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Perceived Stress and Health-Related Behaviors among Preschool Teachers

The work of preschool teachers is complex and demanding, involving both taking responsibility for the well-being, development, and learning of preschool children and embracing the many challenges associated with contemporary methods of teaching and working with children (Beltman et al., 2019). Research findings indicate that teaching is among the more stressful and psychically challenging professions (Skaalvik & Skaalvik, 2015).

Several authors have found that demanding working conditions in early childhood education are associated with high levels of job stress and emotional exhaustion (Čecho et al., 2019; Kim et al., 2020; Schaack et al., 2020). The survey with Slovenian early childhood educators (Kobasa, 2015) also reached similar findings: 61% rate their profession as relatively highly stressful, with 36% experiencing stress very often or every day, and almost 15% finding it difficult to manage their workload. Stress in educators is most often related to problems in managing the behavior and emotional needs of children, difficult relationships with parents and work colleagues, and having too many children in the group (Kobasa, 2015). Other authors also report an increased amount of administrative work as an important source of stress (Maček, 2017).

Work-related stress is the result of a mismatch between the job demands and the individual's abilities or resources to cope with those demands. Prolonged and intensive work-related stress can lead to adverse physical and mental health outcomes (Chou et al., 2016). Research has shown that both teachers and early childhood educators who experience high levels of stress are less satisfied with their jobs (Dolenc & Virag, 2019), are more likely to be absent from work, show less work engagement, and are more likely to consider leaving the profession (McMullen et al., 2020; OECD, 2019).

Stress affects health directly, through changes in the autonomous nervous system and the endocrine system, as well as indirectly, through health-related behaviors (O'Connor et al., 2021). Health-related behaviors refer to a set of distinct behaviors or practices associated with health that occur consistently over a period of time. It covers different areas of life and the related attitudes, values, and activities of the individual (e.g., physical activity, eating habits, tobacco use, alcohol use, safety concerns, sexuality, sleep, etc.). In Slovenia, the systematic study of health-related behaviors in adults began in 2001 as part of the international CINDI initiative. Until now, six surveys have been carried out; the most recent one was conducted by the National Institute of Public Health in 2020 and included 17,500 Slovenian adults aged 18–74 years (Pustivšek et al., 2023).

Stress can adversely affect health through the adoption of harmful behaviors such as unhealthy eating, reduced physical activity, and increased sedentary time. Conversely, healthy behaviors can reduce sensitivity to stress or allow for a more favorable cognitive appraisal of stress, where stressful situations are experienced as less threatening (O'Connor et al., 2021).

There is a considerable amount of research on stress in Slovenian preschool teachers, but there is a lack of studies examining their health-related behavioral patterns. Therefore, the aim of the present study was to investigate the level of perceived job stress and health-related behaviors among preschool teachers, and to determine the relationship between stress and selected health-related behaviors.

A convenience sample included 127 preschool teachers and teacher assistants from different Slovenian kindergartens. Their average age was 39.5 years and their average length of service was 13.7 years. The following instruments were administered to the participants: an introductory questionnaire collecting demographic information, the Perceived Stress Scale, and a health-related behaviors questionnaire specially designed for this study that was based on similar instruments used in the CINDI studies. Anonymity and confidentiality of the gathered data were ensured.

The results show that the participants in the study experience moderate levels of stress. These results are not consistent with previous findings reporting high levels of stress in preschool teachers (Kim et al., 2020), but are comparable with other studies (Vinder Hrustelj, 2019) that also found moderate levels of perceived stress among employees in early childhood education. Regarding the self-rated health status, most participants assessed their health as good (43.3%) and fair (30.7%), which is comparable to the findings in Slovenian residents (Vinko et al., 2018). Body mass index (BMI) as an approximate estimation of body fat was calculated based on the reported height and weight of participants. According to the BMI categories for adults proposed by the World Health Organization, the majority of participants, about 70%, had a healthy weight, while 22% fell into the overweight category and almost 4% into the obesity category. Compared to adult Slovenian women (Pustivšek et al., 2023), the preschool teachers in our study showed a healthier body composition. Furthermore, we were interested in whether the teachers were meeting the World Health Organization recommendations on the amount of physical activity for adults (WHO, 2020), which implies at least 150 minutes of moderate-intensity aerobic physical activity or at least 75 minutes of vigorous-intensity aerobic physical activity or an equivalent combination of both activities throughout the week. Results showed that 63.8% of preschool teachers meet the recommendations, which is slightly lower than the data for adult Slovenian women (Pustivšek et al., 2023) where approximately 72% met WHO physical activity guidelines. In terms of leisure-time physical activity, preschool teachers indicated that walking, going to the gym, and cycling were the most common activities. Early childhood professionals were mostly in line with healthy eating guidelines. Data on alcohol consumption and smoking are also encouraging, as participants did not reach levels of hazardous drinking and most of them are non-smokers. More discouraging are the findings on sleep duration; according to the recommended amount of sleep for adults (seven to nine hours per night), 47% of preschool teachers do not get enough sleep.

Correlation analysis was used to calculate the relationship between stress and selected indicators of health-related behaviors. Perceived stress was negatively associated with self-rated health ($r = -0.31$; $p < 0.001$), and positively associated with the body mass index ($r = 0.23$; $p = 0.011$) of preschool teachers, which is consistent with previous findings (Nordgren et al., 2022; Taouk et al., 2019). Furthermore, a negative correlation was found between stress level and sleep quality ($r = -0.40$; $p < 0.001$). Stress was also related to sleep duration: teachers with insufficient sleep reported significantly higher levels of stress compared to those with sufficient sleep ($t = 4.41$; $p < 0.001$). Increased stress can also result in greater anxiety and tension when going to bed, making it harder to fall asleep and having a negative impact on the length and quality of sleep. Therefore, stress is an important factor in the development or maintenance of sleep problems (Yeh et al., 2015). Appropriate sleep hygiene and various relaxation techniques have been shown to be effective interventions for insomnia or poor sleep quality (Albakri et al., 2021).

This study did not find a relationship between stress and the dietary habits of preschool teachers, except in the case of the consumption of occasional snack foods. Results revealed that teachers

with higher levels of stress report more frequent consumption of snacks during regular meals ($r = 0.19$; $p < 0.044$). Some studies have highlighted the issue of emotional eating when people use food as a way to cope with different unpleasant emotional states (such as stress, anxiety, and sadness) instead of satisfying hunger (Faghri & Mignano, 2013). This results in a more frequent consumption of unhealthy snacks (high in fat or sugars), which in turn increases the risk of becoming overweight. The study did not find any association between perceived stress and the amount of leisure-time physical activity, alcohol use, and smoking among preschool teachers. These findings are inconsistent with some previous studies reporting that higher levels of stress in adults are associated with a greater risk of insufficient physical activity (Oshio et al., 2016).

The study offers an in-depth investigation of health-related behaviors of preschool teachers and provides a better understanding of the relationship between workplace stress and the behavioral patterns related to the health of employees in early childhood education. The findings have important applied value, highlighting the importance of preventive programs to promote healthy behaviors. Taking care of the health and satisfaction of preschool teachers is thus an important factor in high-quality early childhood education.

The study has some limitations. The sample was geographically limited to preschool teachers in kindergartens of the Coastal-Karst and Central Slovenia regions, so the results cannot be generalized to preschool teachers nationwide. In addition, questionnaires on self-reported stress could be supported by more objective measures using cortisol level analysis.