

SUPPLEMENTAL DIGITAL CONTENT 1: VARIABLE MEASUREMENT DETAILS

Moderate-to-vigorous physical activity (MVPA) was measured at each wave with questions modified from Godin and Shepard (1). Participants were asked to report hours per week spent in mild, moderate or strenuous exercise. Responses to the moderate and strenuous exercise questions were summed to obtain hours per week of MVPA. Two week test-retest correlations were 0.52 for moderate physical activity and 0.63 for strenuous physical activity at baseline, 0.85 for MVPA at wave 3 and 0.76 for MVPA at wave 4. This self-report measure was validated with accelerometers in a sub-sample of 121 participants at wave 3, which found that self-report did not systematically over or underestimate MVPA compared to accelerometer measurements (2).

Having a first child was assessed at waves 2 through 4 with the question, “How many children do you have (including step-children or adopted children)?” Two week test-retest correlations for the children question were 1.0 at wave 3 and 0.98 at wave 4.

Employment was assessed at baseline with the question, “How many hours do you work for pay in a typical week during the school year?” Employment was assessed at all waves of follow-up with the question, “How many hours per week do you work for pay?” Participants who reported working more than 20 hours per week were coded as working full-time. More than 20 hours per week was chosen as the cut-point for full-time employment since this was the ceiling category for the baseline survey and for high school aged respondents at wave 2. Two week test-retest correlations for the employment question were 0.94 at wave 3 and 0.84 at wave 4.

Marriage was assessed at wave 2 from young adult aged participants and at wave 3 and wave 4 from all participants. Participants who were high school aged (15 to 18 years) at wave 2 were not asked whether they were married. Participants who responded “Married” to the question,

“What is your relationship status?” were coded as married. Two week test-retest percent concordance for the relationship status question was 98% at wave 3 and 95% at wave 4.

Post-secondary student status was assessed as waves 2 through 4 with the question, “Which of the following best describes your student status (for the majority of the past year)?” Participants who responded “Not a student” to this question were coded as non-student. All other responses except missing were coded as students. Two week test-retest percent concordance for the student status question was 95% at wave 3 and 95% at wave 4.

Living with parents was assessed at waves 2 through 4 from participants who responded, “My Parents” to the question, “During the past year, with whom did you live the majority of the time?” Two week test-retest percent concordance for the living with parents question was 100% at wave 3 and 100% at wave 4.

Sex as male or female was self-reported at baseline.

Ethnicity/race was self-reported at baseline. Respondents chose whether they identified with one or more of the categories: White, Black or African American, Hispanic or Latino, Asian American, Hawaiian or Pacific Islander, or American Indian or Native American. Hispanic or Latino respondents were classified as Hispanic or Latino ethnicity regardless of racial identity. Non-Hispanic respondents who reported two races with one race being “white” were classified as the non-white race they reported. Hawaiian or Pacific Islander and American Indian or Native American, were included in the combined race category because of small sample sizes. Five category ethnicity/race was used as a covariate in all models. For models stratified on race, white participants were compared to participants of color

Age in years was self-reported or calculated by subtracting respondent's birth date from the survey completion date at each wave of follow-up.

Socioeconomic Status (SES) was represented by student reported maximum parent education level at baseline (kappa = 0.78). If a student reported being on public assistance, free or reduced lunch or neither parent was employed, SES category was adjusted down (3).

REFERENCES

1. Godin G, Shephard RJ. A simple method to assess exercise behavior in the community. *Can. J. Appl. Sport Sci.* [electronic article]. 1985;10(3):141–146. (<http://europepmc.org/abstract/MED/4053261>)
2. Sirard JR, Hannan P, Cutler GJ, et al. Evaluation of 2 self-report measures of physical activity with accelerometry in young adults. *J. Phys. Act. Health* [electronic article]. 2013;10(1):85–96. (<http://www.ncbi.nlm.nih.gov/pubmed/22241145>)
3. Neumark-Sztainer D, Story M, Hannan PJ, et al. Overweight status and eating patterns among adolescents: Where do youths stand in comparison with the Healthy People 2010 objectives? *Am. J. Public Health.* 2002;92(5):844–851.

Supplemental Digital Content 2: Raw P Values and False Discovery Rates from tests for Interaction

Exposure	Interaction	Raw P Value	False Discovery Rate (FDR)
<i>Change in Physical Activity from Wave 1 to Wave 2</i>			
Began Working More than 20 Hours/ Week	Baseline SES	0.02	0.26
	Sex	0.60	0.77
	Race	0.10	0.41
	Age	0.05	0.31
<i>Change in Physical Activity from Wave 2 to Wave 3</i>			
Had First Child	Baseline SES	0.19	0.56
	Sex	0.27	0.65
	Race	0.21	0.58
	Age	0.03	0.26
	Completed Education	0.98	0.98
	Level of Education	0.10	0.41
Began Working More than 20 Hours/ Week	Baseline SES	0.40	0.72
	Sex	0.19	0.56
	Race	0.47	0.76
	Age	0.92	0.96
	Completed Education	0.52	0.77
	Level of Education	0.65	0.78
	Got Married	Baseline SES	0.80
Sex		0.32	0.69
Race		0.34	0.70
Age		0.62	0.78
Completed Education		0.75	0.85
Level of Education		0.80	0.87
Began Post-Secondary Education	Baseline SES	0.66	0.78
	Sex	0.55	0.77
	Race	0.59	0.77
	Age	0.60	0.77
	Completed Education	0.52	0.77
	Level of Education	0.58	0.77
Left Post-Secondary Education	Baseline SES	0.09	0.41
	Sex	0.05	0.31
	Race	0.60	0.77
	Age	0.09	0.41

	Completed Education	0.38	0.70
	Level of Education	0.44	0.72
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	Baseline SES	0.19	0.56
	Sex	0.29	0.66
Left Parental	Race	0.01	0.23
Home	Age	0.50	0.77
	Completed Education	0.26	0.63
	Level of Education	0.67	0.79
<i>Change in Physical Activity from EAT-III to EAT-IV</i>			
	Baseline SES	0.02	0.26
	Sex	0.13	0.49
Had First Child	Race	0.004	0.13
	Age	0.44	0.72
	Completed Education	0.44	0.72
	Level of Education	0.35	0.70
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	Baseline SES	0.73	0.84
	Sex	0.88	0.93
Began Working	Race	0.17	0.56
More than 20	Age	0.09	0.41
Hours/ Week	Completed Education	0.01	0.20
	Level of Education	0.58	0.77
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	Baseline SES	0.22	0.61
	Sex	0.05	0.31
Got Married	Race	0.29	0.66
	Age	0.60	0.77
	Completed Education	0.83	0.89
	Level of Education	0.97	0.98
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	Baseline SES	0.36	0.70
	Sex	0.24	0.62
Began Post-	Race	0.77	0.86
Secondary	Age	0.37	0.70
Education	Completed Education	0.43	0.72
	Level of Education	0.63	0.78
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	Baseline SES	0.03	0.26
Left Post-	Sex	0.10	0.41
Secondary	Race	0.0004	0.03
Education	Age	0.25	0.63
	Completed Education	0.19	0.56

	Level of Education	0.05	0.31
	Baseline SES	0.59	0.77
	Sex	0.94	0.97
Left Parental	Race	0.02	0.26
Home	Age	0.66	0.78
	Completed Education	0.37	0.70
	Level of Education	0.17	0.56

Supplemental Digital Content 3. Changes in MVPA associated with life events stratified on ethnicity/race

	Change in MVPA (Hours/Week) from Wave 1 to Wave 2 ^a	Change in MVPA (Hours/Week) from Wave 2 to Wave 3 ^a	Change in MVPA (Hours/Week) from Wave 3 to Wave 4 ^a
<i>White Participants</i>			
Had First Child	N/A	-0.37 [-1.11 to 0.38]	-1.15 [-1.70 to -0.61] ^b
Began Working more than 20 hrs/wk For Pay	0.05 [-0.60 to 0.70]	0.48 [-0.43 to 1.39]	-0.28 [-1.94 to 1.39]
Got Married	N/A	-0.37 [-1.03 to 0.29]	-1.25 [-1.90 to -0.60] ^b
Began Post Secondary Education	N/A	0.15 [-0.84 to 1.14]	0.25 [-0.77 to 1.27]
Left Post Secondary Education	N/A	-0.53 [-1.27 to 0.22]	0.09 [-1.11 to 1.30]
Left Parental Home	N/A	-0.47 [-1.50 to 0.56]	-2.05 [-3.21 to -0.88] ^b
<i>Participants of Color</i>			
Had First Child	N/A	-1.20 [-2.06 to -0.34] ^b	-0.92 [-2 to 0.16]
Began Working more than 20 hrs/wk For Pay	-0.64 [-1.57 to 0.29]	-0.25 [-1.20 to 0.70]	-0.55 [-3.59 to 2.49]
Got Married	N/A	0.08 [-1.10 to 1.26]	-0.78 [-1.91 to 0.35]
Began Post Secondary Education	N/A	-0.05 [-1.14 to 1.04]	0.21 [-1.19 to 1.61]
Left Post Secondary Education	N/A	0.48 [-0.65 to 1.6]	-1.21 [-2.57 to 0.16]
Left Parental Home	N/A	1.22 [-0.08 to 2.52]	-0.39 [-1.92 to 1.13]

^aModel adjusted for age, sex and SES

^bEstimate is statistically significant at $p < 0.05$

Supplemental Digital Content 4. Changes in MVPA associated with life events stratified by socioeconomic status (SES)

	Change in MVPA (Hours/Week) from Wave 1 to Wave 2 ^a	Change in MVPA (Hours/Week) from Wave 2 to Wave 3 ^a	Change in MVPA (Hours/Week) from Wave 3 to Wave 4 ^a
<i>High Mid to High SES</i>			
Had First Child	N/A	-0.54 [-1.47 to 0.39]	-0.65 [-1.32 to 0.02]
Began Working more than 20 hrs/wk For Pay	0.49 [-0.27 to 1.26]	0.50 [-0.51 to 1.51]	0.93 [-1.45 to 3.30]
Got Married	N/A	-0.29 [-1.06 to 0.48]	-0.86 [-1.67 to -0.06] ^b
Began Post Secondary Education	N/A	-0.31 [-1.34 to 0.73]	0.81 [-0.36 to 1.97]
Left Post Secondary Education	N/A	-0.003 [-0.83 to 0.82]	0.61 [-0.57 to 1.78]
Left Parental Home	N/A	0.55 [-0.78 to 1.87]	-1.14 [-2.56 to 0.29]
<i>Low to Mid SES</i>			
Had First Child	N/A	-0.94 [-1.64 to -0.24] ^b	-1.39 [-2.15 to -0.64] ^b
Began Working more than 20 hrs/wk For Pay	-0.71 [-1.46 to 0.03]	-0.06 [-0.91 to 0.79]	-0.74 [-2.76 to 1.28]
Got Married	N/A	-0.20 [-1.08 to 0.67]	-1.04 [-1.89 to -0.19] ^b
Began Post Secondary Education	N/A	0.21 [-0.76 to 1.18]	-0.14 [-1.22 to 0.94]
Left Post Secondary Education	N/A	-0.61 [-1.54 to 0.31]	-1.74 [-3.05 to -0.42] ^b
Left Parental Home	N/A	0.41 [-0.61 to 1.43]	-1.13 [-2.29 to 0.02]

^aModel adjusted for age, race and sex

^bEstimate is statistically significant at $p < 0.05$