Factor Analysis Test of an Ecological Model of Physical Activity Correlates

Supplemental Table 1
Variable Estimates on Factors Proposed in the CFA Model

	Estimate (SE)	p-value
Inclination to Activity		
Physical Activity Enjoyment (Range: 3-12)	1 (0)	NA
Physical Activity Barriers (Range: 4-20)	0.99 (0.07)	<.001
Physical Activity Self-Efficacy (Range: 3-12)	-1.073 (0.068)	<.001
Physical Activity Self-Management (Range: 5-15)	-1.227 (0.08)	<.001
BMI (z-score)	0.071 (0.023)	.002
Past Year Substance Use Frequency (Range: 3-15)	0.169 (0.037)	<.001
Depression (Range: 6-18)	0.953 (0.072)	<.001
Opportunities for Team Based Activity		
Activity Fee (Range: 1-3)	1 (0)	NA
Availability of a Sport Bus (yes/no)	-2.064 (0.141)	<.001
Distance to the Nearest Gym (kilometers)	-0.154 (0.04)	<.001
Distance to the nearest Rec Center (kilometers)	-0.411 (0.032)	<.001
Participation on Sports Teams (count)	-0.731 (0.08)	<.001
Opportunities for Exercise		
Density of Parks near Home (percent)	1 (0)	NA
Indoor Physical Education Facilities at School (count)	-0.182 (0.132)	.166[a]
Outdoor Physical Education Facilities at School (count)	0.324 (0.094)	.001
Perceived Neighborhood daytime safety (Range: 1-4)	-2.831 (0.14)	<.001
Perceived Neighborhood nighttime safety (Range: 1-4)	-2.699 (0.134)	<.001
Busy Streets in Neighborhood (count)	0.259 (0.066)	<.001
Distance to the nearest Trail (kilometers)	0.021 (0.023)	.345[a]
Access Points (10 count)	-3.546 (0.176)	<.001
Reported Neighborhood Crime (count)	-1.552 (0.084)	<.001
Distance to School (kilometers)	0.51 (0.039)	<.001
Home Physical Activity Equipment (Range 0:5)	1.065 (0.12)	<.001

Supplemental Table 1 (*continued*)
Variable Estimates on Factors Proposed in the CFA Model

	Estimate (SE)	p-value
Social Norms		
Perceived Mother's PA (Range: 1-4)	1 (0)	NA
Perceived Father's PA (Range: 1-4)	0.891 (0.059)	<.001
Parent Self-Reported PA (hours/week)	1.218 (0.19)	<.001
Parent Active with Child (hours/week)	0.395 (0.077)	<.001
Family does Active Things (Range: 1-4)	1.112 (0.059)	<.001
Family Support for Physical Activity (Range: 1-4)	1.305 (0.068)	<.001
Parent helps Child be Active (hours/week)	1.077 (0.111)	<.001
Parent Talks to Child about being Active (Range: 1-5)	0.111 (0.054)	.039
Friends Play Sports (Range: 1-4)	1.732 (0.085)	<.001
Friends think it is Important to be Active (Range: 1-4)	1.615 (0.079)	<.001
Friends are Active Together (Range: 1-4)	1.571 (0.078)	<.001
Friend Self-Reported Physical Activity (hours/week)	1.085 (0.198)	<.001
School Physical Activity Promotion (Range: 1-5)	0.8 (0.058)	<.001
Average Physical Activity of Students in School (hours/week)	0.161 (0.032)	<.001
Degree of PE		
Time spent in PA in an average week (hours/week)	1 (0)	NA
School's Required Physical Education Credits (credits/year)	0.054 (0.008)	<.001
Had gym class in the last year (yes/no)	0.139 (0.033)	<.001
Passive Entertainment		
Video Games in Bedroom (yes/no)	1 (0)	NA
TV in Bedroom (yes/no)	1.089 (0.059)	<.001
Screen Time (hours/day)	-1.51 (0.115)	<.001
Parent watches TV with Child (hours/week)	-0.48 (0.059)	<.001
Parent TV hours (hours/week)	-4.22 (0.312)	<.001
Home Media Equipment (count)	-1.231 (0.104)	<.001

Note.
a: p-values > .05 indicate that the variable does not load well onto the proposed factor

Supplemental Table 2
Factor Loadings from the 8-factor EFA Solution Using Oblimin Rotation

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor Loading from Geomin Rotation
Factor 1									
Physical Activity Enjoyment (Range: 3-12)	-0.324	0.186	-0.123	-0.027	-0.034	-0.032	0.027	0.036	1: Personal/Social
Physical Activity Self-Efficacy (Range: 3-12)	0.381	0	0.161	0.012	0.022	0.002	-0.061	0.064	1: Personal/Social
Physical Activity Self-Management (Range: 5-15)	0.403	0.101	0.177	0.048	0.041	-0.015	-0.017	0.007	1: Personal/Social
Participation on Sports Teams (count)	0.323	-0.056	0.152	-0.092	0.054	0.076	-0.015	0.028	1: Personal/Social
Family does Active Things (Range: 1-4)	0.32	-0.157	0.317	0.197	-0.162	0.011	0.01	-0.119	1: Personal/Social
Family Support for Physical Activity (Range: 1-4)	0.434	-0.162	0.3	0.058	-0.043	0.106	-0.043	-0.026	1: Personal/Social
Friends Play Sports (Range: 1-4)	0.831	0.028	-0.079	-0.095	0.018	-0.015	0.005	0.01	1: Personal/Social
Friends think it is Important to be Active (Range: 1-4)	0.797	0.038	-0.083	0.016	0.022	-0.022	0.028	-0.035	1: Personal/Social
Friends are Active Together (Range: 1-4)	0.704	0.007	0.025	-0.013	-0.044	-0.023	-0.007	0.032	1: Personal/Social
Factor 2									
Physical Activity Barriers (Range: 4-20)	-0.199	0.233	-0.086	0.109	0.013	0.017	0.052	0.064	1: Personal/Social
BMI (z-score)	-0.054	0.143	0.097	-0.08	0.004	-0.048	0.032	-0.011	2: Personal 2
Depression (Range: 6-18)	-0.191	0.3	-0.087	0.031	0.113	-0.014	0.003	0.114	2: Personal 2
Perceived Neighborhood daytime safety (Range: 1-4)	0.016	0.872	-0.001	0.018	-0.034	-0.006	-0.01	-0.039	2: Personal 2
Perceived Neighborhood nighttime safety (Range: 1-4)	0.031	0.889	0.028	-0.004	-0.02	0.013	-0.003	-0.005	2: Personal 2
Factor 3									
Perceived Mother's PA (Range: 1-4)	0.235	-0.148	0.316	0.16	-0.076	0.039	-0.008	0.038	1: Personal/Social
Perceived Father's PA (Range: 1-4)	0.229	-0.082	0.276	0.156	-0.053	0.112	0.032	0.035	1: Personal/Social
Parent Self-Reported PA (hours/week)	-0.105	-0.008	0.491	-0.051	0.037	-0.001	-0.034	0.035	3: Parent
Parent Active with Child (hours/week)	-0.156	0.052	0.609	-0.075	-0.046	-0.096	0.041	-0.087	3: Parent
Parent helps Child be Active (hours/week)	0.029	0.045	0.579	-0.121	0.044	0.045	-0.03	0.039	3: Parent
Parent Talks to Child about being Active (Range: 1-5)	-0.065	0.096	0.271	-0.006	-0.098	-0.05	0.066	-0.067	3: Parent
Parent watches TV with Child (hours/week)	-0.118	0.063	0.304	-0.198	-0.037	-0.044	0.038	-0.007	3: Parent
Factor 4									
Video Games in Bedroom (yes/no)	-0.078	0.056	-0.033	0.792	0.038	-0.006	-0.048	-0.004	4: Sedentary Behavior
TV in Bedroom (yes/no)	-0.005	-0.009	-0.026	0.904	-0.056	-0.02	-0.011	-0.013	4: Sedentary Behavior
Screen Time (hours/day)	-0.062	0.082	-0.074	-0.334	-0.004	0.018	0.038	0.024	4: Sedentary Behavior
Parent TV hours (hours/week)	-0.038	0.072	0.056	-0.366	-0.015	-0.034	-0.015	0.019	4: Sedentary Behavior
Home Media Equipment (count)	0.021	0.096	0.071	-0.321	0.044	0.09	-0.119	0.282	4: Sedentary Behavior

Supplemental Table 2 (*continued*)
Factor Loadings from the 8-factor EFA Solution Using Oblimin Rotation

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor Loading from Geomin Rotation
Factor 5									
Availability of a Sport Bus (yes/no)	0.009	0.051	0.041	0.049	-1.023	0.074	0.012	0.13	5: School 1
Indoor Physical Education Faciliries at School (count)	-0.006	0.015	0.024	0.106	0.624	0.42	-0.012	0.187	5: School 1
Outdoor Physical Education Facilities at School (count)	0.043	0.029	0.095	0.144	0.555	-0.07	0.344	0.278	5: School 1
Average Physical Activity of Students in School (hours/week)	0.065	0.017	0.037	0.076	0.4	0.109	-0.08	0.386	5: School 1
Time spent in PA in an average week (hours/week)	0.008	0.017	-0.016	-0.023	0.545	-0.093	-0.178	-0.078	5: School 1
Factor 6									
Activity Fee (Range: 1-3)	0.002	0.009	-0.007	0.053	0.35	0.519	0.299	-0.152	6: School 2
Distance to the nearest Trail (kilometers)	-0.024	-0.013	-0.107	-0.079	-0.231	0.275	-0.118	-0.009	5: School 1
School's Required Physical Education Credits (credits/year)	0.02	0.006	0.008	0.053	0.167	-0.808	0.086	0.041	6: School 2
Had gym class in the last year (yes/no)	0.001	0.008	0.117	-0.088	0.054	-0.2	-0.12	-0.13	6: School 2
Factor 7									
Past Year Substance Use Frequency (Range: 3-15)	-0.052	0.027	-0.051	-0.072	0.109	0.056	-0.16	0.039	7: Environment 1
Busy Streets in Neighborhood (count)	0.017	-0.025	-0.004	-0.076	-0.04	-0.063	0.732	-0.02	7: Environment 1
Factor 8									
Distance to the Nearest Gym (kilometers)	0.011	0.046	-0.033	0.018	0.089	-0.131	-0.288	0.338	8: Environment 2
Distance to the nearest Rec Center (kilometers)	-0.03	-0.123	-0.078	-0.078	-0.201	0.155	0.294	0.381	7: Environment 1
Density of Parks near Home (percent)	-0.02	-0.084	0.022	-0.024	-0.051	-0.036	-0.05	0.431	8: Environment 2
Access Points (10 count)	0	0.108	0.033	0.029	0.128	0.066	-0.089	-0.726	7: Environment 1
Reported Neighborhood Crime (count)	0.012	0.139	0.001	0.005	-0.074	0.027	0.26	-0.588	8: Environment 2
Distance to School (kilometers)	0.028	0.028	0.005	0.048	-0.166	0.089	0.159	0.418	7: Environment 1
Home Physical Activity Equipment (Range 0:5)	0.092	0.003	0.209	-0.124	0.015	0.108	-0.1	0.236	8: Environment 2
Friend Self-Reported Physical Activity (hours/week)	0.147	-0.011	-0.047	-0.082	0.12	0.084	-0.015	0.148	1: Personal/Social
School Physical Activity Promotion (Range: 1-5)	0.031	0.05	0.089	0.119	-0.335	-0.125	0.075	0.469	7: Environment 1