

Supplementary Table S1: The 53 Sex/gender covariates used in the analyses within the INGER KORA FIT sample

Covariate name and question in INGER KORA survey or KORA FIT survey (Original questions were asked in German)	Answer categories and distribution in the INGER KORA FIT sample; N = 2624 (100 %)	
Individual sex/gender self-concept		
Sex assigned at birth		
SexAtBirth	1426 (54.3)	= female
	1177 (44.9)	= male
What sex were you assigned at birth?	0 (0.0)	= diverse / intersexual
	21 (0.8)	= missing
Current sex/gender identity		
SGIdentity	1415 (53.9)	= female
	1162 (44.3)	= male
What is your current sex/gender identity? (Multiple answers possible)	0 (0.0)	= intersexual
	1 (0.04)	= trans, trans man, trans woman
	2 (0.1)	= an identity not mentioned here
	7 (0.3)	= I do not want to classify as any sex/gender category
	2 (0.1)	= female AND I do not want to classify as any sex/gender category
	2 (0.1)	= male AND an identity not mentioned here
	3 (0.1)	= male AND I do not want to classify as any sex/gender category
	30 (1.1)	= missing
Internalized sex/gender roles		
SGRolesFemMascuFeeling	295 (11.2)	= very masculine
	602 (22.9)	= mainly masculine
I mostly perceive myself as ...	214 (8.2)	= a little masculine
	320 (12.2)	= just as feminine as masculine
	123 (4.7)	= a little feminine
	681 (26.0)	= mainly feminine
	294 (11.2)	= very feminine
	95 (3.6)	= missing
SGRolesFemMascuWish	352 (13.4)	= very masculine
	595 (22.7)	= mainly masculine
Ideally, I would like to be ...	138 (5.3)	= a little masculine
	288 (11.0)	= just as feminine as masculine
	112 (4.3)	= a little feminine
	623 (23.7)	= mainly feminine
	377 (14.4)	= very feminine
	139 (5.3)	= missing
SGRolesFemMascuChange	263 (10.0)	= yes
	2278 (86.8)	= no
Has your assessment of what is feminine or masculine changed in recent years?	83 (3.2)	= missing
SGRolesBothIncomeContribute	1229 (46.8)	= strongly agree
	722 (27.5)	= rather agree

Both the men and women should contribute to the household income.	558 (21.3)	= neither agree nor disagree
	67 (2.6)	= rather disagree
	20 (0.8)	= strongly disagree
	28 (1.1)	= missing
SGRolesMenMoneyWomenHouse	47 (1.8)	= strongly agree
The man's job is to earn money; a woman's job is to look after the home and family.	193 (7.4)	= rather agree
	608 (23.2)	= neither agree nor disagree
	752 (28.7)	= rather disagree
	998 (38.0)	= strongly disagree
	26 (1.0)	= missing
SGRolesGoodRelationshipWorkingMom	1296 (49.4)	= strongly agree
A working mother can establish just as warm and secure a relationship with her children as a mother who does not work.	694 (26.5)	= rather agree
	431 (16.4)	= neither agree nor disagree
	147 (5.6)	= rather disagree
	34 (1.3)	= strongly disagree
	22 (0.8)	= missing
SGRolesWomenWorkChildSuffer	255 (9.7)	= strongly agree
A pre-school child is likely to suffer if his or her mother works.	704 (26.8)	= rather agree
	797 (30.4)	= neither agree nor disagree
	550 (21.0)	= rather disagree
	293 (11.2)	= strongly disagree
	25 (1.0)	= missing
SGRolesWomenWorkFamilySuffer	90 (3.4)	= strongly agree
All in all, family life suffers when the woman is working.	374 (14.3)	= rather agree
	971 (37.0)	= neither agree nor disagree
	745 (28.4)	= rather disagree
	422 (16.1)	= strongly disagree
	22 (0.8)	= missing
SGRolesHousewifeFulfilling	349 (13.3)	= strongly agree
Being a housewife is just as fulfilling as working for pay.	441 (16.8)	= rather agree
	791 (30.1)	= neither agree nor disagree
	721 (27.5)	= rather disagree
	292 (11.1)	= strongly disagree
	30 (1.1)	= missing
SGRolesHousehusbandFulfilling	218 (8.3)	= strongly agree
Being a househusband is just as fulfilling as working for pay.	334 (12.7)	= rather agree
	751 (28.6)	= neither agree nor disagree
	866 (33.0)	= rather disagree
	389 (14.8)	= strongly disagree
	66 (2.5)	= missing
SGRolesSingleParentEqual	261 (10.0)	= strongly agree
One parent can raise a child as well as two parents together.	432 (16.5)	= rather agree
	846 (32.2)	= neither agree nor disagree
	823 (31.4)	= rather disagree
	242 (9.2)	= strongly disagree
	20 (0.8)	= missing
SGRolesSameSexEqual	446 (17.0)	= strongly agree
A same-sex couple can raise a child as well as a male-female couple.	603 (23.0)	= rather agree
	645 (24.6)	= neither agree nor disagree
	506 (19.3)	= rather disagree
	399 (15.2)	= strongly disagree
	25 (1.0)	= missing

Externalized sex/gender Expressions

SGExpressionLooks	301 (11.5)	= very masculine
How would other people generally describe you based on your appearance, clothing style and other visual characteristics?	621 (23.7)	= mainly masculine
	177 (6.8)	= a little masculine
	244 (9.3)	= just as feminine as masculine
	194 (7.4)	= a little feminine
	714 (27.2)	= mainly feminine
	254 (9.7)	= very feminine
	119 (4.5)	= missing
SGExpressionBehavior	280 (10.7)	= very masculine
How would other people generally describe you based on your behaviors?	613 (23.4)	= mainly masculine
	210 (8.0)	= a little masculine
	341 (13.0)	= just as feminine as masculine
	163 (6.2)	= a little feminine
	671 (25.6)	= mainly feminine
	228 (8.7)	= very feminine
	118 (4.5)	= missing
SGExpressionSAGE	611 (23.3)	= 1.0 – 1.5
Combination of SexAtBirth, SGExpressionLooks and SGExpressionBehavior	1245 (47.5)	= 2.0 – 2.5
SAGE-Score values: 1.0 – 7.0	366 (14.0)	= 3.0 – 3.5
low values = high socially assigned gender conformity	227 (8.7)	= 4.0 – 4.5
high values = low socially assigned gender conformity	33 (1.3)	= 5.0 – 5.5
	4 (0.2)	= 6.0 – 6.5
	4 (0.1)	= 7.0
	135 (5.1)	= missing

Items contributing to explain structural sex/gender relations**Experience of discrimination**

DiscriminationSocialPosition	21 (0.8)	= strongly agree
I have the feeling to be disadvantaged because of my position in society.	133 (5.1)	= rather agree
	228 (8.7)	= neither agree nor disagree
	1004 (38.3)	= rather disagree
	1212 (46.2)	= strongly disagree
	26 (1.0)	= missing
DiscriminationAge	23 (0.9)	= strongly agree
I have the feeling to be disadvantaged because of my age.	172 (6.6)	= rather agree
	292 (11.1)	= neither agree nor disagree
	983 (37.5)	= rather disagree
	1133 (43.2)	= strongly disagree
	21 (0.8)	= missing
DiscriminationHeight	12 (0.5)	= strongly agree
I have the feeling to be disadvantaged because of my height.	51 (1.9)	= rather agree
	102 (3.9)	= neither agree nor disagree
	662 (25.2)	= rather disagree
	1780 (67.8)	= strongly disagree
	17 (0.7)	= missing
DiscriminationWeight	17 (0.7)	= strongly agree
	51 (1.9)	= rather agree
	128 (4.9)	= neither agree nor disagree

I have the feeling to be disadvantaged because of my weight.	644 (24.5)	= rather disagree
	1767 (67.3)	= strongly disagree
	17 (0.7)	= missing
DiscriminationDisability	24 (0.9)	= strongly agree
I have the feeling to be disadvantaged because of my physical impairment.	66 (2.5)	= rather agree
	148 (5.6)	= neither agree nor disagree
	457 (17.4)	= rather disagree
	1903 (72.5)	= strongly disagree
	26 (1.0)	= missing
DiscriminationEthnicity	7 (0.3)	= strongly agree
I have the feeling to be disadvantaged because of my ethnic/cultural affiliation.	16 (0.6)	= rather agree
	40 (1.5)	= neither agree nor disagree
	279 (10.6)	= rather disagree
	2254 (85.9)	= strongly disagree
	28 (1.1)	= missing
DiscriminationSG	10 (0.4)	= strongly agree
I have the feeling to be disadvantaged because of my sex/gender.	24 (0.9)	= rather agree
	88 (3.4)	= neither agree nor disagree
	340 (13.0)	= rather disagree
	2143 (81.7)	= strongly disagree
	19 (0.7)	= missing
DiscriminationSexualOrientation	7 (0.3)	= strongly agree
I have the feeling to be disadvantaged because of my sexual orientation.	2 (0.1)	= rather agree
	13 (0.5)	= neither agree nor disagree
	163 (6.2)	= rather disagree
	2393 (91.2)	= strongly disagree
	46 (1.8)	= missing
DiscriminationAskedifParentsBornAbroad	289 (11.0)	= yes
Have you ever been asked in Germany whether you or your parents were born abroad?	2307 (87.9)	= no
	28 (1.1)	= missing
Care activities		
CareActivitiesChildren	93 (3.5)	= only me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	205 (7.8)	= mainly me
	857 (32.7)	= me and other people
	313 (11.9)	= mainly other people
	46 (1.8)	= only other people
	1090 (41.5)	= not applicable
	20 (0.8)	= missing
Care and/or upbringing of your children/grandchildren, driving services for your children/grandchildren	115 (4.4)	= only me
CareActivitiesSick	203 (7.7)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	425 (16.2)	= me and other people
	169 (6.4)	= mainly other people
	50 (1.9)	= only other people
	1632 (62.2)	= not applicable
	30 (1.1)	= missing

Care for disabled, chronically ill or in need of care family members, neighbors or friends		
	739 (28.2)	= only me
CareActivitiesCooking	518 (19.7)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	638 (24.3)	= me and other people
	467 (17.8)	= mainly other people
	228 (8.7)	= only other people
	34 (1.3)	= missing
Cooking		
	627 (23.9)	= only me
CareActivitiesHousework	606 (23.1)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	871 (33.2)	= me and other people
	437 (16.7)	= mainly other people
	59 (2.3)	= only other people
	24 (0.9)	= missing
Housework		
	334 (12.7)	= only me
CareActivitiesGardening	499 (19.0)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	1051 (40.1)	= me and other people
	282 (11.3)	= mainly other people
	63 (2.4)	= only other people
	371 (14.1)	= not applicable
	24 (0.9)	= missing
Gardening (during the gardening season)		
	547 (20.9)	= only me
CareActivitiesErrands	549 (20.9)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	1137 (43.3)	= me and other people
	313 (11.9)	= mainly other people
	36 (1.4)	= only other people
	42 (1.6)	= missing
Errands (shopping, procurement)		
	712 (27.1)	= only me
CareActivitiesAdministrativeTasks	597 (22.8)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	847 (32.3)	= me and other people
	357 (13.6)	= mainly other people
	84 (3.2)	= only other people
	27 (1.0)	= missing
Administrative tasks (insurance, tax return, etc.)		
	483 (18.4)	= only me
CareActivitiesHandicraft	686 (26.1)	= mainly me
Who is currently taking primary responsibility for the following tasks? ("Other people" also includes your partner)	662 (25.2)	= me and other people
	578 (22.0)	= mainly other people
	192 (7.3)	= only other people
	23 (0.9)	= missing

Handicraft tasks in the household

Intersectionality-related social categories

SGRelationsSchoolEducation	1224 (46.7)	= Degree after German basic secondary school (Hauptschulabschluss)
School education	767 (29.2)	= German O-levels (Mittlere Reife)
(Variable from basic KORA studies S1-S4)	633 (24.1)	= German A-Levels (Abitur)
	0 (0.0)	= missing
SGRelationsVocationalEducation	166 (6.3)	= no vocational qualification
Highest vocational qualification	1464 (55.8)	= vocational school / apprenticeship
(Variable from basic KORA studies S1-S4)	503 (19.2)	= technical school / master school
	21(0.8)	= engineering school / polytechnical school
	470 (17.9)	= university of applied sciences / university
	0 (0.0)	= missing
SGRelationsEmployment	1466 (55.8)	= no
Are you employed?	21 (0.8)	= 1-5 h/week
If so: How many hours do you work on average per week (actual working hours)?	109 (4.2)	= 6-10 h/week
	158 (6.0)	= 11-20 h/week
	156 (6.0)	= 21-30 h/week
	407 (15.5)	= 31-40 h/week
	191 (7.3)	= 41-50 h/week
	60 (2.3)	= > 50 h/week
	56 (2.1)	= missing
SGRelationsEmploymentCategories	1278 (48.7)	= a pensioner
Which of the following statements applies to you?	102 (3.9)	= in partial retirement
Are you currently ...	1026 (39.1)	= working
	40 (1.5)	= unemployed
	177 (6.7)	= other status (e.g. housewife/ househusband, in training, other leave of absence)
	1 (0.04)	= missing
SGRelationsOccupation	52 (2.0)	= unskilled worker
What position do you have, or did you have in your job?	115 (4.4)	= Civil servant simple activity / semi-skilled worker
+ one of four more detailed follow-up questions depending on the initial answer (worker, employee, civil-servant or self-employed)	396 (15.1)	= Civil servant simple service / skilled worker
	133 (5.1)	= Civil servant middle service / skilled worker or foreman
	43 (1.6)	= Master craftsman / foreman
	1040 (39.6)	= Civil servant higher service / employee with qualified activity
	162 (6.2)	= Self-employed, max. 1 employee
	541 (20.6)	= Civil servant higher service / employee with highly qualified activity / self-employed academic / self-employed with max. 9 employees
	79 (3.0)	= Employees with extensive managerial responsibilities / self-employed with at least 10 employees
		= missing
	63 (2.4)	
	289 (11.0)	= very good

SGRelationsIncome	1638 (62.4)	= good
How do you assess your financial situation?	620 (23.6)	= moderate
	49 (1.9)	= bad
	28 (1.1)	= missing

SGRelationsIncomeEuro	Continuous	variable (€)
Equivalent income = the household's income divided by the number of consumption units in the household.	1902.00	= mean
	923.39	= SD
	185.00	= min
(To calculate this, participants were asked about their household income and number of households' members and the age of the members)	8000.00	= max
	195	= missing

SGRelationsFamilySituation	2076 (79.1)	= yes
Do you live with a spouse or partner in a shared household?	548 (20.9)	= no
	0 (0.0)	= missing

SGRelationsHouseholdMembers	Continuous	variable
How many people live in your household at all times, including yourself?	2.08	= mean
	0.83	= SD
	1.00	= min
	9.00	= max
	2	= missing

SGRelationsDisability	2112 (80.5)	= no disability
Do you have a recognized disability?	141 (5.4)	= disability 10 - 30%
If yes, what degree of disability do you have?	280 (10.7)	= disability 40 - 60%
	89 (3.4)	= disability 70-100%
	2 (0.1)	= missing

SGRelationsMobility	1892 (72.1)	= I have no problems moving around
Please indicate which of the following statements best describes your current state of health regarding mobility.	451 (17.2)	= I have little problems moving around
	206 (7.9)	= I have moderate problems moving around
	74 (2.8)	= I have big problems moving around / I am unable to move
	1 (0.04)	= missing

SGRelationsUrbanisation	945 (36.0)	= city
Distribution of participants by degree of urbanisation.	1080 (41.2)	= suburb
	589 (22.5)	= rural
	10 (0.4)	= missing

Life-style and psychological factors

Health Behaviors

HealthBehaviorAlcohol	Continuous	variable
Alcohol consumption (g /day)	14.72	= mean
	19.55	= SD
	0.00	= min
(To calculate this, participants were asked about their consumption of different kind	179.40	= max
	1	= missing

of alcoholic drinks on weekends or working days)

HealthBehaviorSmoking

Smoking behavior based on three interview questions

303 (11.5) = regular smoker
43 (1.6) = irregular smoker
1085 (41.3) = ex-smoker
1191 (45.4) = never-smoker
2 (0.1) = missing

- a) Do you currently smoke cigarettes?
- b) Do you smoke regularly or irregularly (i.e. usually less than one cigarette a day)?
- c) Have you ever smoked cigarettes?

HealthBehaviorPhysicalActivity

How often do you do sports in winter/summer?

1021 (38.9) = regularly > 2h a week
889 (33.9) = regularly ~ 1h a week
322 (12.3) = irregularly ~ 1h a week
392 (14.9) = almost no or no physical activity
0 (0.0) = missing

Psychosocial Factors**LifeSatisfaction**

Overall, how satisfied are you with your life right now?

Continuous variable
7.47 = mean
2.25 = SD
0.00 = min
10.00 = max
56 = missing

on a scale from 0 (totally dissatisfied) – 10 (completely satisfied)

PerceivedStress

Based on 10 questions of the German version of the Perceived Stress Scale (see Klein [58] for exact formulation of questions)

Continuous variable
14.28 = mean
5.56 = SD
0.00 = min
34.00 = max
233 = missing

Scores are obtained by reversing responses to four positively stated items and then summing across all scale items.

Higher scores indicated a higher level of perceived stress.

SelfEfficacy

Self-efficacy scale (ASKU, see Beierlein[59])

Continuous variable
4.02 = mean
0.58 = SD
1.00 = min
5.00 = max
76 = missing

Score is based on three statements on a scale from 1 (strongly disagree) – 5 (strongly agree):

- a) I can rely on my own abilities in difficult situations.
- b) I am able to solve most problems on my own.
- c) I can usually solve even challenging and complex tasks well.

Score is the average answer to these three statements.

OptimismPessimism

Based on questions of the German version of the Life-Orientation-Test (LOT-R) for dispositional optimism and pessimism (see Glaesmer[60])

Continuous variable
7.62 = mean
3.59 = SD
0.00 = min
22.00 = max
206 = missing

Scores are obtained by reversing responses to positively stated items and then summing across all scale items.

Higher scores indicated a higher level of pessimism.

58. Klein E.M.; Brahler E.; Dreier M.; Reinecke L.; Muller K.W.; Schmutzer G.; Wolfling K.; Beutel M.E. The German version of the Perceived Stress Scale - psychometric characteristics in a representative German community sample. *BMC Psychiatry* 2016, 16, 159. doi:10.1186/s12888-016-0875-9

59. Beierlein C.; Kovaleva A.; Kemper C.J.; Rammstedt B. ASKU - Allgemeine Selbstwirksamkeit Kurzsкала [Fragebogen]. *Elektronisches Testarchiv (PSYNDEX Tests-Nr. 9006490)*. Trier: ZPID.: Leibniz-Zentrum für Psychologische Information und Dokumentation (ZPID); 2012.

60. Glaesmer H.; Hoyer J.; Klotsche J.; Herzberg P.Y. The German version of the Life-Orientation-Test (LOT-R) for dispositional optimism and pessimism. *Z Gesundh* 2008, 16(1), 26-31. doi:10.1026/0943-8149.16.1.26

Supplementary Table S2: Exposure distribution within the INGER KORA FIT sample

Exposure and, if applicable, questions in INGER KORA survey (Original questions were asked in German)	Answer categories and distribution in the whole INGER study sample; N = 2624 (100 %)	
Subjective exposure measurement		
Access to public green spaces	2382 (90.8)	= yes
Are there publicly accessible green spaces (e.g. parks, forests, meadows) in your neighbourhood?	228 (8.7)	= no
	14 (0.5)	= missing
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Access to high quality public green spaces	737 (28.1)	= high quality green
The green spaces in my neighbourhood are well maintained.	1555 (59.3)	= only lower quality green
The green spaces in my neighbourhood are of high quality.	228 (8.7)	= no green
<i>(Combination of three variables)</i>	104 (4.0)	= missing
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Greenness in the neighbourhood	2074 (79.0)	= very green
How green is your neighbourhood?	480 (18.3)	= little green
(From green strips along the road to gardens and parks.)	54 (2.1)	= hardly green
	16 (0.6)	= missing
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Objective exposure measurement		Continuous variables
Greenness within a 300 m buffer around the residential address	0.16	= min
Calculated from several satellite images between April and October in 2019. Negative pixels of the NDVI map were excluded prior to assignment to home addresses.	0.41	= Q1
	0.47	= median
	0.47	= mean
	0.09	= SD
	0.53	= Q3
	0.73	= max
	10	= missing
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Greenness within a 1000 m buffer around the residential address	0.27	= min
Calculated from several satellite images between April and October in 2019. Negative pixels of the NDVI map were excluded prior to assignment to home addresses.	0.44	= Q1
	0.51	= median
	0.50	= mean
	0.09	= SD
	0.58	= Q3
	0.71	= max
	10	= missing

Supplementary Table S3: Further description of the INGER KORA FIT sample

Question in INGER KORA survey (Original questions were asked in German)	Answer categories and distribution in the INGER KORA FIT sample; N = 2624 (100 %)	
Age distribution in the INGER FIT study population.	Continuous variable	(years)
	63.58	= mean
	5.42	= SD
	54.00	= min
	73.00	= max
	0	= missing
What is your current employment status?	1102 (42.0)	= employed
	1332 (50.8)	= retired
	134 (5.1)	= other
	56 (2.1)	= missing
Distribution of participants by degree of urbanisation.	945 (36.0)	= city
	1080 (41.2)	= suburb
	589 (22.5)	= rural
	10 (0.4)	= missing
Do you live...?	2089 (79.6)	= in your own property
	515 (19.6)	= for rent
	20 (0.8)	= missing
How long have you lived at your current address?	Continuous variable	(years)
	29	= mean
	15.34	= SD
	0	= min
	74	= max
	43	= missing
How often do you usually reside at your current address?	2562 (97.6)	= daily
	15 (0.6)	= only on weekdays
	16 (0.5)	= only on days off
	12 (0.7)	= few days a month
	19 (0.0)	= missing
Does your flat or house have a garden?	1841 (70.2)	= yes, for sole use
	236 (9.0)	= yes, shared with several parties
	520 (19.8)	= no
	27 (1.0)	= missing
Do you have a balcony and/or roof terrace?	1895 (72.2)	= yes
	677 (25.8)	= no
	52 (2.0)	= missing
Do you use your garden, balcony or roof terrace for recreation?	2363 (90.1)	= yes
	194 (7.4)	= no
	48 (1.8)	= neither garden, balcony nor roof terrace available
	19 (0.7)	= missing
During the summer months, how often do you visit publicly accessible green spaces, such as...	189 (7.2)	= (almost) never
	209 (8.0)	= 3-6 times per year
	185 (7.1)	= 7-10 times per year

... parks, forests, meadows, which you can reach in about 10 minutes?	367 (14.0)	= at least once a month
	829 (31.6)	= at least once a week
	552 (21.0)	= (almost) daily
	228 (8.7)	= no publicly accessible green spaces available
	65 (2.5)	= missing
During the summer months, how often do you visit publicly accessible green spaces, such as...	363 (13.8)	= (almost) never
	383 (14.6)	= 3-6 times per year
	339 (12.9)	= 7-10 times per year
... parks, forests, meadows, which you cannot reach in about 10 minutes?	581 (22.1)	= at least once a month
	512 (19.5)	= at least once a week
	88 (3.4)	= (almost) daily
	228 (8.7)	= no publicly accessible green spaces available
	130 (5.0)	= missing