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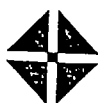
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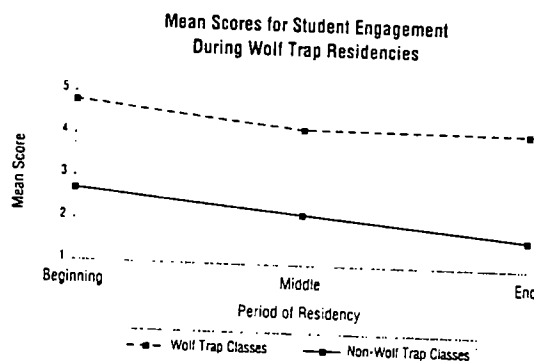
Evaluation of Wolf Trap Institute for Early Learning Through the Arts: 1991-92, 1992-93, 1993-95

Bruce Torff

Does an artist-in-residency program show benefits for at-risk preschoolers and their teachers? This was the question posed by researchers from Harvard's Project Zero, who conducted a four-year investigation into the effects of the Wolf Trap Institute for Early Learning Through the Arts program. Begun by the Wolf Trap Institute in Washington, D.C., the program provides seven-week performing arts residencies in Head Start preschools at several locations across the country. The focus of the program is to offer quality performing arts experiences to low-income children and to enhance teacher skills in incorporating performing arts — music, movement, and drama — into the regular curriculum.

Artist-teachers are trained by the Wolf Trap Institute to use a residency curriculum in preschool classrooms. The residency consists of two lessons per week over a period of seven weeks. The artist-teachers are encouraged to tap ideas from the teacher's ongoing curriculum and incorporate them into the arts residency activities. For example, if the classroom teacher is teaching students about "the senses," the artist designs performing arts activities related to that topic during residency classes. The artist also is expected to collaborate with the teacher on lesson planning and to act as a teacher-trainer so that teachers can acquire the skills needed to continue using the performing arts activities and concepts after the residency is over.

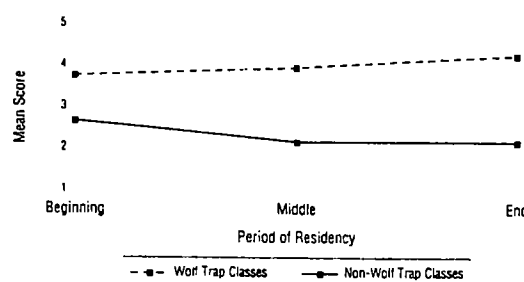
The first two years of the evaluation study involved classroom observations, interviews, and analysis of materials and paperwork to determine whether students and teachers benefitted from participating in Wolf Trap residencies. In year one, two residencies in Washington, D.C., were examined; in year two, residencies in Tennessee and Arizona were the subject of study. This sample of programs provided a range of geographic locations, artist-teacher approaches, and student populations, and the consistency of results for teachers and students over the two years was notable.



The study of change in students consisted of coded observations of two important aspects of student activity: student engagement, defined as the level of attentiveness to and participation in the activity, and social participation, meaning the level of student interaction with peers. Six Wolf Trap classes and six non-Wolf Trap "regular"



Mean Scores for Social Participation
During Wolf Trap Residencies



classes were observed during each residency: two at the beginning, two in the middle, and two at the end. For both years the researchers found that Wolf Trap classes had significantly higher levels of student engagement and social participation than did non-Wolf Trap classes. Slightly higher engagement scores at the beginning of the program were attributed to a novelty effect.

Further, results showed that the residency activities were developmentally appropriate for the age of the children and that they provided opportunities (i.e., arts instruction and experiences) that were not present in regular classroom activity.

Results related to changes in teachers were less striking. In fact, the researchers found that the program was falling short of its goals of involving teachers in the residencies and changing teachers' practices in post-residency classes. Observations and interviews revealed that the Wolf Trap approach to training tended to be "modeling plus notebooks" and that this approach was insufficient to impact classroom teaching styles after the residencies ended.

Specific recommendations were made in the second year evaluation report to strengthen the teacher training component. The researchers suggested that, by increasing teacher involvement during the residencies, teachers would be more likely to use arts-based instruction after the residencies. The result of these recommendations was the development, implementation, and evaluation of the Wolf Trap Plus model for staff development, an apprenticeship approach that involves structured conferencing, planning, and co-teaching between the artist-teacher and regular teacher. After two years of evaluation, the researchers determined that the model fostered desired positive changes in teaching practices.

The Wolf Trap Institute for Early Learning Through the Arts appears to benefit at-risk preschoolers by actively engaging them in quality arts activities and experiences. Further, Wolf Trap Plus shows promise as an effective apprenticeship model for teacher training in the arts. The research component for these programs was long-term and provided valuable information for program improvement as the Wolf Trap residency programs matured and expanded.

Source: Bruce Torff. *Evaluation of Wolf Trap Institute for Early Learning Through the Arts: Annual Reports 1991-92 and 1992-93*. Harvard Project Zero, Cambridge, Massachusetts, 1994.

Supplemental Source: Bruce Torff and Edward Warburton. *Arts-Based Instruction and Professional Development: Report of the Wolf Trap Evaluation Project: 1993-95*. Harvard Project Zero, Cambridge, Massachusetts, 1995.

SETTLEMENT MUSIC SCHOOL

KALEIDOSCOPE

PRESCHOOL ARTS ENRICHMENT PROGRAM

MAKING A DIFFERENCE IN THE LIVES OF CHILDREN

FINAL REPORT OF A FOUR-YEAR EVALUATION OF AN
ARTS-BASED EARLY INTERVENTION PROGRAM

Study Conducted by
Arts Programming & Research Services
of
Settlement Music School

Report Compiled by Mary C. Coakley, M.A.

August, 1995



A United Way Agency • Mary Louise Curtis Branch • Germantown Branch • Kardon-Northeast Branch
Jenkintown Music School Branch • West Philadelphia Branch • Kardon Institute of Music for the Handicapped

Introduction

For years, proponents of the arts have touted the benefits of integrating dance, music, art and drama into the educational process, as a means of developing component skills of cognitive development. Still, there is a great tendency for educators to make a split between the arts and cognition, which is reflected in the low priority given to the arts in schools and curriculum. For the most part, the expressive arts is considered an "extra," and certainly not as important as traditional academic subjects.

Perhaps one of the reasons that the arts have not been used more in the classroom is that there is virtually no empirical evidence to show definitively that the arts have a positive impact on learning for young children. In order to address this need, a unique early childhood program was founded in 1990: the **Kaleidoscope Preschool Arts Enrichment Program** of Settlement Music School in Philadelphia, PA. The goal of this program is to provide a high-quality learning environment which uses all of the expressive arts to intervene with high-risk preschool children. Kaleidoscope serves 60 low-income children enrolled in three preschool classrooms and a Kindergarten. Funding comes from the ARAMARK corporation, the William Penn Foundation and other foundations, and federal sources (Head Start). The program is run on an extended day model (8:30 to 2:30), 40 weeks a year. In the course of a week, the children receive small group instruction twice in art, music, dance and drama by artist-teachers with special training for early childhood. Kaleidoscope shares space with other programs at Settlement Music School, and as such has access to a large dance studio with mirrored walls, a fully equipped art studio, and an Orff-based children's music studio.

An important aspect of the Kaleidoscope program that has been long-standing is its evaluation component. The two main questions driving the research were:

- * { 1. What is the effect of an arts-integrated preschool curriculum on the cognitive and language development of high-risk preschool children?
- 2. How do these effects change over time?

To answer these questions, all children attending the Kaleidoscope program were tested on a variety of measures repeatedly during the years that they spent with us. In addition, the performance of these children was compared to the performance of like-aged children attending a nearby Title XX (federally subsidized) child care center. The three main areas selected for study were intelligence, achievement and language development. The study measured changes from pre-test to post-test data after one and two years of the program.

Method

Subjects: A sample of 41 children in Kaleidoscope (22 boys and 19 girls) and 22 children in the Title XX group (12 boys and 10 girls) were selected to serve as subjects. These children were enrolled in their respective programs for at least two consecutive years. Children in both groups were predominantly low-income and African American. At the start of the study, the children's ages ranged from 2.5 to 5.25, with an average age of 3.6.

Instruments: Cognitive ability and achievement were assessed with the Kaufman Assessment Battery for Children (K-ABC) (Kaufman & Kaufman, 1983). The K-ABC is a norm-referenced standardized test which has empirically established reliability and validity and has been shown to be a valid instrument for use with at-risk preschool children (Allard & Pfohl, 1988). This instrument conceptualizes intelligence as consisting of two complementary processes: Simultaneous processing refers to the mental ability of a subject to integrate input simultaneously in solving a problem. It frequently involves spatial, analogic, or organizational abilities. Sequential processing requires the mental arrangement of stimuli in serial order for successful problem solving (Kaufman & Kaufman, 1983). The processing and production of music, visual art, and creative movement has been viewed as a largely simultaneous task. Therefore, we would expect to see an improvement in this area as a result of the arts-enrichment. The K-ABC yields a separate score for each of these areas, as well as a composite of the two (the Mental Processing Composite, MPC). The MPC is conceptually similar to the "IQ score" derived from other intelligence tests.

The Achievement scale of the K-ABC assesses such areas as cultural knowledge, numbers and math concepts, and verbal conceptualization skills. It yields separate scores for each area as well as a composite score, but only the composite score is used in this study.

To assess language skills, the Peabody Picture Vocabulary Test-Revised (PPVT-R) was used. The PPVT-R measures receptive language skills in subjects aged 2.5 to adult. It has excellent psychometric properties (Dunn & Dunn, 1981) and has been shown to be reliable with at-risk preschoolers.

A Note About Standard Scores: Because both the K-ABC and the PPVT-R are used across the age span, raw scores are not directly interpretable. Therefore, scores have to be change into standard scores, which can be directly compared across subtests and across ages. Standard scores tell how far an individual's score falls from the mean (average) for his/her age group. The actual numerical value of mean is set by test developers, and in the case of the K-ABC and the PPVT-R, it is set at 100. The standard deviation of both tests is 15, which means that two-thirds of the population fall within 15 points of the score of 100, in either direction.

Procedure: Within eight weeks of their entry to their respective preschool programs, children in both the Kaleidoscope and Title XX groups were assessed with the K-ABC and the PPVT-R. Children were assessed individually by advanced doctoral psychology students in a room separate from their classroom. For most children, the testing was spread over two days. At the end of the first and second academic years, all children were assessed again in the same manner.

Results

Table 1 lists the obtained scores for the two groups over the three testing periods. As can be seen, the two groups were frequently significantly different from one another on the pretest. In order to control for this discrepancy, a statistical technique known as a "Repeated Measures Analysis of Covariance" (ANCOVA) was used for each of the five areas assessed. Essentially, this procedure controlled for the fact that the two groups

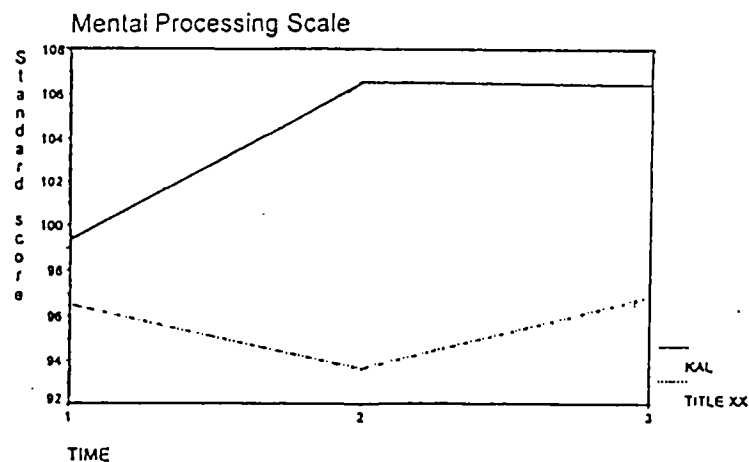
were not equivalent from the start, so that comparisons of later test scores would be more fair.

Table 1
Mean Test Scores for Kaleidoscope and Title XX Over Two Years
(Standard Deviation in Parentheses).

Test	Kaleidoscope (Treatment)	Title XX (Control)
Simultaneous Processing		
Pretest	98.54 (16.23)	90.19 (12.23)
End of Year 1	107.56 (15.15)	90.00 (15.15)
End of Year 2	106.80 (10.73)	94.57 (11.38)
Sequential Processing		
Pretest	100.78 (13.39)	106.57 (12.44)
End of Year 1	103.17 (11.97)	99.62 (11.78)
End of Year 2	105.17 (14.44)	101.33 (9.72)
Mental Processing Composite		
Pretest	99.27 (15.76)	96.52 (11.61)
End of Year 1	106.49 (14.31)	93.67 (14.11)
End of Year 2	106.39 (12.13)	96.90 (11.82)
Achievement Composite		
Pretest	95.50 (13.74)	87.45 (8.20)
End of Year 1	97.29 (12.73)	86.50 (8.17)
End of Year 2	97.47 (12.10)	92.10 (9.26)
PPVT-R Standard Score		
Pretest	87.98 (19.37)	67.22 (17.17)
End of Year 1	92.70 (16.64)	72.73 (13.01)
End of Year 2	99.02 (13.75)	77.77 (11.70)

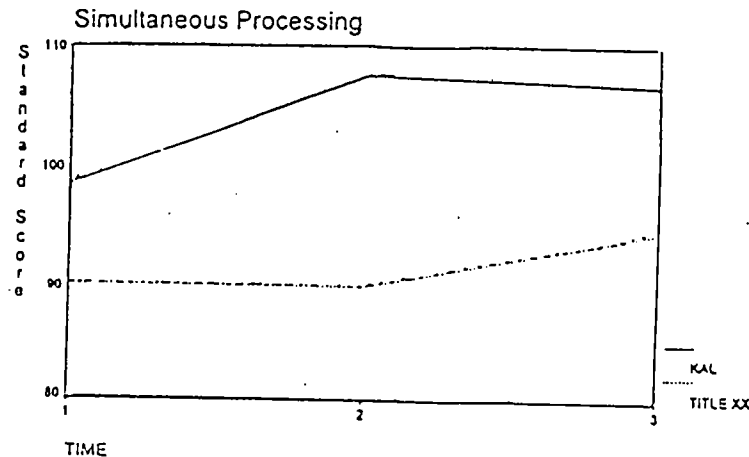
Cognitive Abilities: On the Mental Processing Composite, results of the repeated measures ANCOVA showed a main effect of group, $F(1,59) = 20.70, p < .001$. That is, the Kaleidoscope group showed significantly higher scores than the Title XX group at the end of both the first and second school year. See Figure 1 below.

Figure 1



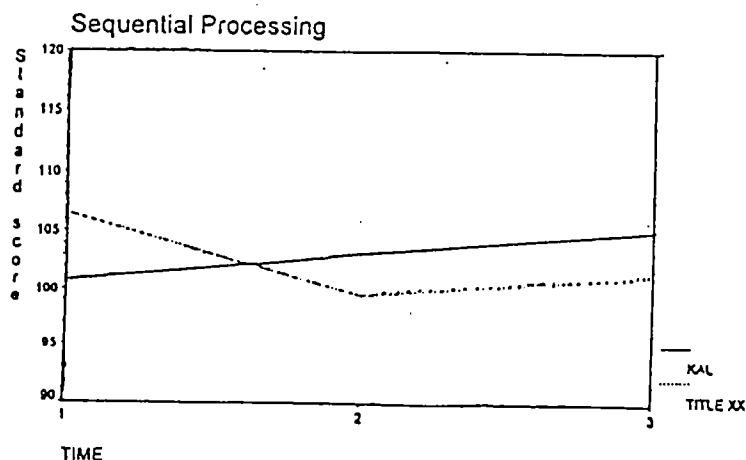
Improvements were also seen in the component areas which constituted the Mental Processing Composite. On the Simultaneous Processing Scale, the Kaleidoscope group mean score increased by nine points between the pretest and the end of the first school year, while the Title XX group mean score remained essentially unchanged. The results of the repeated measures ANCOVA demonstrated a main effect of group, $F(1,59) = 19.11$, $p < .001$, indicating that the Kaleidoscope group scored higher than the control group at the end of both years. There was, however, a trend for a group by time interaction, $F(1,60) = 3.18$, $p < .10$. Follow-up tests for simple effects showed a trend for the control group, but not the Kaleidoscope group, to improve between the end of the first and second academic years. See Figure 2 below.

Figure 2



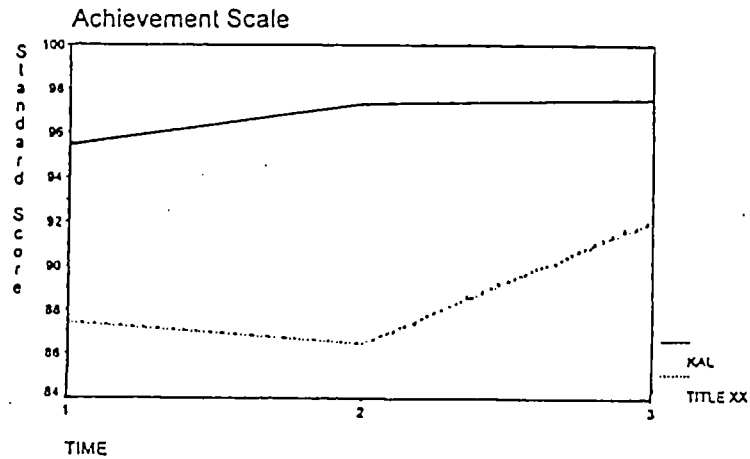
On the Sequential Processing scale, the Title XX group scored slightly higher than the Kaleidoscope group on the pretest, but dropped below the level of Kaleidoscope at the end of both school years. The repeated measures ANCOVA showed a main effect of group, $F(1,59) = 12.53$, $p = .001$, suggesting that after correcting for pretest differences, the Kaleidoscope group scored well above the Title XX group at both time periods. See Figure 3.

Figure 3



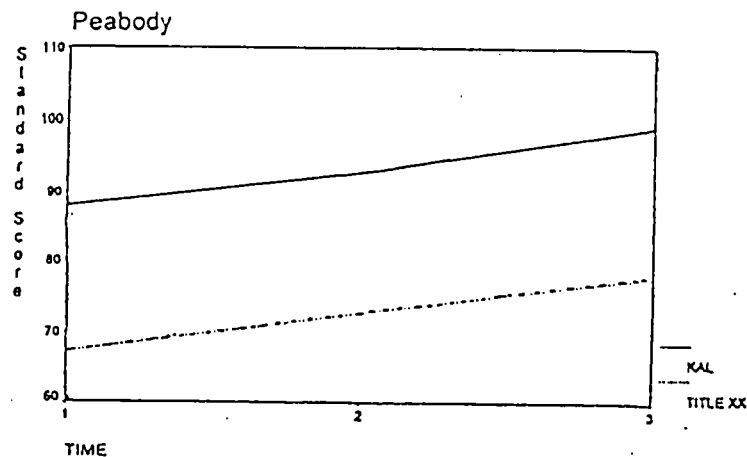
Achievement: On the Achievement scale, results of the repeated measures ANCOVA showed a main effect of time, $F(1,56) = 9.60, p < .005$, qualified by a group x time interaction, $F(1,56) = 8.41, p < .01$. Essentially, this means that while both groups made some improvements over the two years, the Title XX group made a sharper leap between the end of the first and second academic years. However, as can be seen in Figure 4 below, the actual mean scores at all three time periods were lower for the Title XX group than the Kaleidoscope group.

Figure 4



Language: On the PPVT-R, results of the repeated measures ANCOVA showed a main effect of group, $F(1, 59) = 15.04, p < .001$ and a main effect of time, $F(1,60) = 10.50, p < .005$. Thus, while both groups' scores increased from the end of one year to the next, the Kaleidoscope children demonstrated significantly higher language scores at both time points than the Title XX children, even after accounting for initial differences. See Figure 5.

Figure 5



Conclusion

✓ The results of this study provide positive evidence that using the arts is an effective intervention with at-risk preschool children. After only one year of an arts-based curriculum, children in the Kaleidoscope group made gains in cognitive development,

language development and achievement above and beyond that which was seen in the control group. Furthermore, these gains were maintained with continued time spent in the program, and in all cases, remained above the level which was gained by the control group in two years. *

As was hypothesized, one area in which a large gain was seen was in Simultaneous Processing. These results indicate that training and activity in the arts, which is processed through the right-hemisphere of the brain, actually promotes "right-brain" kinds of thinking--i.e., holistic, visual, nonverbal, synthetic. What was somewhat more surprising was the concomitant increase in score in Sequential Processing, and the Mental Processing Composite. Thus, the central nature of the arts in the Kaleidoscope program did not simply tip the scale in favor of the "right-brain" skills, but also brought about significant development in the more "left-brain" (sequential) skills as well. Clearly, education through the arts still supported development in the mode of learning favored by more traditional educational practices (logical, verbal, "left-brain"). And thus, with the left and right brain developing together, the scores reflecting general cognitive ability increased for the Kaleidoscope children much more than the control.

Scores on the language measure showed that the Kaleidoscope group improved quite significantly and steadily over the two years assessed. This pattern was seen for the Title XX group as well, but with lower overall scores. Over twenty years of research has shown that enrollment in preschool of average quality or better enhances language development in children at-risk. However, these results additionally suggest that arts-based programming boosts the effect. We believe that the treatment of language as an art form, as something to explore in multiple directions, has benefits above and beyond that which is offered through the typical preschool experience.

* { Results of the Achievement scale of the K-ABC showed that the Kaleidoscope group held an initial superiority in performance across the two-year period. The Title XX group, while scoring lower overall, showed a significant increase in score between the end of year one and the end of year two. These findings point again to the sensitivity of the K-ABC to the children's experience. The children enrolled in the Title XX center, who were exposed to a traditional "school-readiness" curriculum, reflect that training in the test area designed to measure social transmission of knowledge and factual information. The children enrolled at Kaleidoscope, who experienced a more arts-based discovery curriculum, excelled in the more content-free, problem-solving areas.

✓ One of the most interesting observations about the data is the fact that the Kaleidoscope group made some of its largest gains between the pretest and the end of the first year. This was especially true for the Simultaneous Processing Scale and the MPC. What this suggests is that the benefits of arts programming occur fairly rapidly for preschool children, and then level off and are maintained by continued immersion in the arts. Perhaps what the data are demonstrating is that there is a critical window of opportunity present during the preschool years which allows the young mind to absorb the unique perceptual and problem-solving skills which are derived through experience in the expressive arts. If one waits until a child is older to introduce him to the arts, it may take much longer for the cognitive gains to emerge.

Although the results of this study are exciting and encouraging, a few caveats must be pointed out. First, the number of subjects in this study was fairly small, and the group sizes were unequal, which may have weakened the power of detecting differences in the

control group. Second, the teachers at the Title XX center had less formal education (i.e., two-year degrees) than the teachers at Kaleidoscope (i.e., four-year degrees). This, in itself, may have produced some of the differences between the two groups, as some research shows that quality of early education is related to both teacher education and salary (Howes & Whitebook, 1991). Finally, Kaleidoscope had a much more generous funding base which undoubtedly provided greater opportunity for both the children and professional staff at this school than at the Title XX center.

These limitations notwithstanding, there is still much reason to be excited about this innovative alternative to traditional preschool for children who come from home environments that are chaotic--lacking in structure and predictability--and impoverished. If early mental structures do indeed reflect the organization (or lack thereof) of the child's environment, then inner-city, low-income preschoolers no doubt have a very different mental organization than their middle-class peers. The hypervigilance, the highly developed motor and sensory responses, and the limited language skills characteristic of these children are certainly functional, appropriate adaptations to their environment. However, these same characteristics are disdained and maladaptive in the school setting, and often contribute to the child's failure. An intervention that can be multi-sensory, multi-symbolic and highly accepting of individual variation--i.e., arts-based curriculum--provides a better match to the at-risk child's abilities. This, in turn, promotes an eagerness to learn, high self-esteem, and in general provides many more open doors for entering the world of early childhood education, especially for the inner-city child.

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EVALUATION OF THE MOTHEREAD PROGRAM

March 29, 1993

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Acknowledgements:

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INTRODUCTION

This report describes an evaluation study which examines the effectiveness of the MOTHEREAD Program, an innovative literacy and therapeutic intervention for incarcerated mothers. Specifically, this evaluation assesses whether the MOTHEREAD Program enhances incarcerated women's literacy behaviors, emotional health, and parenting attitudes.

Although there have been few studies of women in prison, the research that does exist suggests that incarcerated women typically have low literacy and academic levels, high levels of emotional and behavioral problems, and relatively poor parenting skills. For example, many female prisoners have experienced academic difficulties during childhood and adolescence which resulted in school dropout; hence, the educational and academic functioning levels of incarcerated women tend to be very low (Comptroller General, 1980). In fact, the average academic functioning level of the adult female inmates in North Carolina has been estimated to be at a fifth grade level (Proceedings of the Women in Criminal Justice Conference, 1980). In addition, incarcerated women tend to suffer from a variety of emotional and behavioral problems, such as drug abuse, low levels of self-esteem (Browne and Martin, 1990), and high levels of depressive symptomatology (Fogel and Martin, 1992). These emotional and behavioral problems, often coupled with low levels of academic functioning and dysfunction in their families of origin, handicap these women in parenting their children. Therefore, it is not surprising that although many incarcerated women hold motherhood as their primary social role orientation (Ginsburg, 1980; Baunach, 1985), often they have not developed healthy parenting attitudes and skills (Browne, 1989).

In recognition of this research information, and the fact that more than 75% of all female inmates in North Carolina are mothers who will reunite with their children after spending less than two years in prison (Proceedings of the Women in Criminal Justice Conference, 1980), in 1987, the North Carolina Correctional Center for Women (NCCIW) contracted with the MOTHEREAD Program to provide a prison based parent-oriented intervention which addresses the problems of literacy, emotional health, and parenting. This Program, which has served over 600 women at NCCIW, continues operation to this day.

MOTHEREAD Inc. is a private, non-profit, educational organization for parents and children which was founded by Ms. Nancye Gaj, which was initially administered as a project of the Department of Cultural Resources. This award-winning program aims to fulfill its goals of enhancing literacy behaviors, improving emotional health, and fostering healthy parenting attitudes by means of innovative adult education classes. The MOTHEREAD classes are advertised in the prison as a course in "story sharing with children". Inmates voluntarily sign up to participate in MOTHEREAD classes. Two levels of MOTHEREAD courses are offered, MOTHEREAD I and MOTHEREAD II. MOTHEREAD II is an advanced version of MOTHEREAD I, with the books in MOTHEREAD II being more advanced than those used in MOTHEREAD I. Note that all students begin in MOTHEREAD I and then graduate into MOTHEREAD II, and that there is typically a 2-week break between the two courses. Each course consists of sixteen 90-minute sessions which are offered over an 8-week period.

Teaching takes place in small groups composed of approximately eight to ten students and two well-trained instructors. Children's books are distributed to the class members, and the instructor acts as a model demonstrating how to read the books aloud in an expressive manner while engaging a child's attention (e.g., asking the child to identify pictures in the story, asking the child what will happen next in the story, asking the child how he/she would feel in a similar situation). Students are encouraged to practice these "story sharing skills" themselves during the class. Note that research has found that participating in these types of story sharing skills with pre-school children helps to prepare the children for learning to read when they enter school (i.e., it improves the "reading readiness" of the children) (Resnick, Roth, Aaron, Scott, Wolkind, Larsen, and Packer, 1987). In addition, students are asked to identify the underlying child development themes of the children's stories which they read, and then to relate the themes to events which have occurred in their own lives. For example, one children's story which is read and discussed in class focuses on a boy who wakes up one

morning to find that he has shrunk to a mere two inches in height over night. Due to his new tiny size, he has tremendous difficulties in carrying out his parents' instructions to make his bed, prepare his breakfast, etc. One of the themes in this story which is discussed in class is how children, due to their developmental level, will have difficulty in carrying out tasks that adults find commonplace. Students are encouraged to discuss times in their own childhood when adult expectations were placed on them, or times when their own children have not been able to fulfill their own expectations of adult-like behavior. In addition to learning these skills, class participants are encouraged to develop their writing skills by composing their own stories and letters to send home to their children and families. All class activities are designed to improve the critical thinking and problem solving skills of the participants.

Thus, the MOTHEREAD classes have been designed to operate on several different levels, including improving the literacy behaviors of the women, improving the women's emotional health, and improving the women's attitudes about parenting.

MOTHEREAD aims to improve the literacy behaviors of the participants including their reading abilities. Since the class is advertised as a class in how to read to children, it is natural that children's books will be used as course materials. Since the selected children's books have a low level vocabulary, the women can practice reading books which are fairly easy to read. Thus, the combination of course goals and materials allows the women to enhance their reading abilities without embarrassment or insult. It is expected that these gains in reading skills will translate into gains in other literacy behaviors, such as using books, magazines, and newspapers to learn new information, to develop analytic thinking skills such as discovering the underlying themes in literature, and to develop their verbal expression and writing skills.

The MOTHEREAD classes aim to enhance the women's emotional health by providing a learning environment which emphasizes and ensures success. In addition, as these women improve their literacy behaviors and develop strategies for relating better with their children, they will feel better about themselves.

Finally, the MOTHEREAD classes aim to teach broad concepts concerning child development and parenting attitudes through the use of discussions concerning the themes of the children's books which are read in class. Students are encouraged to share their own personal experiences which relate to the themes under discussion. Hence, these discussions move in the direction of being group therapy sessions focused on building positive self-esteem and healthy parenting attitudes.

THE MOTHEREAD EVALUATION STUDY

In 1991, several investigators interested in health, parenting, and child development issues (namely, Drs. Sandra Martin of the Department of Maternal and Child Health at the University of North Carolina at Chapel Hill (UNC-CH), Dorothy Browne of the Department of Maternal and Child Health at UNC-CH, Lawrence Kupper of the Department of Biostatistics at UNC-CH, Brenda Kurz of the Duke Child Guidance Clinic, and Elizabeth Robertson of the Dean's Office of Arts and Sciences of UNC-Greensboro), collaborated in the design and implementation of an evaluation study of the MOTHEREAD Program within NCCIW. They have been assisted in the implementation of this study by Ms. Niki Cotten, a doctoral graduate student in the Department of Maternal and Child Health at UNC-CH. This evaluation proposal was approved by both the officials of NCCIW and the MOTHEREAD Program. The evaluation addresses the following three questions, each question being focused on one of the goals of MOTHEREAD, Inc.

- (1) Does the MOTHEREAD Program improve the literacy behaviors and skills of the students?
- (2) Does the MOTHEREAD Program enhance the emotional health of the students?
- (3) Does the MOTHEREAD Program foster healthy parenting attitudes?

Evaluation Methodology

Recruitment of the study participants began in April, 1991. A follow-up study design was employed. All women who participated in the MOTHEREAD classes were eligible to participate in the evaluation. The goals and procedures of the study were explained to all women by the administration of a detailed consent form which describes the project and affirms the subject's agreement to participate in the study procedures (see Appendix 1). Great care was taken to assure these incarcerated subjects that their participation, or non-participation, in the study would not in any way affect their legal standing. In addition, subjects were assured of the confidentiality of the collected information. In fact, all project personnel were asked to sign confidentiality forms assuring that they would not divulge any of the collected information (see Appendix 2).

It was originally planned to assess all MOTHEREAD participants (using a composite interview) at the following four time periods: (1) approximately 8 weeks prior to beginning the MOTHEREAD I classes (i.e., the women were on a waiting list for the program); (2) during the first week of MOTHEREAD I; (3) at the end of MOTHEREAD I; and (4) at the end of MOTHEREAD II. However, due to much attrition between the waiting list evaluation and the evaluation of the first week of MOTHEREAD classes (i.e., attrition due to the women being released from prison, transferred to a different facility, etc.), the original study design was modified to collect information during three, and not four, time points. Therefore, this report presents interview information which was collected during: (1) the first week of MOTHEREAD I; (2) the end of MOTHEREAD I; and (3) the end of MOTHEREAD II.

A total of 68 women were interviewed as part of the MOTHEREAD evaluation, with all 68 women being interviewed before MOTHEREAD I, 36 of the 68 (53%) being interviewed at the end of MOTHEREAD I, and 22 of the 68 (32%) being interviewed at the end of MOTHEREAD II. Therefore, 32 of the 68 women who participated in the original interviews at the start of MOTHEREAD I did not participate in further interviews. The reasons for this attrition was typically due to release or transfer to another facility.

All interviews were verbally administered to the women by trained interviewers who were sensitive to the backgrounds of the study participants. The interviews were conducted in private rooms in the prison, usually the prison school.

Description of the Study Interview

Each of the three primary outcomes of interest (i.e., literacy behaviors, emotional health, and parenting attitudes) were assessed during the study interviews.

The literacy behaviors of the women were assessed by means of various interview questions concerning literacy behaviors (e.g., "In the past month, have you read any books, newspapers, or magazines?"), and by means of a Personal Goal Rating Scale which was developed for this study. Prior to MOTHEREAD I, the Personal Goal Rating Scale was used to determine each woman's personal goals related to the MOTHEREAD classes (e.g., some women wanted to learn to read the Bible, others wanted to learn to communicate better with their children, etc.). At the end of MOTHEREAD I, and again at the end of MOTHEREAD II, the women completed the Personal Goal Rating Scale to express how effective the program was in meeting their personal goals.

The emotional health of the study participants was assessed during all three interviews by means of the Center for Epidemiologic Studies Depression Scale (CES-D) and the Self-Evaluation Inventory.

The CES-D is a rating scale used to measure current levels of depressive symptoms. The scale is composed of 20 items, each item describing one depressive symptom, such as depressed mood, sleep disturbance, and psychomotor retardation (Radloff, 1977). The respondent rates each item on a four point scale, indicating how often he or she has experienced the symptom within the past week, from "never" (a rating of 0) to "most of the time" (a rating of 3). The ratings from all items are summed to create a Depressive Symptomatology Score, with higher scores indicating higher levels of depressive symptomatology. Scores at or

above an empirically derived cutpoint of 16 have been associated with clinical levels of depression (Radloff, 1977).

The Self-Evaluation Inventory is a 27 item rating scale which assesses the self-images of individuals (Schaefer, Edgerton, and Hunter, 1984). The following three subscales are contained within this instrument:

1. External Locus of Control - to which one believes that outside forces controls the individual's life situation, regardless of the actions of the individual;
2. Positive Self-Evaluation - with higher scores indicating a greater extent to which the individual has both self-respect and feels that his/her action can make positive things happen;
3. Negative Self-Evaluation - with higher scores indicating a greater extent to which one self-criticizes his or her own behaviors.

The Adult-Adolescent Parenting Inventory (Bavolek, 1984) was used to assess the parenting attitudes of the women during all three interviews. This standardized assessment instrument identifies parental attitudes and parenting practices which place individuals at high-risk for child maltreatment. Parents respond to each of the 32 items using a 5 point scale to denote their degree of agreement or disagreement with each of the described parenting beliefs or practices. The ratings from particular items are summed to create the following four subscales:

1. Appropriate Developmental Expectations - with higher scores indicating high levels of knowledge concerning general information on child development;
2. Empathetic Awareness of Children's Needs - with higher scores indicating relatively higher levels of parent cognizance and concern for the child's wants and needs;
3. Limitation in the use of Corporal Punishment - with higher scores indicating higher levels of limitation in the use parental corporal punishment, such as hitting slapping, and spanking, as a means of child discipline (i.e., lower scores indicate that the parent endorses the use of corporal punishment); and
4. Appropriate Emotional Expectations - with higher scores indicating a greater degree of recognition that children cannot be held responsible for parental comfort, care, happiness, and satisfaction of emotional needs.

In addition, sociodemographic information was collected during the first interview.

Evaluation Results

As previously noted, 68 women participated in the evaluation interviews at the start of MOTHEREAD I, 36 participated in the interviews at the end of MOTHEREAD I, and 22 participated in the interviews at the end of MOTHEREAD II. Therefore, this report will present data concerning all of these women. However, in order to assess changes in the women due to MOTHEREAD I, the scores of the 36 women who participated in both the time 1 and 2 assessments will be compared over time (i.e., changes in individuals' scores from time 1 to time 2 will be examined). Furthermore, in order to assess the impact of MOTHEREAD II, the change in the scores of the 22 women who participated in all three interviews will be compared between times 2 and 3.

Description of the Study Participants

Table 1 presents the sociodemographic characteristics of the study participants. Of the 68 women assessed at time 1 (i.e., during the first week of MOTHEREAD I classes), 38 (56%) were African American, 27 (40%) were White, and 3 (4%) were of other ethnic groups. The education levels of the women ranged from elementary school to college graduates, with half of the women having less than a high school graduate level of education. A total of 29 (43%) of the women were never married, 18 (26%) were married, and 21 (31%) were separated or divorced. The number of children of the women ranged from 1 to 5, with the average (mean) number of children being 2 (SD = 1). Half of the women were employed prior to prison entry, and 42 (62%) were receiving some form of public assistance (i.e., AFDC, food stamps, etc.). The crimes of the women included murder, armed robbery, burglary, breaking and entering, and drug trafficking, with 22 (33%) being in for crimes against property, while 31 (47%) were in for crimes against persons, and 13 (20%) were in for drug-related crimes. The sentence lengths of the women ranged from two years to life, with the mean sentence

length being 23 years. (Note that for the computation of mean sentence length, we have equated a life sentence with a sentence of 50 years.)

The study characteristics of the subsets of women assessed at times 2 and 3 are also presented in Table 1. Note that, despite the considerable attrition, the general distributions of characteristics of the women change little across all three of the assessment time points.

Literacy Results

Table 2 presents the results concerning the literacy behaviors in the women's families of origin which were assessed during the first interview. Note that not all of the 68 women assessed at time 1 responded to all of these literacy questions; thus, the sample size varies from 65 to 68 for the data presented in Table 2. About half of the women reported that while they were growing up, their families read, or told, stories to them once a month or less. However, a majority of the women (43 women, 64%) reported that they visited the school library about once a week when they were growing up. In contrast, visits to other types of public libraries were not as frequent, with 17 women (25%) reporting that they had never visited a public library. Similarly, 31 women (47%) reported that they had never visited a book store with their families while they were growing up. However, most of the women reported that reading materials were available in their homes, with 39 (59%) reporting that magazines were always present, and 55 (83%) reporting that newspapers were always present in their homes while they were growing up. Finally, 34 (52%) of the women reported that family members used cookbooks, and 52 (77%) of the women reported that family members sometimes, or always, left notes to pass other family member messages while they were growing up.

Table 3 presents the findings concerning the women's current literacy behaviors during the time 1, 2, and 3 assessments. Note that this table reports information on the 68 women assessed at time 1, the 36 women assessed at time 2, and the 22 women assessed at time 3; however, there are some missing data in this table due to non-response. At all three assessment periods, virtually all of the women reported that they had read some form of reading materials. The three most frequently reported sources of reading materials included the Bible (92% of women at times 1 and 2, and 86% of women at time 3), other books (91% of the women at time 1 and all of the women at times 2 and 3), and newspapers (91% of the women at time 1, 86% at time 2, and 82% at time 3). The reading of magazines and other reading materials, such as brochures and pamphlets, was also reported. Most of the women (81% at time 1, 72% at time 2, and 86% at time 3) reported that they read every day and that they always, or almost always, finish what they started reading (81% at time 1, 77% at time 2, and 86% at time 3).

* { The mean, or average, changes in the women's literacy behaviors over the three assessment time points are documented in Table 4. The top of the table documents the change in the literary behaviors for the 36 women assessed at both times 1 and 2, while the bottom of the table documents the change in the literacy behaviors for the 22 women assessed at both times 2 and 3. Note that there was virtually no change in the reading behaviors of the 36 women from time 1 to time 2, regardless whether one examines the number of women who read regularly, their frequency of reading, or their frequency of completing reading materials. Similarly, there was virtually no change in the women's reading behaviors from time 2 to time 3.

* { We asked the 68 study women to tell us one, or more than one, reason that they had decided to enroll in the MOTHEREAD Program. As Table 5 shows, the women expressed numerous reasons for enrolling in MOTHEREAD (the "personal goals" for enrolling in MOTHEREAD), with each of the women often expressing multiple reasons. The reasons reported for taking MOTHEREAD were as follows: 59 women (87%) hoped that MOTHEREAD would improve their relationship with their children, 51 (75%) wanted to learn how to help their children read, 51 (75%) wanted to learn better ways to write letters to their children, 48 (71%) wanted help to improve their reading of the Bible, 47 (69%) wanted help in improving their reading of other books, 45 (66%) wanted to better assist their children in doing school work, and 40 (59%) hoped that the MOTHEREAD classes would help them to expressively read stories to their children during visits.

* In addition, women who reported more than one reason for taking the MOTHEREAD classes were asked to rank each of the reported reasons (i.e., the most important reason was ranked as "1", the second most important reason was ranked as "2", etc.). Table 5 shows the mean rank of each of the reported reasons for taking the MOTHEREAD classes, with the two most important reasons (i.e., reasons with ranks closest to 1) being wanting to learn how to improve their relationship with their children and wanting to learn how to help their children learn to read.

At the end of MOTHEREAD I, and the end of MOTHEREAD II, most of the study women reported that the MOTHEREAD classes had helped them to achieve their personal goals. Table 6 shows that at the end of MOTHEREAD I (i.e., time 2), 30 (86%) of the women reported that the classes had helped them to achieve their first ranked goal, while only 5 (14%) of the women reported that the classes had not fulfilled their first ranked personal goal. (Note that the total number of women in this assessment was 35, rather than 36 because of missing data). Similarly, the time 2 data show that 23 (77%) reported that the classes helped them to achieve their second ranked goal, and while 25 (81%) reported that it helped them to achieve their third most important goal. At the end of MOTHEREAD II (i.e., time 3), 20 women (95%) reported that MOTHEREAD helped them to achieve their most important goal, 15 (79%) reported that it helped them to achieve their second most important goal, and 12 (63%) reported that it helped them to achieve their third most important goal.

1 In summary, the findings of this evaluation study concerning the women's literacy behaviors suggest that most of the women grew up in an environment in which reading materials, such as newspapers and magazines, were available; however, family members did not frequently share books or stories with their children. The women had been exposed to libraries through the public school system, but rarely visited other public libraries or book stores. Virtually all of the women reported reading during their stay in prison, with reading materials including books, the Bible, magazines, etc. The frequency of the women's reading changed little over the course of the MOTHEREAD program. This lack of change in personal reading behavior is understandable when we examined the women's reasons for enrolling in MOTHEREAD. Most of the women enrolled because they wanted to improve their relationship with their children and learn how to better help their child learn to read, not necessarily to start reading more themselves. The vast majority of the women reported that the MOTHEREAD classes did indeed help them to achieve these personal goals focused on their children, and on their literacy behaviors related to their children.

Emotional Health Results

Table 7 presents the findings concerning the emotional health of the study participants at times 1, 2 and 3. The mean score of the CES-D depression scale for the 68 women assessed at time 1 was 23 (SD = 14). This fell to 19 (SD = 15) for the 36 women assessed at time 2, and 13 (SD = 10) for the 22 women assessed at time 3. The mean scores at times 1 and 2 are relatively high in light of the fact it has been suggested that persons who score at or above 16 may be classified as having clinically relevant high levels of depressive symptomatology (Radloff, 1977).

2 In order to examine the impact of the MOTHEREAD Program on the women's levels of depressive symptomatology, the change in the CES-D scores from time 1 to time 2, and from time 2 to time 3, was examined. Table 8 shows that the CES-D scores of the 36 women assessed at both at times 1 and 2 decreased over time, from 20 (SD = 13) at time 1 to 19 (SD = 15) at time 2. Statistical analysis of the time 1 and time 2 data using a paired t-test showed this difference not to be statistically significant ($t_{(35df)} = 0.5, p = .59$). However, there was a statistically significant decrease in the CES-D scores of the 22 women assessed at both times 2 and 3 ($t_{(21df)} = 2.2, p = .04$), with the mean scores decreasing from 20 (SD = 16) at time 2 to 13 (SD = 10) at time 3. Thus, it does appear that the depression scores of the women improved significantly over time, with the women's depressive symptomatology becoming less pronounced with more exposure to the MOTHEREAD classes.

The findings of the Self-Evaluation Inventory for all of the study women at each of the three assessments is presented in Table 7. The women's mean scores on the External Locus of Control subscale was found to be 19 (SD = 7) for the 68 women assessed at time 1, 17 (SD = 6) for the 36 women assessed at time 2,

and 16 (SD=7) for the 22 women assessed at time 3. The women's mean scores on the Positive Self-Evaluation subscale were 43 (SD=5) at time 1, 43 (SD=6) at time 2, and 45 (SD=6) at time 3. The mean Negative Self-Evaluation subscale scores were 24 (SD=8) at time 1, 20 (SD=7) at time 2, and 21 (SD=8) at time 3.

The change in the women's scores on the subscale scores of the Self-Evaluation Inventory from time 1 to time 2, and from time 2 to time 3, was examined in order to assess the impact of the MOTHEREAD Program. Table 9 shows that the mean scores of two of the subscales improved significantly from time 1 to time 2. Specifically, the women's External Locus of Control scores decreased significantly (paired t-test, $t_{(35df)} = 2.8$, $p = .007$), as did the women's Negative Self-Evaluation scores ($t_{(21df)} = 3.3$, $p = .002$). There was no statistically significant change in the women's Positive Self-Evaluation scores from time 1 to time 2, however, there was statistically significant improvement in these scores for the 22 women assessed at times 2 and 3 (paired t-test, $t_{(21df)} = 2.33$, $p = .029$). Note that although the women's External Locus of Control and Negative Self-Evaluation scores also improved from time 2 to time 3, this change was not statistically significant.

2 { In summary, the overall emotional health of the women appeared to be slightly, but significantly, improved as a result of the MOTHEREAD classes, with the women reporting less depressive symptomatology and negative self-esteem, along with more positive self-esteem and control of their own lives.

Parenting Attitudes Results

Table 10 presents the results of the Adult-Adolescent Parenting Index for all of the women assessed at the three time periods. The scores appear fairly comparable over the three time periods, with the Developmental Expectations Subscale scores being 24 (SD=4) at time 1, 26 (SD=3) at time 2, and 26 (SD=4) at time 3, the Empathetic Awareness of Children's Needs subscale scores being 28 (SD=6) at time 1, 30 (SD=6) at time 2, and 30 (SD=7) at time 3, the Limitations in the Use of Corporal Punishment scores being 36 (SD=6) at times 1 and 2 and 35 (SD=7) at time 3, and the Appropriate Emotional Expectations scores being 28 (SD=7) at time 1, 31 (SD=5) at time 2, and 32 (SD=7) at time 3.

3 { In order to examine the impact of the MOTHEREAD Program on the women's parenting attitudes, the change in the individuals' scores from time 1 to time 2, and from time 2 to time 3, was examined. Table 11 shows that although there was a modest degree of change in the women's scores from time 1 to time 2, there was a statistically significant change in the Empathetic Awareness of Children's Needs and Appropriate Developmental Expectations subscales (paired t-tests: $t_{(35df)} = 2.52$, $p = .016$ and $t_{(35df)} = 2.86$, $p = .007$ respectively) which were associated with the women's scores improving (i.e., becoming more empathic with their children's needs and less likely to expect their child to satisfy their own needs) over the course of MOTHEREAD I. However, no statistically significant changes appear when the 22 women's time 2 scores on the four subscales are compared to their time 3 scores.

Summary of Evaluation Findings

The overall evaluation findings suggest that the Motherhead Program was helpful to the prison inmates, regardless of whether one examines the women's own perceptions concerning the program, the emotional health of the women, or the women's parenting attitudes. Most women reported that they enrolled in the program because they wanted to improve their relationships with their children. Furthermore, they reported that Motherhead was very useful in helping them to achieve this goal. The mental health of the women improved slightly over the course of the program with the women reporting decreasing levels of depressive symptomatology, external locus of control and negative self-evaluation, and increasing levels of positive self-evaluation. In addition, the women showed positive changes in their views of parenting, becoming more empathetic towards their children's needs and less likely to expect their children to satisfy parental needs.

Comment: Although these findings are very promising, they must be viewed in light of the following study limitations. First, the study suffers from the lack of a "no treatment" group for comparison. Therefore, it is impossible to separate the impact of the program from the impact of time alone. Second, there was great attrition over the course of the study due to inmates being transferred to other facilities or released. Even

though the distributions of the characteristics of the study sample remained fairly consistent at each stage of evaluation, there is no assurance that those who moved and did not complete the evaluation would have had the same positive outcomes as those who stayed and did complete the evaluation. Third, the small sample size, especially during the final assessment, severely limits the types of statistical procedures which may be applied to the data. This is especially important when one considers the potential impact of possible confounding factors such as age, race, and history of criminal offense.

Despite these study limitations, the Motherhead Program does appear to help to improve the lives of incarcerated mothers in significant areas in which these women often show signs of dysfunction or low levels of competency. Hopefully, this program will grow and expand into other prison settings. Along with this program expansion should go an expansion of evaluation research to document both the strengths of the program and how the program might improve. Certainly, the incarceration of mothers of young children is a sad scenario. Hopefully, programs such as Motherhead will help not only the incarcerated mothers to effectively deal with this situation, but will ultimately benefit the youngest victims of maternal incarceration, namely the children of incarcerated mothers.

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Table 10. Parenting Attitudes of the Study Women

	<u>Time 1 (n=68)</u>		<u>Time 2 (n=36)</u>		<u>Time 3 (n=22)</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Appropriate Developmental Expectations	24	(4)	26	(3)	26	(4)
Empathetic Awareness of Children's Needs	28	(6)	30	(6)	30	(7)
Limitations in the Use of Corporal Punishment	36	(6)	36	(6)	35	(7)
Appropriate Emotional Expectations	28	(7)	31	(5)	32	(7)

$\bar{X}$ = Mean score.

SD = Standard deviation.

Table 1. Characteristics of the Study Women

	Time 1 (n=68)		Time 2 (n=36)		Time 3 (n=22)	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Ethnicity						
African American	38	(56)	20	(55)	12	(55)
White	27	(40)	15	(42)	9	(41)
Other	3	(4)	1	(3)	1	(4)
Education						
None	0	(0)	0	(0)	0	(0)
K-8	2	(3)	2	(6)	2	(9)
Some high school	32	(47)	18	(50)	13	(59)
GED	8	(12)	5	(14)	3	(14)
High school graduate	12	(18)	3	(8)	1	(4)
Job training	1	(1)	1	(3)	0	(0)
Some college	11	(16)	7	(19)	3	(14)
College graduate	2	(3)	0	(0)	0	(0)
Marital Status						
Never married	29	(43)	16	(44)	9	(41)
Married	18	(26)	10	(28)	5	(23)
Divorced/separated	21	(31)	10	(28)	8	(36)
Employed Prior to Incarceration						
Yes	34	(50)	19	(53)	10	(45)
No	34	(50)	17	(47)	12	(55)
Public Assistance Prior to Incarceration						
Yes	42	(62)	21	(58)	13	(59)
No	26	(38)	15	(42)	9	(41)
Crime						
Property	22	(33)	16	(44)	9	(41)
Personal	31	(47)	13	(36)	10	(45)
Drugs	13	(20)	7	(19)	3	(14)
	<u>X</u>	<u>(SD)</u>	<u>X</u>	<u>(SD)</u>	<u>X</u>	<u>(SD)</u>
Age in Years	29	(7)	29	(7)	29	(8)
Number of Children	2	(1)	2	(1)	2	(1)
Sentence Length	23	(16)	26	(15)	28	(15)

n = Number of women reporting each response.

X = Mean response.

SD = Standard deviation.

Table 7. Emotional Health of the Study Women

	<u>Time 1 (n=68)</u>		<u>Time 2 (n=36)</u>		<u>Time 3 (n=22)</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
CES-Depression	23	(14)	19	(15)	13	(10)
Self-Evaluation Inventory						
External Locus of control	19	(7)	17	(6)	16	(7)
Positive Self-Evaluation	43	(5)	43	(6)	45	(6)
Negative Self-Evaluation	24	(8)	20	(7)	21	(8)

$\bar{X}$ = Mean score.

SD = Standard deviation.

Table 8. Change in Depression Scores of the Study Women

	<u>n=36</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 1	20	(13)
Time 2	19	(15)
Difference	1	(2)

	<u>n=22</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 2	20	(16)
Time 3	13	(10)
* Difference	7	(3)

* Statistically significant improvement over time.

APPENDIX 2
STAFF CONFIDENTIALITY FORM



THE UNIVERSITY OF NORTH CAROLINA
AT
CHAPEL HILL

School of Public Health
Department of Maternal and Child Health

MOTHEREAD STUDY CONSENT FORM

The University of North Carolina at Chapel Hill
CB# 7400, Rosenau Hall
Chapel Hill, N.C. 27599-7400

I understand that Dr. Sandra Martin of the Maternal and Child Health Department of the University of North Carolina at Chapel Hill and her colleagues (Drs. Dorothy Browne, Brenda Kurz, Lawrence Kupper, and Elizabeth Robertson) are doing a study to learn about what mothers learn from the MOTHEREAD Program. In agreeing to participate in this study, I know that I may be interviewed 4 times: the first time, before starting the MOTHEREAD classes; the second time, when I start MOTHEREAD I; the third time, when I finish MOTHEREAD I; and the fourth time, at the end of MOTHEREAD II. The interviews are a way to learn about how mothers feel about various things such as themselves, children, parenting, and the MOTHEREAD classes. Information learned in this study will be used to improve the MOTHEREAD classes, so the study results may not benefit me, but may benefit other women.

I know that some of the interview questions may be sensitive. Since MOTHEREAD is a class about learning to have fun reading to children, there will be questions about my own children (for example, their ages and whether they are boys or girls) and what I hope to learn from the MOTHEREAD classes. Other questions will ask about my views on how to raise children and how children should behave. Some questions will ask about my family when I was growing up. Other questions will ask about how I view myself and how I have been feeling lately. Since some of these interview questions may be sensitive and personal, I know and accept the possible risks to me as I take part in this study. For example, the interview might stir up uncomfortable thoughts or feelings in me, and talking about being away from my family might make me feel sad. I also know that I do not have to answer any questions that I do not want to answer and that I can drop out of the study at any time.

In addition, I agree to allow the study staff to review my inmate files to gather information concerning my birth date, education, employment, marital status, history of convictions, sentence length, and custody of my children, and to review my visitors card (the record of who visits me).

I know that all study information will be kept completely confidential (private or secret). To protect my identity, my name will be kept separate from the information that I provide. All study staff will sign a pledge of confidentiality assuring that they will keep all collected information confidential. The Division of Prison staff are not conducting this research project. They will not get a copy of my answers to the interview questions. They will receive a report of the overall results at the end of the study, but they will not be able to identify me personally from that report.

I understand that participation in the study is voluntary (I don't have to do it). I know that my participation, or non-participation, will not in any way affect my stay or treatment while incarcerated or my future parole. If I have any questions, I am encouraged to ask the interviewer or to write Dr. Sandra Martin at the University of North Carolina in Chapel Hill (the address is on the letterhead).

I, _____, agree to participate in the MOTHEREAD study.

I, _____, do NOT agree to participate in the MOTHEREAD study.

(Signature of Inmate)

(Date)

I have read this MOTHEREAD STUDY CONSENT FORM to the above named person. I believe that she understands the nature of the proposed project and that she willingly agrees to take part in this research project.

(Signature of Interviewer)

(Date)

APPENDIX 1

CONSENT FORM

Table 11. Change in Parenting Attitudes of the Study Women

<u>n=36</u>								
	<u>Appropriate Developmental Expectations</u>		<u>Empathetic Awareness of Children's Needs</u>		<u>Limitations in the Use of Corporal Punishment</u>		<u>Appropriate Emotional Expectations</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 1	25	(4)	29	(7)	36	(7)	29	(6)
Time 2	26	(3)	30	(6)	36	(6)	31	(5)
Difference	1	(1)	1	(1) *	-1	(1)	2	(1) *

<u>n=22</u>								
	<u>Appropriate Developmental Expectations</u>		<u>Empathetic Awareness of Children's Needs</u>		<u>Limitations in the Use of Corporal Punishment</u>		<u>Appropriate Emotional Expectations</u>	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 2	26	(3)	30	(7)	36	(7)	32	(5)
Time 3	26	(5)	30	(7)	35	(7)	32	(7)
Difference	<1	(1)	<1	(1)	<1	(1)	<1	(1)

 $\bar{X}$ = Mean score.

SD = Standard deviation.

* = Statistically significant difference.

Table 9. Change in the Self-Evaluation Inventory Scores of the Study Women

	External Locus of Control		<u>n=36</u> Positive Self-Evaluation		Negative Self-Evaluation	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 1	19	(7)	43	(5)	23	(7)
Time 2	17	(6)	43	(6)	20	(7)
Difference	*2	(1)	<1	(1)	*3	(1)

	External Locus of Control		<u>n=22</u> Positive Self- Evaluation		Negative Self-Evaluation	
	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 2	17	(6)	43	(6)	22	(7)
Time 3	16	(7)	45	(6)	21	(8)
Difference	1	(1)	*2	(1)	1	(1)

$\bar{X}$ = Mean.

SD = Standard deviation.

* = Statistically significant change over time.

Table 2. Family History of Literacy Behaviors

	<u>n</u>	<u>(%)</u>
Family Told Stories		
Everyday	16	(24)
Once a week	22	(34)
Once a month	11	(17)
Less than once a month	7	(11)
Never	9	(14)
Family Read Stories		
Everyday	15	(23)
Once a week	17	(26)
Once a month	8	(12)
Less than once a month	5	(8)
Never	20	(31)
Visit School Library		
Once a week	43	(64)
Once a month	6	(9)
Sometimes	13	(19)
Once or twice	2	(3)
Never	3	(5)
Visit Public Library		
Once a week	19	(28)
Once a month	15	(22)
Sometimes	9	(14)
Once or twice	7	(11)
Never	17	(25)
Visit Bookstore		
Often	16	(24)
Once or twice a year	9	(14)
Once or twice ever	10	(15)
Never	31	(47)
Family use of Magazines		
Always	39	(59)
Sometimes	20	(30)
Never	7	(11)
Family Newspaper		
Always	55	(83)
Sometimes	5	(8)
Nevers	6	(9)
Cookbooks		
Yes	34	(52)
No	32	(48)
Family Notes		
Always	25	(37)
Sometimes	27	(40)
Never left notes	16	(23)

n = Number of women reporting each response.



THE UNIVERSITY OF NORTH CAROLINA
AT
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INTERVIEWERS' ETHICAL RESPONSIBILITY TO THE MOTHEREAD
RESEARCH STUDY PARTICIPANTS

The interviewers shall respect the privacy of the study participants and hold in confidence all information obtained in the course of the interview process.

No interviewer may release or discuss information obtained about a MOTHEREAD study participant to any third party other than that required for the performance of her expected duties. Interviewers may not reveal to a third party that a study participant is incarcerated, and no details of the interview may be revealed. In response to any requests from outside parties (e.g., friends, newspaper reporters, attorneys, etc.) for information or discussion about a study participant, the interviewer's response should be: "I am not authorized to affirm or deny information concerning the person to whom you refer."

Even if the study participant's name is not directly used, discussion of any participant in public places, such as on elevators or in restaurants, is a breach of confidentiality.

Breach of this policy will constitute grounds for serious disciplinary action.

I have read the above policy, which has been explained to me by the study coordinators, and I agree to it as a condition of my involvement in the MOTHEREAD Evaluation Study.

Interviewer

Study Coordinator

Date

**Table 5. Number and Proportion of the 68 Study Women Endorsing Specific
Personal Goals and Mean Overall Rank of Each Personal Goal**

	Number and Percentage of Women Reporting Each Reason		Mean Rank of Each Reason	
	<u>n</u>	<u>(%)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Improve relationship with child	59	(87)	2.9	(7.7)
Help child learn to read better	51	(75)	2.9	(1.9)
Write letters to child	51	(75)	5.5	(9.3)
Improve in reading the Bible	48	(71)	4.5	(5.5)
Improve in reading other books	47	(69)	5.4	(4.0)
Help child do school work	45	(66)	4.9	(2.8)
Read stories when child visits	40	(59)	6.0	(2.1)

n = Number of women endorsing the goal.

$\bar{X}$ = Mean rank of goal.

SD = Standard deviation.

Table 4. Change in the Women's Literacy Behaviors

<u>n=36</u>						
	<u>Number and % of Readers</u>		<u>Frequency of Reading</u>		<u>Frequency of Completion</u>	
	<u>n</u>	<u>(%)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 1	36	(100)	5	(1)	5	(1)
Time 2	36	(100)	5	(1)	5	(1)
Change	0	(0)	0	(<1)	0	(<1)

<u>n=22</u>						
	<u>Number and % of Readers</u>		<u>Frequency of Reading</u>		<u>Frequency of Completion</u>	
	<u>n</u>	<u>(%)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>	<u>$\bar{X}$</u>	<u>(SD)</u>
Time 2	22	(100)	5	(<1)	5	(2)
Time 3	22	(100)	5	(1)	5	(2)
Change	0	(0)	0	(<1)	0	(<1)

$\bar{n}$ = Number of women.

$\bar{X}$ = Mean frequency.

Note: Both Frequency of Reading and Frequency of Completion of Reading were assessed using scale responses from 1 to 5 in which 5= Everyday or Always.

Table 3. Current Literacy Behaviors

	<u>Time 1</u>		<u>Time 2</u>		<u>Time 3</u>	
	<u>n</u>	<u>(%)</u>	<u>n</u>	<u>(%)</u>	<u>n</u>	<u>(%)</u>
Read in past 2 months						
Anything						
Yes	67	(99)	36	(100)	22	(100)
No	1	(1)	0	(0)	0	(0)
Bible						
Yes	61	(92)	33	(92)	19	(86)
No	5	(8)	3	(8)	3	(14)
Other Books						
Yes	60	(91)	36	(100)	22	(100)
No	6	(9)	0	(0)	0	(0)
Newspapers						
Yes	60	(91)	31	(86)	18	(82)
No	6	(9)	5	(14)	4	(18)
Magazines						
Yes	48	(75)	30	(83)	18	(82)
No	16	(25)	6	(17)	4	(18)
Other materials						
Yes	41	(65)	16	(44)	9	(45)
No	22	(35)	20	(56)	11	(55)
Frequency of reading past 2 months						
Every day	54	(81)	26	(72)	19	(86)
More than once a week	6	(9)	10	(28)	1	(5)
Once a week	4	(6)	0	(0)	1	(5)
2-3 times a month	3	(4)	0	(0)	0	(0)
1-2 in past 2 months	0	(0)	0	(0)	1	(5)
Frequency of completing reading material						
Always/Almost always	54	(81)	28	(77)	19	(86)
More than half the times	3	(4)	3	(8)	1	(5)
About half the times	5	(7)	2	(6)	0	(0)
Less than half the times	1	(2)	1	(3)	0	(0)
Rarely	4	(6)	2	(6)	2	(9)

n = Number of women reporting each response.