

Supplementary methods

****Mixed model, testing multiple parameters in 5-way interaction****

```
cd "D:\...\DATA"
```

```
use 2020-04-17-Q2,clear
```

```
**TotalHEIScore ~ (SandEnerGrp + cenAge + Sex + Race + PovStat + Age0 Grp) ^5 + (cenAge | HNDId)
```

*****FINAL CODE: TWO wayears Output*****

```
xtmixed TotalHEIScore SandEnerGrp##c.cenAge##Sex##Race##PovStat##Age0 Grp || HNDId:  
cenAge
```

****Main effect byears each group interacted with sandwich consumption****

```
margins SandEnerGrp#Sex, dyearsdx(_cons)
```

```
margins SandEnerGrp#Race, dyearsdx(_cons)
```

```
margins SandEnerGrp#PovStat, dyearsdx(_cons)
```

```
margins SandEnerGrp#Age0 Grp, dyearsdx(_cons)
```

****Slopes byears each group interacted with sandwich consumption****

```
margins SandEnerGrp#Sex, dyearsdx(c.cenAge)
```

```
margins SandEnerGrp#Race, dyearsdx(c.cenAge)
```

```
margins SandEnerGrp#PovStat, dyearsdx(c.cenAge)
```

```
margins SandEnerGrp#Age0 Grp, dyearsdx(c.cenAge)
```

*****FINAL CODE: THREE WAY OUTPUT BY RACE*****

```
cd "D:\...\DATA"
```

```
use 2020-04-17-Q2,clear
```

```
xtmixed TotalHEIScore SandEnerGrp##c.cenAge##Sex##Race##PovStat##Age0 Grp || HNDId:  
cenAge
```

****Main effect byears each group interacted with sandwich consumption****

```
margins SandEnerGrp#Sex##Race, dyearsdx(_cons)
```

```
margins SandEnerGrp#PovStat##Race, dyearsdx(_cons)
```

```
margins SandEnerGrp#Age0 Grp##Race, dyearsdx(_cons)
```

****Slopes byears each group interacted with sandwich consumption****

```
margins SandEnerGrp#Sex##Race, dyearsdx(c.cenAge)
```

```
margins SandEnerGrp#PovStat##Race, dyearsdx(c.cenAge)
```

```
margins SandEnerGrp#Age0 Grp##Race, dyearsdx(c.cenAge)
```

*****FINAL CODE: FOUR WAY OUTPUT*****

```

cd "D:\...\DATA"

use 2020-04-17-Q2,clear

xtmixed TotalHEIScore SandEnerGrp##c.cenAge##Sex##Race##PovStat##Age0 Grp || HNDid:
cenAge

**Main effect byyears each group interacted with sandwich consumption**

margins SandEnerGrp#Sex##Race##PovStat, dyyearsdx(_cons)

margins SandEnerGrp#Age0 Grp##Race##PovStat, dyyearsdx(_cons)

**Slopes byyears each group interacted with sandwich consumption**

margins SandEnerGrp#Sex##Race##PovStat, dyyearsdx(c.cenAge)

margins SandEnerGrp#Age0 Grp##Race##PovStat, dyyearsdx(c.cenAge)

*****FINAL CODE: FIVE WAY OUTPUT*****

cd "D:\...\DATA"

use 2020-04-17-Q2,clear

xtmixed TotalHEIScore SandEnerGrp##c.cenAge##Sex##Race##PovStat##Age0 Grp || HNDid:
cenAge

**Main effect byyears each group interacted with sandwich consumption**

margins SandEnerGrp#Sex##Race##PovStat##Age0 Grp, dyyearsdx(_cons)

**Slopes byyears each group interacted with sandwich consumption**

margins SandEnerGrp#Sex##Race##PovStat##Age0 Grp, dyyearsdx(c.cenAge)

```

Table S1. Mixed Model Regression Results of Relationship of Energy from Sandwiches with Healthy Eating Index-2010 scores as outcome.

Variable	Coefficient	<i>p</i>
Intercept	51.33	<0.001
Sandwich En > 0-20	-0.28	0.85
Sandwich En > 20	-3.30	0.02
cenAge	5.33	<0.001
SexMen	-3.70	0.07
RaceAA	-3.19	0.04
PovStatBelow	-8.34	<0.001
AgeGroup ≥ 50 years	-0.14	0.95
Sandwich En > 0-20:cenAge	-0.23	0.89
Sandwich En > 20:cenAge	0.88	0.62
Sandwich En > 0-20:SexMen	-0.26	0.92
Sandwich En > 20:SexMen	1.02	0.66
Sandwich En > 0-20:RaceAA	-1.76	0.37
Sandwich En > 20:RaceAA	2.13	0.25
Sandwich En > 0-20:PovStatBelow	1.24	0.62
Sandwich En > 20:PovStatBelow	1.37	0.57
Sandwich En > 0-20: AgeGroup ≥ 50 years	-4.22	0.15
Sandwich En > 20: AgeGroup ≥ 50 years	-10.21	0.001

cenAge:SexMen	-4.03	0.09
cenAge:RaceAA	-1.66	0.37
cenAge:PovStatBelow	-5.80	0.02
cenAge:AgeGroup ≥ 50 years	-5.66	0.01
SexMen:RaceAA	2.33	0.37
SexMen:PovStatBelow	2.26	0.51
SexMen:AgeGroup ≥ 50 years	-1.23	0.74
RaceAA:PovStatBelow	5.69	0.03
RaceAA:AgeGroup ≥ 50 years	-1.41	0.67
PovStatBelow:AgeGroup ≥ 50 years	-5.94	0.17
Sandwich En > 0–20:cenAge:SexMen	3.72	0.20
Sandwich En > 20:cenAge:SexMen	2.36	0.41
Sandwich En > 0–20:cenAge:RaceAA	-0.53	0.82
Sandwich En > 20:cenAge:RaceAA	0.59	0.80
Sandwich En > 0–20:cenAge:PovStatBelow	7.44	0.02
Sandwich En > 20:cenAge:PovStatBelow	1.77	0.53
Sandwich En > 0–20:cenAge: AgeGroup ≥ 50 years	3.85	0.16
Sandwich En > 20:cenAge: AgeGroup ≥ 50 years	7.40	0.01
Sandwich En > 0–20:SexMen:RaceAA	2.35	0.45
Sandwich En > 20:SexMen:RaceAA	-1.52	0.60
Sandwich En > 0–20:SexMen:PovStatBelow	1.43	0.72
Sandwich En > 20:SexMen:PovStatBelow	-2.33	0.54
Sandwich En > 0–20:SexMen:AgeGroup ≥ 50 years	-0.13	0.98
Sandwich En > 20:SexMen:AgeGroup ≥ 50 years	8.18	0.08
Sandwich En > 0–20:RaceAA:PovStatBelow	1.30	0.67
Sandwich En > 20:RaceAA:PovStatBelow	-1.04	0.72
Sandwich En > 0–20:RaceAA:AgeGroup ≥ 50 years	6.40	0.13
Sandwich En > 20:RaceAA:AgeGroup ≥ 50 years	0.95	0.82
Sandwich En > 0–20:PovStatBelow:AgeGroup ≥ 50 years	1.08	0.83
Sandwich En > 20:PovStatBelow:AgeGroup ≥ 50 years	11.95	0.02
cenAge:SexMen:RaceAA	2.90	0.33
cenAge:SexMen:PovStatBelow	7.09	0.07
cenAge:SexMen:AgeGroup ≥ 50 years	7.86	0.02
cenAge:RaceAA:PovStatBelow	3.24	0.26
cenAge:RaceAA:AgeGroup ≥ 50 years	6.32	0.03
cenAge:PovStatBelow:AgeGroup ≥ 50 years	14.67	<0.001
SexMen:RaceAA:PovStatBelow	2.27	0.58
SexMen:RaceAA:AgeGroup ≥ 50 years	-0.95	0.85
SexMen:PovStatBelow:AgeGroup ≥ 50 years	-0.51	0.95
RaceAA:PovStatBelow:AgeGroup ≥ 50 years	3.33	0.53
Sandwich En > 0–20:cenAge:SexMen:RaceAA	-2.33	0.52
Sandwich En > 20:cenAge:SexMen:RaceAA	-2.55	0.47
Sandwich En > 0–20:cenAge:SexMen:PovStatBelow	-10.34	0.02
Sandwich En > 20:cenAge:SexMen:PovStatBelow	-7.08	0.10
Sandwich En > 0–20:cenAge:SexMen:AgeGroup ≥ 50 years	-5.26	0.20
Sandwich En > 20:cenAge:SexMen:AgeGroup ≥ 50 years	-10.22	0.01
Sandwich En > 0–20:cenAge:RaceAA:PovStatBelow	-3.29	0.37
Sandwich En > 20:cenAge:RaceAA:PovStatBelow	0.18	0.96
Sandwich En > 0–20:cenAge:RaceAA:AgeGroup ≥ 50 years	-4.59	0.22
Sandwich En > 20:cenAge:RaceAA:AgeGroup ≥ 50 years	-3.22	0.38
Sandwich En > 0–20:cenAge:PovStatBelow:AgeGroup ≥ 50 years	-9.33	0.04
Sandwich En > 20:cenAge:PovStatBelow:AgeGroup ≥ 50 years	-10.95	0.01

Sandwich En > 0–20:SexMen:RaceAA:PovStatBelow	–8.57	0.07
Sandwich En > 20:SexMen:RaceAA:PovStatBelow	–1.45	0.75
Sandwich En > 0–20:SexMen:RaceAA:AgeGroup ≥ 50 years	–3.65	0.57
Sandwich En > 20:SexMen:RaceAA:AgeGroup ≥ 50 years	1.65	0.79
Sandwich En > 0–20:SexMen:PovStatBelow:AgeGroup ≥ 50 years	3.74	0.66
Sandwich En > 20:SexMen:PovStatBelow:AgeGroup ≥ 50 years	–2.16	0.80
Sandwich En > 0–20:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	–0.89	0.89
Sandwich En > 20:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	–6.44	0.33
cenAge:SexMen:RaceAA:PovStatBelow	–2.25	0.61
cenAge:SexMen:RaceAA:AgeGroup ≥ 50 years	–6.57	0.13
cenAge:SexMen:PovStatBelow:AgeGroup ≥ 50 years	–15.16	0.004
cenAge:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	–9.44	0.03
SexMen:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	1.83	0.83
Sandwich En > 0–20:cenAge:SexMen:RaceAA:PovStatBelow	3.06	0.56
Sandwich En > 20:cenAge:SexMen:RaceAA:PovStatBelow	2.72	0.58
Sandwich En > 0–20:cenAge:SexMen:RaceAA:AgeGroup ≥ 50 years	5.72	0.27
Sandwich En > 20:cenAge:SexMen:RaceAA:AgeGroup ≥ 50 years	4.10	0.41
Sandwich En > 0–20:cenAge:SexMen:PovStatBelow:AgeGroup ≥ 50 years	10.93	0.04
Sandwich En > 20:cenAge:SexMen:PovStatBelow:AgeGroup ≥ 50 years	13.11	0.008
Sandwich En > 0–20:cenAge:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	3.99	0.45
Sandwich En > 20:cenAge:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	3.38	0.50
Sandwich En > 0–20:SexMen:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	–3.89	0.70
Sandwich En > 20:SexMen:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	–5.12	0.59
cenAge:SexMen:RaceAA:PovStatBelow:AgeGroup ≥ 50 years	5.63	0.22

Abbreviations: AA – African American; cenAge – centered age; En-energy; PovStatBelow – poverty status below (< 125% poverty)

Table S2. Change in Healthy Eating Index–2010 scores based on mixed-effect regression analyses.

Group	Slope	SE	<i>p</i>
Men			
<i>0 energy from sandwich</i>			
African American			
<50 years, <125% poverty	4.93	1.65	0.003
<50 years, >125% poverty	2.45	1.45	0.092
≥50 years, <125% poverty	2.19	2.44	0.370
≥50 years, >125% poverty	4.57	1.95	0.019
White			
<50 years, <125% poverty	2.35	2.73	0.389
<50 years, >125% poverty	1.97	2.04	0.334
≥50 years, <125% poverty	5.30	5.33	0.320
≥50 years, >125% poverty	3.34	1.97	0.091
<i>>0–20% energy from sandwich</i>			
African American			
<50 years, <125% poverty	2.47	1.21	0.042
<50 years, >125% poverty	3.18	1.33	0.017
≥50 years, <125% poverty	5.18	2.17	0.017
≥50 years, >125% poverty	4.84	1.93	0.012

White			
<50 years, <125% poverty	3.28	1.99	0.099
<50 years, >125% poverty	5.04	1.52	0.001
≥50 years, <125% poverty	5.33	3.23	0.099
≥50 years, >125% poverty	5.44	1.85	0.003
<i>>20% energy from sandwich</i>			
African American			
<50 years, <125% poverty	3.68	1.17	0.002
<50 years, >125% poverty	3.82	1.13	0.001
≥50 years, <125% poverty	5.08	1.85	0.006
≥50 years, >125% poverty	3.65	1.53	0.017
White			
<50 years, <125% poverty	0.77	1.81	0.672
<50 years, >125% poverty	4.49	1.35	0.001
≥50 years, <125% poverty	1.06	2.83	0.707
≥50 years, >125% poverty	4.00	1.66	0.016
Women			
<i>0 energy from sandwich</i>			
African American			
<50 years, <125% poverty	1.08	1.18	0.362
<50 years, >125% poverty	3.84	1.30	0.003
≥50 years, <125% poverty	7.11	1.63	<0.001
≥50 years, >125% poverty	4.26	1.62	0.008
White			
<50 years, <125% poverty	-0.16	2.05	0.937
<50 years, >125% poverty	5.59	1.40	<0.001
≥50 years, <125% povert years	8.25	2.50	0.001
≥50 years, >125% poverty	-0.24	1.67	0.886
<i>>0-20% energy from sandwich</i>			
African American			
<50 years, <125% poverty	4.59	1.05	<0.001
<50 years, >125% poverty	3.12	1.20	0.009
≥50 years, <125% poverty	4.36	1.75	0.013
≥50 years, >125% poverty	2.70	1.66	0.105
White			
<50 years, <125% poverty	7.07	1.92	<0.001
<50 years, >125% poverty	5.35	1.22	<0.001
≥50 years, <125% poverty	10.08	2.29	<0.001
≥50 years, >125% poverty	3.40	1.55	0.028
<i>>20% energy from sandwich</i>			
African American			
<50 years, <125% poverty	4.67	0.95	<0.001
<50 years, >125% poverty	5.16	1.10	<0.001
≥50 years, <125% poverty	6.84	1.49	<0.001
≥50 years, >125% poverty	10.03	1.45	<0.001
White			
<50 years, <125% poverty	2.21	1.38	0.109
<50 years, >125% poverty	6.46	1.29	<0.001
≥50 years, <125% poverty	7.85	2.06	<0.001
≥50 years, >125% poverty	7.73	1.66	<0.001