Transdiagnostic approaches to mental health

CHAPTER 12

Summary

The current thesis adopted a transdiagnostic approach to mental health, with the objectives of (1) examining the role of the jumping to conclusions reasoning (JTC) bias and working memory performance (WMP) in the development and persistence of an extended transdiagnostic psychosis phenotype, (2) determining whether individuals' stress sensitivity in daily life may form a transdiagnostic candidate mechanism involved in linking adverse childhood experiences (ACEs) and mental health outcomes in young service users, (3) exploring new avenues for digital interventions, such as smartphone-based ecological momentary interventions (EMIs) and other mobile health (mHealth) intervention, internet-based (eHealth) interventions, and virtual-reality (VR) based interventions, in diverse clinical and non-clinical settings across the whole spectrum of public mental health provision, (4) examining the effects of the COVID-19 pandemic on youth mental health as well as young individuals' use of, and attitude towards, digital interventions, and (5) investigating the potential use of available digital intervention for mitigating negative consequences of the COVID-19 pandemic in youth.

In **chapter 2** we investigated whether well-established cognitive risk factors, such as the JTC bias and a decreased WMP, are associated with a transdiagnostic phenotype of co-occurring affective disorders and psychotic experiences (PEs) in the general population. We found that the JTC bias was more likely to occur in individuals with co-occurring affective dysregulation and PEs. There was also some evidence of dose–response relationships, as the JTC bias and decreased WMP were more likely to be present in individuals with affective dysregulation when levels of PEs increased or psychosis-related help-seeking behavior was reported. These findings corroborate previous research demonstrating the JTC bias's specificity in subclinical and clinical manifestations of psychosis, which appears to be independent of the presence or absence of other co-occurring mental health problems. **Chapter 3** builds on these findings and examined whether the JTC bias contributes to the progression and persistence of psychosis over time. We found some evidence that individuals with low levels of PEs were more likely to progress to high levels of psychosis over a three-year period if the JTC bias was present. Additionally, we found that the JTC bias may be associated with not only the progression of psychosis, but also with the persistence of high levels of psychosis over time. This suggests that the JTC bias may play a role in the progression and persistence of psychosis in individuals with a transdiagnostic psychosis phenotype.

In **chapters 4, 5, and 6**, we examined whether exposure to ACEs, such as childhood trauma, bullying victimization, and negative life events, increases individuals' sensitivity to stress in a sample of young help-seeking individuals with high levels of depressive, anxiety, and psychotic symptoms, as well as their biological sibling and comparison subjects. We found consistent evidence that service users exposed to high levels of various ACEs had more intense negative affect and psychotic experiences in response to stress than those exposed to low levels. Thus, when exposed to ACEs, young help-seeking individuals were found to be more sensitive to minor stressors in daily life. In contrast to these findings, controls demonstrated less intense negative affect or no differences in stress sensitivity when ACE exposure levels were compared, while findings in biological siblings remained inconclusive. This suggests that stress sensitivity may serve as a putative risk and resilience mechanism linking ACEs and poor mental health in youth.

Chapter 7 explored the feasibility, safety, and preliminary therapeutic effects of a transdiagnostic, ecological momentary, compassion-focused intervention for enhancing emotional resilience to stress ('EMIcompass') in a phase I pilot study with young help-seeking individuals experiencing psychotic, depressive, or anxiety symptoms. The findings suggest EMIcompass intervention's feasibility and safety in help-seeking adolescents, as well as its initial effects on stress sensitivity and a variety of psychopathological domains. There was, therefore, some evidence that an EMI may be well-suited to directly target candidate mechanisms in daily life.

The body of evidence on the use of digital technologies to assist people with mental illnesses, as well as in areas of mental health promotion and prevention, is remarkable. We studied these recent developments from a number of angles in **chapters 8, 9, and 10**. To begin, in chapter 8, we summarized the available evidence and clinical potential of emerging digital technologies (i.e., mobile health, eHealth, and virtual reality interventions delivered via smartphones, wearables, and head-mounted displays) for supporting individuals experiencing subclinical manifestations of psychosis as well as psychosis spectrum disorder. Second, in chapter 9, we investigated if public health measures to lower SARS-CoV-2 infection rates had a detrimental effect on youth mental health in a general population sample and whether there was a subjective need for using digital technologies to promote mental health during the COVID-19 pandemic. Finally, in chapter

10, we conducted a rapid meta-review to examine the theoretical and empirical foundations, user perspectives, safety, effectiveness, and cost-effectiveness of digital interventions in public mental health provision that may help mitigate the negative psychosocial consequences of the COVID-19 pandemic.

Overall, the findings described in chapters 8 and 10 indicate that eHealth, mHealth, and VR interventions in the domains of public mental health provision are feasible and accepted by most users. Telemedical and other eHealth treatments were found to be beneficial in promoting and preventing mental health problems, as well as treating mental health conditions. In contrast, there was preliminary, but highly encouraging, evidence on the efficacy of mHealth interventions. Furthermore, the effectiveness of hybrid digital interventions was found to be superior to stand-alone interventions, especially in people with more severe mental health problems, and the evidence for long-term effects and non-inferiority to standard therapy and active control conditions was found to be limited.

In chapter 9, we found evidence that social isolation, cognitive preoccupation, fears, and worry were all associated with psychological distress in adolescents during the COVID-19 pandemic. There was also evidence of dose–response relationships for some of these associations, with psychological distress becoming more likely as reported social isolation and COVID-19-related preoccupation, anxiety, and worrying increased. Additionally, there was some evidence that psychological distress and high levels of cognitive preoccupation, and worry about COVID-19 were associated with a more favorable attitude towards, and use of, mHealth apps. This indicates, to some degree, that there was an objective need and subjective demand for digital interventions during a public health crisis, and that young people are already utilizing digital technologies to manage their mental and physical health.