Appendix 1 (as supplied by the authors): Methods

Baseline measures (1991-1994)

Smoking status was assessed using questions on current smoking and categorised as current, ex-, and never smokers; the low-risk group was defined as being a ‘‘never” smoker.

Consumption of alcohol was assessed via questions on the number of alcoholic drinks (“measures” of spirits, “glasses” of wine, and “pints” of beer) consumed in the last seven days, and categorized as “abstinence from alcohol” (no alcohol in the last week), “moderate alcohol consumption” (1-14 units/week in women and 1-21 units/week in men),[1] and “heavy alcohol consumption” (15+ units in women and 21+ units in men). After exploratory analysis (see Appendix 2) and based on alcohol guidelines[1], the low-risk category was defined as ‘‘moderate drinking”.

Physical activity was assessed by using questions about the frequency and duration of participation in mildly energetic (e.g., weeding, general housework, bicycle repair), moderately energetic (e.g., dancing, cycling, leisurely swimming), and vigorous (e.g., running, hard swimming, playing squash) physical activity. Examples for each level of physical activity were provided in order to allow similar interpretation of the items by the participants. Level of physical activity was defined as “active” (≥2.5 hours/week of moderate physical activity or ≥1 hour/week of vigorous physical activity) or “inactive” (if not active).[2;3] The low-risk group was defined as “active”.

Dietary behavior was assessed by using a measure of frequency of fruit and vegetable consumption with the question, “How often do you eat fresh fruits or vegetables?”; responses were on an 8-point scale, ranging from “seldom or never” to “2 or more times a day.” The low-risk category was defined as “daily fruit and vegetable consumption”.

Outcome assessment (from 1991-1994 to 2007-2009)

Appendix to: Sabia S, Singh-Manoux A, Hagger-Johnson G, et al. Influence of individual and combined health behaviours on successful aging. *CMAJ* 2012; DOI:10.1503/cmaj.121080.

Physical disability was assessed using 14 questions on perceived difficulty in basic (ADL)[4] and instrumental activities of daily living (IADL)[5].For both ADL and IADL, participants were asked if they had any difficulties with the listed everyday activities (ADL: dressing, walking, bathing, eating, getting in bed, using toilet; IADL: using a map, cooking, shopping, telephone calls, taking medication, doing housework, and managing money). If participants indicated that they had difficulties in one or more activities, they were considered as having disability. Functioning was assessed at the 2008-2009 clinical examination using standard protocols. Poor functioning was defined as scores in the worst sex- and age-standardised quintile. Cognitive functioning was assessed using a score of global cognition[6] calculated as the mean of 5 standardized scores of cognitive function including tests of memory, reasoning,[7] vocabulary,[8] phonemic and semantic fluency.[9] Physical functioning was assessed using walking speed measure over an 8-foot walking course.[10;11] Participants were asked to "walk to the other end of the course at your usual walking pace, just as if you were walking down the street to go the shops. Walk all the way past the other end of the tape before you stop." The starting position was standing at the start of the course. A trained nurse walked behind the participant and stopped timing when the participant's foot hits the floor after the end of the walking course. Respiratory function was measured using a portable flow spirometer (MicroPlus Spirometer, Micro Medical Ltd, Kent, UK), administered by a trained nurse. We assessed Forced Vital Capacity (FVC) and forced expiratory volume in one second FEV_1. FVC measures the volume of air that can forcibly be blown out after full inspiration, measured in litres. FEV_1 measures the volume of air expelled in the first second during the FVC manoeuvre, again measured in litres.[12] The largest $FEV_1/height^2$ (L/m^2) [11] values from three manoeuvres was used in the analysis. Cardiovascular function was assessed using systolic blood pressure (average of 2 measurements in sitting position after a 5-minute rest using OMRON HEM 907, Lynjay Services Ltd., Worthing, UK)).

Appendix to: Sabia S, Singh-Manoux A, Hagger-Johnson G, et al. Influence of individual and combined health behaviours on successful aging. *CMAJ* 2012; DOI:10.1503/cmaj.121080.

Statistical analysis

Sensitivity analysis to take into account missing values

Data on functioning or chronic diseases were missing for 1499 participants at follow-up. In order to estimate to what extent these missing values may have influenced the results, we used inverse probability weighting.[13] Among the participants with baseline information in 1991-1993 (N=6599), we calculated for each subject the probability of being part of the study sample from a logistic model using the following baseline covariates: age, sex, marital status, educational level, physical activity, alcohol consumption, fruit and vegetables consumption, smoking status, body mass index, systolic blood pressure, longstanding illness, diabetes, SF-36 mental and physical component scores, self-rated health, and the interactions between sex and physical activity and the SF36 mental and physical component scores. The inverse of the predicted probability of being part of the study sample for each individual was multiplied by the overall proportion of the whole eligible sample who are part of this sample (77.28%) to give a stabilized weighting factor[13] that was used in the weighted logistic regressions to examine the association of the number of healthy behaviours with successful aging and survival.

Appendix to: Sabia S, Singh-Manoux A, Hagger-Johnson G, et al. Influence of individual and combined health behaviours on successful aging. *CMAJ* 2012; DOI:10.1503/cmaj.121080.

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Appendix to: Sabia S, Singh-Manoux A, Hagger-Johnson G, et al. Influence of individual and combined health behaviours on successful aging. *CMAJ* 2012; DOI:10.1503/cmaj.121080.