

# Cumulative associations between health behaviors, mental well-being, and health over 30 years

## Abstract

### Background

Both the number of risky health behaviours and the duration of exposure to these behaviours over time may increase the risk of later adverse outcomes. This study examined cumulative associations of risky health behaviours with both positive and negative aspects of mental well-being and health. It has a uniquely long follow-up period of over 30 years, from early adulthood to the beginning of late adulthood

### Materials and methods

The data were from the Jyväskylä Longitudinal Study of Personality and Social Development. The participants represent the Finnish age cohort born in 1959. This study utilized data collected at ages 27 (1986), 36 (1995), 42 (2001), 50 (2009), and 61 (2020–2021) ( $n = 206\text{--}326$ ). Risk scores indicating the current number of risky behaviours of smoking, heavy alcohol consumption, and physical inactivity and their temporal accumulation over time were calculated. The associations of risk scores with mental well-being (depressive symptoms, psychological well-being) and health (self-rated health, number of metabolic risk factors) from age 36 onwards were analyzed with linear multilevel models adjusted for gender and education

### Results

More current risky behaviours were associated with more depressive symptoms ( $B = 0.10$ ,  $p = 0.032$ ), lower psychological well-being ( $B = -0.10$ ,  $p = 0.010$ ), lower self-rated health ( $B = -0.45$ ,  $p < 0.001$ ), and more metabolic risk factors ( $B = 0.53$ ,  $p = 0.013$ ). The associations of temporal risk scores with the outcomes were even stronger (depressive symptoms:  $B = 0.38$ ,  $p < 0.001$ ; psychological well-being:  $B = -0.15$ ,  $p = 0.046$ ; self-rated health:  $B = -0.82$ ,  $p < 0.001$ ; metabolic risk factors:  $B = 1.49$ ,  $p < 0.001$ ). Among individual behaviours, the temporal risk score of alcohol consumption was negatively associated with most outcomes, while smoking was associated with poorer mental well-being and physical inactivity with poorer health

### Conclusions

The current and temporal accumulation of multiple risky health behaviours were associated with poorer mental well-being and health. Preventing these behaviours early in adulthood and midlife is crucial to avoid their accumulation and subsequent health risks