we encourage those who see social or ethical problems with enhancement technologies should also take a closer look on resilience and the related neurobiological concepts. We will proceed in three steps. In our first step, we will describe the concept of resilience in general and its neurobiological study in particular. Here, we will point out some important differences in the way 'resilience' is conceptualized and how neurobiological research understands resilience. In what follows we will try to show that a one-sided concept of resilience - as it is often presented in neurobiological research on resilience does pose social and ethical problems. Secondly, we will identify and explore the social and ethical challenges of (neurobiological) enhancement. In the last and final step of this paper, we will argue that a one-sided reading of resilience can be understood as latent form of enhancement in transition and poses ethical questions similar to those discussed in relation to other approaches to the biomedical enhancement of humans.

**Keywords:** resilience, neurosciences, epistemology, bioethics

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