



Report on Additional Analysis for Benjamin Hair Just Swim For Life Foundation

The Jefferson Area Community Survey

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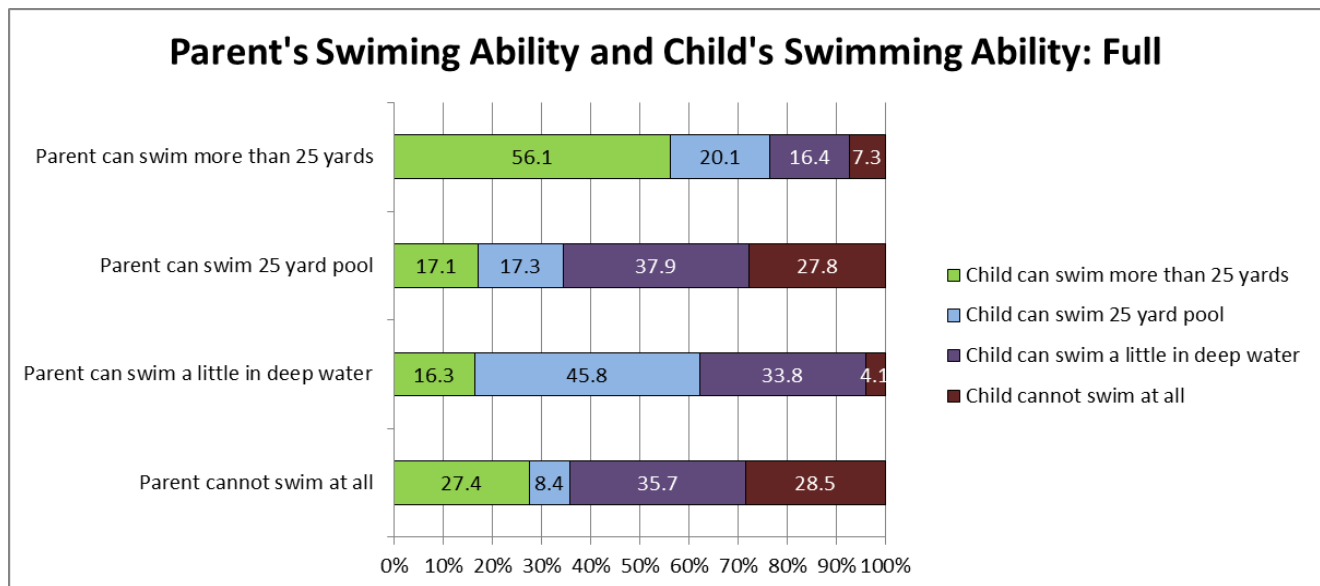
Introduction

Additional analysis of data collected from the fourth wave of the Jefferson Area Community Survey was conducted by the University of Virginia Center for Survey Research (CSR) for the Benjamin Hair Just Swim or Life Foundation in late 2014. This document presents the results of this analysis.

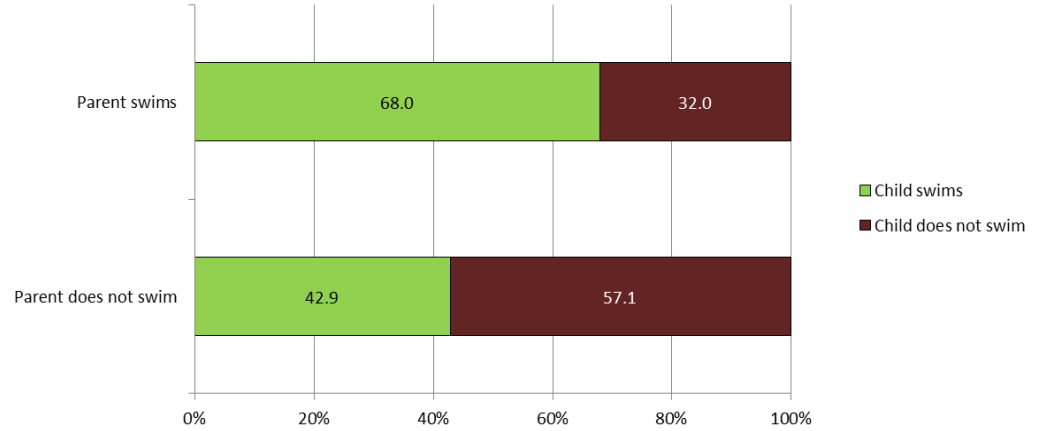
Stacked Bar Charts

CSR conducted crosstabulation analyses of the impact of race and parents' swimming ability on children's swimming ability. These analyses were conducted using both full and dichotomized measures of children's swimming ability. The full measure separates children's swimming ability into four categories: "child can swim more than 25 yards," "child can swim 25 yard pool," "child can swim a little in deep water," and "child cannot swim at all." For the dichotomized measure, "child can swim more than 25 yards" and "child can swim 25 yard pool" are combined into the response "child swims," while "child can swim a little in deep water" and "child cannot swim at all" and combined into the response "child does not swim."

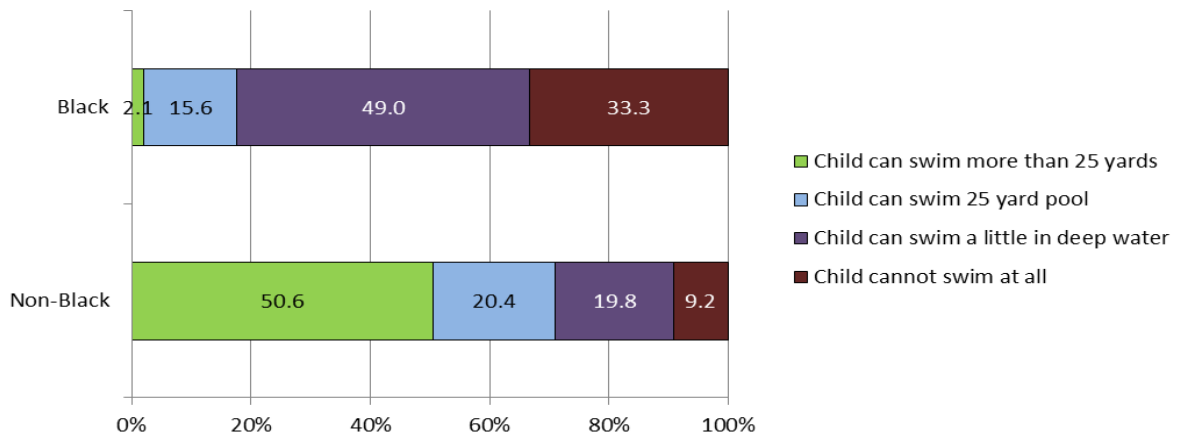
These charts demonstrate that children whose parents are able to swim are more likely to be able to swim themselves. Additionally, Black children are far less likely to be able to swim than Non-Black children.



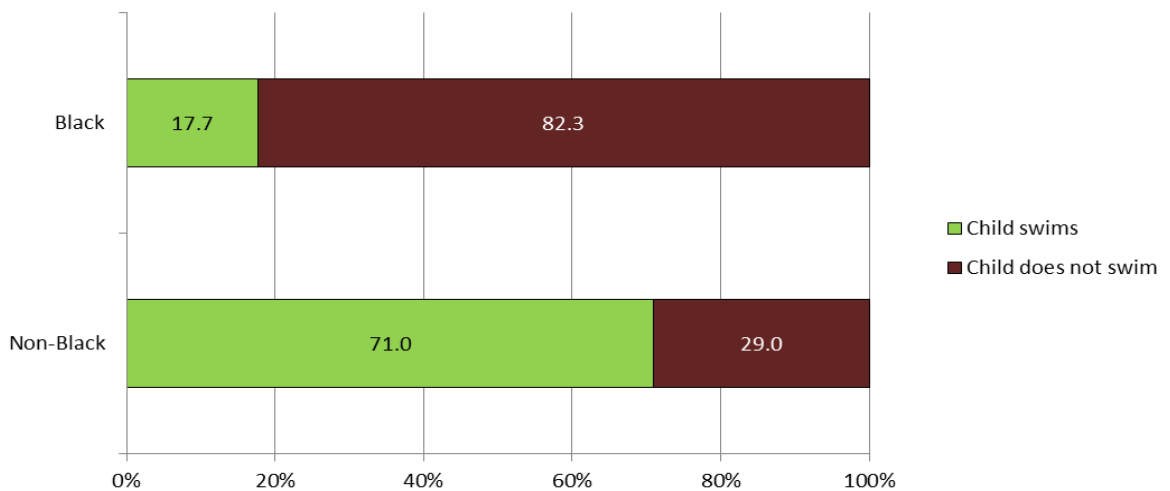
Parent's Swimming Ability and Child's Swimming Ability: Dichotomized



Race and Child's Swimming Ability: Full



Race and Child's Swimming Ability: Dichotomized



T-Tests of Ability to Swim by Demographics

CSR conducted t-tests to determine if respondents from various demographic categories differed in terms of the swimming abilities of themselves and their children, and if these differences were statistically significant. In the following tables, a mean rating with a superscript indicates that this mean is a significantly higher numerical value (at the 95% level of confidence) than the mean in the column that is numbered corresponding to the superscript. These tests were performed using the SPSS Complex Samples module, which accounts for the effects of weighting and stratification.

In the example below, the mean rating of neighborhood safety by Hispanic/Latino residents – 1.47, as indicated in Column 4 – is statistically larger than the mean ratings provided by African Americans, Asian Americans, and Whites, as shown in Columns 1, 2, and 3 respectively. (This means that Hispanic/Latino residents feel more unsafe in their neighborhoods than do African American, Asian American, and White residents.) Similarly, the mean rating of 1.52 from residents of other racial groups is also statistically larger than the means given by African Americans, Asian Americans, and Hispanic/Latino residents. (The arrows are not shown for those differences so as not to clutter the example too much.) The other paired comparisons, such as that between African Americans and Asian Americans, are too close to one another to be considered statistically different, given the number of cases contributing to each mean and the variability of the data comprising each mean.

		Race and Ethnicity Combined											
		African American (1)		Asian American (2)		White (3)		Hispanic/Latino (4)		Other+ (5)		Total	
		Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
How safe do you feel in your neighborhood?	Mean	1.33	65	1.35	129	1.33	699	1.47 ⁽¹⁾⁽²⁾⁽³⁾	113	1.52 ⁽¹⁾⁽²⁾⁽³⁾	42	1.35	1049
	N												

Swim for Life T-Test Results

	agecat5 Age (5 Categories)											
	18-25 (1)		26-37 (2)		38-49 (3)		50-64 (4)		Over 64 (5)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
swimab Ability to swim	3.42 ⁽⁵⁾	26	3.35 ⁽⁵⁾	79	3.60 ⁽⁵⁾	172	3.21 ⁽⁵⁾	285	2.58	288	3.10	850
swimabd Adult ability to swim dichotomized	.85 ⁽⁵⁾	26	.86 ⁽⁵⁾	79	.91 ⁽⁵⁾	172	.76 ⁽⁵⁾	285	.55	288	.73	850

	rgender Gender					
	Male (3)		Female (5)		Total	
	Mean	N	Mean	N	Mean	N
swimab Ability to swim	3.38 ⁽⁵⁾	386	2.90	511	3.11	897
swimabd Adult ability to swim dichotomized	.85 ⁽⁵⁾	386	.66	511	.74	897

	blackd Black or Non-Black dichotomized					
	Non-Black (0)		Black (1)		Total	
	Mean	N	Mean	N	Mean	N
swimab Ability to swim	3.21 ⁽¹⁾	809	1.88	67	3.10	876
swimabd Adult ability to swim dichotomized	.77 ⁽¹⁾	809	.28	67	.74	876

	educ3 Education (3 Categories)							
	Less than HS or HS grad (1)		Some college or 4-year degree (2)		Grad work or graduate degree (3)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
swimab Ability to swim	2.32	188	3.20 ⁽¹⁾	418	3.50 ⁽¹⁾⁽²⁾	282	3.11	888
swimabd Adult ability to swim dichotomized	.45	188	.78 ⁽¹⁾	418	.88 ⁽¹⁾⁽²⁾	282	.74	888

	income4 Income (4 Categories)									
	Up to \$35k (1)		\$35k to \$50k (2)		\$50k to \$75k (3)		Over \$75k (4)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
swimab Ability to swim	2.49	154	3.02	94	2.97	134	3.55 ⁽¹⁾⁽²⁾⁽³⁾	313	3.13	695
swimabd Adult ability to swim dichotomized	.54	154	.70	94	.68	134	.89 ⁽¹⁾⁽²⁾⁽³⁾	313	.75	695

	agechldr Age of oldest child living at home recorded							
	4-8 (1)		9-13 (2)		14-17 (3)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	2.17	78	3.33 ⁽¹⁾	88	3.58 ⁽¹⁾	113	3.11	279
kidswimd Child ability to swim dichotomized	.28	78	.82 ⁽¹⁾	88	.91 ⁽¹⁾	113	.71	279

	agechldr Age of oldest child living at home recorded							
	4-8 (1)		9-13 (2)		14-17 (3)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	2.17	78	3.33 ⁽¹⁾	88	3.58 ⁽¹⁾	113	3.11	279
kidswimd Child ability to swim dichotomized	.28	78	.82 ⁽¹⁾	88	.91 ⁽¹⁾	113	.71	279

	blackd Black or Non-Black dichotomized					
	Non-Black (0)		Black (1)		Total	
	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	3.20 ⁽¹⁾	257	1.94	18	3.12	275
kidswimd Child ability to swim dichotomized	.74 ⁽¹⁾	257	.28	18	.71	275

	educ3 Education (3 Categories)							
	Less than HS or HS grad (1)		Some college or 4-year degree (2)		Grad work or graduate degree (3)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	2.65	51	3.16	151	3.31 ⁽¹⁾	81	3.11	283
kidswimd Child ability to swim dichotomized	.51	51	.73 ⁽¹⁾	151	.79 ⁽¹⁾	81	.71	283

	income4 Income (4 Categories)									
	Up to \$35k (1)		\$35k to \$50k (2)		\$50k to \$75k (3)		Over \$75k (4)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	2.62	26	2.63	30	3.21	33	3.29 ⁽¹⁾⁽²⁾	141	3.12	230
kidswimd Child ability to swim dichotomized	.42	26	.50	30	.79	33	.79 ⁽¹⁾⁽²⁾	141	.71	230

	lunch Child's school lunch program									
	My child is on a free lunch program (1)		My child is on a reduced cost lunch program (2)		My child does not receive free or reduced cost lunches (3)		Total			
	Mean	N	Mean	N	Mean	N	Mean	N		
childswm Child's ability to swim	2.69	16	2.31	13	3.18 ⁽²⁾	248	3.11	277		
kidswimd Child ability to swim dichotomized	.63	16	.31	13	.73 ⁽²⁾	248	.71	277		

	swimab Ability to swim									
	You cannot swim at all (1)		You can swim a little in deep water (2)		You can swim the length of a 25-yard pool (3)		You can swim confidently more than 25 yards (4)		Total	
	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N
childswm Child's ability to swim	2.63	19	2.85	13	2.57	49	3.30 ⁽¹⁾⁽²⁾⁽³⁾	202	3.11	283
kidswimd Child ability to swim dichotomized	.53	19	.62	13	.51	49	.78 ⁽¹⁾⁽³⁾	202	.71	283

Regression Results

CSR conducted regressions to determine the relative effects of demographic variables on swimming ability for adults and children. The significance value associated with each demographic variable, found on the far right column in each table, indicates whether a given variable has a statistically significant impact upon the dependent variable. If the significance value is .05 or lower, the given variable has a statistically significant impact. R-squared values indicate how much of the variation in the dependent variable is explained by the model in its totality. An R-squared of one would indicate that the model perfectly explains the entirety of the variation in the dependent variable. The closer the R-squared is to one (and the further it is from zero), the more powerful the model is in explaining the variation in the dependent variable. Regressions using dichotomized dependent variables produce related figures known as pseudo R-squared values; here again, the higher the value, the greater the model's explanatory power.

Impact of Demographics on Adults' Swimming Ability (Full)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	14.000	654.000	28.128	0.000
(Intercept)	1.000	667.000	544.636	0.000
agecat5	4.000	664.000	14.089	0.000
rgender	1.000	667.000	4.486	0.035
blackd	1.000	667.000	34.372	0.000
educ6	5.000	663.000	5.270	0.000
income4	3.000	665.000	5.337	0.001

Dependent Variable: swimab Ability to Swim

Model: swimab Ability to swim = (Intercept) + agecat5 + rgender + blackd + educ6 + income4

R-Squared: 0.359

Impact of Demographics on Adults' Swimming Ability (Dichotomized)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	14.000	654.000	8.858	0.000
(Intercept)	1.000	667.000	1.593	0.207
agecat5	4.000	664.000	10.395	0.000
rgender	1.000	667.000	4.561	0.033
blackd	1.000	667.000	19.042	0.000
educ6	5.000	663.000	4.418	0.001
income4	3.000	665.000	3.436	0.017

Dependent Variable: swimabd Adult ability to swim dichotomized (reference category = 1.00 Can swim)

Model: (Intercept), agecat5, rgender, blackd, educ6, income4

McFadden's Pseudo R-Squared: 0.293

Impact of Demographics on Children's Swimming Ability (Full)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	25.000	190.000	19.299	0.000
(Intercept)	1.000	214.000	229.759	0.000
agechld1	13.000	202.000	16.182	0.000
genchild	1.000	214.000	3.159	0.077
blackd	1.000	214.000	16.027	0.000
educ6	5.000	210.000	0.513	0.766
income4	3.000	212.000	2.501	0.060
lunch	2.000	213.000	0.097	0.907

Dependent Variable: childswm Child's ability to swim

Model: childswm Child's ability to swim = (Intercept) + agechld1 + genchild + blackd + educ6 + income4 + lunch

R-Squared: 0.580

Impact of Demographics on Children's Swimming Ability (Dichotomized)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	25.000	190.000	24.605	0.000
(Intercept)	1.000	214.000	6.103	0.014
agechld1	13.000	202.000	15.686	0.000
genchild	1.000	214.000	5.288	0.022
blackd	1.000	214.000	8.480	0.004
educ6	5.000	210.000	0.998	0.420
income4	3.000	212.000	2.502	0.060
lunch	2.000	213.000	0.489	0.614

Dependent Variable: kidswimd Child ability to swim dichotomized (reference category = 1.00 Can swim)

Model: (Intercept), agechld1, genchild, blackd, educ6, income4, lunch

McFadden's Pseudo R-Squared: 0.542

Impact of Demographics on Children's Swimming Ability (Full; Includes Parents' Swimming Ability)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	28.000	187.000	22.584	0.000
(Intercept)	1.000	214.000	292.543	0.000
agechld1	13.000	202.000	23.182	0.000
genchild	1.000	214.000	2.714	0.101
blackd	1.000	214.000	19.572	0.000
educ6	5.000	210.000	0.351	0.881
income4	3.000	212.000	1.563	0.200
lunch	2.000	213.000	0.037	0.964
swimab	3.000	212.000	6.998	0.000

Dependent Variable: childswm Child's ability to swim

Model: childswm Child's ability to swim = (Intercept) + agechld1 + genchild + blackd + educ6 + income4 + lunch + swimab

R-Squared: 0.620

Impact of Demographics on Children's Swimming Ability (Dichotomized; Includes Parents' Swimming Ability)

Source	df1	df2	Wald F	Sig.
(Corrected Model)	28.000	187.000	37.998	0.000
(Intercept)	1.000	214.000	5.333	0.022
agechld1	13.000	202.000	35.312	0.000
genchild	1.000	214.000	4.372	0.038
blackd	1.000	214.000	12.763	0.000
educ6	5.000	210.000	1.349	0.245
income4	3.000	212.000	1.872	0.135
lunch	2.000	213.000	2.410	0.092
swimab	3.000	212.000	5.443	0.001

Dependent Variable: kidswimd Child ability to swim dichotomized (reference category = 1.00 Can swim)

Model: (Intercept), agechld1, genchild, blackd, educ6, income4, lunch, swimab

McFadden's Pseudo R-Squared: 0.608