

FINAL REPORT:
Evaluation of the *EatSleepPlay*TM Program
Integrating Findings from 2010 - 2012

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A. Introduction

1. Background

The Children's Museum of Manhattan's (CMOM) *EatSleepPlay™* program model and curriculum (developed with the National Institutes of Health) has been successfully integrated to serve children and families from diverse backgrounds in low income communities in New York City and New Orleans from 2010-2012 (See Appendix A for full curriculum). The *EatSleepPlay™* program curriculum builds on CMOM's experience and expertise with family audiences and an ongoing outreach program with low income families. The program curriculum, developed with the National Institutes of Health (NIH), is based on an interactive, activity based approach to learning and provides nutrition information through art literacy and movement activities, along with easy and fun strategies to incorporate healthy choices into families' daily lives. The premise of this method is that active engagement is critical to the process of learning, as well as changing beliefs and habits, and that reaching children at a young age will have significant behavioral ramifications. The program is conducted over the course of 11 weeks in preschool afterschool programs with children and their caregivers attending. The sessions last an hour and are conducted once a week with a class of 8 to 20 children. The sessions include an initial art activity related to the nutritional curriculum for the session (e.g., "fabulous fruits," "portion control," etc.), followed by singing through the clean up, a story time focused on a book related to the central message of the nutrition curriculum for that session, followed by a wrap up during which a healthy snacks are served. At the end of the session, each child receives their own copy of the book/story to take home with them.

2. Objectives of the *Eat SleepPlay™* Program Evaluation

The overall objectives of the *EatSleepPlay™* program evaluation are to:



1. Assess the effectiveness of the program in terms of families' learning of knowledge about nutrition, comparing response by caregivers to questions pre- and post-program participation;
2. Assess behavioral changes in food choice through comparison of pre- and post-program participation in a one-on-one structured interview with participating caregivers;
3. Assess attitudinal changes that relate to nutrition and health as a result of participation in the program;
4. Explore and document participants' experience in and response to the *Eat SleepPlay™* program after participation.

Michael Cohen Group (MCG) designed and conducted the evaluation of the CMOM *Eat SleepPlay™* program, in order to address these objectives. The evaluation plan includes a systematic collection of data from participating caregivers before and after the program on their family's food related practices, attitudes, nutritional knowledge and changes in these factors after participation in the CMOM *EatSleepPlay™* Program.

The program was piloted in winter of 2010 and then conducted five times over the course of three years (spring 2010 – spring 2012) in two geographic locations: the South Bronx, New York and New Orleans, Louisiana. This 11-week program is the focus of this evaluation, with additional findings from a 5-week condensed version of the program.

B. Methodology

The evaluation of the *EatSleepPlay™* program was conducted at two locations where the program was being implemented: South Bronx, NYC and New Orleans, Louisiana.

The pre- to post-program comparison was based on administering a questionnaire during the first 2 weeks, and again at the end of the *EatSleepPlay™* program. All caregivers attending the program were asked to sit with a researcher who administered the pre-program survey. The survey was conducted as a conversation and covered a range of family food purchase and eating habits, attitudes and beliefs about foods, as well as the foods their preschool child asked for most often and the beverages they typically drank. Findings from this survey provided the pre-program baseline findings that were then compared to responses on a comparable post-program survey conducted 11 – 12 weeks later, after completing the *Eat SleepPlay™* program.

The evaluation questionnaires were developed after a pilot program during which qualitative research was done with participating caregivers in order to obtain in-depth understanding of their perceptions, attitudes, behaviors and language related to the food they purchased and served to their families. Because the children were of preschool age, it was necessary to work with participating caregivers in order to assess changes in their food purchase and their preschool child's or family's eating behaviors, as well as their own knowledge about and attitudes towards food and nutrition before and after participation in the program.

In the South Bronx, trained researchers administered the surveys in English or Spanish to each caregiver, because the sites were located in neighborhoods with low levels of adult literacy. In New Orleans, caregivers had the choice to complete the survey at home or have it administered to them. At the end of each 11-week session findings from pre- and post-test surveys were compared in order to

evaluate changes in family food purchases and eating behaviors, as well as nutritional knowledge and the children's attitudes towards food. In addition, each week of the program, at the end of the *Eat Sleep Play™* session, a one page, illustrated review with questions sheet was given to the participating caregivers. This provided a way to track those who attended on a given week and to obtain answers to some simple questions about the session's curriculum in order to gauge comprehension. Evaluations were also conducted in the same way for the condensed 5-week version of the *EatSleepPlay™* program.

Sample

The sample for the evaluation included all caregivers who attended the *EatSleepPlay™* program and completed the pre and post-program questionnaires. In total, the *EatSleepPlay™* 11-week program has served 121 child-parent dyads, 67 located in South Bronx and 54 in New Orleans. An average of 15 children attended sessions of the program over the course of the five program cycles.

In addition, the condensed, 5-week version of the program was completed by 15 caregivers who participated with their children in the South Bronx.

Caregivers with complete pre- and post-surveys

	11-week	5-week	Total
Fall 2010 (Pilot)			
South Bronx, NY	13	-	13
Winter 2011			
South Bronx, NY	24	-	40
New Orleans, LA	16	-	
Fall 2011			
South Bronx, NY	14	15	57
New Orleans, LA	28	-	
	-	-	
Fall 2012			
South Bronx, NY	3	-	26
New Orleans, LA	23	-	
	121	15	136

C. Overview of Findings

Findings from pre- to post-program interviews with caregivers in both the 11-week and 5-week programs indicate that children in families who participated in the *EatSleepPlay™ Program*:

- **Increased their consumption of healthier beverages, and**
- **Requested healthier snacks after participation in the program.**

In addition, **caregivers' reports of the foods they bought for their families indicate that after participation in the program, they were more frequently making food purchase decisions that reflected the information they had learned during the *EatSleepPlay™* sessions.** In some cases, these outcomes were greater for caregivers who had attended the program more consistently.

At the end of each 11- or 5-week program, caregivers were asked to evaluate the program and provide their own as well as their child's reactions to it. **Caregivers who participated in both the original and condensed versions of the *EatSleepPlay™* program had overwhelmingly positive reactions to the program experience, curriculum and materials.**

D. Detailed Findings from Evaluation of the 11-week *Eat Sleep Play* Program

1. Children’s consumption of healthy beverages increased

after participating in the program. Prior to participating in

the 11-week program, caregivers were asked to indicate

which beverages, from a list of 10, their children regularly

consumed. At the end of the program they again reported on their children’s beverage consumption.

The comparison of responses between pre- and post-program responses indicates **an increase in their children’s consumption of low-fat milk and a decrease in whole milk and soda.**

	11-Week Program		
	Pre	Post	Change
Soda	15%	12%	-2.6%
Whole Milk	33%	27%	-6.1%
Low-fat Milk	37%	47%	10.5%

	11-Week Program		
	Pre	Post	Change
<i>Healthy Snacks</i>	1.49%	1.86%	0.37%
<i>Unhealthy Snacks</i>	1.38%	1.23%	-0.15%

2. Children’s healthy snacking behavior increased after

participating in the program. Participating caregivers

were asked about the snacks their children requested

most often and which they regularly consumed, both

before and after participating in the 11-week program.

The comparison of caregivers’ report on the snacks their children requested and ate, pre- to post-

program, indicate an **increase in the number of healthy snacks (e.g., fresh or dried fruit) their children consumed, as well as a reduction in the consumption of unhealthy snacks (e.g., pop tarts, cookies).**

Interestingly, there was a significant correlation between the number of sessions caregivers attended

with their children and decreases in their child’s unhealthy snack consumption. This and other findings,

like the correlation between caregivers’ attendance and their purchase of healthier beverages, suggest

that the caregiver’s consistent presence is important to the specific and overall impact of the program.

3. Participating caregivers made healthier purchasing decisions for their families after participating in the program.

There were several observed changes in caregivers' report of the frequency with which they bought specific food items from pre- to post-program. When these changes in reported purchasing are viewed together, it is apparent that caregivers were making

	11-Week Program		
	Pre	Post	Change
Whole Milk	46%	31%	-14.9%
Low-fat Milk	66%	67%	0.9%
White Bread	45%	39%	-6.1%
White Rice	82%	71%	-10.5%
Brown Rice	24%	25%	1.8%
Yogurt	30%	36%	6.1%

healthier purchasing decisions after participation in the program. Specifically, they purchased less white rice, white bread and whole milk, and purchased more brown rice and yogurt. For these findings, there were no differences related to caregiver attendance.

4. Participating caregivers were more aware of the relative nutritional value of juice after participating in the program.

As part of the survey conducted both before and after program participation, caregivers were asked to rate the statement "All juices are good for children," using a 5-point scale from "strongly disagree" to "strongly agree." The comparison of pre- and post-program ratings indicates a decrease ($p < .09$) in agreement from an average of 2.15 pre-program to 1.89 at post program. This finding indicates an increased awareness among caregivers that juice often contains additional sugar and other ingredients that do not have nutritional value.

5. Participating caregivers' ratings of statements about food reflect a shift away from more traditional food related values.

Prior to the participation in the program, caregivers reported significantly higher levels of agreement with statements like, "my biggest concern about food for my children is that they

get enough to eat” and “feeding children food they enjoy is a way to express our love.” These changes in attitudes and beliefs about food were most apparent after participation in the 11-week program.

E. Key Findings from the *Eat SleepPlay* Condensed, 5-Week Program

In the fall of 2011, CMOM offered a 5-week version of the original 11-week *EatSleepPlay*™ curriculum and program. In each of the five sessions, at least two of the content areas were combined and demonstrated through hands-on activities with children. Twelve of the original group of 18 caregivers completed both the pre- the post-test surveys.

1. Children’s consumption of healthier beverages

increased after participating in the 5-week program.

The comparison of caregiver responses prior to and after participation in the 5-week *EatSleepPlay*™ program

	5-Week Program		
	Pre	Post	Change
Soda	17%	17%	0.0%
Whole Milk	25%	17%	-8.3%
Low-fat Milk	33%	58%	25.0%

indicates an increase in their children’s consumption of low-fat milk and a corresponding decrease in consumption of whole milk. There was no change in children’s consumption of soda in this sample.

	5-Week Program		
	Pre	Post	Change
<i>Healthy Snacks</i>	1.58%	2.08%	0.50%
<i>Unhealthy Snacks</i>	1.58%	1.58%	0.00%

2. Children’s healthy snacking behavior increased after participating in the 5-week program.

Caregivers were asked to indicate which snacks, from a list of 12, their children regularly consumed. Caregivers

who participated in the 5-week *EatSleepPlay™* consistently reported an increase in the number of healthy snacks their children consumed from pre- to post-program. There was no change in children’s consumption of unhealthy snacks.

3. Trends in caregivers’ shopping choices varied

among participants in the 5-week program.

There were several positive changes in the frequency with which caregivers in the condensed, 5-week version of the *EatSleepPlay™* program bought specific food items for their families. There was an increase in the purchase of brown rice, accompanied by a

	5-Week Program		
	Pre	Post	Change
Whole Milk	25%	33%	8.3%
Low-fat Milk	67%	67%	0.0%
White Bread	42%	25%	-16.7%
White Rice	58%	50%	-8.3%
Brown Rice	8%	17%	8.3%
Yogurt	33%	33%	0.0%

decrease in the number of caregivers who purchased white rice and white bread. However, there were no changes in the purchase of low-fat milk or yogurt and an increase in the report of purchasing whole milk after the program. These findings, when compared to the outcomes for the original 11-week program, suggest that the full program is more likely to support changes in caregiver behaviors related to making healthier choices when purchasing healthier beverages and foods for their families.

4. Caregiver attitudes about food and nutrition remained constant from pre- to post-program in the 5-week, condensed *EatSleep Play™* program.

There were no clear changes in ratings of statements that characterized specific attitudes and beliefs about children and food in the 5-week version of the *EatSleepPlay™* program.

F. Caregivers' Evaluations of the *Eat SleepPlay™* program

Caregivers participating in both the original and 5-week version reported unprecedented levels of satisfaction with the *EatSleep Play™* program and curriculum. All caregivers who completed the post-program questionnaire were asked at the end of the program, "How do you feel about the program?" Two-thirds of the caregivers wrote in an answer and all but one reported that they liked or even loved the program (63% of caregivers who completed the post-program questionnaire). When they were asked, "How do you think your child felt about the program?" all who responded to the question reported that their children liked or loved the program (61% of caregivers who completed the post-program questionnaire). Only one caregiver (.6%) expressed dislike for the program saying, "I don't think this program is for me." The remaining caregivers across both locations (about one-third of all participants in New York and New Orleans) did not write in their responses. Taken together, these findings indicate **a very positive evaluation by participating caregivers of and experience with the lessons, and activities of the *EatSleepPlay™* program.**

A few caregivers went into detail about specific curriculum elements that they felt were particularly impactful. Without being asked, one caregiver indicated that she enjoyed the recipes stating, "I really liked [the program], especially the recipes. I use them." Another caregiver reported, "I like how they teach my kids to paint, and cook." One caregiver even highlighted ancillary gains from the program, "I loved it, because it taught her to eat healthy." There were a number of caregivers in the South Bronx who chose to return and participate in the program a second time. Their comments support the observation that **the *EatSleepPlay™* program with its focus on activities engaged by caregivers and children provides a valued, shared, and fun experience.**

F. Conclusion

Taken together, these findings provide a very positive the evaluation of the *EatSleepPlay™* program, with clear indication that the active, experiential involvement of both preschool children and their caregivers in an engaging curriculum is key to both learning about healthy eating choices and actually changing purchase and eating behaviors. **The 11-week program has been shown to be both effective in changing behaviors and helping caregivers and children learn about healthier eating.** The program has also proven to be **effective across different sites in diverse communities.** The more condensed 5-week program also yielded some positive behavioral changes. . **The importance of caregivers and children being engaged together in activities that support their learning of nutritional information as well as making it fun, is evident from these findings.**

Outcomes that indicate actual behavioral changes are notable in evaluation research. Positive outcomes evident in repeated involvement, enjoyment and sincere interest are harder to capture but equally important to proving the efficacy of the CMOM *EatSleepPlay™* model.

Young children understood and enjoyed the program. They indicated their changing awareness through requests for different beverages, healthier snacks and openness to trying new foods. Parents exhibit their engagement and interest in *EatSleepPlay™* first by showing up to be part of the program during after school hours, and then by making changes in their food purchase habits, attitudes and interest in trying foods that they had previously excluded from their family's menu (e.g., low fat milk, raw vegetables). Teachers and staff at the sites were vocal in their enthusiasm, designing lessons for their classroom based on the CMOM curriculum and program, increasing their knowledge about nutrition and health, as well as participating in their own dietary changes.