

## **Longitudinal Changes in Physical Activity Engagement and Mental Health Outcomes in a Sample of Digital Mental Health Platform Users**

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*Category: Professional*

### **ABSTRACT**

Research has demonstrated a bidirectional relationship between physical activity and well-being, anxiety, and depression. **PURPOSE:** We examined this relationship in a sample of employees with access to a digital mental health care platform. **METHODS:** Adults (n=755, 57% female; 41% BIPOC; M age= 34±9 years) receiving employer-sponsored digital mental health care completed an online survey at baseline and 3-month follow-up. Data were collected on duration of physical activity engagement (IPAQ), well-being (WHO-5), anxiety (GAD-7) and depression (PHQ-9) symptoms, and self-reported impact of mental health issues on physical activity. We analyzed baseline correlations between physical activity and mental health, and conducted longitudinal analyses of the relationship between changes in activity and changes in mental health. **RESULTS:** Across the full sample, engagement in physical activity at baseline was positively correlated with baseline well-being ( $r= 0.11$ ,  $p<0.01$ ) and negatively correlated with depression symptoms ( $r= -0.14$ ,  $p<0.001$ ); no significant correlation was observed with anxiety symptoms ( $p= 0.18$ ). Almost half (47.3%; n= 357) of participants were 'inactive', i.e., not meeting the recommended weekly minimum of at least 150 minutes of moderate physical activity. At 3-month follow-up, this inactive group increased physical activity an average of 60 minutes per week ( $p<0.001$ ). Across the full sample, mental health outcomes significantly improved over time: well-being increased ( $p<0.001$ ) and depression and anxiety decreased ( $p<0.001$ ). Change in physical activity was positively associated with change in well-being ( $R^2= 0.014$ ,  $p<0.01$ ) and anxiety symptoms ( $R^2= 0.009$ ,  $p<0.05$ ), but not depression symptoms ( $p= 0.22$ ). Moreover, self-reported negative impact of mental health issues on physical activity engagement decreased over time ( $p<0.01$ ). **CONCLUSION:** Employees using a digital mental health platform improved in mental health outcomes and mental health was perceived to be less of a barrier to activity over time. Initially inactive members had the added benefit of increasing physical activity. The association between physical activity and mental health outcomes highlights the importance of considering physical health factors in the holistic treatment of mental health conditions.