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| **Supplementary Table 1**. Means and standard deviations of the extracted dietary patterns across levels of food security status. | | | | | |
| **Dietary Pattern** | **Combined Sample**  (*n* = 2493) | **Food-insecure** (*n* = 317) | **Food-secure** (*n* = 2176) | **Cohen’s *d*** | ***p*** |
| Food Security Pattern†  Mean (SD) | -0.03 (0.51) | 0.31 (0.63) | -0.07 (0.48) | 0.50 | < 0.01 |
| Age Pattern†  Mean (SD) | -0.10 (0.61) | -0.26 (0.72) | -0.08 (0.60) | -0.22 | < 0.01 |
| SNAP Pattern†  Mean (SD) | -0.05 (0.84) | 0.44 (0.85) | -0.11 (0.82) | 0.60 | < 0.01 |
| Household Size Pattern†  Mean (SD) | 0.00 (0.18) | 0.08 (0.19) | -0.01 (0.18) | 0.21 | < 0.01 |
| Prudent Pattern #1‡  Mean (SD) | 0.04 (0.62) | -0.05 (0.62) | 0.05 (0.62) | -0.13 | 0.05 |
| Prudent Pattern #2‡  Mean (SD) | -0.04 (1.41) | -0.35 (1.46) | -0.01 (1.40) | -0.28 | < 0.01 |
| HEI-2015a  Mean (SD) | 54.79 (14.24) | 50.59 (12.59) | 55.25 (14.34) | -1.27 | < 0.01 |
| *p-*values are for survey-weighted t-tests comparing food-secure and insecure survivors.  † Dietary pattern obtained using penalized logistic regression; ‡ Dietary pattern obtained using principal components analysis.  Subjects were weighted, and the analysis was performed according to NCHS guidelines.  a Healthy Eating Index 2015 | | | | | |

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| **Supplementary Table 2**. Adjusted hazard ratios and 95% confidence intervals for the risks of all-cause and cause-specific mortalities, in relation to the dietary patterns, within the food insecure cancer survivor sample (*n* = 317). | | | | | | | | | |
| **Dietary Pattern**d | ***n*** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | ***p***a**trend** | **HR**b**continuous** | ***p***c**non-linear** |
| *All-Cause Mortality* | | | | | | | | | |
| Food Insecurity (FI)**†** | 317 | 1.00 | 3.05 (0.86-10.83) | 1.92 (0.50-7.44) | 1.88 (0.63-5.58) | 1.67 (0.44-6.34) | 0.76 | 1.13 (0.74-1.73) | 0.85 |
| Age**†** | 317 | 1.00 | 1.13 (0.34-3.72) | 2.09 (0.81-5.42) | 0.75 (0.26-2.13) | 1.13 (0.46-2.76) | 0.79 | 0.83 (0.63-1.09) | 0.61 |
| Household Size**†** | 317 | 1.00 | 4.01 (1.32-12.24)\* | 2.64 (0.82-8.50) | 4.16 (1.29-13.39)\* | 2.73 (0.80-9.29) | 0.13 | 1.20 (0.81-1.77) | 0.57 |
| Food Assistance (SNAP) **†** | 317 | 1.00 | 2.60 (0.85-7.91) | 2.92 (1.15-7.43)\* | 3.94 (1.41-10.99)\*\* | 2.21 (0.63-7.71) | 0.18 | 1.33 (0.95-1.88) | 0.57 |
| Prudent #1**‡** | 317 | 1.00 | 0.47 (0.20-1.06) | 1.73 (0.74-4.08) | 1.12 (0.33-3.81) | 1.00 (0.32-3.10) | 0.71 | 1.06 (0.71-1.59) | 0.96 |
| Prudent #2**‡** | 317 | 1.00 | 0.53 (0.21-1.32) | 0.43 (0.15-1.27) | 0.18 (0.05-0.62)\*\* | 0.30 (0.08-1.18) | 0.05\* | 0.52 (0.24-1.14) | 0.42 |
| HEI-2015e | 317 | 1.00 | 0.67 (0.28-1.62) | 0.33 (0.09-1.24) | 0.10 (0.03-0.33)\*\* | 0.39 (0.11-1.34) | < 0.01\*\* | 0.46 (0.28-0.75)\*\* | 0.30 |
| *Cancer-Specific Mortality* | | | | | | | | | |
| Food Insecurity (FI)**†** | 317 | 1.00 | 3.09 (0.48-20.01) | 0.28 (0.04-1.72) | 0.75 (0.20-2.88) | 1.44 (0.41-5.00) | 0.97 | 1.34 (0.68-2.63) | 0.69 |
| Age**†** | 317 | 1.00 | 2.03 (0.33-12.50) | 0.25 (0.03-2.27) | 1.49 (0.22-9.87) | 1.20 (0.19-7.38) | 0.74 | 0.89 (0.50-1.57) | 0.85 |
| Household Size**†** | 317 | 1.00 | 1.52 (0.34-6.74) | 2.75 (0.49-15.30) | 0.90 (0.10-7.87) | 2.59 (0.33-20.43) | 0.60 | 1.24 (0.61-2.55) | 0.85 |
| Food Assistance (SNAP) **†** | 317 | 1.00 | 1.16 (0.28-4.86) | 0.86 (0.08-8.72) | 1.95 (0.44-8.60) | 1.26 (0.17-9.48) | 0.57 | 1.23 (0.68-2.23) | 0.86 |
| Prudent #1**‡** | 317 | 1.00 | 0.39 (0.04-3.50) | 0.67 (0.11-3.95) | 0.33 (0.05-2.35) | 1.23 (0.27-5.64) | 0.55 | 1.11 (0.54-2.25) | 0.65 |
| Prudent #2**‡** | 317 | 1.00 | 0.69 (0.14-3.39) | 0.17 (0.02-1.38) | 0.44 (0.07-2.80) | 0.19 (0.02-1.91) | 0.18 | 0.56 (0.24-1.32) | 0.53 |
| HEI-2015e | 317 | 1.00 | 0.67 (0.28-1.62) | 0.33 (0.09-1.24) | 0.10 (0.03-0.33)\*\* | 0.39 (0.11-1.34) | < 0.01\*\* | 0.46 (0.28-0.75)\*\* | 0.30 |
| *Cardiovascular Disease Mortality*e | | | | | | | | | |
| \*\* *p* < 0.01; \* *p* < 0.05  a Test for trend across the quintiles of the dietary exposure. See Equation 2 in the main text.  b Hazard ratio for a standard deviation increase in the dietary exposure. See Equation 3 in the main text.  c Likelihood ratio test *p*-value for a natural cubic spline model (Equation 4 in the main text) compared to specifying the model with the scaled dietary exposure (Equation 3).  d All models adjusted for age, sex, race, BMI, household size, family income-to-poverty ratio, education status, health insurance status, receipt of SNAP benefits, alcohol intake, smoking status, total caloric intake, weekly MET minutes, and the Charlson Comorbidity Index score.  e Healthy Eating Index 2015  e Survival estimates for cardiovascular disease mortality were not estimable given issues with convergence of the optimizer as a result of the relatively low number of events in the risk set.  **†** Dietary pattern obtained using penalized logistic regression; **‡** Dietary pattern obtained using principal components analysis (PCA).  Subjects were weighted, and the analysis was performed according to NCHS guidelines. | | | | | | | | | |

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| **Supplementary Table 3**. Adjusted hazard ratios and 95% confidence intervals for the risks of all-cause and cause-specific mortalities, in relation to the dietary patterns, in the cancer survivor sample (*n* = 1282) with further adjustment for the NHANES Activities of Daily Living (ADL) score. | | | | | | | | | |
| **Dietary Pattern**d | ***n*** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | ***p***a**trend** | **HR**b**continuous** | ***p***c**non-linear** |
| *All-Cause Mortality* | | | | | | | | | |
| Food Insecurity**†** | 1282 | 1.00 | 0.66 (0.39-1.13) | 0.84 (0.52-1.36) | 1.05 (0.63-1.77) | 1.04 (0.67-1.62) | 0.36 | 1.18 (1.02-1.37)\* | 0.72 |
| Age**†** | 1282 | 1.00 | 1.11 (0.66-1.85) | 1.12 (0.63-1.99) | 1.14 (0.75-1.74) | 1.08 (0.69-1.69) | 0.74 | 1.05 (0.91-1.23) | 0.85 |
| Household Size**†** | 1282 | 1.00 | 0.94 (0.67-1.33) | 1.02 (0.67-1.54) | 1.26 (0.85-1.88) | 0.98 (0.59-1.64) | 0.63 | 1.04 (0.89-1.21) | 0.49 |
| Food Assistance (SNAP) **†** | 1282 | 1.00 | 1.35 (0.86-2.10) | 1.44 (0.89-2.33) | 1.78 (1.07-2.96)\* | 2.41 (1.29-4.52)\*\* | < 0.01\*\* | 1.23 (1.04-1.46)\* | 0.29 |
| Prudent #1**‡** | 1282 | 1.00 | 1.03 (0.63-1.66) | 1.09 (0.67-1.77) | 0.71 (0.42-1.19) | 0.75 (0.44-1.27) | 0.16 | 0.87 (0.74-1.04) | 0.55 |
| Prudent #2**‡** | 1282 | 1.00 | 1.92 (1.14-3.25)\* | 1.17 (0.69-1.99) | 0.94 (0.54-1.64) | 1.06 (0.57-1.99) | 0.34 | 0.92 (0.76-1.12) | 0.38 |
| HEI-2015e | 1282 | 1.00 | 1.23 (0.76-1.98) | 0.70 (0.37-1.32) | 0.93 (0.54-1.60) | 0.72 (0.38-1.38) | 0.18 | 0.90 (0.75-1.08) | 0.32 |
| *Cancer-Specific Mortality* | | | | | | | | | |
| Food Insecurity**†** | 1282 | 1.00 | 0.35 (0.14-0.85)\* | 0.97 (0.53-1.78) | 0.70 (0.38-1.28) | 0.92 (0.47-1.82) | 0.73 | 1.15 (0.87-1.52) | 0.77 |
| Age**†** | 1282 | 1.00 | 0.86 (0.41-1.81) | 0.65 (0.25-1.70) | 0.84 (0.42-1.69) | 0.83 (0.37-1.86) | 0.66 | 1.01 (0.75-1.35) | 0.55 |
| Household Size**†** | 1282 | 1.00 | 0.72 (0.37-1.40) | 0.87 (0.46-1.66) | 0.86 (0.46-1.62) | 1.16 (0.56-2.41) | 0.63 | 1.07 (0.83-1.37) | 0.98 |
| Food Assistance (SNAP) **†** | 1282 | 1.00 | 1.07 (0.56-2.06) | 1.08 (0.48-2.43) | 1.63 (0.75-3.54) | 2.06 (0.54-7.94) | 0.25 | 1.15 (0.80-1.65) | 0.70 |
| Prudent #1**‡** | 1282 | 1.00 | 1.24 (0.58-2.62) | 1.09 (0.54-2.18) | 0.67 (0.25-1.80) | 1.38 (0.64-2.97) | 0.72 | 1.07 (0.82-1.41) | 0.64 |
| Prudent #2**‡** | 1282 | 1.00 | 2.45 (1.13-5.32)\* | 0.84 (0.37-1.91) | 0.84 (0.30-2.33) | 0.97 (0.40-2.36) | 0.26 | 0.92 (0.64-1.33) | 0.17 |
| HEI-2015e | 1282 | 1.00 | 1.22 (0.53-2.82) | 0.59 (0.19-1.85) | 0.80 (0.35-1.82) | 0.61 (0.24-1.58) | 0.14 | 0.88 (0.68-1.12) | 0.19 |
| *Cardiovascular Disease Mortality* | | | | | | | | | |
| Food Insecurity**†** | 1282 | 1.00 | 0.71 (0.15-3.23) | 1.06 (0.37-3.07) | 1.25 (0.35-4.42) | 0.66 (0.17-2.56) | 0.89 | 1.12 (0.78-1.63) | 0.58 |
| Age**†** | 1282 | 1.00 | 1.33 (0.42-4.19) | 1.72 (0.49-6.06) | 1.63 (0.61-4.33) | 1.22 (0.40-3.66) | 0.73 | 1.10 (0.81-1.48) | 0.86 |
| Household Size**†** | 1282 | 1.00 | 0.87 (0.37-2.00) | 1.64 (0.62-4.32) | 2.54 (1.05-6.13)\* | 0.63 (0.25-1.59) | 0.46 | 1.13 (0.85-1.49) | 0.09 |
| Food Assistance (SNAP) **†** | 1282 | 1.00 | 2.50 (1.08-5.79)\* | 2.37 (0.92-6.11) | 1.46 (0.45-4.80) | 2.66 (1.03-6.84)\* | 0.30 | 1.15 (0.84-1.57) | 0.32 |
| Prudent #1**‡** | 1282 | 1.00 | 1.45 (0.63-3.36) | 1.52 (0.52-4.48) | 0.70 (0.27-1.81) | 0.41 (0.14-1.25) | 0.03\* | 0.74 (0.53-1.02) | 0.27 |
| Prudent #2**‡** | 1282 | 1.00 | 0.87 (0.32-2.36) | 1.57 (0.67-3.67) | 0.76 (0.27-2.13) | 1.73 (0.52-5.83) | 0.47 | 1.12 (0.78-1.60) | 0.83 |
| HEI-2015e | 1282 | 1.00 | 1.40 (0.45-4.39) | 1.38 (0.51-3.77) | 1.53 (0.54-4.34) | 1.51 (0.41-5.59) | 0.63 | 1.05 (0.71-1.56) | 0.81 |
| \*\* *p* < 0.01; \* *p* < 0.05  a Test for trend across the quintiles of the dietary exposure. See Equation 2 in the main text.  b Hazard ratio for a standard deviation increase in the dietary exposure. See Equation 3 in the main text.  c Likelihood ratio test *p*-value for a natural cubic spline model (Equation 4 in the main text) compared to specifying the model with the scaled dietary exposure (Equation 3).  d All models adjusted for age, sex, race, BMI, household size, family income-to-poverty ratio, education status, health insurance status, receipt of SNAP benefits, food insecurity status, alcohol intake, smoking status, total caloric intake, weekly MET minutes, the Charlson Comorbidity Index score, and the NHANES ADL score.  e Healthy Eating Index 2015  **†** Dietary pattern obtained using penalized logistic regression; **‡** Dietary pattern obtained using principal components analysis (PCA).  Subjects were weighted, and the analysis was performed according to NCHS guidelines. | | | | | | | | | |

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| **Supplementary Table 4**. Adjusted hazard ratios and 95% confidence intervals for the risks of all-cause and cause-specific mortalities, in relation to the dietary patterns, in the sample of cancer survivors who received their primary cancer diagnosis ≤ 5 years prior to the survey date (*n* = 894). | | | | | | | | | |
| **Dietary Pattern**d | ***n*** | **Q1** | **Q2** | **Q3** | **Q4** | **Q5** | ***p***a**trend** | **HR**b**continuous** | ***p***c**non-linear** |
| *All-Cause Mortality* | | | | | | | | | |
| Food Insecurity**†** | 894 | 1.00 | 0.98 (0.60-1.61) | 1.60 (1.04-2.45)\* | 1.51 (0.92-2.45) | 1.71 (1.08-2.73)\* | 0.02\* | 1.27 (1.07-1.52)\*\* | 0.33 |
| Age**†** | 894 | 1.00 | 0.98 (0.59-1.63) | 0.85 (0.50-1.45) | 0.81 (0.48-1.37) | 1.32 (0.79-2.19) | 0.17 | 1.12 (0.94-1.34) | 0.28 |
| Household Size**†** | 894 | 1.00 | 1.32 (0.84-2.09) | 1.29 (0.84-1.97) | 1.00 (0.67-1.48) | 0.83 (0.50-1.36) | 0.29 | 0.95 (0.83-1.09) | 0.24 |
| Food Assistance (SNAP) **†** | 894 | 1.00 | 1.50 (0.97-2.32) | 1.54 (1.00)2.37) | 1.56 (0.98-2.47) | 1.92 (1.14-3.24)\* | < 0.01\*\* | 1.26 (1.07-1.47)\*\* | 0.80 |
| Prudent #1**‡** | 894 | 1.00 | 0.83 (0.55-1.26) | 1.10 (0.73-1.65) | 0.84 (0.53-1.32) | 0.98 (0.62-1.56) | 0.98 | 0.96 (0.81-1.13) | 0.65 |
| Prudent #2**‡** | 894 | 1.00 | 1.25 (0.76-2.06) | 1.19 (0.70-2.02) | 1.08 (0.63-1.84) | 0.79 (0.48-1.28) | 0.11 | 0.92 (0.77-1.09) | 0.23 |
| HEI-2015e | 894 | 1.00 | 1.03 (0.59-1.83) | 0.80 (0.48-1.32) | 0.86 (0.52-1.42) | 0.68 (0.42-1.11) | 0.06 | 0.90 (0.78-1.04) | 0.50 |
| *Cancer-Specific Mortality* | | | | | | | | | |
| Food Insecurity**†** | 894 | 1.00 | 0.88 (0.40-1.94) | 1.71 (0.88-3.34) | 1.59 (0.69-3.64) | 1.11 (0.50-2.45) | 0.60 | 1.15 (0.86-1.52) | 0.45 |
| Age**†** | 894 | 1.00 | 0.88 (0.44-1.78) | 0.72 (0.34-1.52) | 0.84 (0.39-1.82) | 0.96 (0.42-2.17) | 0.98 | 0.95 (0.70-1.27) | 0.63 |
| Household Size**†** | 894 | 1.00 | 1.32 (0.60-2.91) | 1.20 (0.62-2.32) | 0.77 (0.43-1.40) | 0.47 (0.21-1.09) | 0.01\* | 0.87 (0.72-1.04) | 0.06 |
| Food Assistance (SNAP) **†** | 894 | 1.00 | 1.32 (0.66-2.63) | 1.08 (0.53-2.21) | 1.59 (0.75-3.37) | 1.54 (0.60-3.93) | 0.20 | 1.17 (0.91-1.51) | 0.99 |
| Prudent #1**‡** | 894 | 1.00 | 1.00 (0.46-2.16) | 1.58 (0.75-3.35) | 0.75 (0.31-1.81) | 1.76 (0.85-3.63) | 0.23 | 1.04 (0.81-1.34) | 0.33 |
| Prudent #2**‡** | 894 | 1.00 | 1.23 (0.56-2.70) | 1.26 (0.50-3.14) | 1.00 (0.39-2.58) | 0.98 (0.40-2.44) | 0.68 | 0.98 (0.74-1.30) | 0.71 |
| HEI-2015e | 894 | 1.00 | 0.78 (0.26-2.38) | 0.42 (0.17-1.05) | 0.85 (0.40-1.78) | 0.58 (0.24-1.39) | 0.26 | 0.93 (0.73-1.18) | 0.76 |
| *Cardiovascular Disease Mortality* | | | | | | | | | |
| Food Insecurity**†** | 894 | 1.00 | 0.27 (0.10-0.72)\*\* | 1.01 (0.42-2.46) | 1.28 (0.53-3.08) | 0.79 (0.29-2.15) | 0.58 | 1.22 (0.85-1.74) | 0.93 |
| Age**†** | 894 | 1.00 | 1.35 (0.22-8.31) | 1.13 (0.16-8.06) | 1.13 (0.21-6.19) | 1.69 (0.32-8.98) | 0.25 | 1.67 (1.13-2.47)\*\* | 0.15 |
| Household Size**†** | 894 | 1.00 | 0.51 (0.19-1.41) | 0.84 (0.39-1.80) | 0.45 (0.16-1.22) | 0.51 (0.19-1.37) | 0.11 | 0.75 (0.55-1.00) | 0.81 |
| Food Assistance (SNAP) **†** | 894 | 1.00 | 0.63 (0.23-1.73) | 1.20 (0.45-3.18) | 0.71 (0.29-1.73) | 0.75 (0.22-2.51) | 0.76 | 1.01 (0.66-1.56) | 0.44 |
| Prudent #1**‡** | 894 | 1.00 | 0.96 (0.37-2.52) | 0.46 (0.16-1.28) | 1.08 (0.44-2.66) | 0.67 (0.25-1.81) | 0.57 | 0.90 (0.62-1.29) | 0.95 |
| Prudent #2**‡** | 894 | 1.00 | 0.09 (0.02-0.41)\*\* | 0.61 (0.24-1.54) | 0.74 (0.33-1.69) | 0.97 (0.50-1.88) | 0.13 | 1.43 (1.06-1.94)\* | 0.44 |
| HEI-2015e | 894 | 1.00 | 0.78 (0.26-2.38) | 0.42 (0.17-1.05) | 0.85 (0.40-1.78) | 0.58 (0.24-1.39) | 0.26 | 0.93 (0.73-1.18) | 0.76 |
| \*\* *p* < 0.01; \* *p* < 0.05  a Test for trend across the quintiles of the dietary exposure. See Equation 2 in the main text.  b Hazard ratio for a standard deviation increase in the dietary exposure. See Equation 3 in the main text.  c Likelihood ratio test *p*-value for a natural cubic spline model (Equation 4 in the main text) compared to specifying the model with the scaled dietary exposure (Equation 3).  d All models adjusted for age, sex, race, BMI, household size, family income-to-poverty ratio, education status, health insurance status, receipt of SNAP benefits, food insecurity status, alcohol intake, smoking status, total caloric intake, weekly MET minutes, and the Charlson Comorbidity Index score.  e Healthy Eating Index 2015  **†** Dietary pattern obtained using penalized logistic regression; **‡** Dietary pattern obtained using principal components analysis (PCA).  Subjects were weighted, and the analysis was performed according to NCHS guidelines. | | | | | | | | | |