



CAST Bethel Family Survey Report *Descriptive Summaries for First Year Survey: 2009–2010*

A Report from the Communities and Schools Together (CAST) Project¹

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Introduction

As part of the CAST¹ data collection procedures, beginning in year 2 (2009–2010) of the project, a survey was administered to a representative sample of CAST participant families. This *CAST Family Survey* included 5 categories of questions that were identified as important for understanding child obesity risk in the Bethel community: 1) family food shopping practices, 2) family eating practices, 3) child and parent physical activity attitudes and behaviors, 4) parent perspectives on neighborhood safety, built environment, and social cohesion, and 5) parent/family demographics. Respondents were asked to answer items about child behavior in terms of the oldest elementary school child in the household.

Method

Consenting procedures

During fall 2008, all parents of grades K–5 children ($N = 2,697$) at the seven Bethel elementary schools were mailed a description of the CAST project. Included with the description was a postage-paid English–Spanish passive decline (‘opt out’) response card. This family recruitment method was approved by the Bethel School District and Institutional Review Board at Oregon Research Institute.

The mailing itself was prepared at Oregon Research Institute using mailing labels provided by the school district. The mailing was prepared over two days. During fall 2008, parents were sent the CAST opt out card and letter for 2,697 children, of which 189 (7%) of the students were declined by their parents. During the following fall (2009), only parents of K–5 students new to the district were sent opt out cards. Approximately 630 families received the mailing, of which 48 (7.6%) declined. In both years, after the close of the 3-week mailing window, school secretaries were enlisted to distribute CAST opt cards to new enrollees for the duration of the school year.

Development of survey

The CAST Family Survey was originally conceived as a questionnaire that would target a smaller sample four times a year to capture seasonal variation among families in diet and physical activity. This data collection design was altered to develop a longitudinal family sample to be assessed annually across 4 years of the project. The survey was developed by a working group [Neighborhood Survey Work Group (NSWG)] consisting of CAST ORI staff, CAST partner organizations with interests in the survey content, and members of the CAST Parent Advisory Council. The NSWG solicited input from the Food Assessment Work Group, whose membership was drawn from similar sources.

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The group identified assessment areas related to obesogenic environments—conditions that influence people to become and stay overweight/obese. The NSWG adopted and adapted questions from existing surveys, including The Behavioral Risk Factor Survey (CDC, 2008), The Child Feeding Questionnaire (Birch et al., 2001), The Fresno County Community Food Assessment (CFSC, 2005), The Healthy Eating Self-Test (Lifelong Health, 2005), The Hollywood Food Needs Assessment (CNN, 2003), National Health and Nutrition Examination Survey (NHANES; CDC, 2008a), and The National Safe Routes to School Walking and Biking Survey (NCSRS; 2008), developed additional physical activity and nutrition questions, and designed initial English and Spanish versions of the survey.

The NSWG facilitator developed a prototype survey based on discussion of content. Members of the CAST staff pretested the survey prototype twice over a 14-week period, as did CAST partners, including English- and Spanish-speaking members of the Parent Advisory Committee. Introductions to sections were added explaining whether questions were to be answered for parent or for child. The final version incorporated changes with respect to item wording and response categories based on the pretesting results.

Sample design and recruitment of families

Since the Bethel School district maintained only child-level data, it was necessary to construct a family (household) identification number based on the addresses of the children. In 2009–2010 the 2,465 children lived in 1,860 households. The project set a target of obtaining repeated surveys from some 450 CAST households (24% of eligible households and 18% of eligible children) over the 4-year collection period.

Proportional sampling was used to calculate the number of surveys needed in each school grade (Table 1). This number was inflated to account for both initial recruitment loss (estimated at 40%) and loss of repeated survey data (estimated at 20% for kindergarten families, 15% for first grade families, and 10% for families whose children were in the second through fourth grades at the time of the survey). These adjustments required the recruitment of 670 families.

Table 1. CAST Family Survey Sample

4/14/2010		diff.=difference between number desired and number received																																
Grade	Clear Lake				Danebo				Fairfield				Irving				Malabon				Meadow View				Prairie Mtn				Totals of desired					Totals
	total	S1	S2	diff.	total	S1	S2	diff.	total	S1	S2	diff.	total	S1	S2	diff.	total	S1	S2	diff.	total	S1	S2	diff.	total	S1	S1%	S2	S2%	Combined				
	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	diff.	desired	rcd.	rcd.	rcd.	rcd.	Desired				
KA	5	2	3	0	6	5	4	3	6	5	5	4	10	6	5	1	9	6	6	3	9	7	6	4	5	2	2	-1	50	33	66%	31	62%	128%
KP	5	1	2	-2	6	3	2	-1	4	2	4	2	5	3	4	2	4	4	3	3	4	3	3	2	5	4	4	3	33	20	61%	22	67%	127%
1	9	7	6	4	11	8	10	7	9	8	6	5	15	10	11	6	14	9	11	6	14	10	11	7	16	12	7	3	88	64	73%	62	70%	143%
2	9	7	3	-1	10	7	7	4	9	6	6	3	12	7	10	5	12	8	5	1	14	9	11	6	16	14	11	9	82	58	71%	53	65%	135%
3	10	6	6	2	9	5	7	3	10	3	8	1	12	12	13	13	9	6	5	2	16	13	15	12	12	9	9	6	78	54	69%	63	81%	150%
4	13	12	10	9	10	9	6	5	9	4	6	1	12	12	8	8	11	7	4	0	13	7	4	-2	15	13	9	7	83	64	77%	47	57%	134%
5	11	6	7	2	11	4	6	-1	10	5	3	-2	12	10	5	3	8	4	6	2	12	5	9	2	16	9	9	2	80	43	54%	45	56%	110%
Totals	62	41	37	16	63	41	42	20	57	33	38	14	78	60	56	38	67	44	40	17	82	54	59	31	85	63	51	29	494	336	68%	323	65%	133%
																										Percent received of 670 sample 1=		50%						
																										Percent received of 670 sample 2=		48%						

For each school, beginning with the fifth grade and working down to kindergarten, students were chosen at random. Their associated household identification number was included in the sample, subject to the constraint that households with multiple children were only sampled once. This approach accommodated those survey questions that asked the respondent to answer items about their oldest elementary school child.

Survey mailing procedures and return rate

An initial sample of 670 households was sent an alert card one week prior to receiving a survey, which was mailed November 6, 2009. This was followed by a reminder card one week later to those who had not returned the completed survey. After one month surveys were remailed to those who had not responded. At the end of December 2009, 328 surveys (50%) were returned. Inspection of the distribution of returned surveys revealed under-responding within both grades and schools and a decision was made to repeat the initial survey collection procedures with an additional sample of 670 households, from mid-January to mid-March 2010. This second round yielded 331 surveys (50%) for a total of 659 surveys. A flow chart summarizing CAST survey procedures is shown in the Appendix.

Results

The following tables and figures summarize initial descriptive statistics for the survey.

Demographics of Participants

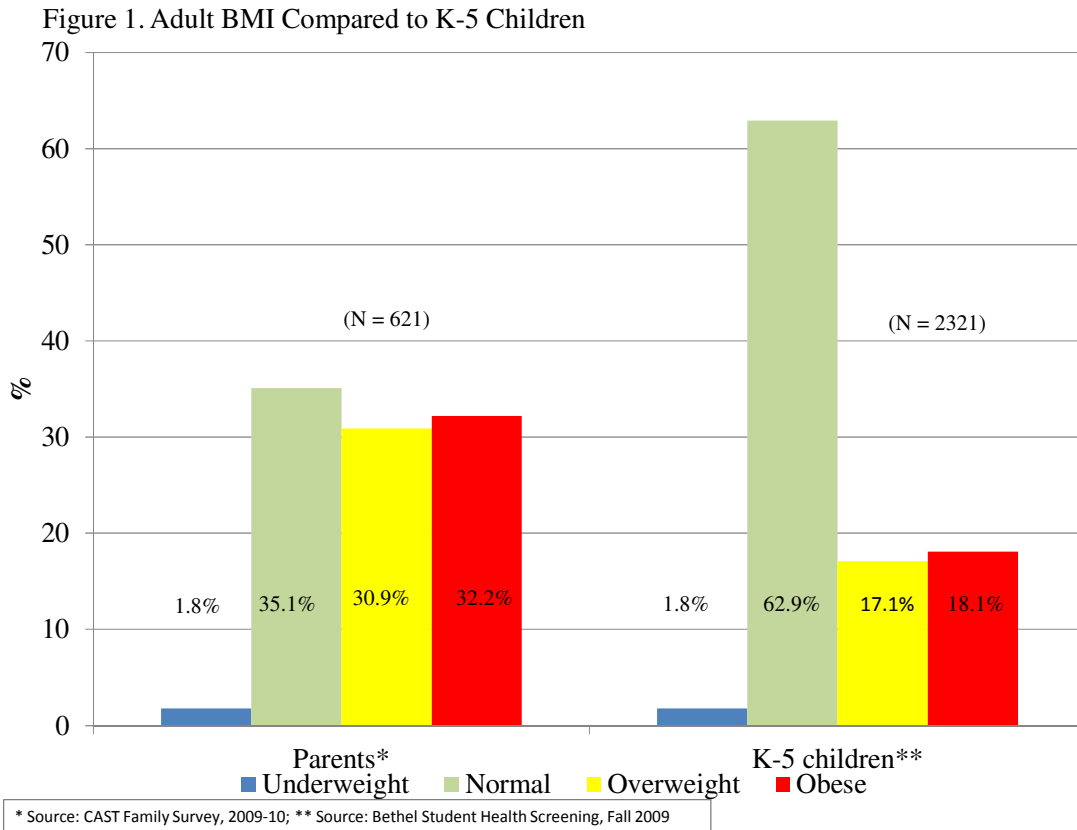
Table 2. *Demographics of Parent Respondents*

Characteristic	N	%
Gender		
Male	72	11.1%
Female	577	88.9%
Age (range 20–74)		
20-30 years	145	22.4%
31-40 years	355	54.4%
41-50 years	126	19.3%
>50 years	27	4.4%
Marital Status		
Married	476	72.3%
Not married	182	27.7%
Annual Household Income		
<\$20,000	83	12.8%
\$20,000-\$39,999	213	32.6%
\$40,000-\$59,999	154	23.7%
\$60,000 or more	201	30.9%
Education		
< High school	49	7.5%
High school/GED	132	20.2%
Some College	235	35.7%
College Graduate	240	36.6%
Employment		
Not employed	262	39.8%
Employed part-time	146	22.2%
Employed full-time	251	38.1%

Note. Variable totals < or > 100% due to rounding.

Instructions for the survey requested that it be completed by the *parent in the home who does most of the food shopping*. Therefore, it is not surprising that nearly 90% of responding parents were female caretakers (Table 2). Ages of caretakers ranged from 20–74 years, with the majority (54.4%) in their 30s. The majority of adults (72.3%) were married. More than two thirds of the sample reported either some college education or a college degree and 30% lived in homes with an annual income greater \$60,000.

BMI of Parent Respondents Compared to K–5 Children



Across the seven elementary schools, 35.2% of children were overweight or obese in 2009; 63.1% of their caretaking adults were either overweight or obese (Figure 1). Among the 621 caretakers reporting height and weight in the survey, 32.3% were in the obese range. This is a much higher proportion of adults in the obese range than the proportion for Oregon in the same year. The Centers for Disease Control report that 23% of the adult population in Oregon was obese in 2009 (CDC, 2009a). The proportion of Bethel children in the obese range was the same as the national proportion of children in this category during 2008 (CDC, 2008b).

Family Food Practices

Food store shopping locations

For most people food choice is influenced by biological, social–cultural and environmental considerations as well as economic factors. In Bethel the majority of the family survey respondents shop in the Bethel area itself (Table 3). Winco is the most frequented store, although Albertsons and Walmart are also utilized for major shopping.

Table 3. Where Families do Major Food Shopping

Store	N	%
Winco (in*)	531	80.6%
Walmart (out*)	278	42.2%
Albertsons (in)	214	32.5%
Costco (out)	184	27.9%
Fred Meyer (in)	111	16.8%
* “In” represents a store located within the Bethel school district boundary, and “Out” represents a store located outside this district boundary.		

Other sources of family food

A majority of the respondents ate at fast food restaurants and sit down restaurants. Family and friends, home gardens, and farmers’ markets also played an important role as food sources for families (Table 4).

Table 4. Other Sources of Food Used by Families

Type of Food Source/Outlet	N	%
Fast food restaurants	399	60.5%
Sit down restaurants	354	53.7%
Family and friends	244	37.0%
Home garden	198	30.0%
Farmers Markets	95	14.4%
Fishing	65	9.9%
Hunting	63	9.6%
Food pantry	63	9.6%
Community garden	6	.9%
Emergency food	5	.8%

Factors important in food selection

The food choices made by individuals are dependent on their personal food system and the food environment in which they live. Most of the survey respondents indicated family food preference was an important factor affecting what they chose to eat. Nutrition and cost of food were also important for a large proportion of the respondents as were food variety and the amount of time needed for food preparation (Table 5).

Table 5. Factors Influencing What Families Eat

Factors	N*	%*
Family preference	586	91.6%
Nutrition	579	90.3%
Food cost	560	87.4%
Food variety	531	82.8%
Prep time	485	76.0%
Parent (“my”) preference	437	68.5%
Work schedule	418	65.8%
Convenience	425	66.9%

* Pooled responses of “very important” or “somewhat important”

Family food security² in Bethel

The combined average prevalence of low and very low food security among Oregon households was 18.7% between 2001–2007—one of the lowest food security rates nationally. In the Bethel community, low food security is even more prevalent. In 2009, 39.2% of Bethel households with children reported indicators of low or very low food security (Table 6). This compares to 14.7% for U.S. households, both those with and without children, during the same time period. During this same year, the national prevalence for low and very low food security for families with children less than 18 years old was 23.1%.

Table 6. Food Security Comparison of Bethel Families and U.S. Households (2009)

Levels of household food security	Bethel families %	U.S. households* %
Food secure	45.9%	70.6%
Marginal food security	14.9%	14.7%
Low food security	23.8%	9.0%
Very low food security	15.4%	5.7%
	39.2%	14.7%

Source: Economic Research Service: http://www.ers.usda.gov/briefing/foodsecurity/stats_graphs.htm#food_secure

* Includes any household, including those without children.

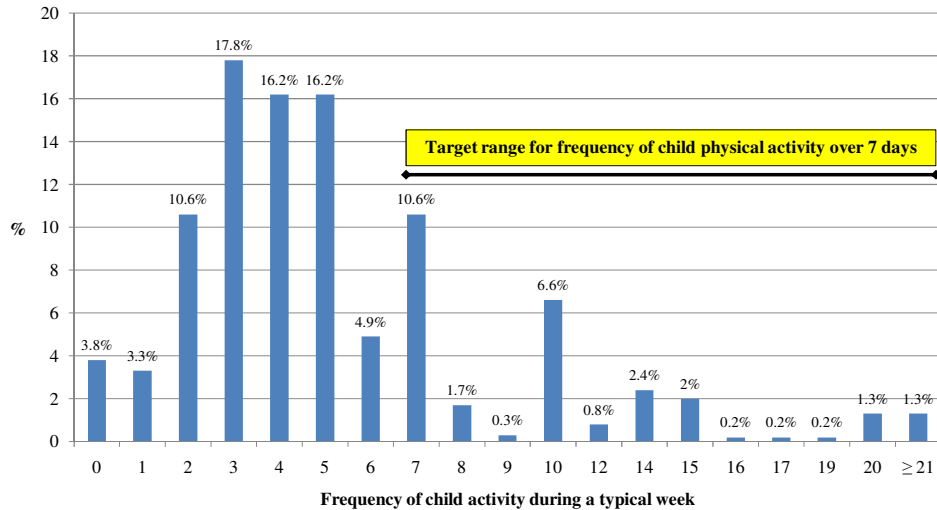
²For the purposes of this study, food security is defined as access at all times to enough food for an active, healthy life (Committee on National Statistics, 2006).

Family and Child Physical Activity

Weekly frequency of child moderate/vigorous activity

Parents were asked, “On how many of the past 7 days did your oldest K–5 child exercise or participate in physical activity for at least 20 minutes that made him or her sweat or breathe hard?” A little more than one fourth (27.2%) of caretakers reported their child having brief daily moderate to vigorous activity across the full 7-day week (Figure 2).

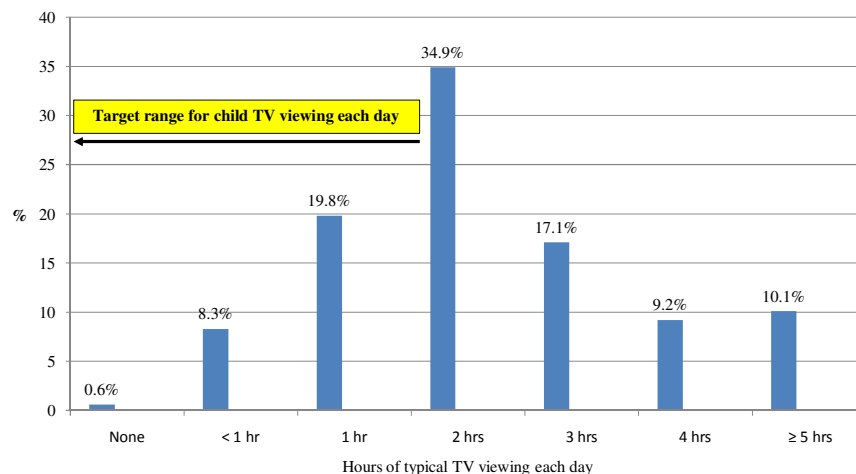
Figure 2. How Many Times per Week Child Played Hard



Hours per day children watch television

We asked parents, “In a typical week, how many hours per day, on average, does your child watch TV or videos.” Nearly three fourths (72.8%) of the parents indicated their child averaged 2 or more hours of television viewing per day. A large proportion of caretakers (19.3%) reported children watching 4 hours or more of TV daily (Figure 3).

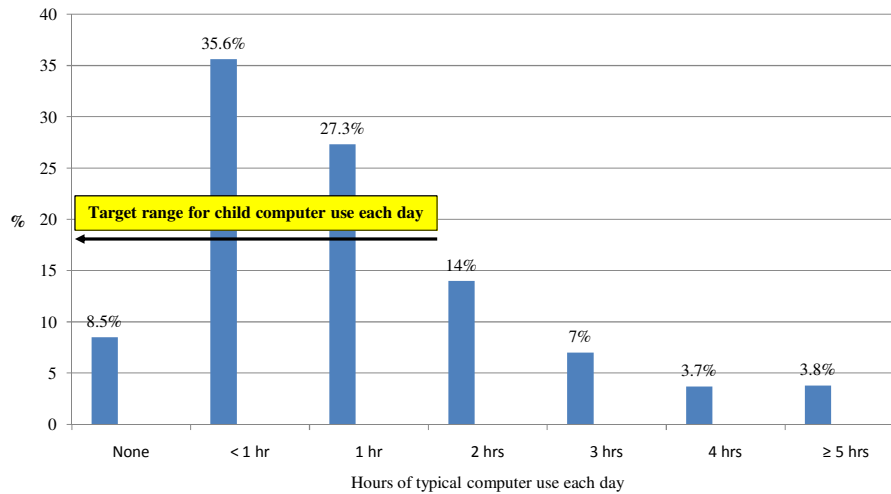
Figure 3. Hours per Day Children Watch TV Outside of School



Hours per day children on the computer outside of school

Parents reported children spending less time on computers or playing video games each day than watching TV. Still, a large proportion of Bethel school children (28.5%) exceeded an average of 2 hours per day on this activity (Figure 4).

Figure 4. Time Children Spent on Computers or Video Games Outside of School Each Day



Child participation in varied types of physical activity

We asked parents to “Indicate any physical activities that your child participates in outside of school.” Track and soccer were the activities showing the highest proportion of student participation—29.3% and 26.3% respectively (Table 6).

Table 6. Child Participation in Organized Physical Activity

Type of physical activity	N	%	Rank order of proportion of students in activities
None	107	16.2%	5
Baseball or softball	142	21.5%	4
Basketball	161	24.4%	3
Bowling	21	3.2%	11
Dance	47	7.1%	7
Football	80	12.1%	6
Hockey or ice skating	32	4.9%	10
Martial arts	11	1.7%	12
Soccer	173	26.3%	2
Swimming	36	5.5%	8
Track	193	29.3%	1
Volleyball	34	5.2%	9
Wrestling	4	.6%	13

Active commuting of children to and from school

Active commuting to or from school (e.g., walking, biking, skateboarding) is another form of physical activity opportunity for children. We asked parents to indicate how their child “usually” traveled between home and school. Some 18.7% of children usually actively commuted to school and 25.3% did so on the trip home (Table 7). Currently, the Bethel Safe Routes to School program is working to overcome factors parents indicate preclude their children from active daily commutes to and from school.

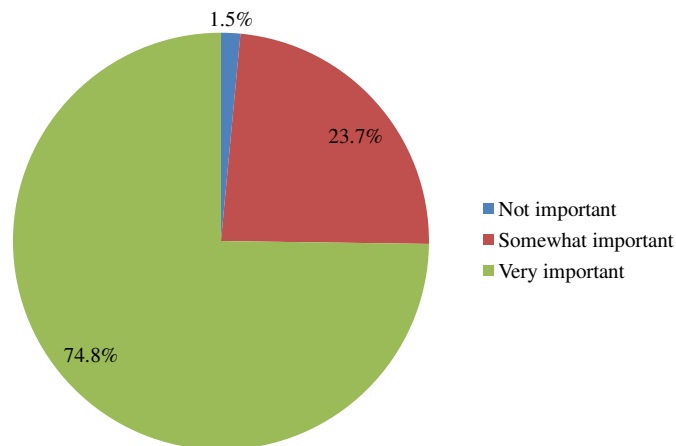
Table 7. Modes of Child Transport To and From School

Mode of transport	From home to school		From school to home	
	<i>N</i>	%	<i>N</i>	%
Walk	100	15.2%	139	21.2%
Bike	21	3.2%	25	3.8%
Skateboard	2	.3%	2	.3%
School bus	231	35.2%	263	40.2%
Car by parent/family member	274	41.7%	191	29.2%
Car in a car pool	19	2.9%	20	3.1%
City bus	2	.3%	4	.6%

Parent rating of the importance of child physical activity

We also wanted to hear from parents about how important it was to them that their child participated in physical activity or sports. Only 1.5% of responding parents indicated that physical activity was “not important”. Nearly three fourths of the parents indicated that it was “very important” that their child participate in physical activity (Figure 5).

Figure 5. Parent Rating of Importance of Child Physical Activity



Parent support for child physical activity

Parents play an important role in the physical activity of children. Parents indicated how many times in the previous week they did any of the five actions listed in Table 8.

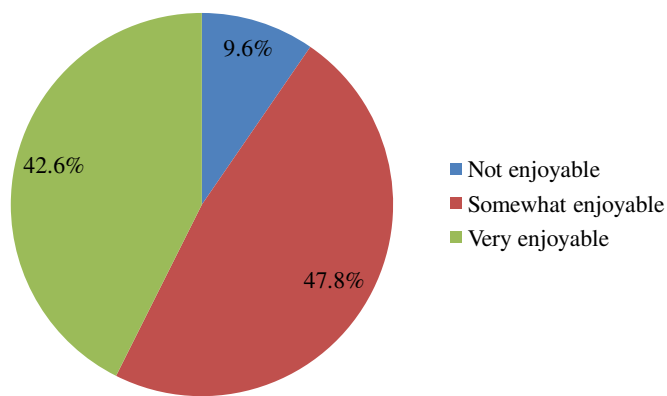
Table 8. Parent support for children being physical activity

# Days	Encouraged child to be active		Did physical activity with child		Watched child do physical activity		Transported child to physical activity		Told child physical activity was good for his/her health	
	N	%	N	%	N	%	N	%	N	%
None	59	9.2%	213	33.1%	224	34.9%	240	37.3%	96	14.8%
1 day	27	4.2%	117	18.2%	96	15.0%	91	14.2%	72	11.1%
2 days	93	14.4%	134	20.8%	120	18.7%	99	15.4%	71	11.0%
3 days	114	17.7%	77	12.0%	82	12.8%	89	13.8%	72	11.1%
4 days	81	12.6%	46	7.1%	55	8.6%	67	10.4%	65	10.0%
5 days	95	14.8%	29	4.5%	28	4.4%	31	4.8%	65	10.0%
6 days	37	5.7%	12	1.9%	18	2.8%	13	2.0%	38	5.9%
7 days	138	21.4%	16	2.5%	18	2.8%	13	2.0%	169	26.1%

Parent personal enjoyment of physical activity

Parental self-enjoyment of physical activity was relatively strong, with about 90% of the responding adults indicating that they either enjoyed activity or exercise “somewhat” or “very much” (Figure 6).

Figure 6. Parent Enjoyment of Physical Activity



Weekly patterns of parent physical activity

Two thirds of the parents reported they walked for exercise one or more days during the past week, and close to half (48.3%) indicated that they did physical exercise or sports (Table 9).

Table 9. Levels of Parent Physical Activity

# Days in past week	Walked for exercise		Did heavy housecleaning, gardening or yard work		Did physical exercise or sports	
	N	%	N	%	N	%
None	209	32.4%	54	8.4%	330	51.7%
1 Day	84	13.0%	84	13.0%	69	10.8%
2 Days	103	16.0%	156	24.1%	68	10.7%
3 Days	85	13.2%	116	18.0%	62	9.7%
4 Days	49	7.6%	74	11.5%	31	4.9%
5 Days	63	9.8%	66	10.2%	40	6.3%
6 Days	17	2.6%	27	4.2%	21	3.3%
7 Days	35	5.4%	69	10.7%	17	2.7%

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Appendix

CAST Neighborhood Family Survey Flowchart

