

Mainz Resilience Score in childhood cancer (MRScc) – Design of a new questionnaire to measure resilience in childhood cancer patients

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THEORETICAL BACKGROUND

In Germany, approximately 2,250 children and adolescents under the age of 18 are diagnosed with cancer each year¹.

Although survival rates have greatly improved, with average 10-year survival rates now exceeding 85%¹, children and adolescents with cancer are still at risk of increased physical and psychosocial morbidity. During intensive cancer treatment, patients are exposed to a variety of toxicities and stressors that can lead to psychosocial distress, such as impaired mental health. The maintenance or rapid recovery of mental health during and after exposure to significant stressors has been defined as resilience².

To date, resilience research has focused primarily on long-term survivors of childhood cancer. Little is known about resilience and mental health resources in childhood cancer patients undergoing chemotherapy and specific instruments for age-appropriate assessment of resilience in childhood cancer patients are lacking.

AIM

In order to measure resilience longitudinally across different age groups, the aim was to develop a self-report questionnaire that takes into account the specific circumstances and the situation of children and adolescents with cancer.

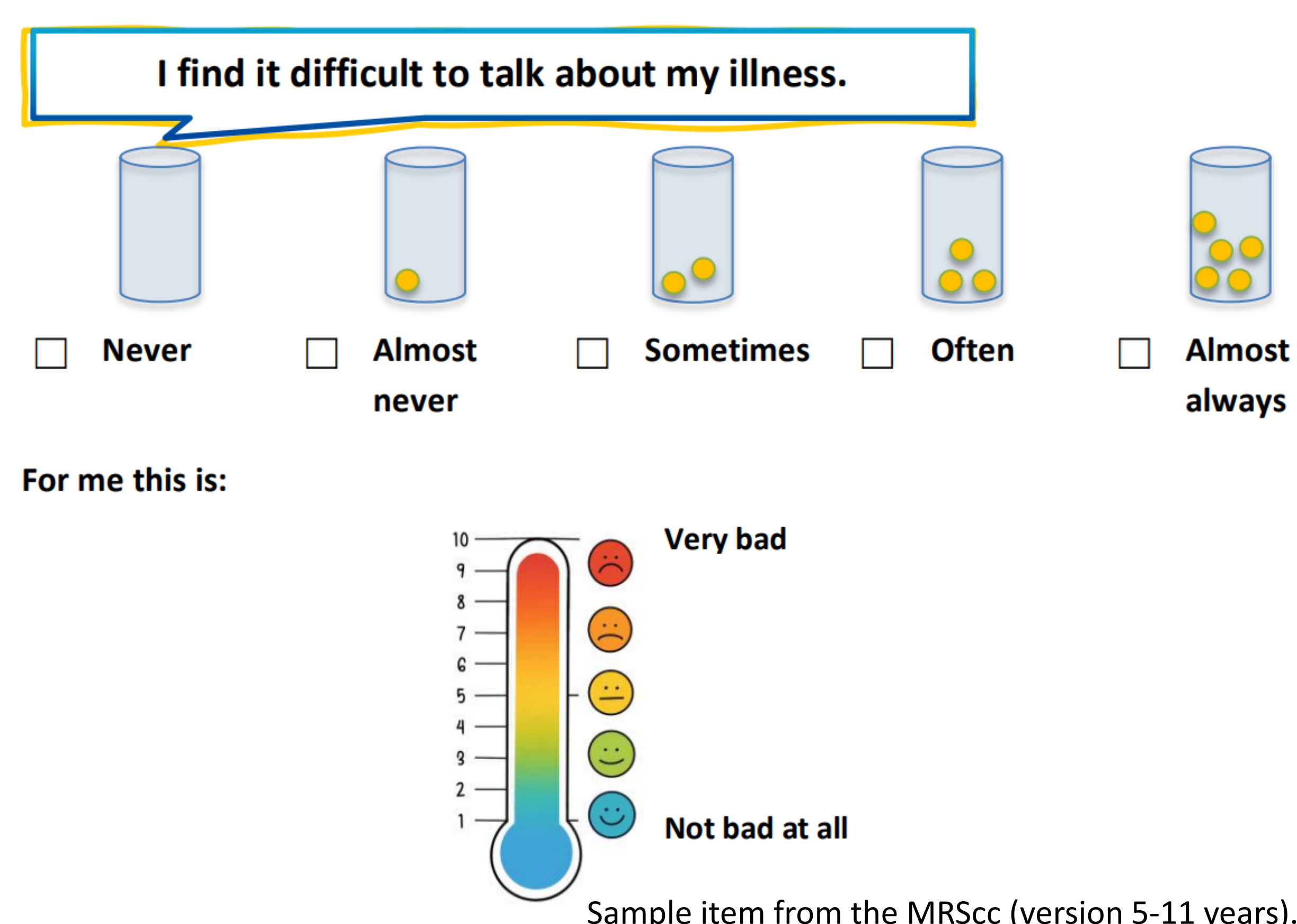
METHODS

Based on the previous work of Kalisch et al. (2021) resilience can be measured by a stressor reactivity score, which is defined as the ratio of changes in mental health problems and stressor exposure².

In order to form a stressor reactivity score, questions were created covering the two domains of 'mental health problems' and 'stressor exposure': The mental health questions cover anxiety, depression, distress and fatigue, while the stressor assessment includes both daily hassles and cancer-related stressors. In addition, the intensity and frequency of each stressor is measured.

RESULTS

The Mainz Resilience Score in childhood cancer (MRScc) was developed in German and English by an interdisciplinary group of psychologists, psychiatrists and paediatric oncologists and is available in three versions: children aged 5-11 years, adolescents aged 12-17 years and young adults aged 18-21 years. Each questionnaire consists of the three parts 'emotions & distress', 'fatigue' and 'situations & experienced stress' using either a thermometer or 5-point Likert scales.



CONCLUSIONS

The MRScc is a new questionnaire aiming to provide age-adapted means to assess resilience in children, adolescents and young adults with cancer, taking into account the specific problems and stressors of this population. Further studies are needed to validate the MRScc and to prospectively investigate resilience in childhood cancer patients.

Literature

¹ Erdmann F, Kaatsch P, Grabow D, Spix C. German Childhood Cancer Registry - Annual Report 2019 (1980-2018). Institute of Medical Biostatistics, eEpidmiology and Informatics (IMBEI) at the University Medical Center of the Johannes Gutenberg University Mainz, 2020.

² Kalisch R, Köber G, Binder H, Ahrens KF, Basten U, Chmitorz A, Choi KW, Fiebach CJ, Goldbach N, Neumann RJ, Kampa M, Kollmann B, Lieb K, Plichta MM, Reif A, Schick A, Sebastian A, Walter H, Wessa M, Yuen KSL, Tüscher O and Engen H (2021) The Frequent Stressor and Mental Health Monitoring-Paradigm: A Proposal for the Operationalization and Measurement of Resilience and the Identification of Resilience Processes in Longitudinal Observational Studies. *Front. Psychol.* 12:710493. doi: 10.3389/fpsyg.2021.710493

