Summary

In the past decade, adolescents' mental well-being has significantly deteriorated, and suicide is the second-leading cause of death in numerous nations. Strategies to improve mental health and to prevent suicide in this age group are called for. School-based, educational prevention programs are among the most promising strategies for suicide prevention with adolescents. However, the research on their effectiveness and safety has encountered several challenges. Up to date, there is no shared theoretical model to guide program development and evaluation. Furthermore, the nature of the phenomenon of suicidality (relative rarity, lethality) poses difficulties in designing methodologically sound evaluation studies. Data on the differential effects of programs on different groups of young people are lacking. The *Network for Suicide Prevention in Dresden* (NeSuD) project was initiated to improve suicide prevention in the city of Dresden (Saxony, Germany). After a literature review on educational suicide prevention, this thesis presents the results of the evaluation of HEYLiFE, an educative suicide prevention program for secondary schools developed during this project.

First, this thesis aimed to contribute to the theoretical foundation of educational suicide prevention. A three-staged Delphi survey was conducted to explore important contents, target outcomes, and methods of effective and safe educational programs. The Delphi survey is a method that allows to assess expert opinions reliably, reducing unfavourable group decision processes. Participating experts suggested that, above reducing suicidal ideation and attempts, educational programs should aim to increase help-seeking intentions and behaviour, enhance the quality of social support between peers, improve mental health literacy and life-skills such as coping with stress, emotional regulation and problem solving. The experts also proposed to embed suicide prevention in educational programs with a larger scope, to facilitate help-seeking among the program participants and to establish suicide prevention measures on multiple levels in schools to enhance the safety of educational programs. The Delphi survey

served as a significant base for researchers to develop school-based, educational suicide prevention programs.

Enhancing mental health literacy regarding depression and suicide has been one of the central strategies for educational programs in the last decades. However, the construct of mental health literacy has been discussed critically due to an unsharp definition and unreliable assessments. These problems caused study results to be tautological and confounded. To solve this problem, it is crucial to define and explore what constructs play a role in enabling people to achieve and maintain a good mental health. Although mental health knowledge is considered the core component of mental health literacy, there is a lack of comprehensive reviews on how it interacts with other constructs relevant to prevention. Through a systematic review, we explored the correlation between mental health knowledge, mental health-related stigma and help-seeking. The review showed that mental health knowledge had a medium-sized, negative correlation with personal stigma (Mdn $r = -.28$) and a medium-sized positive correlation with attitudes towards help-seeking (Mdn $r = .29$). The correlations to self-stigma (Mdn $r = -.18$), help-seeking intention (Mdn $r = .15$) and help-seeking behaviour (Mdn $r = .15$) were low. Public stigma was not consistently related to mental health knowledge. These findings contributed to a more profound understanding of the construct of mental health knowledge.

HEYLiFE, an educational suicide prevention program for secondary schools, was a key component of the NeSuD project. HEYLiFE's efficacy, safety, and acceptability were evaluated with a RCT with waiting-control-group with 745 secondary-school-students aged 12 or older. Outcomes were measured immediately after the intervention (short term) and after 6 months (mid term). We used linear mixed models (LMM) for analysing ordinal outcomes and generalized linear mixed models (GLMM) for binary outcomes, controlling for the nested nature of the data. The program led to an improvement of mental health knowledge and favourable attitudes towards suicidality in the short term. In the mid term, the intervention group showed a more favourable development for help-seeking intentions and risk-factors for suicidality (hopelessness, isolation, burdensomeness, sense of entrapment) from baseline to follow-up than the control group. The program had mixed effects on stigma, with a paradoxical increase in stigma (lower prosocial emotional reaction, higher wish for social distance) in the short term but a more favourable development in the intervention group regarding social distance at follow-up. The evaluation study suggested that the program was

acceptable and safe. HEYLiFE is a promising intervention for suicide prevention among adolescents and young adults.

Moreover, this dissertation examines differential effects of HEYLiFE for gender, age, and risk status for suicide attempts. In the main evaluation study ($N = 745$), HEYliFE had less favourable effects for males than for females on stigmatizing emotional responses to a suicidal peer in the short term and on wish for social distance and help-seeking behaviours in the mid term. Participants in the youngest age group (12-13 years) gained more knowledge than the older ones (14-16; 17+ years) in the mid term. However, they seemed to have stigmatizing emotional reactions to suicidal peers in the short term and did not profit as much in the mid term in terms of a reduction of risk factors. In a second study ($N = 218$, 14-18 years old), three suicide risk clusters were built using cluster analysis based on suicidality, depression, impulsivity/carelessness and emotional avoidance. We assessed the short time effects on suicide knowledge, agency, and help seeking intentions in case of suicidal thoughts. While knowledge improved in all groups, agency, and help seeking intentions only improved in the low and middle risk group. This study confirmed that HEYLiFE is an effective intervention for suicide prevention. Adolescents already suffering from suicidal ideation and behaviour, however, should receive more targeted interventions.

In summary, this thesis contributes to our understanding of school-based, educational suicide prevention and supports the use of interventions such as HEYLiFE to prevent suicidality among adolescents. Future research should explore how these interventions can be tailored for the needs of males, younger adolescents and adolescents at risk.