**Korean Social life, Health, and Aging Project**

The Korean Social Life, Health, and Aging Project (KSHAP) is a population-based longitudinal study of health determinants among elderly Koreans. The target population of the KSHAP are people aged 60 years or older and their spouses living in two rural communities (Township K, Township L) of Korea.

**1. Township K: Wave 1, Wave 2, Wave 3, Wave 4, Wave 5**

**1) Wave 1: December 2011 ~ January 2012**

|  |  |
| --- | --- |
| **Whole sample (n=814)** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance |
| Social support | Partner support, Family support, Friend/neighborhood support, Intergenerational support (reciprocal), Senior welfare |
| Village-wise social network  (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity) |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Flu-shot, Medical Check-up, Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health |
| Mental and cognitive health | Stress, Despair, MMSE, Depression (CES-D), Life satisfaction |
| **Subsample** | |
| Physical health (biomarker) (n=711) | Obesity (BMI, Percent Body Fat), Blood pressure (SBP, DBP), Functional health (timed-up-and-go test), Bone density (z-score, BUA, SOS), Glucose (Glucose, Insulin, HOMA-IR), Lipid (Total cholesterol, HDL-C, TG, LDL-C), Liver function (Protein, Albumin, Total bilirubin, AST, ALT), Kidney function (BUN-Cr ratio, GFR), Anemia (Hemoglobin, Hematocrit), Inflammation (hsCRP) |

**2) Wave 2: December 2012 ~ March 2013 (New items)**

|  |  |
| --- | --- |
| **Whole sample (n=710)** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance |
| Social support | Partner support, Family support, Friend/neighborhood support, Intergenerational support (reciprocal), Senior welfare |
| Village-wise social network (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity), **Network dynamics (reason)** |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Flu-shot, Medical Check-up, Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health, **Physical activity (exercise), Fracture, LES** |
| Mental and cognitive health | MMSE, **Depression (GDS-5, GDSSF-K)**, Life satisfaction |

**3) Wave 3: February 2014 (New items)**

|  |  |
| --- | --- |
| **Whole sample (n=577)** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance, **Gender role attitude** |
| Social support | Partner support, Family support, Friend/neighborhood support, Intergenerational support (reciprocal), Senior welfare |
| Social network (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity), Network dynamics (reason) |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health |
| Mental and cognitive health | MMSE, Depression (CES-D), Life satisfaction |
| **Subsample** | |
| Brain MRI (n=80) | **Structural MRI, Resting-state fMRI** |
| Psychology (n=195) | **K-WAIS-IV (Verbal comprehension, Perceptual organization), EMS (Working memory, Long-term memory, Long-term recall) Train making test (Visual attention and task switching), K-CWST (Color word stroop test), Fluency (Language fluency test), GDS (Geriatric Depression Scale), IADL (Instrumental Activities of Daily Living), Subjective age, R-UCLA Loneliness Scale, NEO-PI-R (Big-five personality traits), Sexual health** |
| Psychiatry (n=235) | **Hair Cortisol, SCID (Severe combined immunodeficient), PSS-10 (Perceived Stress Scale), STAXI (State-Trait Anger Expression Inventory), PSQI (Pittsburgh Sleep Quality Index)** |

**4) Wave 4: December 2015 ~ February 2016 (New items)**

|  |  |
| --- | --- |
| **Whole sample (n=572)** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance, Gender role attitude |
| Social support | Partner support, Intergenerational support (reciprocal), Senior welfare, **Community welfare** |
| Social network (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity), Network dynamics (reason) |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health, **Sexual health, Dental health, Physical activity, Subjective age, Loneliness** |
| Mental and cognitive health | MMSE, Depression (CES-D), Life satisfaction |
| **Subsample** | |
| Physical health (biomarker) (n=447) | Obesity (BMI, Percent Body Fat), Blood pressure (SBP, DBP), Functional health (timed-up-and-go test), Bone density (z-score, BUA, SOS), Glucose (Glucose, Insulin, HOMA-IR), Lipid (Total cholesterol, HDL-C, TG, LDL-C), Liver function (Protein, Albumin, Total bilirubin, AST, ALT), Kidney function (BUN-Cr ratio, GFR), Anemia (Hemoglobin, Hematocrit), **Inflammation (hsCRP, TNF-a, IL-1b, IL-6, BNP, Troponin I, NTproBNP, Cystatin C)** |

**5) Wave 5: Currently being collected (New items)**

|  |  |
| --- | --- |
| **Whole sample** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance, Gender role attitude |
| Social support | Partner support, Intergenerational support (reciprocal), Senior welfare, Community welfare |
| Social network (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity), Network dynamics (reason) |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health, Sexual health, Dental health, Physical activity, Subjective age, Loneliness |
| Mental and cognitive health | MMSE, Depression (CES-D), Life satisfaction |
| **Subsample** | |
| Physical health (biomarker) | Obesity (BMI, Percent Body Fat), Blood pressure (SBP, DBP), Functional health (timed-up-and-go test), Bone density (z-score, BUA, SOS), Glucose (Glucose, Insulin, HOMA-IR), Lipid (Total cholesterol, HDL-C, TG, LDL-C), Liver function (Protein, Albumin, Total bilirubin, AST, ALT), Kidney function (BUN-Cr ratio, GFR), Anemia (Hemoglobin, Hematocrit) |
| Brain MRI | **Face-viewing task-based fMRI, Structural MRI, Resting-state fMRI, MSIT** |

**2. Township L: Wave 1**

Wave 1: December 2016 ~ March 2017

|  |  |
| --- | --- |
| **Whole sample (n=948)** | |
| Sociodemographic characteristics | Age, Gender, Residence, Working status, Marital status (dynamics), Family structure, Religion, Finance, Gender role attitude |
| Social support | Partner support, Intergenerational support (reciprocal), Senior welfare, Community welfare |
| Social network (Questionnaire: Supplementary A) | Egocentric network (Network size, Gender, Kin, Cohabitant, Communication frequency, Meeting frequency, Emotional closeness, Health discussion frequency, Network density, Bridging potential), Global Network (In-degree centrality, Out-degree centrality, Closeness centrality, Betweenness centrality, Constraint, Brokerage role, Cohesive block, K-core, component, connectivity), Network dynamics (reason) |
| Physical health | SF-12, ADL, IADL, Fall, Sleep (insomnia), Diagnosis and medication use (Hypertension, Metabolics, Blood sugar, Diabetes, Hyperlipidemia, Arthritis, Osteoporosis, Cancer, Stroke, Coronary heart diseases, Myocardial infarction, Angina Pectoris, Tuberculosis, Asthma, Cataract, Glaucoma, Hepatitis B, Depression, Urinary incontinence, Benign prostatic hyperplasia, Femur fracture), Smoking, Drinking, Self-rated health, Sexual health, Dental health, Physical activity, Subjective age, Loneliness |
| Mental and cognitive health | MMSE, Depression (CES-D), Life satisfaction |
| **Subsample** | |
| Physical health (biomarker) (n=749) | Obesity (BMI, Percent Body Fat), Blood pressure (SBP, DBP), Functional health (timed-up-and-go test), Bone density (z-score, BUA, SOS), Glucose (Glucose, Insulin, HOMA-IR), Lipid (Total cholesterol, HDL-C, TG, LDL-C), Liver function (Protein, Albumin, Total bilirubin, AST, ALT), Kidney function (BUN-Cr ratio, GFR), Anemia (Hemoglobin, Hematocrit) |
| Brain MRI (n=127) | **Cyberball task-based fMRI, Structural MRI, Resting-state fMRI, MSIT** |

**Supplementary A**

- -

**LIST-NO**

Korean Social Life, Health and Aging Project

-Social Network Card-

[Social Network Card 1]

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Roster** | **No.** | **7-1. 7-2.**  **Name** | **7-3.**  **Relation** | **8.**  **Whether living in Township K/L** | **8-1.**  **Living Ri** | **9.**  **Age** | | **10.**  **Sex** | **11.**  **Level of education** | | **12.**  **Are you living with [name]?** | **12-1.**  **(If not living together) Where does [name] live?** | **13.**  **How long have you known [name]?** | **14.**  **How often do you talk to [name]?** | **15.**  **How often do you meet with [name]?** | **16.**  **How close do you feel is your relationship with [name]?** | **17.**  **How likely is it that you would talk with [name] about a health problem or a decision of your medical treatment?** |
| **Record full-name**  **[If not possible, record**  **nickname instead]** | **Refer to**  **relation**  **table** | ①Yes  ②No |  | □Estimated  ( ) years | | ①Male  ②Female | * Estimated   ①No education  ②Seodang  (Korean traditional elementary school)  ③Elementary school  ④Middle school  ⑤High school  ⑥2-year college  ⑦4-year college  ⑧Graduate school | | ①Yes  ②No | ①Seoul  ②Busan  ③Daegu  ④Incheon  ⑤Gwangju  ⑥Daejun  ⑦Ulsan  ⑧Gyunggi  ⑨Gangwon  ⑩Chungbuk  ⑪Chungnam  ⑫Junbuk  ⑬Junnam  ⑭Gyungbuk  ⑮Gyungnam  Jeju  ◯17 Sejong  ◯97 Foreign country | ( ) years | ①Everyday  ②Several times a week  ③Once a week  ④Once a two-week  ⑤Once a month  ⑥A couple times a year  ⑦Once a year  ⑧Less than once a year | ①Everyday  ②Several times a week  ③Once a week  ④Once a two-week  ⑤Once a month  ⑥A couple times a year  ⑦Once a year  ⑧Less than once a year | ①Not very close  ②Somewhat close  ③Very close  ④Extremely close | ①Very likely  ②Somewhat likely  ③Not likely |
| **Spouse** | 1 |  | 1 |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| **Discussion partners (5 people in the order of how often to talk)** | 2 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |
| **The most intimate person** | 7 |  |  |  |  |  | □ |  |  | □ |  |  |  |  |  |  |  |

**Relationship Table**

1) Spouse 2) Romantic/sexual partner 3) Parent 4) Parent in-law

5) Child 6) Child in-law 7) Grandchild 8) Brother/sister

9) Other relative 10) Neighbor 11) Friend 12) Minister/priest/other clergy

13) Psychiatrist/psychologist/counselor/therapist 14) Caseworker/Social worker 15) Others ( )

[Social Network Card 2 : Network Density]

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Roster | Spouse | Discussion partner1 | Discussion partner2 | Discussion partner3 | Discussion partner4 | Discussion partner5 | The most intimate person |
|  |  |  |  |  |  |  |
| Spouse: |  |  |  |  |  |  |  |
| Discussion partner1: |  |  |  |  |  |  |  |
| Discussion partner2: |  |  |  |  |  |  |  |
| Discussion partner3: |  |  |  |  |  |  |  |
| Discussion partner4: |  |  |  |  |  |  |  |
| Discussion partner5: |  |  |  |  |  |  |  |
| The most intimate person: |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Roster | Spouse | Discussion partner1 | Discussion partner2 | Discussion partner3 | Discussion partner4 | Discussion partner5 | The most intimate person |
|  |  |  |  |  |  |  |
| Spouse: |  |  |  |  |  |  |  |
| Discussion partner1: |  |  |  |  |  |  |  |
| Discussion partner2: |  |  |  |  |  |  |  |
| Discussion partner3: |  |  |  |  |  |  |  |
| Discussion partner4: |  |  |  |  |  |  |  |
| Discussion partner5: |  |  |  |  |  |  |  |
| The most intimate person: |  |  |  |  |  |  |  |

|  |  |
| --- | --- |
| **18. How close are [name 1] and [name 2]?** | **19. How frequently do [name 1] and [name 2] talk to each other?** |
|  |  |
| ① Don’t know ② Not very close  ③ Somewhat close ④ Very Close  ⑤ Extremely Close | ① Everyday ② Several times a week ③ Once a week  ④ Once every two weeks ⑤ Once a month ⑥ A couple times a year  ⑦ Once a year ⑧ Less than once a year ⑨ Have never talked to each other |

[Social Network Card 3: Network Change]

\* In the grey area, write down the names listed in the previous interview, and check if they are listed in this interview.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Roster** | **No.** | **Names listed in the previous interview** | **Is [name] listed this time?** | **20.**  **(If [name] is not listed**  **this time)**  **Is [name] still living?** | **21.**  **(If [name] is still living)**  **What is the main reason you are no longer in touch with [name]?** |
| **Record full-name [If not possible,**  **record nickname instead]** | ① Yes  ② No | ① Yes  ② No  ③ Don’t know | ① I moved ② [name] moved  ③ I became ill or had a health problem ④ [name] became ill or had a health problem  ⑤ I forgot ⑥ Other (SPECIFY) |
| **Spouse** | 1 |  |  |  |  |
| **Discussion partners (5 people in the order of**  **how often to talk)** | 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |
| 6 |  |  |  |  |
| **The most intimate person** | 7 |  |  |  |  |