

# Technical Compendium for SHAPE Briefing 13



1998  
2002  
2006

## Family connectedness and health

### Overview

Listed below are the technical notes for the key indicators appearing in the figures and analyses presented in *SHAPE Briefing 13, Family connectedness and health*. Following these notes are selected results obtained from the logistic regression analysis performed using these variables to determine if there is a significant relationship between family connectedness (as measured by the number of meals families share in a typical week) and various health outcomes.

### Technical Notes for Health Outcome Measures

Table 1: Technical notes on variables appearing in SHAPE Briefing 13

Reference in Briefing	Health Indicator	Technical Notes
Figures 1, 2 and 3	Sharing meals as a family	<p>This indicator may be interpreted as a measure of the level of oversight parents have regarding their child's daily nutrition; and/or as an indicator of "family connectedness."</p> <p>For this item, parents were asked:</p> <ul style="list-style-type: none"> <li>"During the past week, on how many days did most or all of the family members who live in the household eat a meal together?"</li> </ul> <p>Respondents were asked to provide the actual number of days on which this occurred and these responses were later grouped into the categories: 0 days; 1 or 2 days; 3 or 4 days; 5 or 6 days; or every day.</p>
Figure 4	Activities that help build connectedness	<p>Several indicators were used to assess the frequency of various activities that build family connectedness for children aged 6 to 11. These include:</p> <ul style="list-style-type: none"> <li>"In a typical week, how often do you or any other family members talk to your child about his or her daily activities?"</li> <li>In a typical week, how often do you or any other family members play games or sports with your child?"</li> <li>In a typical week, how often do you or any other family members read books with your child?"</li> </ul> <p>For each of the above items, the responses were based on this set of categories:</p> <ul style="list-style-type: none"> <li>"Would you say not at all, once or twice, 3 to 6 times, or every day?"</li> </ul>
Figure 5	Home alone after school	<p>Two items were used to provide information about the level of adult supervision present in the lives of children in Grades 1 to 6, and youth in Grades 7 to 12.</p> <p>For children in Grades 1 to 6, parents were asked:</p> <ul style="list-style-type: none"> <li>"On a typical school day, how much time does your child spend doing the following activity: Being responsible for himself or herself after school when there is no adult or babysitter around."</li> </ul> <p>The responses were assigned to pre-coded categories:</p> <ul style="list-style-type: none"> <li>None;</li> </ul>

- 1-14 minutes;
- 15-29 minutes;
- 30-44 minutes;
- 45-59 minutes;
- 1 hour;
- 1 1/2 hours;
- 2 hours;
- 2 1/2 hours;
- 3 hours;
- 3 1/2 hours;
- 4 hours;
- 4 1/2 hours; and
- 5 or more hours.

The responses were recoded and collapsed into the following categories:

- No time at all
- Up to 30 minutes per day
- 30 minutes to 1 hour
- 1 to 2 hours
- 2 hours or more

*Figure 6*

Hanging out without adult supervision

For adolescents in Grades 7 to 12, parents were asked:

- “During a typical school week, including the weekend, how many hours does your child spend doing the following activities: Hanging out with friends without adult supervision.”

Responses were recorded in units of whole hours per school week and further grouped in to these categories:

- No time at all
- 1 to 2 hours
- 3 to 4 hours
- 5 to 9 hours
- 10 hours or more

## Technical Notes for Logistic Regression Analyses

The logistic regression analyses were performed using several control variables (dummy coded as presence/absence variables) and several health outcome variables. The health outcome measures included the variables listed in the table below.

Table 2: Technical notes for the health outcome variables used in logistic regression analyses

Age group	Health outcome	Technical Notes
0 to 17	Overall health	<p>This indicator provides an overall assessment of the child's health based on the parent's perception of the child's general well-being. The question asked was:</p> <ul style="list-style-type: none"> <li>• “How would you describe your child's health. In general, would you say your child's health is excellent, very good, good, fair or poor?”</li> </ul>
4 to 17	Emotional health	<p>This item is one of several indicators used to assess the child's emotional health and well-being. The questions asked was:</p> <p>“Now I am going to ask questions about some positive and negative behaviors that sometimes describe children. For each item, please tell me how often this is true for your child during the past month:</p> <ul style="list-style-type: none"> <li>• He or she is happy and cheerful.</li> </ul> <p>Would you say never, rarely, sometimes, usually, or always?”</p>

---

2 to 12	Sugar-sweetened beverages	<p>Various indicators were used as measures of a child's daily diet and nutrition.</p> <p>The questions were also framed by a specific time reference ("yesterday").</p> <p>For sugar-sweetened beverages, a "screening" question was asked:</p> <ul style="list-style-type: none"> <li>• "Yesterday, did your child drink any beverages sweetened with sugar such as pop, soda, soft drinks, fruit punches, Kool-Aid, lemonade or fruit-flavored drinks?"</li> </ul> <p>The wording of the question included the clarifying statement: "Do not include chocolate milk or strawberry milk."</p> <p>The interviewers were also instructed that if a respondent mentioned other kinds of beverages sweetened with sugar such as tea, iced-tea, cranberry cocktail, or fruit-flavored syrups, to count the response as "Yes."</p> <p>Those who indicated "Yes" were asked a follow-up question about the number of beverages:</p> <ul style="list-style-type: none"> <li>• "Yesterday, how many glasses, bottles, cans or cartons did your child drink?"</li> </ul> <p>Interviewers were instructed to have parents count any part of a glass as one (full) glass consumed and to ask parents to estimate the number of glasses that were consumed even if the child drank beverages from a bottle, can or carton.</p>
2 to 12	Fruit and vegetable consumption	<p>The questions were also framed by a specific time reference ("yesterday").</p> <p>For fruit consumption, parents were asked to report:</p> <ul style="list-style-type: none"> <li>• "Yesterday, how many <u>servings</u> of fruit such as an apple or banana or 100% fruit juice, did your child have?"</li> </ul> <p>If asked to clarify, survey staff members were instructed to respond: "a <u>serving</u> is the child's regular portion of this food."</p> <p>For vegetable consumption, parents were asked to report:</p> <ul style="list-style-type: none"> <li>• "Yesterday, how many servings of vegetables like corn, green beans, green salad, or other vegetables did your child have?"</li> </ul> <p>If asked to clarify, survey staff members were instructed to respond: "a <u>serving</u> is the child's regular portion of this food."</p> <p>The total number of servings of fruits and vegetables eaten yesterday was derived by adding the answers to the two questions presented above. The "desired" combined total for consumption of fruits and vegetables yesterday was <i>five or more</i> servings.</p>

---

## Univariate distributions for predictor and control variables

## Outcome Measures

## Health outcome: Child's overall health is excellent

<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.4134	.5866	1.0
<i>95% conf. intervals</i>	.3948 .4322	.5678 .6052	
<i>Number of observations</i>	1682	2354	<b>4036</b>

## Health outcome: Child is always happy or cheerful

<i>Age 4 to 17</i>	False	True	Total
<i>Proportion</i>	.6729	.3271	1.0
<i>95% conf. intervals</i>	.6521 .6930	.3070 .3479	
<i>Number of observations</i>	2016	961	<b>2977</b>

## Health outcome: Consumes less than 2 sugary drinks

<i>Age 2 to 12</i>	False	True	Total
<i>Proportion</i>	.4036	.5964	1.0
<i>95% conf. intervals</i>	.3774 .4303	.5697 .6226	
<i>Number of observations</i>	805	1043	<b>1848</b>

## Health outcome: Consumes less than 3 servings of vegetables

<i>Age 2 to 12</i>	False	True	Total
<i>Proportion</i>	.1263	.8737	1.0
<i>95% conf. intervals</i>	.1106 .1438	.8562 .8894	
<i>Number of observations</i>	294	1966	<b>2260</b>

## Health outcome: Consumes less than 2 servings of fruit

<i>Age 2 to 12</i>	False	True	Total
<i>Proportion</i>	.7202	.2798	1.0
<i>95% conf. intervals</i>	.6965 .7428	.2572 .3035	
<i>Number of observations</i>	1659	612	<b>2271</b>

## Health outcome: Consumes less than 5 fruits and vegetables

<i>Age 2 to 12</i>	False	True	Total
<i>Proportion</i>	.3144	.6856	1.0
<i>95% conf. intervals</i>	.2913 .3384	.6616 .7087	
<i>Number of observations</i>	708	1542	<b>2250</b>

## Predictor Variable

## Eats 6 or 7 meals together per week

<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.4582	.5418	1.0
<i>95% conf. intervals</i>	.4393 .4772	.5228 .5607	
<i>Number of observations</i>	1860	2167	<b>4027</b>

**Control Variables: Race/Ethnicity**

<b>Asian or Pacific Islander non-Hispanic</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.9335	.0665	1.0
<i>95% conf. intervals</i>	.9233	.0576	
	.9424	.0767	
<i>Number of observations</i>	3743	295	<b>4038</b>

<b>Native American non-Hispanic</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.9921	.0079	1.0
<i>95% conf. intervals</i>	.9883	.0053	
	.9947	.0117	
<i>Number of observations</i>	4001	37	<b>4038</b>

<b>Black or African American non-Hispanic</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.8641	.1359	1.0
<i>95% conf. intervals</i>	.8509	.1237	
	.8763	.1491	
<i>Number of observations</i>	3487	551	<b>4038</b>

<b>Hispanic ethnicity of any race</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.9412	.0588	1.0
<i>95% conf. intervals</i>	.9335	.0519	
	.9481	.0665	
<i>Number of observations</i>	3701	337	<b>4038</b>

<b>White non-Hispanic</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.3141	.6859	1.0
<i>95% conf. intervals</i>	.2978	.6692	
	.3308	.7022	
<i>Number of observations</i>	1419	2619	<b>4038</b>

<b>Other or refused non-Hispanic</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.9550	.0450	1.0
<i>95% conf. intervals</i>	.9469	.0382	
	.9618	.0531	
<i>Number of observations</i>	3839	199	<b>4038</b>

**Control Variables: Household Income Levels / Location of Residence**

<b>Income less than 100 percent of FPL</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.8741	.1259	1.0
<i>95% conf. intervals</i>	.8608	.1136	
	.8864	.1392	
<i>Number of observations</i>	3439	479	<b>3918</b>

<b>Income 200 percent or more of FPL</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.2673	.7327	1.0
<i>95% conf. intervals</i>	.2505	.7152	
	.2848	.7495	
<i>Number of observations</i>	1005	2913	<b>3918</b>

<b>Income 100 to 199 percent of FPL</b>			
<i>Age 0 to 17</i>	False	True	Total
<i>Proportion</i>	.8586	.1414	1.0
<i>95% conf. intervals</i>	.8437	.1278	
	.8722	.1563	
<i>Number of observations</i>	3392	526	<b>3918</b>

<b>Location of residence</b>			
<i>Age 0 to 17</i>	Suburbs	Minneapolis	Total
<i>Proportion</i>	.6845	.3155	1.0
<i>95% conf. intervals</i>	.6747	.3059	
	.6941	.3253	
<i>Number of observations</i>	2144	1894	<b>4038</b>

## Results from the Logistic Regression Analysis

### LOGISTIC REGRESSION 1: Child's overall health is excellent (Age 0 to 17)

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	1.41	0.12	3.96	0.000	1.187 1.662
<i>Age Group 0-5</i>	1.14	0.11	1.32	0.188	.937 1.391
<i>Age Group 6-11</i>	1.15	0.12	1.35	0.178	.938 1.408
<i>Household income &gt;200% FPL</i>	1.43	0.17	3.03	0.002	1.134 1.801
<i>Asian, non-Hispanic</i>	0.28	0.05	-7.04	0.000	.1973 .400
<i>Black or African American, non-Hispanic</i>	0.77	0.10	-1.91	0.056	.592 1.006
<i>Native American, non-Hispanic</i>	0.72	0.30	-0.79	0.431	.317 1.632
<i>Hispanic, of any race</i>	0.43	0.07	-4.98	0.000	.311 .602
<i>Other or race unknown</i>	0.68	0.13	-2.07	0.039	.471 .980
<i>Urban resident</i>	1.07	0.09	0.84	0.403	.912 1.256

### LOGISTIC REGRESSION 2: Child is always happy or cheerful (Age 4 to 17)

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	1.39	0.15	3.14	0.002	1.133 1.715
<i>Age Group 0-5</i>	2.17	0.34	4.95	0.000	1.597 2.948
<i>Age Group 6-11</i>	1.33	0.15	2.51	0.012	1.065 1.664
<i>Household income &gt;200% FPL</i>	0.68	0.09	-2.80	0.005	.520 .892
<i>Asian, non-Hispanic</i>	3.70	0.74	6.51	0.000	2.494 5.483
<i>Black or African American, non-Hispanic</i>	3.23	0.50	7.55	0.000	2.381 4.379
<i>Native American, non-Hispanic</i>	1.86	0.84	1.37	0.170	.767 4.511
<i>Hispanic, of any race</i>	2.94	0.56	5.61	0.000	2.016 4.283
<i>Other or race unknown</i>	1.62	0.39	2.03	0.042	1.017 2.591
<i>Urban resident</i>	0.72	0.08	-3.15	0.002	.588 .884

**REGRESSION 3: Consumes less than 2 sugary drinks (Age 2 to 12)**Number of obs = 1793  
F (9, 1781) = 6.73Population size = 1917.4  
Prob > F = 0.0000

Design df = 1789

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	1.37	0.166	2.64	0.008	1.085 1.741
<i>Age Group 0-5</i>	1.53	0.248	2.61	0.009	1.111 2.102
<i>Household income &gt;200% FPL</i>	1.40	0.233	2.03	0.043	1.011 1.940
<i>Asian, non-Hispanic</i>	1.32	0.334	1.1	0.271	.805 2.167
<i>Black or African American, non-Hispanic</i>	0.44	0.081	-4.45	0.000	.305 .631
<i>Native American, non-Hispanic</i>	0.57	0.300	-1.07	0.285	.202 1.602
<i>Hispanic, of any race</i>	1.01	0.244	0.06	0.953	.632 1.627
<i>Other or race unknown</i>	0.90	0.242	-0.41	0.684	.527 1.522
<i>Urban resident</i>	0.92	0.116	-0.64	0.524	.721 1.181

**LOGISTIC REGRESSION 4: Consumes less than 2 servings or fruit (Age 2 to 12)**Number of obs = 2204  
F (9, 2192) = 16.11Population size = 2370.4  
Prob >F = 0.0000

Design df = 2200

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	0.583	0.073	-4.29	0.000	.456 .746
<i>Age Group 0-5</i>	0.415	0.055	-6.61	0.000	.319 .538
<i>Household income &gt;200% FPL</i>	0.543	0.086	-3.87	0.000	.398 .739
<i>Asian, non-Hispanic</i>	4.26	0.918	6.72	0.000	2.792 6.500
<i>Black or African American, non-Hispanic</i>	1.591	0.296	2.5	0.012	1.105 2.290
<i>Native American, non-Hispanic</i>	1.228	0.798	0.32	0.752	.344 4.390
<i>Hispanic, of any race</i>	1.657	0.351	2.38	0.017	1.093 2.511
<i>Other or race unknown</i>	1.154	0.332	0.5	0.619	.656 2.028
<i>Urban resident</i>	0.856	0.105	-1.27	0.203	.673 1.087

**LOGISTIC REGRESSION 5: Consumes less than 3 servings of vegetables (Age 2 to 12)**

Number of obs = 2192      Population size = 2356.9      Design df = 2188  
 F (9, 2180) = 2.55      Prob > F = 0.0064

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	0.725	0.12	-1.95	0.052	.525 1.002
<i>Age Group 0-5</i>	0.836	0.134	-1.12	0.263	.610 1.144
<i>Household income &gt;200% FPL</i>	1.043	0.232	0.19	0.848	.675 1.613
<i>Asian, non-Hispanic</i>	1.725	0.638	1.47	0.141	.834 3.564
<i>Black or African American, non-Hispanic</i>	0.938	0.222	-0.27	0.787	.590 1.490
<i>Native American, non-Hispanic</i>	2.089	2.211	0.7	0.487	.262 16.657
<i>Hispanic, of any race</i>	2.144	0.729	2.24	0.025	1.010 4.178
<i>Other or race unknown</i>	1.249	0.48	0.58	0.562	.588 2.654
<i>Urban resident</i>	0.714	0.108	-2.22	0.026	.536 .961

**LOGISTIC REGRESSION 6: Less than 5 servings of fruits or vegetables (Age 2 to 12)**

Number of obs = 2184      Population size = 2351.6      Design df = 2180  
 F (9, 2172) = 12.07      Prob > F = 0.0000

Predictor Variables	Odds ratio	Standard Error	t-value	p> t	95% conf. interval
<i>Family eats 6 or 7 meals together per week</i>	0.62	0.08	-3.91	0.000	.491 .789
<i>Age Group 0-5</i>	0.58	0.07	-4.62	0.000	.461 .731
<i>Household income &gt;200% FPL</i>	0.63	0.11	-2.68	0.007	.447 .883
<i>Asian, non-Hispanic</i>	3.60	0.92	5.04	0.000	2.188 5.933
<i>Black or African American, non-Hispanic.</i>	1.15	0.23	0.70	0.484	.778 1.698
<i>Native American, non-Hispanic</i>	1.27	0.77	0.39	0.693	.387 4.164
<i>Hispanic, of any race</i>	1.79	0.44	2.37	0.018	1.106 2.911
<i>Other or race unknown</i>	1.33	0.37	1.04	0.297	.777 2.281
<i>Urban resident</i>	0.82	0.09	-1.78	0.075	.657 1.020