Breastfeeding Structural

Contents

1 Participant Characteristics

	Full Sample	Boys	Girsl
Total(*N*)	149	73	76
Age (*Mean [range], yrs*)	9.0 [7.1 - 12.0]	9.0 [7.1 - 12.0]	9.0 [7.1 - 11.8]
BMI (*Mean [range]*)	17.8 [13.8 - 31.9]	17.7 [13.9 - 31.9]	17.9 [13.8 - 25.9]
Percent of CDC 85th %tile (*Mean [range]*)	94.0 [70.1 - 168.8]	94.7 [72.7 - 168.8]	93.4 [70.1 - 131.1]
BMI %tile (*Mean [range]*)	59.9 [5 - 99]	59.3 [5 - 99]	60.5 [6.1 - 98]
Race(*N*)			
Black/AA	7	5	2
White	136	64	72
Other/Mixed	6	4	2
Ethnicity(*N*)			
Hispanic/Latino	6	3	3
Not H/L	120	59	61
NA	1	1	0
SES(*N*)			
>$100,000	49	26	23
$50,000-$100,000	69	30	39
<$50,000	28	16	12
NA	0	0	0
Maternal Education(*N*)			
$> BA$	50	22	28
BA	54	30	24
$Associates/Technical$	18	7	11
$HighSchool$	15	8	7
$Other/NA$	0	0	0
$< HighSchoolDiploma/GED$	0	0	0
Paternal Education(*N*)			
$> BA$	57	28	29
BA	38	22	16
$Associates/Technical$	15	5	10
$HighSchool$	23	9	14
$Other/NA$	1	1	0
$< HighSchoolDiploma/GED$	1	1	0
BreastFed 3cat(*N*)			
$> 6months$	54	24	30
$4 - 6months$	55	29	26
$0 - 3months$	40	20	20

2 3.1 Descriptive

3 3.2 Path Analyses

3.1 3.2.1 Path Model for Left Hippocampus (Figure 1B).

Table 1: Fit Statistics for Model: BF -> SR (L Hipp Med) -> p85th BMI

	x
chisq	16.610
df	5.000
pvalue	0.005
baseline.chisq	143.224
baseline.df	24.000
baseline.pvalue	0.000
cfi	0.903
tli	0.533
logl	-2.668
bic2	43.007
rmsea	0.133
rmsea.ci.lower	0.066
rmsea.ci.upper	0.207
rmsea.pvalue	0.025
srmr	0.040

Table 2: Parameters for Model: BF -> SR (L Hipp Med) -> p85th BMI

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.180	0.157	-1.150	0.250
cebq_SR	~	BreastFed_3cat_dummy	0.077	0.092	0.840	0.401
cebq_SR	~	TIV_scale	-0.044	0.072	-0.609	0.543
cebq_SR	~	Study_dummy	-0.014	0.042	-0.334	0.738
cebq_SR	~	cAge_yr	-0.028	0.045	-0.624	0.533
cebq_SR	~	lHip_21	-0.121	0.303	-0.400	0.689
lHip_21	~	TIV_scale	0.162	0.015	10.584	0.000
lHip_21	~	Study_dummy	-0.025	0.012	-2.104	0.035
lHip_21	~	cAge_yr	0.036	0.013	2.864	0.004
lHip_21	~	cPreMat_dummy	-0.031	0.045	-0.679	0.497
lHip_21	~	BreastFed_3cat_dummy	0.057	0.026	2.204	0.028
cdc_p85th	~	TIV_scale	0.041	0.018	2.327	0.020
cdc_p85th	~	Study_dummy	-0.002	0.009	-0.176	0.860
cdc_p85th	~	cAge_yr	0.017	0.011	1.561	0.119
cdc_p85th	~	lHip_21	-0.144	0.072	-1.995	0.046
cdc_p85th	~	mEducation_dummy	-0.052	0.014	-3.706	0.000
cdc_p85th	~	income_dummy	0.020	0.020	0.976	0.329
cdc_p85th	~	cPreMat_dummy	-0.039	0.038	-1.014	0.311
cdc_p85th	~	cebq_SR	-0.047	0.021	-2.217	0.027

```
    Welch Two Sample t-test

data:  lHip_21 by BreastFed_3cat
t = -0.99119, df = 39.974, p-value = 0.3276
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.16853993  0.05762456
sample estimates:
mean in group 0-3mo mean in group 4-6mo
           2.919722            2.975179

    Welch Two Sample t-test

data:  lHip_21 by BreastFed_3cat
t = -0.3277, df = 25.091, p-value = 0.7459
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.1944299  0.1410420
sample estimates:
 mean in group >6mo mean in group 4-6mo
           2.948485            2.975179

    Welch Two Sample t-test

data:  lHip_21 by BreastFed_3cat
t = 0.42165, df = 14.285, p-value = 0.6796
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.1172722  0.1747997
sample estimates:
 mean in group >6mo mean in group 0-3mo
           2.948485            2.919722

    >6mo    0-3mo    4-6mo
2.948485 2.919722 2.975179
```

3.2 3.2.1 Path Model for Left Hippocampus: Direct Effect of Breastfeeding

Table 3: Fit Statistics for Sensitivity Test: direct effect of breastfeeding on p85 BMI

	x
chisq	15.447
df	4.000
pvalue	0.004
baseline.chisq	143.224
baseline.df	24.000
baseline.pvalue	0.000
cfi	0.904
tli	0.424
logl	-2.087
bic2	43.556
rmsea	0.148
rmsea.ci.lower	0.075
rmsea.ci.upper	0.229
rmsea.pvalue	0.017
srmr	0.039

Table 4: Parameters for Sensitivity Test: direct effect of breastfeeding on p85 BMI

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.180	0.157	-1.150	0.250
cebq_SR	~	BreastFed_3cat_dummy	0.077	0.092	0.840	0.401
cebq_SR	~	TIV	0.000	0.001	-0.609	0.543
cebq_SR	~	Study_dummy	-0.014	0.042	-0.334	0.738
cebq_SR	~	cAge_yr	-0.028	0.045	-0.624	0.533
cebq_SR	~	lHip_21	-0.121	0.303	-0.400	0.689
lHip_21	~	TIV	0.001	0.000	10.584	0.000
lHip_21	~	Study_dummy	-0.025	0.012	-2.104	0.035
lHip_21	~	cAge_yr	0.036	0.013	2.864	0.004
lHip_21	~	cPreMat_dummy	-0.031	0.045	-0.679	0.497
lHip_21	~	BreastFed_3cat_dummy	0.057	0.026	2.204	0.028
cdc_p85th	~	TIV	0.000	0.000	2.207	0.027
cdc_p85th	~	Study_dummy	0.004	0.010	0.364	0.716
cdc_p85th	~	cAge_yr	0.016	0.011	1.514	0.130
cdc_p85th	~	lHip_21	-0.125	0.073	-1.717	0.086
cdc_p85th	~	mEducation_dummy	-0.049	0.014	-3.536	0.000
cdc_p85th	~	income_dummy	0.015	0.020	0.731	0.464
cdc_p85th	~	cPreMat_dummy	-0.039	0.038	-1.034	0.301
cdc_p85th	~	cebq_SR	-0.044	0.021	-2.087	0.037
cdc_p85th	~	BreastFed_3cat_dummy	-0.025	0.023	-1.094	0.274

3.3 3.2.1 Path Model for Left Hippocampus: Sensitivit test with individual characteristics

Table 5: Fit Statistics for Sensitivity Test: individual characteristics associated with Hipp

	x
chisq	5.356
df	3.000
pvalue	0.148
baseline.chisq	144.218
baseline.df	27.000
baseline.pvalue	0.000
cfi	0.980
tli	0.819
logl	3.456
bic2	39.320
rmsea	0.077
rmsea.ci.lower	0.000
rmsea.ci.upper	0.182
rmsea.pvalue	0.259
srmr	0.017

Table 6: Parameters for Sensitivity Test: individual characteristics associated with Hipp

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.174	0.151	-1.148	0.251
cebq_SR	~	BreastFed_3cat_dummy	0.118	0.089	1.327	0.184
cebq_SR	~	TIV	0.000	0.001	-0.461	0.645
cebq_SR	~	Study_dummy	-0.006	0.040	-0.158	0.875
cebq_SR	~	cAge_yr	-0.018	0.043	-0.416	0.677
cebq_SR	~	lHip_21	-0.221	0.293	-0.754	0.451
cebq_SR	~	income_dummy	0.228	0.073	3.128	0.002
cebq_SR	~	sex_dummy	0.102	0.110	0.924	0.355
lHip_21	~	TIV	0.001	0.000	9.232	0.000
lHip_21	~	Study_dummy	-0.024	0.012	-2.024	0.043
lHip_21	~	cAge_yr	0.037	0.013	2.947	0.003
lHip_21	~	cPreMat_dummy	-0.032	0.045	-0.708	0.479
lHip_21	~	BreastFed_3cat_dummy	0.061	0.026	2.341	0.019
lHip_21	~	income_dummy	0.027	0.022	1.261	0.207
lHip_21	~	sex_dummy	-0.004	0.033	-0.117	0.907
cdc_p85th	~	TIV	0.000	0.000	2.173	0.030
cdc_p85th	~	Study_dummy	-0.002	0.009	-0.182	0.856
cdc_p85th	~	cAge_yr	0.017	0.011	1.562	0.118
cdc_p85th	~	lHip_21	-0.144	0.072	-1.987	0.047
cdc_p85th	~	sex_dummy	-0.003	0.028	-0.125	0.901
cdc_p85th	~	mEducation_dummy	-0.051	0.014	-3.686	0.000
cdc_p85th	~	income_dummy	0.020	0.021	0.951	0.341
cdc_p85th	~	cPreMat_dummy	-0.039	0.038	-1.020	0.308
cdc_p85th	~	cebq_SR	-0.047	0.022	-2.127	0.033

3.4 3.2.2 Path Model for Right Hippocampus (Figure 1C).

Table 7: Fit Statistics for Model: BF -> SR (R Hipp Med) -> p85th BMI

	x
chisq	15.842
df	5.000
pvalue	0.007
baseline.chisq	126.423
baseline.df	24.000
baseline.pvalue	0.000
cfi	0.894
tli	0.492
logl	-27.880
bic2	93.431
rmsea	0.129
rmsea.ci.lower	0.061
rmsea.ci.upper	0.202
rmsea.pvalue	0.032
srmr	0.041

```
    Welch Two Sample t-test

data:  rHip_22 by BreastFed_3cat
t = -1.1176, df = 37.257, p-value = 0.2709
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.21650926  0.06255284
sample estimates:
mean in group 0-3mo mean in group 4-6mo
           3.249182            3.326160

    Welch Two Sample t-test

data:  rHip_22 by BreastFed_3cat
t = -0.40995, df = 32.579, p-value = 0.6845
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.2139410  0.1422129
sample estimates:
 mean in group >6mo mean in group 4-6mo
           3.290296            3.326160

    Welch Two Sample t-test

data:  rHip_22 by BreastFed_3cat
t = 0.62311, df = 15.745, p-value = 0.5421
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -0.09894522  0.18117352
sample estimates:
```

Table 8: Parameters for Model: BF -> SR (R Hipp Med) -> p85th BMI

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.179	0.157	-1.141	0.254
cebq_SR	~	BreastFed_3cat_dummy	0.076	0.092	0.821	0.412
cebq_SR	~	TIV	0.000	0.001	-0.723	0.470
cebq_SR	~	Study_dummy	-0.014	0.042	-0.321	0.749
cebq_SR	~	cAge_yr	-0.030	0.044	-0.675	0.500
cebq_SR	~	rHip_22	-0.077	0.253	-0.303	0.762
rHip_22	~	TIV	0.002	0.000	9.634	0.000
rHip_22	~	Study_dummy	-0.033	0.014	-2.314	0.021
rHip_22	~	cAge_yr	0.032	0.015	2.138	0.033
rHip_22	~	cPreMat_dummy	-0.029	0.054	-0.529	0.597
rHip_22	~	BreastFed_3cat_dummy	0.069	0.031	2.222	0.026
cdc_p85th	~	TIV	0.000	0.000	1.584	0.113
cdc_p85th	~	Study_dummy	-0.001	0.009	-0.074	0.941
cdc_p85th	~	cAge_yr	0.014	0.011	1.250	0.211
cdc_p85th	~	rHip_22	-0.054	0.061	-0.888	0.375
cdc_p85th	~	mEducation_dummy	-0.049	0.014	-3.446	0.001
cdc_p85th	~	income_dummy	0.016	0.020	0.800	0.424
cdc_p85th	~	cPreMat_dummy	-0.036	0.039	-0.925	0.355
cdc_p85th	~	cebq_SR	-0.046	0.021	-2.135	0.033

```
 mean in group >6mo mean in group 0-3mo
          3.290296            3.249182

    >6mo    0-3mo    4-6mo
3.290296 3.249182 3.326160
```

3.5 3.2.1 Path Model for Right Hippocampus: Direct Effect of Breastfeeding

Table 9: Fit Statistics for Sensitivity Test: direct effect of breastfeeding on p85 BMI

	x
chisq	14.103
df	4.000
pvalue	0.007
baseline.chisq	126.423
baseline.df	24.000
baseline.pvalue	0.000
cfi	0.901
tli	0.408
logl	-27.011
bic2	93.405
rmsea	0.139
rmsea.ci.lower	0.065
rmsea.ci.upper	0.221
rmsea.pvalue	0.028
srmr	0.039

Table 10: Parameters for Sensitivity Test: direct effect of breastfeeding on p85 BMI

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.179	0.157	-1.141	0.254
cebq_SR	~	BreastFed_3cat_dummy	0.076	0.092	0.821	0.412
cebq_SR	~	TIV	0.000	0.001	-0.723	0.470
cebq_SR	~	Study_dummy	-0.014	0.042	-0.321	0.749
cebq_SR	~	cAge_yr	-0.030	0.044	-0.675	0.500
cebq_SR	~	rHip_22	-0.077	0.253	-0.303	0.762
rHip_22	~	TIV	0.002	0.000	9.634	0.000
rHip_22	~	Study_dummy	-0.033	0.014	-2.314	0.021
rHip_22	~	cAge_yr	0.032	0.015	2.138	0.033
rHip_22	~	cPreMat_dummy	-0.029	0.054	-0.529	0.597
rHip_22	~	BreastFed_3cat_dummy	0.069	0.031	2.222	0.026
cdc_p85th	~	TIV	0.000	0.000	1.462	0.144
cdc_p85th	~	Study_dummy	0.006	0.010	0.570	0.569
cdc_p85th	~	cAge_yr	0.013	0.011	1.212	0.226
cdc_p85th	~	rHip_22	-0.036	0.062	-0.578	0.563
cdc_p85th	~	mEducation_dummy	-0.046	0.014	-3.270	0.001
cdc_p85th	~	income_dummy	0.010	0.021	0.507	0.612
cdc_p85th	~	cPreMat_dummy	-0.037	0.038	-0.953	0.341
cdc_p85th	~	cebq_SR	-0.042	0.021	-1.981	0.048
cdc_p85th	~	BreastFed_3cat_dummy	-0.030	0.023	-1.337	0.181

3.6 3.2.1 Path Model for Right Hippocampus: Sensitivit test with individual characteristics

Table 11: Fit Statistics for Sensitivity Test: individual characteristics associated with Hipp

	x
chisq	3.284
df	3.000
pvalue	0.350
baseline.chisq	127.411
baseline.df	27.000
baseline.pvalue	0.000
cfi	0.997
tli	0.975
logl	-21.107
bic2	88.446
rmsea	0.027
rmsea.ci.lower	0.000
rmsea.ci.upper	0.152
rmsea.pvalue	0.488
srmr	0.014

Table 12: Parameters for Sensitivity Test: individual characteristics associated with Hipp

lhs	op	rhs	est	se	z	pvalue
cebq_SR	~	cPreMat_dummy	-0.173	0.151	-1.140	0.254
cebq_SR	~	BreastFed_3cat_dummy	0.119	0.089	1.333	0.182
cebq_SR	~	TIV	0.000	0.001	-0.517	0.605
cebq_SR	~	Study_dummy	-0.007	0.041	-0.172	0.863
cebq_SR	~	cAge_yr	-0.020	0.043	-0.464	0.643
cebq_SR	~	rHip_22	-0.188	0.245	-0.768	0.443
cebq_SR	~	income_dummy	0.230	0.073	3.143	0.002
cebq_SR	~	sex_dummy	0.102	0.110	0.924	0.356
rHip_22	~	TIV	0.001	0.000	8.355	0.000
rHip_22	~	Study_dummy	-0.031	0.014	-2.216	0.027
rHip_22	~	cAge_yr	0.034	0.015	2.250	0.024
rHip_22	~	cPreMat_dummy	-0.030	0.054	-0.566	0.572
rHip_22	~	BreastFed_3cat_dummy	0.075	0.031	2.418	0.016
rHip_22	~	income_dummy	0.043	0.026	1.679	0.093
rHip_22	~	sex_dummy	-0.005	0.039	-0.122	0.903
cdc_p85th	~	TIV	0.000	0.000	1.460	0.144
cdc_p85th	~	Study_dummy	-0.001	0.009	-0.080	0.936
cdc_p85th	~	cAge_yr	0.014	0.011	1.252	0.211
cdc_p85th	~	rHip_22	-0.054	0.061	-0.882	0.378
cdc_p85th	~	sex_dummy	-0.004	0.028	-0.126	0.900
cdc_p85th	~	mEducation_dummy	-0.048	0.014	-3.426	0.001
cdc_p85th	~	income_dummy	0.016	0.021	0.778	0.436
cdc_p85th	~	cPreMat_dummy	-0.036	0.039	-0.932	0.352
cdc_p85th	~	cebq_SR	-0.045	0.022	-2.048	0.041