



UNIVERSITY OF JYVÄSKYLÄ
Faculty of Sport and Health Science
Gerontology Research Center

ESTROGENIC REGULATION OF MUSCLE APOPTOSIS

(ERMA Study)

Baseline data questionnaire¹

¹This is a supplemental data for the article *Kovanen et al. Design and Protocol of Estrogenic Regulation of Muscle Apoptosis (ERMA) Study With 47 to 55-Year-Old Women's Cohort: Novel Results Show Menopause-Related Differences in Blood Count. Menopause 2018* providing English translation of the original questionnaire used in the Estrogenic Regulation of Muscle Apoptosis study. The questionnaire was presented to the study participants in Finnish. The questionnaire was developed using multitude of previously published questionnaires. When possible the reference for the original source or the source used for as a base for current modifications was added to this published translation of the original questionnaire. Furthermore, the list of references by the sub-category was added to the end of the form. Unauthorized use of the content of this questionnaire is forbidden. It is forbidden to reuse any of the items without permission by the original authors and without referring to the original source of the item and its current modification.

INSTRUCTIONS FOR ANSWERING THE QUESTIONNAIRE

Answering this questionnaire is easy: you can simply circle or check one alternative for each question or sub-question.

Some of the questions include an additional question after the alternative answer, or a suggestion to proceed directly to another question. This is indicated by an arrow (=>).

In some questions, a blank line (____) has been left for you to write your answer in your own words, or alternatively to number or mark it in some other way.

If you need to correct your answer, you can cross out the incorrect answer.

Please answer the questions carefully. When you are ready, check that you have answered all the questions. If a question has been unclear, write it down for yourself so that we can return to it together when you come to the laboratory measurements.

TAKE ALONG THE COMPLETED FORM WHEN YOU COME TO THE SPORT AND HEALTH LABORATORY OF THE UNIVERSITY OF JYVÄSKYLÄ.

Study ID code _____

Date _____

BASIC INFORMATION

1. Your date of birth ____ / ____ / 19 ____

2. Your marital status

- 1 single
- 2 married or in registered partnership
- 3 remarried
- 4 cohabiting
- 5 divorced or legally separated
- 6 widowed

3. Your level of education: Circle your highest educational level (only one alternative).

- 1 comprehensive school (primary school classes 1 to 9, including the voluntary year 10)
- 2 general upper secondary school or vocational upper secondary school (e.g. practical nurse, electrician, a vocational qualification in business and administration)
- 3 post-secondary vocational college diploma (e.g. nurse, engineer or the equivalent of present bachelor of business administration)
- 4 university of applied sciences (polytechnic)
- 5 bachelor's degree from a university
- 6 master's degree from a university
- 7 licentiate or doctoral degree
- 8 other, what _____

HEALTH, MOOD AND EXPERIENCE OF AGE**4. How do you feel your health is at the moment?²**

- 5 very good
- 4 good
- 3 average
- 2 poor
- 1 very poor

5. During the past year, has your health²

- 5 improved considerably
- 4 improved
- 3 remained approximately unchanged
- 2 become worse
- 1 become much worse

6. If you compare your health with the health of people of your age you know, is your health²

- 6 considerably better
- 5 slightly better
- 4 approximately the same
- 3 slightly worse
- 2 considerably worse
- 1 I do not know

7a. How old do you feel?³ _____ years old

7b. Why? _____

8a. How old would you like to be?³ _____ years old

8b. Why? _____

²Self-rated health

Leinonen R, Heikkinen E, Jylha M: Self-rated health and self-assessed change in health in elderly men and women - a five-year longitudinal study. *Soc Sci Med* 1998, 46(4-5):591-597.

³Self-Perceptions of Aging

Uotinen V, Rantanen T, Suutama T, Ruoppila I: Change in subjective age among older people over an eight-year follow-up: 'getting older and feeling younger?'. *Exp Aging Res* 2006, 32(4):381-393.

9. Age can bring changes. Answer 'yes' or 'no' to the following statements.⁴

	No	Yes
1. Things keep getting worse as I get older.	1	2
2. I have as much pep as I did last year.	1	2
3. As people get older, they are less useful.	1	2
4. I am at least as happy now as I was when I was younger.	1	2
5. <i>There are three alternatives for this question:</i> Compared with what I used to think, I notice that when I get older, things are	1 better 2 worse 3 the same I thought they would be	

10. Have you noticed some sort of mid-life crisis in your own life, in which you would need to re-evaluate your goals or dreams and the means to achieve them during the rest of your life?⁵

- 1 no
2 yes, to some extent
3 yes, clearly. What kind of? _____

11. Can you think of an earlier stage in your life, in which you seriously reflected on your goals and changed your way of life?⁵

- 1 no
2 yes; when was this and what did you do? _____

⁴**Attitudes towards Own Aging subscale**

Levy, B. R., Slade, M. D., Kunkel, S. R., & Kasl, S. V. Longevity increased by positive self-perceptions of aging. *Journal of Personality and Social Psychology*, 2002, 83:261–270.

Liang, J., & Bollen, K. A. The structure of the Philadelphia Geriatric Center Morale scale: A reinterpretation. *Journal of Gerontology*, 1983,38:181–189.

⁵**Mid-Life Crisis**

Pulkkinen, L., & Kokko, K. (Eds.) (2010). Keski-ikä elämänvaiheena [Middle age as a stage of life]. *Psykologian laitoksen julkaisuja*, Nro. 352. Jyväskylä:Jyväskylän yliopisto.

- 12. Below are five statements that you may agree or disagree with. Circle one of the numbers (1–7) based on how well each of the statements describes your situation.⁶**

	strongly disagree	disagree	slightly disagree	neither agree nor disagree	slightly agree	agree	strongly agree
1. In most ways, my life is close to my ideal.	1	2	3	4	5	6	7
2. The conditions of my life are excellent.	1	2	3	4	5	6	7
3. I am satisfied with my life.	1	2	3	4	5	6	7
4. So far, I have achieved the important things I want in life.	1	2	3	4	5	6	7
5. If I could live my life over, I would change almost nothing.	1	2	3	4	5	6	7

⁶ **The Satisfaction with Life Scale**

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. The Satisfaction with Life Scale. *Journal of Personality Assessment*, 1985, 49:71–75.

13. Do you have any of the following diseases/disorders, diagnosed by a doctor?

disease/disorder	no	yes	in which year?
1. Diabetes			
2. Hypertension			
3. Myocardial infarction			
4. Coronary artery disease			
5. Heart failure			
6. Arrhythmia			
7. Cardiac pacemaker			
8. Stroke			
9. Epilepsy, convulsions			
10. Hypothyroidism			
11. Cancer			
12. Hyperthyroidism			
13. Musculoskeletal disease (or disorder)			
14. Rheumatic disease			
15. Haemophilia			
16. Anorexia			
17. Mental disorder			
18. Drug or alcohol abuse			
19. Bone fractures			
- wrist or forearm			
- shin			
- hip			
- other			
20. Some other disease or disorder, which?			

14. Do you currently use prescription medications (prescribed by doctors)?

- 1 no
2 yes

If you answered yes, what medications do you use? Write the names of the medications on the lines below. Check the names from the doctor's prescriptions or containers. Specify whether you take the medication regularly or only as needed.

	regularly	as needed
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

15. Do you use medications other than those prescribed by a doctor? These include so-called over-the-counter medications, such as painkillers. (You will be asked about botanical products, such as vitamins, later under 'eating habits'.)

- 1 no
2 yes

If you answered yes, what medications do you use? Write the names of the medications on the lines below. Check the names from the containers. Specify whether you take the medication regularly or only as needed.

	regularly	as needed
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____
6. _____	_____	_____

16. Have you used hormonal contraception during the past 10 years?

- | | | |
|---------------------------------|----------|-------------------------------|
| 1. birth control pills | No _____ | Yes, from year _____ to _____ |
| 2. hormone patch | No _____ | Yes, from year _____ to _____ |
| 3. vaginal ring | No _____ | Yes, from year _____ to _____ |
| 4. hormonal coil | No _____ | Yes, from year _____ to _____ |
| 5. other hormonal contraception | No _____ | Yes, from year _____ to _____ |

What was the product name?

17. Have you ever used progestogen products (e.g., to treat menstrual disorders, to delay your periods, as fertility treatment, for PMS or contraception)?

- | | | |
|----------------|----------|-------------------------------|
| 1. Lugesteron® | No _____ | Yes, from year _____ to _____ |
| 2. Provera® | No _____ | Yes, from year _____ to _____ |
| 3. Farlutal® | No _____ | Yes, from year _____ to _____ |
| 4. Gestapuran® | No _____ | Yes, from year _____ to _____ |
| 5. Orgametril® | No _____ | Yes, from year _____ to _____ |
| 6. Primolut® | No _____ | Yes, from year _____ to _____ |
| 7. Terolut® | No _____ | Yes, from year _____ to _____ |

18. At what age did you have your first menstrual period? _____

19. How many pregnancies have you had? _____

20. How many deliveries have you had? _____
=> specify the years of the deliveries

- 21. During menopause, you may have following symptoms. Please circle in the table the symptoms that you know you have had in your menopause. Also, specify the age when the symptoms started and possibly ended.**

Symptom	started at the age of	ended at the age of	symptom continues (x)
1. Sweating			
2. Hot flashes			
3. Sleeping problems, sleeplessness			
4. Headache			
5. Aching joints			
6. Tiredness, inefficiency			
7. Changes in mood, melancholia			
8. Vaginal symptoms (burning, soreness, pain during intercourse)			
9. Urinary tract symptoms (burning, frequent urge to urinate)			
10. Lack of sexual desire			
11. Other symptoms, which?			

22. Think about yourself and your usual feelings. How do you usually feel? Circle the most suitable alternative.⁷

	does not describe me at all	describes me a little	describes me to some extent	describes me rather well	describes me very well
1. Determined	1	2	3	4	5
2. Afraid	1	2	3	4	5
3. Attentive	1	2	3	4	5
4. Nervous	1	2	3	4	5
5. Alert	1	2	3	4	5
6. Upset	1	2	3	4	5
7. Enthusiastic	1	2	3	4	5
8. Ashamed	1	2	3	4	5
9. Active	1	2	3	4	5
10. Hostile	1	2	3	4	5

⁷**Internationally reliable short-form of the positive and Negative Affect Schedule**

Thompson, E. R. Development and validation of an internationally reliable short-form of the positive and Negative Affect Schedule (PANAS). *Journal of Cross-Cultural Psychology*, 2007, 38 (2): 227–242.

23. Next we focus on your personal experiences and feelings. Please indicate how often you have felt like this during the past week. Check one alternative on each line.⁸

	seldom or never	some- times	rather often	almost all the time
1. I was bothered by things that usually do not bother me.	0	1	2	3
2. I did not feel like eating; my appetite was poor.	0	1	2	3
3. I felt that I could not shake off the blues even with help from my family or friends.	0	1	2	3
4. I felt that I was just as good as other people.	0	1	2	3
5. I had trouble keeping in mind on what I was doing.	0	1	2	3
6. I felt depressed.	0	1	2	3
7. I felt that everything I did was an effort.	0	1	2	3
8. I felt hopeful about the future.	0	1	2	3
9. I thought my life had been a failure.	0	1	2	3
10. I felt fearful about many things.	0	1	2	3
11. My sleep was restless.	0	1	2	3
12. I was happy.	0	1	2	3
13. I talked less than usually.	0	1	2	3
14. I felt lonely.	0	1	2	3
15. People were unfriendly.	0	1	2	3
16. I enjoyed life.	0	1	2	3
17. I had crying spells.	0	1	2	3
18. I felt sad.	0	1	2	3
19. I felt that people dislike me.	0	1	2	3
20. I could not get 'going'.	0	1	2	3

⁸**The CES-D Scale (Centre for Epidemiological Studies Depression Scale)**

Radloff LS: The CES-D Scale: a self-report depression scale for research in the general population. *Applied Psychological Measurement* 1977, 1(3):385-401.

24. The following questions are related to the way you feel and act. On each line, please check the alternative (yes or no) that best describes your usual way of feeling and acting. Do not reflect long, but check the alternative that first comes to your mind.⁹

	no	yes
1. Do you like to be surrounded by activity and people?		
2. Do you often have a restless feeling that you want something, but you do not know what it is?		
3. Do you usually have a quick answer when people say something to you?		
4. Are you sometimes cheerful and sometimes sad without a clear reason?		
5. Do you usually like to withdraw at parties and other social events?		
6. Do you find yourself cheerful and happy-go-lucky?		
7. Do you often make your decisions too late?		
8. Do you often feel apathetic and tired without any special reason?		
9. Are you lively and talkative?		
10. Can you usually express your thoughts quickly?		
11. Do you often remain deep in your thoughts even when you are supposed to participate in discussion?		
12. Would you find it unpleasant to be selling scratch cards or collecting money from people for a purpose that you consider important?		
13. Are you extremely sensitive in some situations?		
14. Do you sometimes feel so restless that you cannot stay still?		
15. Is it difficult for you to get to sleep in the evening?		
16. Are you usually reserved with people other than your close friends?		
17. Do you have nervous symptoms?		
18. Do you like to make witty remarks and tell funny stories to your companions?		
19. Do you think you are troubled for too long time after you have been in an awkward situation?		

⁹**Eysenck Personality Inventory; an abbreviated version**

Floderus B: Psycho-social factors in relation to coronary heart disease and associated risk factors. Stockholm; 1974

Viken RJ, Rose RJ, Kaprio J, Koskenvuo M: A developmental genetic analysis of adult personality: extraversion and neuroticism from 18 to 59 years of age. J Pers Soc Psychol 1994, 66(4):722-730.

LIFESTYLE¹⁰**Sleeping¹⁰****25. I usually sleep**

- 1 well
- 2 rather well
- 3 rather badly
- 4 badly
- 5 I cannot say

26. On average, how many hours do you sleep every night?

- 1 less than 5 hours
- 2 5 hours
- 3 6 hours
- 4 7 hours
- 5 8 hours
- 6 9 hours or more

27. Do you feel tired during the day? (daily or almost daily)

- 0 no
- 1 yes

28. Do you usually sleep during the day?

- 0 no
- 1 yes => *How many hours on average?* _____ hours

29. Do you use sleeping pills?

- 0 no
- 1 yes, occasionally
- 2 yes, regularly (several times a week)

¹⁰**Lifestyle questions including sleeping (questions 25-29), smoking (questions 30-34), alcohol (questions 35-37)** were developed in collaboration with the Helsinki Twin study (University of Helsinki). The original questionnaires and references can be found at the web-pages of the Helsinki Twin study; <https://wiki.helsinki.fi/display/twineng/Twinstudy> See especially Q75 and Q81 questionnaires.

Helsinki Twin Study is reviewed in Kaprio J, Pulkkinen L, Rose RJ. Genetic and environmental Factors in health-related behaviors: Studies on Finnish twins and twin families. *Twin Res.* 2002; 5(5): 366-371

Smoking¹⁰

30. In your whole life, have you smoked more than 5 to 10 packages of cigarettes?

0 no => proceed to question 35.

1 yes

31. Do you smoke or have you previously smoked regularly, in other words, every day or almost every day?

0 no

1 yes

32. At what age did you start smoking regularly?

32.1 Have you previously smoked regularly, then quitted, and started again?

0 no

1 yes => I quit at the age of _____

I started again at the age of _____

33. Do or did you smoke mainly

1 filter cigarettes

2 cigarettes without a filter

3 about the same amount of both

34. Do you still smoke regularly?

1 no =>

At what age did you quit?

On average, how many cigarettes a day did you smoke before you quit?

- 1 not at all
- 2 less than 5
- 3 5–9
- 4 10–14
- 5 15–19
- 6 20–24
- 7 25–39
- 8 more than 40

2 yes =>

On average, how many cigarettes a day do you smoke now?

- 1 not at all
- 2 less than 5
- 3 5–9
- 4 10–14
- 5 15–19
- 6 20–24
- 7 25–39
- 8 more than 40

Alcohol¹⁰

How much of the following alcoholic beverages do you drink on average?

35. Beer or equivalent

- 1 never
- 2 less than a bottle a week
- 3 1–4 bottles a week
- 4 5–12 bottles a week
- 5 13–24 bottles a week
- 6 25–47 bottles a week
- 7 more than 48 bottles a week

36. Wine or other mild alcoholic beverages

- 1 never
- 2 less than a glass a week
- 3 1–4 glasses a week
- 4 1–2.5 bottles a week
- 5 3–4.5 bottles a week
- 6 5–9 bottles a week
- 7 more than 10 bottles a week

37. Strong alcohol

- 1 never
- 2 less than half a bottle a month
- 3 0.5–1.5 bottles a month
- 4 2–3.5 bottles a month
- 5 4–9 bottles a month
- 6 10–19 bottles a month
- 7 more than 20 bottles a month

PHYSICAL ACTIVITY

38. Which of the following descriptions best corresponds to your physical activity at the moment?¹¹

- 0 I do not move more than is necessary in my daily routines/chores.
- 1 I go for casual walks and engage in light outdoor recreation 1–2 times a week.
- 2 I go for casual walks and engage in light outdoor recreation several times a week.
- 3 I engage, 1–2 times a week, in brisk physical activity (e.g. yard work, walking, cycling) to the point of perspiring and heavy breathing.
- 4 Several times a week (3–5), I engage in brisk physical activity (e.g. yard work, walking, cycling) to the point of perspiring and heavy breathing.
- 5 I do keep-fit exercises several times a week in a way that causes rather strong shortness of breath and sweating during the activity.
- 6 I participate in competitive sports and maintain my fitness through regular training.

¹¹**The seven-point scale for the current level of physical activity ranging from household chores to competitive sports**

Hirvensalo M, Lampinen P, Rantanen T. Physical exercise in old age: An eight-year follow-up study on involvement, motives and obstacles among persons age 65-84. *J Aging and Physical Activity*. 1998, 6:157-168.

This item is similar to the original four-point scale of Grimby, that was later developed to a six-scale item to include also household activities by Mattiasson-Nilo and further modified by Laukkanen et al. Based on these earlier versions Leinonen et al further developed the scale to a form of seven-point scale, which was recently validated against objective physical activity measure by Portegijs et al.

Grimby G. Physical activity and muscle training in the elderly. *Acta Med Scand Suppl* 1986, 711:233-237.

Mattiasson-Nilo I, Sonn U, Johannesson K, Gosman-Hedström G, Persson GB, Grimby G. Domestic activities in elderly women and men. *Aging* 1990, 2:191-198.

Laukkanen AP, Kauppinen M, Heikkinen E. Physical activity as a predictor for health and disability in 75- and 85-year-old men and women. A five-year followup. *J Aging Phys Act* 1998, 6: 141-156.

Leinonen R, Heikkinen E, Hirvensalo M, Lintunen T, Rasinaho M, Sakari-Rantala R, Kallinen M, Koski J, Möttönen S, Kannas S, Huovinen P, Rantanen T. Customer-oriented counseling for physical activity in older people. Study protocol and selected baseline results of a randomized-controlled trial (ISRCTN07330512). *Scand J Med Sci Sports* 2007, 17:156-164.

Portegijs E, Sipilä S, Viljanen A, Rantakokko M, Rantanen T. Validity of a single question to assess habitual physical activity of community-dwelling older people. *Scand J Med Sci Sports* 2017, 27:1423-1430.

39. Which of the following forms of physical activity have you done during the past 12 months?¹²

Mark in the table how many times you have done them each month, the duration of each session, and the activity level (see the description of levels below). Please use a pencil to complete the table. For example: Walked to work, January 40 x, duration 15 min, level 2.

ACTIVITY LEVEL DESCRIPTIONS:

Level	Activity level	Shortness of breath	Sweating
1	outdoor recreation	no	no
2	light exercises	yes	no
3	moderate exercises	yes	slight
4	competitive vigorous exercises	yes	strong

How many times a month?

Activity	J	F	M	A	M	Ju	Ju	A	S	O	N	D	Average duration (h, min)	Average level (1-4)
	a	e	a	a	a	n	n	u	e	c	o	e		
Walking to work														
Nordic walking														
Other walking														
Jogging/running														
Cross-country skiing														
Cycling to work														
Other cycling														
Swimming														
Golf														
Gymnastics, dancing														
Aerobics or other fitness-enhancing group exercise														
Gym														
Yoga, Pilates														
Ball games														
Gardening														
Snow work														
Hunting, picking berries and mushrooms														
Fishing														
Repairing and building														
Rowing														
forest work, woodcutting														
Other, what:														
1.														
2.														

¹²**Physical activity over the past 12-months**, modified from the Kuopio Ischemic Heart Disease Risk Factor Study Questionnaire

Lakka TA, Salonen JT: The Physical Activity Questionnaires of the Kuopio Ischemic Heart Disease Study (KIHD). *Med Sci Sports Exerc* 1997, 29(Supplement):46-58.

Rottensteiner M, Leskinen T, Niskanen E, Aaltonen S, Mutikainen S, Wikgren J, Heikkilä K, Kovanen V, Kainulainen H, Kaprio J, Tarkka IM, Kujala UM: Physical activity, fitness, glucose homeostasis, and brain morphology in twins. *Med Sci Sports Exerc* 2015, 47(3):509-518.

139.1. What kind of regular physical activity (PA) have you done at different stages of your life? Please check the relevant alternative. You can check several alternatives if they best represent your situation at that stage of life. Also see the explanations below marked with *.¹³

	No physical activity (PA)	Regular <u>independent leisure-time</u> PA*	Regular <u>competitive sport</u> + related training**	Regular <u>other supervised PA</u> in a sports club etc.***
At the age of 7–12	_____	_____	_____	_____
At the age of 13–16	_____	_____	_____	_____
At the age of 17–19	_____	_____	_____	_____
At the age of 20–29	_____	_____	_____	_____
At the age of 30–39	_____	_____	_____	_____
At the age of 40–50	_____	_____	_____	_____
At the age of 50–60	_____	_____	_____	_____

*Regular independent leisure-time physical activity here means that you regularly go to school or work on foot or by bike (more than 2 km / one way); or that you do regular exercise or daily/incidental physical activity causing sweating, or regular hiking that is not organised by a school, sports club, fitness centre, etc.

**Regular competitive sport and related training here refers to regular, goal-oriented competitive sport within a sports club etc., and competing and training for it. If, in addition to competitions, you also did independent or supervised exercise, check all of them.

***Supervised physical activity here refers to all regular non-competitive PA, organised by a sports club, fitness centre, Girl Scouts, etc.

139.2. List 1–3 forms of physical activity or sports that have been the most important at different stages of your life. If you also competed in the sport, underline it. If, at some stage of your life, you did not do any physical activity regularly, leave the item blank.¹²

Ages 7–12	_____
Ages 13–16	_____
Ages 17–19	_____
Ages 20–29	_____
Ages 30–39	_____
Ages 40–50	_____
Ages 50–60	_____

¹³**Life-long physical activity history**

Hirvensalo M, Lintunen T, Rantanen T: The continuity of physical activity--a retrospective and prospective study among older people. *Scand J Med Sci Sports* 2000, 10(1):37-41.

40. Are you at the moment / were you¹⁴

- 0 employed outside of the home
- 1 housewife, farmwife, working at home
- 2 retired, since age _____
- 3 on disability or sickness pension, since age _____ => go to question 43
- 4 unemployed, job-seeker => go to question 43
- 5 other, what? _____

41. What type of work do you currently do?¹⁴

- 1 mainly sedentary work, which requires very little physical activity
- 2 work, which involves standing and walking but no other physical activity
- 3 work, which in addition to standing and walking requires lifting and carrying
- 4 heavy physical work

42. How much of your daily journey to work is spent in walking, cycling or running?¹⁴

- 1 I do no active commuting
- 2 1 min – 15 min
- 3 15 min – less than half an hour
- 4 half an hour – less than an hour
- 5 an hour or more
- 6 I am presently not at work

43. Presently how many times per month do you engage in physical activity during your leisure-time?¹⁴

- 1 less than once a month
- 2 1–2 times a month
- 3 3–5 times a month
- 4 6–10 times a month
- 5 11–19 times a month
- 6 more than 20 times a month

44. Is the physical activity during leisure-time about as tiring an average as¹⁴

- 1 walking
- 2 alternating walking and light running (jogging)
- 3 light running (jogging)
- 4 brisk running

¹⁴Questions 40-45

Kujala UM, Kaprio J, Sarna S, Koskenvuo M. Relationship of leisure-time physical activity and mortality: the Finnish twin cohort. JAMA. 1998;279:440–4.

For the original questionnaires and references see also <https://wiki.helsinki.fi/display/twineng/Twinstudy>
See especially Older cohort Q75 and Q81 questionnaires and Finntwin16 -Twinstudy 25y questionnaire

45. How long does your average session of leisure-time physical activity last?¹⁴

- 1 less than 15 min
- 2 15 min – less than half an hour
- 3 half an hour – less than an hour
- 4 one hour – less than two hours
- 5 more than two hours

EATING HABITS¹⁵

Please circle the alternative that best describes your eating habits.

46. How often do you eat a breakfast (bread, porridge, yoghurt, etc.)?

- 1 every morning
- 2 5–6 times a week
- 3 2–4 times a week
- 4 approximately every two mornings
- 5 once a week or less

47. How many times per day do you usually eat, consider snacks too?

- 1 1–2 times
- 2 3–4 times
- 3 5–6 times
- 4 7 times or more

48. Which of the following descriptions corresponds best to your everyday eating?

- 1 I eat regularly daily; my meal and snack times are fairly constant
- 2 I eat quite regularly
- 3 I eat quite irregularly
- 4 I eat very irregularly: a whole day / days can pass without eating hardly anything and someday I may eat the amount of food of several normal days

49. Which of the following alternatives best describes you?¹⁶

- 1 It is easy for me to eat about the amount I need to.
- 2 I quite often eat more than I actually need.
- 3 I often try to restrict my eating.
- 4 At times, I'm on a strict diet, at others I overeat.

¹⁵Eating habits, questions 46-50

Original questionnaires and references can be found at the web-pages of the Twin study at University of Helsinki; <https://wiki.helsinki.fi/display/twineng/Twinstudy>; See especially Finntwin16 -Twinstudy 25y questionnaire.

¹⁶Restrictive eating

Keski-Rahkonen A, Neale BM, Bulik C et al. Intentional Weight loss in young adults: Sex-specific genetic and environmental effects. *Obesity Res.* 2005; 13(4):745-753.

50. Please circle the alternative that best describes you:¹⁷

	Usually	Often	Some- times	Seldom
A. During meal times I eat sufficiently and don't have the need to eat snacks between meals.	1	2	3	4
B. My meals are often replaced by snacks.	1	2	3	4
C. I eat the most in the evening.	1	2	3	4
D. In the evenings, I eat a lot of snacks.	1	2	3	4
E. I wake up to eat at night.	1	2	3	4
F. I try to eat healthily.	1	2	3	4
G. I avoid high-fat foods.	1	2	3	4
H. I avoid calories.	1	2	3	4
I. I watch TV etc. while I am eating.	1	2	3	4
J. Advertisements etc. increase my desire to eat.	1	2	3	4
K. I reward myself with good food.	1	2	3	4
L. I try to make myself feel better by eating or drinking.	1	2	3	4

51. Which grade would you give yourself on the scale of 1–8, in which 1 means unrestricted eating ('I eat what and when I want') and 8 means total abstinence ('I consciously restrict my eating and never lapse')?¹⁸

1 2 3 4 5 6 7 8

I eat what
and when
I want

I continuously
restrict my eating and
never lapse

¹⁷Eating styles

Keski-Rahkonen A, Neale BM, Bulik C et al. Intentional Weight loss in young adults: Sex-specific genetic and environmental effects. *Obesity Res.* 2005; 13(4):745-753.

Keski-Rahkonen A, Bulik C, Pietiläinen KH et al. Eating styles, overweight and obesity in young adult twins. *Eur J Clin Nutr.* 2007; 61:822-829.

¹⁸Modified from: Stunkard AJ and Messick S. The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. *J Psych Rec.* 1985; 29(1):71-83. and Karlsson J, Persson LO, Sjöström L et al. (2000) Psychometric properties and factor structure of the Three-Factor Eating Questionnaire (TFEQ) in obese men and women. Results from the Swedish Obese Subjects (SOS) study. *Int J Obes Relat Metab Disord* 24, 1715–1725.

52. How often do you consume the following foodstuffs?¹⁹ Think about the past year (12 months). Circle the appropriate alternative on each line.

Foodstuff	Never or less than once a month	Once or twice a month	Once a week	Twice a week	Almost every day	Once a day or more often
GRAIN PRODUCTS						
Rye bread or crispbread	1	2	3	4	5	6
Graham bread or other multigrain bread	1	2	3	4	5	6
French bread, other wheat bread	1	2	3	4	5	6
Sweet pastries	1	2	3	4	5	6
Pies and pasties (e.g. Karelian pasties)	1	2	3	4	5	6
Porridges	1	2	3	4	5	6
Mysli or cereals	1	2	3	4	5	6
Pasta or rice	1	2	3	4	5	6
DAIRY PRODUCTS						
Sour whole milk (<i>viili</i>) or yoghurt	1	2	3	4	5	6
Low-fat cheese (fat % < 20)	1	2	3	4	5	6
Other cheeses (e.g. Edam)	1	2	3	4	5	6
Ice-cream, puddings, berry/fruit quark	1	2	3	4	5	6
VEGETABLES						
Boiled or mashed potatoes	1	2	3	4	5	6
Fried potatoes or chips	1	2	3	4	5	6
Vegetable foods	1	2	3	4	5	6
Boiled vegetables or legumes	1	2	3	4	5	6
Fresh vegetables, root vegetables, fresh salad	1	2	3	4	5	6
Salad dressing or oil with vegetables	1	2	3	4	5	6
FRUIT, BERRIES						
Fruit	1	2	3	4	5	6
Fresh or frozen berries	1	2	3	4	5	6
Fruit or whole berry juices	1	2	3	4	5	6

The questionnaire continues on the following page

¹⁹Based on questionnaires used in the National FINRISK study (National Institute for Health and Welfare, Finland) <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/population-studies/the-national-finrisk-study> Laatikainen T, Tapanainen H, Alfthan G, Salminen I et al. FINRISKI²⁰⁰² Tutkimus kroonisten kansantautien riskitekijöistä, niihin liittyvistä elintavoista, oireista, psykososiaalisista tekijöistä ja terveyspalvelujen käytöstä. Publications of the National Public Health Institute. B7/2003 <http://urn.fi/URN:NBN:fi-fe201204193446>

Foodstuff	Never or less than once a month	Once or twice a month	Once a week	Twice a week	Almost every day	Once a day or more often
<u>FISH, MEAT</u>						
Fish	1	2	3	4	5	6
Chicken, turkey	1	2	3	4	5	6
Meat (e.g. steak, mince sauce)	1	2	3	4	5	6
Different sausages, frankfurters	1	2	3	4	5	6
Cold-cut sausages (e.g. metworst, Gotler)	1	2	3	4	5	6
Cold cuts (e.g. cooked ham)	1	2	3	4	5	6
Eggs: boiled, fried or omelettes	1	2	3	4	5	6
<u>PIZZA, HAMBURGERS</u>						
Pizza	1	2	3	4	5	6
Hamburgers	1	2	3	4	5	6
Salted snacks (e.g. crisps, popcorns, salted peanuts)	1	2	3	4	5	6
<u>SWEETS</u>						
Chocolate	1	2	3	4	5	6
Caramels	1	2	3	4	5	6
Sugary drinks (e.g. juices, cola and other soft drinks)	1	2	3	4	5	6
Low-calorie soft drinks (e.g. Fun Light, Pepsi Max, light cola)	1	2	3	4	5	6
<u>OTHER</u>						
Fresh herbs or aromatic vegetables (e.g. dill, basil)	1	2	3	4	5	6
Peanuts	1	2	3	4	5	6
Seeds (e.g. linseeds)	1	2	3	4	5	6
Soy products (e.g. soy beans, Femi Soya, tofu)	1	2	3	4	5	6

Foodstuff	Never or less than once a month	Once or twice a month	Once a week	Twice a week	Almost every day	Once a day or more often
Functional foodstuffs or products that contain added nutrients (e.g. Gefilus, Rela, Benecol, Becel pro.activ, Linobene, multivitamin juices)	1	2	3	4	5	6
Ready meals (e.g. meatballs, pizzas, microwave meals)	1	2	3	4	5	6
Fast food from hamburger restaurants or kiosks	1	2	3	4	5	6
Rainbow trout, salmon	1	2	3	4	5	6
Baltic herring	1	2	3	4	5	6
Other fish	1	2	3	4	5	6

53. How often do you add salt to your food (circle the appropriate alternative)?²⁰

- 1 never
- 2 usually when the food does not taste savoury enough
- 3 practically always

54. How many cups of coffee or tea do you usually drink daily? (Mark 0 if not at all.)²⁰

- coffee _____ cups (1 cup = about 1 dl)
 tea _____ cups (1 cup = about 2 dl)

55. What kind of coffee do you usually drink (circle only one alternative)?²⁰

- 1 filter coffee
- 2 traditional Finnish coffee brewed in a pot
- 3 instant coffee
- 4 other coffee (e.g. espresso, cappuccino)
- 5 I do not drink coffee

56. How many slices of bread do you eat daily?²⁰

_____ slices/day

²⁰**Eating habits, questions 53-55** are based on questionnaires used in the National FINRISK study <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/population-studies/the-national-finrisk-study> and Health Behaviour and Health among Finnish Adult Population study <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/population-studies/national-finhealth-study> (National Institute for Health and Welfare, Finland) Borodulin K, Saarikoski L, Lund L, Juolevi A et al. Kansallinen FINRISKI 2012 -terveystutkimus. Osa I: tutkimuksen toteutus ja menetelmät. <http://urn.fi/URN:ISBN:978-952-302-053-5> Helakorpi S, Uutela A, Prättälä R, Puska P. Health Behaviour and Health among Finnish adult Population (Suomalaisen aikuisväestön terveystutkimus ja terveys, kevät 1999). Publications of the National Public Health Institute B:19/1999. <http://urn.fi/URN:ISBN:951-740-153-1>

57. Do you use vitaminised foodstuffs? (e.g. vitaminised juices, milk, calcium juice or milk)

- 1 no
- 2 I do not know
- 3 yes => please complete the product table below

The trade name of the product (e.g. Marli Multivita)	Daily amount (g, dl, etc.)	How often do you use the product? (once a day/week, occasionally, etc.)	How long have you used the product (6 months, 2 years, etc.)

58. Do you use botanical products or vitamin and mineral supplements? (e.g. vitamin D, calcium)

- 1 no
- 2 I do not know
- 3 yes => please complete the product table below

Product name	Daily amount (g, capsules, tablets, teaspoons, etc.)	How often do you use the product? (once a day/week, occasionally, etc.)	How long have you used the product (6 months, 2 years, etc.)

Thank you for answering!

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LIFESTYLE

- Lifestyle questions including sleeping, smoking, alcohol use were developed in collaboration with the Helsinki Twin study (University of Helsinki). The original questionnaires and references can be found at the web-pages of the Helsinki Twin study; <https://wiki.helsinki.fi/display/twineng/Twinstudy>.
- Helsinki Twin Study is reviewed in Kaprio J, Pulkkinen L, Rose RJ. Genetic and environmental Factors in health-related behaviors: Studies on Finnish twins and twin families. *Twin Res*. 2002; 5(5): 366-371
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- Kaprio J and Koskenvuo M. A prospective study of psychological and socioeconomic characteristics, health behavior and morbidity in cigarette smokers prior to quitting compared to persistent smokers and non-smokers. *J Clin Epidemiol*. 1988; 41: 139-150.
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Some of the original questionnaires and full list of references can be found at the web-pages of the Helsinki Twin study; <https://wiki.helsinki.fi/display/twineng/Twinstudy> (See especially Older cohort Q75 and Q81 questionnaires and Finntwin16 -Twinstudy 25y questionnaire).

EATING HABITS

Eating questions were developed using multiple sources including Helsinki Twin study (University of Helsinki, Finland) and National FINRISK and Health Behaviour and Health among Finnish Adult Population studies (National Institute for Health and Welfare, Finland). Some of the original questionnaires and references can be found at <https://wiki.helsinki.fi/display/twineng/Twinstudy> (See especially Finntwin16 -Twinstudy 25y questionnaire), at <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/population-studies/the-national-finrisk-study> or at <https://www.thl.fi/en/web/thlfi-en/research-and-expertwork/population-studies/national-finhealth-study>.

In addition, please see following references for questions regarding restrictive eating, eating styles and eating frequency:

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