

eFigure 1. Flowchart: sample selection.

eFigure 2. Differences in cognitive decline trajectories between dementia cases and those free of dementia.

eTable 1. Correlation coefficient of the personality traits and CESD depression score.

eTable 2: Association between personality traits and lower occupational position, depression history, CESD score (N=5278).*

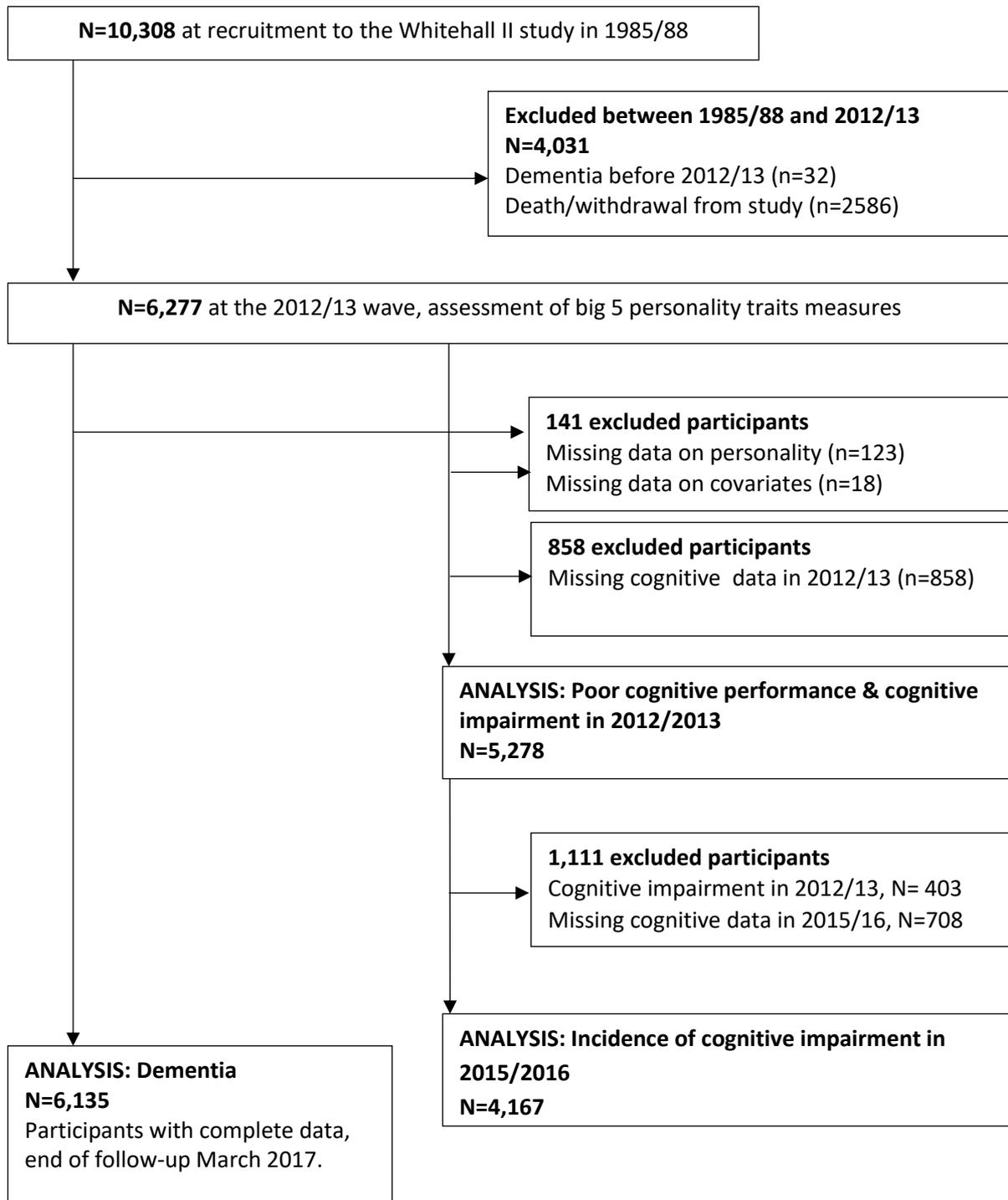
eTable 3. Standardized differences in personality traits as a function of Cognitive Impairment.

eTable 4. Standardized differences in personality traits as a function of dementia.

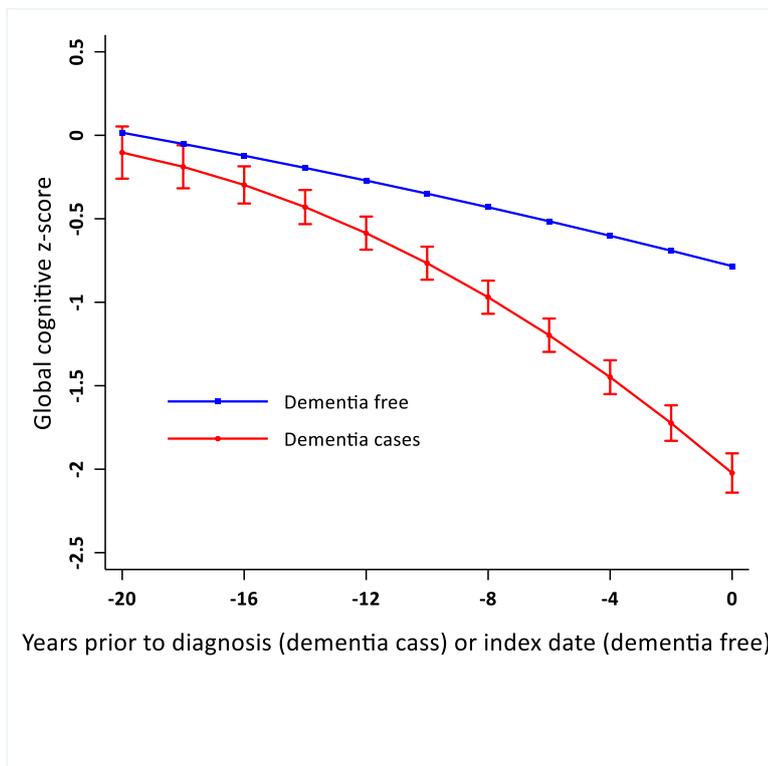
eTable 5. Association of personality traits with cognitive impairment and dementia, adjusted for all covariates except CESD depression.

eTable 6. Mutually adjusted association of standardized personality traits, history of depression, and standardized CES-D score with incidence of dementia (N=6135).

eFigure 1. Flowchart: sample selection.



eFigure 2. Differences in cognitive decline trajectories between dementia cases and those free of dementia.



eTable 1. Correlation coefficient of the personality traits and CESD depression score.

	<u>Openness</u>	<u>Conscientiousness</u>	<u>Extraversion</u>	<u>Agreeableness</u>	<u>Neuroticism</u>
Openness	1.00				
Conscientiousness	0.36	1.00			
p	<0.00001				
Extraversion	0.54	0.37	1.00		
p	<0.00001	<0.00001			
Agreeableness	0.39	0.33	0.56	1.0000	
p	<0.00001	<0.00001	<0.00001		
Neuroticism	-0.20	-0.27	-0.25	-0.13	1.0000
p	<0.00001	<0.00001	<0.00001	<0.00001	
CESD	-0.23	-0.32	-0.33	-0.13	0.52
p	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001

eTable 2: Association between personality traits and lower occupational position, depression history, CESD score (N=5278).*

	Low SES		Depression history		High CESD score	
	OR (95% CI)	P	OR (95% CI)	P	OR (95% CI)	P
Openness	0.82 (0.74, 0.91)	<0.001	0.93 (0.85, 1.02)	0.11	0.60 (0.55, 0.66)	<0.001
Conscientiousness	0.83 (0.75, 0.92)	<0.001	0.74 (0.68, 0.81)	<0.001	0.52 (0.48, 0.57)	<0.001
Extraversion	0.95 (0.85, 1.05)	0.31	0.80 (0.73, 0.87)	<0.001	0.44 (0.40, 0.49)	<0.001
Agreeableness	1.02 (0.91, 1.14)	0.73	1.07 (0.98, 1.18)	0.13	0.68 (0.62, 0.74)	<0.001
Neuroticism	1.09 (0.98, 1.22)	0.10	2.03 (1.86, 2.22)	<0.001	3.67 (3.30, 4.08)	<0.001

Abbreviations: OR: Odds Ratio, SES: socio-economic status, CES-D: Center for Epidemiologic Studies-Depression scale

*Analysis adjusted for age, sex, ethnicity, marital status, education

High CESD score defined as ≥ 16 .

eTable 3. Standardized differences in personality traits as a function of Cognitive Impairment.*

	Model 1		Model 2: Model 1 + SES		Model 3: Model 2 + depression		Model 4: Model 1 + all covariates	
	beta	P	beta	P	beta	P	beta	P
Cross-sectional analysis (N cases/N total: 403/5278)								
Openness	-0.14 (-0.24,-0.04)	0.007	-0.10 (-0.20,-0.00)	0.05	-0.04 (-0.14,0.06)	0.40	-0.02 (-0.12, 0.08)	0.65
Conscientiousness	-0.19 (-0.29,-0.09)	<0.001	-0.14 (-0.24,-0.04)	0.008	-0.04 (-0.14,0.05)	0.38	-0.02 (-0.12, 0.07)	0.65
Extraversion	-0.14 (-0.24,-0.04)	0.007	-0.11 (-0.21,-0.01)	0.03	-0.02 (-0.11,0.08)	0.68	0.003 (-0.09, 0.10)	0.95
Agreeableness	-0.06 (-0.16,0.04)	0.21	-0.07 (-0.18,0.03)	0.14	-0.03 (-0.13,0.07)	0.56	-0.03 (-0.13, 0.07)	0.54
Neuroticism	0.16 (0.05,0.26)	0.003	0.13 (0.03,0.24)	0.009	-0.02 (-0.11,0.06)	0.61	-0.01 (-0.09, 0.08)	0.84
Longitudinal analyses/Incident cases (N cases/N total: 291/4167)								
Openness	0.01 (-0.10,0.12)	0.87	0.04 (-0.08,0.15)	0.52	0.07 (-0.04,0.18)	0.23	0.08 (-0.03, 0.19)	0.16
Conscientiousness	-0.10 (-0.22,0.01)	0.08	-0.06 (-0.18,0.05)	0.26	-0.01 (-0.12,0.09)	0.80	-0.01 (-0.12, 0.10)	0.83
Extraversion	-0.04 (-0.15,0.07)	0.49	-0.02 (-0.13,0.09)	0.73	0.03 (-0.08,0.14)	0.58	0.04 (-0.07, 0.15)	0.44
Agreeableness	0.01 (-0.11,0.12)	0.91	-0.00 (-0.12,0.12)	0.99	0.02 (-0.09,0.14)	0.67	0.02 (-0.10, 0.13)	0.76
Neuroticism	0.13 (0.01,0.24)	0.03	0.11 (-0.00,0.23)	0.05	0.02 (-0.07,0.12)	0.62	0.03 (-0.06, 0.13)	0.50

*Reference group composed of those without cognitive impairment.

Abbreviations: SES: socio-economic status.

Model 1: adjusted for age, sex, ethnicity, marital status, education; Model 2: Model 1 + SES using occupation position; Model 3: Model 2 + depression history, CES-D score

Model 4: Model 3 + health behaviours (physical activity, smoking status, fruits and vegetable consumption, alcohol consumption), and chronic conditions (coronary heart disease, stroke, diabetes, cancer, chronic obstructive pulmonary disease, Parkinson's disease, and arthritis).

eTable 4. Standardized differences in personality traits as a function of dementia.*

	Model 1		Model 2: Model 1 + SES		Model 3: Model 2 + depression		Model 4: Model 1 + all covariates	
	beta	P	beta	P	beta	P	beta	P
N cases/N total= 231/6135								
Openness	-0.07 (-0.20, 0.07)	0.34	-0.06 (-0.19, 0.08)	0.40	0.03 (-0.10, 0.16)	0.68	0.04 (-0.09, 0.17)	0.57
Conscientiousness	-0.41 (-0.54, -0.28)	<0.001	-0.40 (-0.53, -0.27)	<0.001	-0.26 (-0.39, -0.14)	<0.001	-0.25 (-0.37, -0.12)	<0.001
Extraversion	-0.16 (-0.29, -0.03)	0.02	-0.15 (-0.29, -0.02)	0.02	-0.01 (-0.14, 0.11)	0.83	0.00 (-0.12, 0.12)	0.98
Agreeableness	0.06 (-0.06, 0.19)	0.30	0.06 (-0.07, 0.19)	0.33	0.13 (-0.00, 0.25)	0.05	0.13 (-0.00, 0.25)	0.05
Neuroticism	0.30 (0.17, 0.44)	<0.001	0.30 (0.17, 0.43)	<0.001	0.06 (-0.05, 0.17)	0.29	0.07 (-0.04, 0.18)	0.22

*Reference group composed of those without dementia diagnosis.

Abbreviations: SES: socio-economic status.

Model 1: adjusted for age, sex, ethnicity, marital status, education; Model 2: Model 1 + SES using occupation position; Model 3: Model 2 + depression history, CES-D score

Model 4: Model 3 + health behaviours (physical activity, smoking status, fruits and vegetable consumption, alcohol consumption), and chronic conditions (coronary heart disease, stroke, diabetes, cancer, chronic obstructive pulmonary disease, Parkinson's disease, and arthritis).

eTable 5. Association of personality traits with cognitive impairment and dementia, adjusted for all covariates except CESD depression.*

	Cognitive Impairment Cross-sectional		Cognitive Impairment Longitudinal		Dementia	
	OR (95% CI)	P	OR (95% CI)	P	HR (95% CI)	P
Openness	0.94 (0.84, 1.04)	0.22	1.07 (0.94, 1.22)	0.30	0.97 (0.86, 1.11)	0.69
Conscientiousness	0.92 (0.83, 1.02)	0.12	0.95 (0.84, 1.08)	0.44	0.77 (0.69, 0.87)	<0.001
Extraversion	0.93 (0.83, 1.03)	0.17	1.00 (0.88, 1.14)	0.99	0.90 (0.79, 1.03)	0.13
Agreeableness	0.93 (0.84, 1.04)	0.19	1.00 (0.88, 1.13)	0.99	1.09 (0.95, 1.25)	0.22
Neuroticism	1.11 (0.99, 1.23)	0.06	1.12 (0.98, 1.27)	0.09	1.25 (1.10, 1.41)	0.001

Abbreviations: OR: Odds Ratio, HR: Hazard Ratio, SD: Standard Deviation

*Analysis adjusted for age, sex, ethnicity, marital status, education, occupation position, depression history, health behaviours (physical activity, smoking status, fruits and vegetable consumption, alcohol consumption), and chronic conditions (coronary heart disease, stroke, diabetes, cancer, chronic obstructive pulmonary disease, Parkinson’s disease, and arthritis).

eTable 6. Mutually adjusted association of standardized personality traits, history of depression, and standardized CES-D score with incidence of dementia (N=6135).*

	Personality trait		Depression history		Standardized CES-D score	
	HR (95% CI)	P	HR (95% CI)	P	HR (95% CI)	P
Openness	1.03 (0.91, 1.18)	0.63	1.48 (1.04, 2.10)	0.03	1.31 (1.17, 1.46)	<0.001
Conscientiousness	0.83 (0.73, 0.93)	0.002	1.45 (1.02, 2.06)	0.04	1.23 (1.10, 1.38)	<0.001
Extraversion	1.00 (0.87, 1.15)	0.98	1.49 (1.05, 2.11)	0.03	1.30 (1.16, 1.46)	<0.001
Agreeableness	1.13 (0.99, 1.30)	0.07	1.45 (0.99, 1.30)	0.07	1.32 (1.18, 1.46)	<0.001
Neuroticism	1.10 (0.94, 1.27)	0.24	1.44 (1.01, 2.05)	0.04	1.24 (1.09, 1.42)	<0.001

*Each personality trait analysed separately

Analysis adjusted for age, sex, ethnicity, marital status, education, SES using occupation position, health behaviours (physical activity, smoking status, fruits and vegetable consumption, alcohol consumption), and chronic conditions (coronary heart disease, stroke, diabetes, cancer, chronic obstructive pulmonary disease, Parkinson's disease, and arthritis).