SUPPLEMENTARY MATERIALS

Supplementary Tables

Supplementary Table 1. Items aggregated in the social vulnerability index from SEBAS 2006.

| Living situation          |   |
|---------------------------|---|
| 1. Marital status         |   |
| 2. Living alone           |   |
| 3. Neighborhood           |   |

| Social support            |   |
|---------------------------|---|
| 4. Felt lonely             |   |
| 5. People weren’t nice to you |   |
| 6. Argument/disagreement with anyone in last 24 hr |   |
| 7. See your residence/community as safe |   |

| Socially oriented activities of daily living |   |
|---------------------------------------------|---|
| 8. Telephone use                            |   |
| 9. Get to places out of walking distance     |   |

| Leisure activities                      |   |
|-----------------------------------------|---|
| 10. Play chess or cards with others     |   |
| 11. Chat with relatives/friends, drink tea socially |   |
| 12. Jog, climb mountains, do outdoor activities with others |   |
| 13. Group activities: singing, dancing, tai chi |   |
| 14. Number of participating groups      |   |

| Empowerment, life control               |   |
|-----------------------------------------|---|
| 15. Do those close to you make too many demands on you? |   |
| 16. Felt joyful                          |   |
| 17. Felt life going well                 |   |
| 18. Agree that usually more good things than bad will happen |   |
| 19. Little control over things that happen to you |   |
| 20. What happens in future depends mostly on yourself |   |
| 21. Really no way you can solve some of your problems |   |
| 22. Little you can do to change important things in your life |   |
| 23. Can do just about anything i set my mind to |   |
| 24. Often feel helpless in dealing with problems of life |   |
| 25. Sometimes feel pushed around in life |   |
| 26. Anything else happen in last 24 hrs that was stressful |   |

| Major life events and trauma events      |   |
|-----------------------------------------|---|
| 27. Major life events (number)           |   |
| 28. Trauma events (number)               |   |

| Socio-economic status                   |   |
|-----------------------------------------|---|
| 29. Are you satisfied with current living situation? |   |
| 30. Any difficulty meeting living expenses |   |
| 31. Self-reported socio-economic status |   |
| 32. Education level                      |   |
**Supplementary Table 2.** Cox proportional hazard ratio of social vulnerability index (SVI) and all-cause mortality adjusted by age, sex and different genotypes, stratified by age ≥65 yrs and <65 yrs.

| Variables      | Age <65 yrs<sup>a</sup> (N = 501) |   | Age ≥65 yrs<sup>a</sup> (N = 484) |   |
|----------------|-----------------------------------|---|----------------------------------|---|
|                | HR  | 95% CI                  | HR  | 95% CI                          |
| SVI            | 1.20 | (1.01–1.42)<sup>†</sup> | 1.07 | (0.97–1.18)                     |
| Age            | 1.15 | (0.98–1.34)              | 1.07 | (1.02–1.13)<sup>**</sup>        |
| Sex            | 0.35 | (0.12–1.07)              | 0.51 | (0.29–0.90)<sup>†</sup>         |
| Education level| 1.07 | (0.36–3.24)              | 0.85 | (0.47–1.53)                     |
| Multimorbidity | 0.78 | (0.28–2.17)              | 0.92 | (0.49–1.73)                     |
| SPMSQ          | 1.92 | (1.39–2.66)<sup>***</sup> | 1.12 | (0.93–1.35)                     |
| ADL            | 0.82 | (0.54–1.24)              | 0.97 | (0.81–1.19)                     |
| 5-HTTLPR       | 1.00 | (0.29–3.44)              | 1.32 | (0.60–2.90)                     |
| APOE           | 1.04 | (0.23–4.66)              | 0.59 | (0.25–1.36)                     |

<sup>†</sup>p < 0.05; <sup>**</sup>p < 0.01; <sup>***</sup>p < 0.001. <sup>a</sup>Adjusted for age, sex, education level (>6 years), multimorbidity (≥2 chronic conditions), SPMSQ, ADL, APOE and 5-HTTLPR genotypes.

**Supplementary Table 3.** Tests of interaction terms.

| Social vulnerability index#ApoE<sup>a</sup> | LR test<sup>b</sup> | p-Value |
|-------------------------------------------|---------------------|---------|
| <65 years old                             | 0.29                | 0.59    |
| ≥65 years old                             | 5.16                | 0.02    |

<sup>a</sup>Likelihood ratio test for interaction. <sup>b</sup>Adjusted for age and sex.

**Supplementary Table 4.** Strata-specific hazard ratios based on ApoE genotype in older adults (≥65 years old).

| APOE genotype | HR<sup>c</sup> | (95% CI) |
|---------------|----------------|----------|
| e2e2, e3e2, e3e3 | 1.12<sup>**</sup> | 1.03–1.22 |
| e4e3, e4e4     | 0.78            | 0.57–1.07 |

<sup>†</sup>p < 0.05; <sup>**</sup>p < 0.01; <sup>***</sup>p < 0.001. <sup>c</sup>Adjusted for age and sex.