

Enhancing Mental Well-Being in Young Researchers: A Multiphase Intervention and Digital Model

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Abstract

Young researchers face increasing psychological risks, including uncertainty, job insecurity, and performance pressure. This study aims to develop a multiphase, evidence-based intervention framework to enhance the mental well-being of early career researchers. The TÜB?TAK-funded project was conducted using a mixed-methods design. In the first phase, a structural model examining the relationships among psychological resilience, intolerance of uncertainty, future anxiety, and mental well-being was tested. The findings indicated that psychological resilience positively predicted mental well-being both directly and indirectly, with its effects operating through reductions in intolerance of uncertainty and future anxiety. In the second phase, an eight-week structured group counseling program grounded in cognitive behavioral therapy and positive psychology was developed and experimentally evaluated. Results demonstrated that the intervention significantly improved mental well-being and psychological resilience, while reducing intolerance of uncertainty and future anxiety. These effects were maintained at follow-up assessments. The third phase involved a training-of-trainers program, which yielded high levels of participant satisfaction and perceived effectiveness. In the fourth phase, qualitative findings revealed that excessive workload, job insecurity, and publication pressure constitute major risk factors, whereas social support and institutional trust function as key protective factors. In the final phase, an AI-supported digital platform, "Mentora," was developed to enhance accessibility and sustainability. The platform enables users to monitor their emotional states, receive personalized recommendations, and access continuous psychological support. Overall, the study presents a holistic and scalable model integrating individual, social, and digital components to support the mental well-being of early career researchers.

Keywords: Artificial Intelligence; Early Career Researchers; Intolerance of Uncertainty; Mental Well-Being; Mixed-Methods