

# How old do you feel? Associations with self-reported health, physical activity, fruit/vegetable consumption and sleep among adults.



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## Introduction

**BACKGROUND:** Subjective or perceived age represents how young or old individuals *feel* physically and mentally (Stephan et al., 2019). It can be influenced by demographic, health, social, behavioural, and cognitive factors, and is associated with morbidity and mortality (Li et al., 2021). Self-rated health is consistently associated with subjective age, while sociodemographic factors, like gender and education, do not play a significant role (Hubley & Russell, 2009). The relationship between self-rated health and subjective age may vary with chronological age, being stronger among older adults (Hubley & Russell, 2009). Individuals with a younger subjective age have better physical functioning (Stephan et al., 2013), a more active lifestyle (Caudroit et al., 2012), and lower risk of obesity (Stephan et al., 2014). There is also a significant correlation between subjective age and poor sleep quality in middle-aged and older adults (Yoon et al., 2022). Associations between subjective age and nutritional factors have not been previously examined.



**OBJECTIVE:** To examine the association of self-reported health, physical activity (PA), fruit/vegetable consumption and sleep with perceived age among adults in Regina, Saskatchewan.



## Methods

**SAMPLE:** n=197 adults in Saskatchewan, Canada  
Males: n=68, age 44±13.0 y, BMI 26±3.7 kg/m<sup>2</sup>  
Females: n=129, age 47±12.5y, BMI 25±4.2 kg/m<sup>2</sup>



**OUTCOME:** Subjective Age

$$\text{Proportional discrepancy score} = \frac{(\text{Chronological Age} - \text{Perceived Age})}{\text{Chronological Age}}$$

**INDEPENDENT VARIABLES:** Self-Reported Health [Excellent/V.Good, Good/Fair/Poor], Self-Reported PA [Very/Moderately PA, A bit/Not at all PA], Fruit/Veg Consumption [<5/day, ≥5/day], Sleep [V.Good/Fairly good, Fairly bad/V. Bad]

**ADDITIONAL COVARIATES:** Education, Marital status, BMI, Smoking.

**ANALYSIS** (Gender stratified):

- Bivariate analysis (t-tests)
- Linear regression: Association of self-reported health, PA, fruit/veg consumption and sleep with perceived age, adjusted for covariates



## Results

Sample Characteristics	Males (%)	Females (%)
Perceived Age – Younger	75.0	86.8
Self-rated PA – Very/Mod. Active	76.5	81.4
30 mins PA – 5-7 days/wk	52.9	47.3
Hours sleep – ≥ 7 hrs/nt	45.6	52.7
Trouble sleeping – Never/Rarely	54.4	31.8
Sleep refreshing – Most times/ All the time	51.5	50.4
Sleep quality – V.Good/Fairly Good	82.4	71.3
Sleep quantity – V. Good/Fairly Good	69.1	69.8
Marital Status – Married/Common Law	64.7	73.5
Education – Post Sec degree	60.3	59.7
BMI – Normal Weight (<25 kg/m <sup>2</sup> )	45.6	59.7
Self-rated health – Ex./V.Good	64.7	71.3
Fruit/Veg intake – ≥ 5 servings/day	33.8	48.8

**Bivariate Analysis:** Subjective age was significantly associated with Self-Rated Health and Sleep Quantity for males, and with Self-Rated Health, Fruit/Veg Consumption and Self-Rated PA for females (p<0.05).



**Multivariate Analysis:** Subjective Age was significantly associated with fruit/veg intake and self-rated health for women only (p<0.05). Significant covariates included marital status for both men and women (p<0.05).



## Discussion

A greater proportion of our sample reported feeling younger than their age, compared to older. Lifestyle factors, like sleep quantity, fruit/veg intake, and physical activity, as well as self-rated health, are associated with Subjective Age with differences in these associations by gender.

Further research is needed to explore associations between subjective age and lifestyle factors to determine if healthier lifestyle behaviours might lead to younger perceived age, if younger perceived age promotes healthier lifestyle behaviours, or both.

