An Experimental Evaluation of a Volunteer Parent Aide Program

by

Craig C. Brookins

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Psychology

1990

ABSTRACT

An Experimental Evaluation of a
Volunteer Parent Aide Program

by

Craig C. Brookins

In recent years, support and education programs for parents have arisen as a model for increasing parenting competency and thereby preventing a myriad of other societal ills. Volunteer parent aide programs represent one of the more popular support and education models which are directed at first-time mothers. Unfortunately, there have been very few evaluative efforts assessing the effectiveness or integrity of these programs.

The study presented here involved a longitudinal experimental design in which 64 primarily African American, first-time mothers (mean age=22) were randomly assigned to either a volunteer parent aide program (N=30) or a no treatment control group (N=34).

Measurement was conducted over three time periods: upon enrollment during the third trimester of pregnancy; immediately after birth; and six months post-birth. Dependent variables included parenting knowledge, observation of the home environment, social support and the social network structure, self-esteem, psychological sense of coping, and parenting stress.

The null hypotheses for the above variables were tested with repeated measures and univariate M/ANOVA using a simple, one-level repeated measures design. Intervention group participants were found to provide significantly more appropriate play materials for their children at six months post-birth than the control group participants. Otherwise, no other differences were found and the null hypotheses were rejected.

The theoretical social support model on which the intervention was based was analyzed using hierarchical multiple regression. The analysis confirmed the relationship between social support and perceived parenting stress although the expected moderating effect of social support on personal resources was not confirmed. Social support was found to be unpredictive of parenting knowledge. Parenting knowledge also had no effect on perceived parenting stress. Personal resources was the only variable found to predict parenting knowledge.

The provision of social support by a parent aide to parents who already possessed adequate amounts of support and at the level of intensity in which these services were offered was not beneficial. Further investigation of parent aide programs is needed to determine their effects on more specific parenting behavior (e.g., parent/child interactions) and parental attitudes.

To my mwalimu, friend, therapist,
lover, admirer, masseuse, interpreter,
editor, healer, and wife...
Carolyn.

ACKNOWLEDGMENTS

My sincere thanks and appreciation are extended to those individuals and agencies who have both directly and indirectly contributed to this project.

Responsibility for this project as well as my graduate education is most appreciably attributed to Professor William S. Davidson, my committee chair and graduate advisor. I have no hesitation in ascribing Mentor to the many roles he has served for me over the past few years.

My gratitude is also extended to my other committee members, Dr. Robert Caldwell for his many contributions to this project including the extensive feedback he provided; Dr. Hiram Fitzgerald; and Dr. G. Anne Bogat for her participation during the early phases of the research. Thanks is also given to Patrick Clark who assisted in the statistical analysis of this data.

This research project was funded by a grant from the Michigan Children's Trust Fund for the Prevention of Child Abuse and Neglect. I offer my thanks to the entire Board of Directors and in particular, to David C. Mills, the director of CTF, who in addition to contributing substantially to this project has consistently provided me with encouragement and guidance throughout my five year tenure of employment with the agency.

Elaine Keilen is also thanked for her assistance with data entry.

The implementation of most field research projects, by their very nature, cannot be accomplished without the cooperation and participation of the service agency. In this case, the staff of Family Service of Detroit and Wayne County are offered my sincere gratitude for allowing me to structure this research project around their previously existing parent aide program. In particular, I would like to thank the on-site coordinators, Shirley Mann-Gray and Carol Spurrier; and the interviewers, Lucille Holly Battle, Julia Jones, Indira Pierce, and Earnestine Young.

Finally, my deepest appreciation goes out to all of the families who participated in this study. The difficulties encountered with field research cannot be overcome without the cooperation of those for whom the services were designed. It is my sincere hope that the information provided herein will assist in the continued development of effective parenting programs for all families.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Interventions designed to promote parenting competency have been a major programmatic area of concentration within the social service arena over the past few years. Weissbourd (1987) referred to the proliferation of these programs as the Family Resource Movement. Public policy makers and professionals are paying particular attention to these programs believing that the breakdown in family functioning contributes to a myriad of social problems from infant morbidity to school failure (Weiss & Jacobs, 1988). Among the problem areas in which parenting competence is viewed as a desirable outcome for program models is child abuse and neglect (Barber-Madden, Cohn, & Schloesser, 1988; Helfer, 1982), infant mortality and low birth weight (Monkus & Bancalari, 1981), failure to thrive (Ayoub & Milner, 1985), and other general parenting inadequacies (Snyder, Eyres, & Barnard, 1979).

Support and education programs during the period surrounding the birth of the first child constitute the most recent and well developed models of programming for assisting first-time parents (National Committee for Prevention of Child Abuse, 1986). This paper describes an experimental evaluation of a volunteer parent aide program designed to provide support and education to a group of first-time mothers within an urban environment. The following

section will provide the theoretical approach to the program model. Specifically, the literature review looks at the theoretical perspectives underlying those parental and familial variables thought to influence parenting. Specific attention is given to those variables which serve as the main focus of the study, that is, parenting knowledge, self-esteem, coping efficacy and social support.

Theoretical Perspectives

Programs aimed at facilitating parenting competence are grounded in research on the dynamics of strengthening and facilitating the familial environment. Weiss (1988) pointed to a five-level ecological schematic through which parent support programs are designed. This schematic includes components related to the child, parent, parent-child relationship, the family, and the informal and formal supports that are provided for the family. In general, Weiss and Jacobs (1988) suggested that these programs "...attempt to build on parents' desires to do the best for their children by building strong families in supportive communities" (p. xix).

Although the overall goals of the program model described and evaluated in this study attempt to impact the parental environment on all five levels, the specific focus of this study is limited to

those variables related to the parent, that is, the mother and her support environment. More specifically, from an etiological perspective, inadequate parenting appears to be in part a product of several problems manifested in the parent-child relationship that impact on the mother including poor child development knowledge and child care skills, extreme stress surrounding the birth of the baby, social isolation, and the lack of social and/or psychological support with regard to parenting issues. Support for each of these three etiological areas is presented below.

Parenting Knowledge and Skills

A major theoretical premise for the value of parenting education suggests that parents interpret and respond to their child's behavior on the basis of a belief system which subsumes the attitudes, expectations, values, and knowledge that mediate parenting behavior (MacPhee, 1981). Based on this information, several authors have suggested that inadequate parenting information and skills is one of the major causes for poor parenting.

Studies have shown that many of the risks of adolescent pregnancy are primarily associated with the inadequacies in the level of parenting and child development on the part of the mother (Monkus & Bancalari, 1981; Roosa, 1983). A study by Field, Widmayer, Stringer, and Ignatoff (1980) found that less realistic

development milestones and child-rearing attitudes contributed to the risks associated with adolescent pregnancy. Snyder, Eyres, and Barnard (1979) found that the amount of stimulation that mothers' provided their child was effected by the mothers' prenatal expectations concerning infant behavior. Rosenberg and Reppucci (1983) suggested that abusive parenting may result when parents misinterpret age-appropriate behavior as instances of "willful disobedience" or interpret children's noncompliant behavior as evidence that the child is inherently bad, stubborn, or spoiled.

Finally, the appropriateness of the home environment for the stimulation of child development is thought to be one of the positive outcomes of adequate parenting knowledge. Caldwell (1984) reported on research using the Home Observation for the Measurement of the Environment (HOME) and cited several studies which demonstrated the importance of this construct for parenting competence. In addition, several studies cited later in this paper used the HOME as an objective measure of parenting knowledge and competence.

Partially based on this belief in the efficacy of parent education, programs that have attempted to increase parenting knowledge and skills have proliferated over the past few years.

However, in at least two recent reviews (Michigan Children's Trust Fund, 1986; Weiss & Jacobs, 1988) it was found that although parent support and education programs are quite common, few have demonstrated their effectiveness through any long-term evaluative efforts.

Of those programs that have been evaluated, findings have been positive. Alvy and Rubin (1981) obtained positive results from the training of parents and parent trainers. Other researchers have demonstrated decreases in child abuse potential (Milner, Gold, Ayoub, & Jacewitz, 1984), increases in parenting knowledge of child development and child management techniques (Blue, 1982), increases in the amount of time spent by mothers interacting with their child (Bristor, Helfer, & Coy, 1984), and decreases in the level of unrealistic expectations of the child on the part of first-time parents (Boger, Richter, & Weatherston, 1983). Finally, a review of several programs aimed at changing specific dysfunctional parent-child interaction patterns concluded that non-punitive child care techniques could even be effectively taught to children (Parke & Lewis, 1981), thus expanding on the notion of facilitating parent competence even at younger ages.

In summary, the literature cited above provides evidence for the effect of parenting knowledge and child care skills on subsequent effective parenting. This information suggests that

programs that offer training in child development knowledge and child care skills should lead to better parenting and consequently to a healthier relationship between the mother and her baby. The study reported in this paper investigated the effects of a parent support and education program on both child developmental milestones and more specific parenting information and skills.

Parenting Stress

Particularly strainful and threatening events (stressors) in an individual's environment, if not handled properly, may lead to stress (Pearlin & Schooler, 1978). The circumstances surrounding the birth of the baby and the subsequent parenting period represent significant life changes that may lead to emotional stress, particularly for first-time mothers.

There is both conceptual and empirical justification for believing that maternal stress adversely affects parental sensitivity and thus the security of parent-infant attachment (Crnic, Greenberg, & Ragozin, 1981; Elster, McAnarney & Lamb, 1983; Lamb & Easterbrooks, 1981). Mothers who are stressed may be less tolerant of adverse stimuli (such as infant cries) may perceive and interpret their child's signals incorrectly. This this may cause mothers to respond inappropriately and impulsively.

Ragozin, Basham, and Crnic (1982) in a longitudinal study assessing maternal-child interactive behaviors found a significant relationship between stress, as measured by a life events scale at 1 month post partum, and maternal sensitivity to infant cues, as measured by behavioral observation at 4 months post partum. Two studies (Thompson, Lamb, & Estes, 1982; Vaughn, Egeland, & Stroufe, 1979) have demonstrated, in adult populations, that stress and major changes in family circumstances lead to changes in the security of infant-mother attachment.

Finally, Egeland, Breitenbucher, and Rosenberg (1980), investigated the effects of stress on mothers who abuse their children and found that while all highly stressed mothers do not abuse their children, those who do were observed to have poorer patterns of interaction with their infants, and less understanding and awareness of the difficulties and demands involved in being a parent.

Pearlin and Schooler (1978) pointed to the fact that a mother's ability to effectively deal with the stressors associated with parenting depends in a large part on her own personal resources including her self-esteem and coping abilities. With regard to maternal self-esteem, Shea and Tronick (1988) stated:

> Maternal self-esteem can be viewed as a psychological final common pathway mediating the effects of the biosocial factors that influence a woman's adaptation to motherhood. Such factors include variations in the infant's and the mother's health, the sex of the infant, demographics, separation at birth, delivery route, social support, and other circumstances. By modifying the mother's self-esteem these factors modify the quality of the mother's behavior with her infant. (p. 101)

Krauss (1988) outlined a conceptual framework for the relationship of stress and coping, particularly as it relates to family functioning. Coping is seen as the cognitive and behavioral abilities which are employed to manage stressful situations. Krauss suggested that coping behaviors used by individuals and/or families represent both internal and external resources including: social resources (e.g., interpersonal networks), psychological resources (e.g., personality characteristics such as self-esteem), and specific coping responses (e.g., behaviors, cognitive understandings, and perceptions).

One of the functions of parent support and education programs is to provide the opportunity for parents to develop their coping abilities, primarily with regard to how they manage

stress associated with the parenting experience. The research cited above suggests that the inclusion of program components designed to influence individual's personal resources should in turn effect the parent's perceived level of stress. The study presented here looked at both the mother's perceptions of her personal resources and the parenting stresses they were thought to influence.

Social Support and Network Structure

Along with the notion of stress, several researchers have observed that abusive families tend to be isolated families as well (Garbarino, 1983; Smith, Hanson, & Noble, 1974). Social isolation refers to the lack of meaningful relationships with family, friends, and neighbors. To counter the problem of social isolation, one of the major components of parent support and education programs involved the provision of social support and assistance in the creation of a socially supportive environment for the mother and her family.

According to Crockenberg (1988), social support with regard to parenting "refers to the emotional, instrumental, or informational help that other people provide an individual" (p. 141). From a theoretical premise Crockenberg presented the five areas in which social support is thought to influence the familial

environment:

1. Social support reduces the number of stressful events and their cumulative impact on parents. By helping to reduce the stress associated with the pregnancy, birthing, and parenting experience, parents should be better able to effectively nurture their child.

2. Social support serves as a buffer between stress associated with the parenting experience and the parent's response to the stress. It should be noted however that although this is a widely held view with regard to the efficacy of social support it is not without contention. A review of the social support literature by Alloway and Bebbington (1987) found inconsistent evidence for a buffering role of social support. The researchers suggested that these inconsistencies appeared to be primarily due to the many methodological differences found between social support studies and concluded that any buffering effects present are probably not of dramatic proportions.

3. Social support acts as an initiator of active coping responses by helping the parent understand the sources of the particular stressful events and consequently developing the appropriate child care skills to manage those events.

4. Social support, which involves characteristics of an intimate relationship (i.e., love and caring) serves as a model

for the type of relationship and environment that should be provided for the child. Particularly as it relates to parenting, this function of social support derives from the view that general relationships with other people, including adults, are no different from the relationships that should be developed with children.

5. Social support directly impacts the child by providing other individuals within the environment from whom they can obtain additional nurturance. For parents undergoing additional life stresses outside the parenting role this type of support becomes particularly beneficial.

Consistent with the definitions offered above, the social environment has been shown to have both positive and negative influences on the mother, her infant, and their interaction (Cochran & Brassard, 1979; Garbarino, 1982). Adamakos et al., (1986) found maternal social support to correlate positively with levels of infant stimulation in the home and negatively with mother-child stress. Social support was found to be useful in predicting health for expectant mothers and fathers (Brown, 1986a). Koniak-Griffin (1988) also found social support to be a significant predictor of prenatal attachment for a culturally diverse group of urban adolescents.

Programs that provided social support to mothers positive findings were demonstrated in the areas of individual's utilization of prenatal services (St. Clair, Smeriglio, Alexander, & Celentano, 1989), and mothers demonstration of responsiveness and affection toward their children (Colletta, 1981; Crnic et al., 1983; Crockenberg, 1981). Social support interventions have also been shown to be beneficial for adolescent mothers (Barrera, 1981), mothers of premature infants (Crnic et al., 1983; Minde, Shosenberg, Marton, Thompson, Ripley, & Burns, 1980), mothers who delivered their babies by caesarean birth (Lipson, 1982), and first-time mothers (McGuire & Gottlieb, 1979). Finally, Cleary (1988) outlined several studies which demonstrated the effectiveness of social support in the general areas of family functioning and psychological and physical health.

Unfortunately, the provision and measurement of social support is not without problems. In particular, O'Reilly (1988) argued that the research in the area of social support suffers from the "definitional confusion" between the behavioral (support) components of the concept and its structural (network) components. In addition to these points, Stark (1986) listed other problems including a lack of uniform and reliable assessment instruments, failure to consider negative and conflictual aspects of support relationships, and inattention to the confounding effects of live

events, individual differences, and environmental factors of support. Vaux (1985) pointed out that levels of some components of support and its effectiveness may vary across certain gender, ethnic, and age groups. Finally, although researchers are in general agreement on the functional aspects of social support as described above (i.e., emotional, instrumental, and informational), particularly as it relates to parent support and education programs (Unger & Wandersman, 1985), at least one study of expectant couples suggested that social support may be more of a unidimensional than multidimensional construct (Brown, 1986b).

Given the evidence cited above it is clear that social support is important to the provision of services to parents. However, the importance of effectively managing the problems associated with constructing and measuring the construct of social support cannot be understated. Much of the research previously conducted on support and education programs for parents have suffered from these problems. This study has taken into account the problems identified above and the suggestions for appropriate measurement as outlined by Cleary (1988). Further description of the methods used is provided in a later section of this paper.

The Theoretical Model

The model presented in Figure 1 is adapted from a model of social support and parenting presented by Crockenberg (1988). The model provides a graphic representation of the parental and familial constructs that are thought to influence parent competence. As discussed, this study is limited to the effects of a parent support and education program on certain parenting variables thought to be related to the mother's (in this case) ability to effectively parent. Through the provision of a socially supportive relationship and training in parenting knowledge and child care skills as provided by a volunteer parent aide, mothers were expected to experience increases in parenting knowledge (both specific and general), aspects of parental mental health and personal resources (including self-esteem and their perceived sense of personal mastery or coping abilities), and their perceived level of functional support surrounding their parenting needs. Consequently, the receipt of these services are thought to effect the mother's perceived level of parenting stress and ultimately her parenting competency. Although not the focus of this study, the literature suggests that the provision of these services should subsequently impact on levels of parent-child interaction, child development, other aspects of parental mental and physical health, and general life satisfaction.

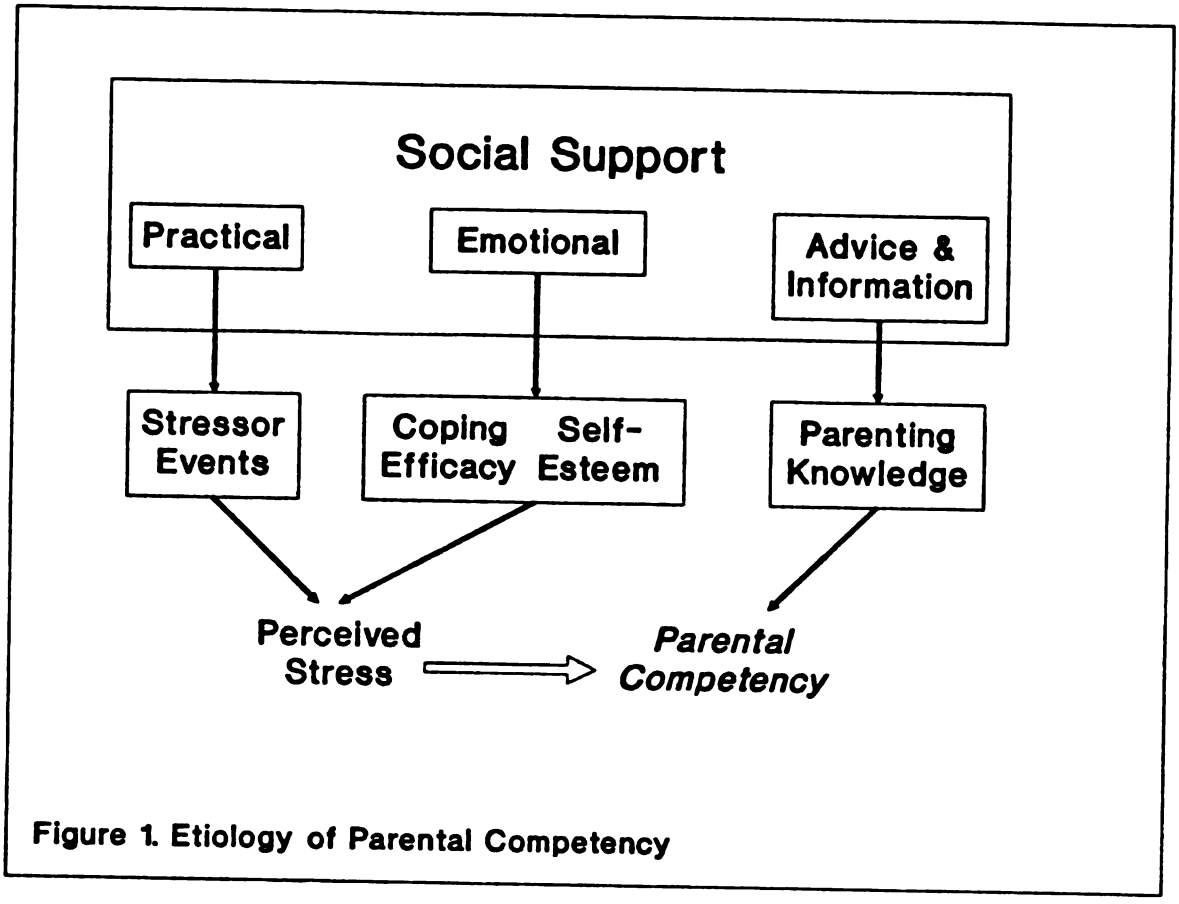

Figure 1. Etiology of Parental Competency

Parent Support and Education Programs

Programs to augment support have been proposed as a means of providing the types of services outlined above and to promote parenting competence and adjustment during the stressful transition to parenthood (McGuire & Gottlieb, 1979; Unger & Powell, 1980; Wandersman, 1978). Accordingly, programs offering social support aim to buffer the stress associated with becoming a parent and/or provide the direct benefits (e.g., parenting skills

and knowledge, emotional support, tangible aid) necessary for adequate parenting.

A variety of models for providing education and support for parents have been developed over the last few years. Unfortunately, most parent education and support programs either focus on one of the etiological areas discussed above or consist of an eclectic combination of activities which are thought to affect several of these conceptual areas. "Parent Aide Programs" represent a comprehensive model of support programming that has gained in popularity in recent years as a means of promoting parenting competence (Weiss & Jacob, 1988; Weissbourd, 1987). The following sections will discuss the available research on parent aide programs.

Research on Parent Aide Programs

Parent Aide programs offer parent education and support to first-time mothers through one-on-one support by a trained professional or paraprofessional (i.e., volunteer, parent aide, coach, etc.). The support offered typically includes information on parenting techniques, child care skills, child development, stress management, coping techniques, and personal resource development. Parent aides are typically women who have had their own parenting experience. The parent aide's role is to provide the first-time mother with "friendship" and social support and to

assist her in the transition from pregnancy through the first year of the baby's life.

Parent aides have been posited to affect the targeted mother in several ways including (a) increasing the mother's child development knowledge and skills, (b) increasing the ability of the mother to cope with the stressors that naturally accompany the parenting experience, and (c) providing the mother with an opportunity to receive support around the issues of pregnancy, birthing, and subsequent parenting needs (National Committee for Prevention of Child Abuse, 1986).

Although parent aide programs have been described extensively (Atkins, 1986; Halpern & Larner, 1987), literature on their actual implementation and evaluation is limited. The following review focuses on both professional and volunteer parent aide models. A literature search was conducted for documentation of those programs which included either experimental or quasi-experimental evaluation components. Three major reference sources were searched including the Social Science Index, Psychological Abstracts, and Resources in Education. In addition, related articles cited in reviewed articles from the initial search were also compiled.

The overall goal of the review was to (a) describe the intervention, (b) assess the degree to which a process evaluation was conducted and program implementation or replication data was provided, (c) identify the outcome measures related to parental and familial variables, and (d) outline the reported findings as they relate to the areas of interest in this study. Professional and paraprofessionally based programs are presently separately.

Professionally Based Parent Aide Programs

Barrera, Rosenbaum, and Cunningham (1986) conducted an investigation of the effects of a year-long home intervention with a sample of pre-term infants randomly assigned to 1 of 3 groups: a developmental intervention, a parent-infant intervention, and a no-treatment control group. Both intervention approaches focused on the parent-child unit, providing training for parents to improve observational skills, emotional support, and information about community resources. The developmental intervention focused on specific tasks to facilitate the child's development. The parent-infant intervention focused on the quality of the parent-infant interaction. The results suggested that both intervention approaches were effective in modifying some aspects of the home environment and, to a lesser degree, improved the infants' cognitive development. The parent-infant interaction approach seemed to have a greater impact overall.

Both the treatment groups in the Barrera et al. study were visited at home for 1 or 2 hours by the infant-parent therapists. These visits were weekly for the first 4 months, every other week thereafter, and once a month during the last quarter of the year. In practice, the total number of treatment visits was reported to range from 12 to 28 with a mean of 23. No analysis was conducted involving the intensity level of the treatments received.

Booth, Mitchell, Barnard, and Spieker (1989) described a study in which they assessed the effects of two models of public health nurse provided services to 147 high-social-risk women. The two models tested included a "Mental Health Model" which involved a two-step approach in which the first step involved helping the mother to obtain interpersonal competence in her own life. The second step involved helping the mother to improve her parenting. This model was compared to a more traditional model in which information and resources were provided to mothers directly by public health nurses. The Mental Health Model attempted to foster an "explicitly therapeutic relationship" with the mother whereas the Information/Resource model only used a "...didactic approach that focused on providing information to the mother in a direct way" (p. 405). Both models used home visits and written protocols to provide the services. As related to the present study, Booth

et al. measured parenting stress and social support. The findings indicated no significant differences on either of these measures. This study did however measure a variety of process variables including the frequency and duration of professional contact received by the mothers and the level of goal attainment that was achieved by each mother. An analysis of these "treatment characteristics" showed that the Mental Health Model participants received significantly more contacts than the Information/Resource model participants. Moreover, this greater intensity of services led to the most gains in terms of program outcomes. These results suggest that the relative intensity of services is related to the success of the intervention.

Bristor, Helfer, and Coy (1984) implemented and evaluated a parent aide program in which new mothers were provided with information about the capabilities and uniqueness of infants. A follow-up evaluation suggested that the mothers who received the coaching spent more time playing, vocalizing, and speaking in a high pitched voice to their infants, than did control mothers. The coached mothers spent less time breast feeding and speaking in a normal pitch. The babies of coached mothers also spent less time with a non-focused visual gaze. No indication of the level or intensity of services was provided.

Gray, Cutler, Dean, and Kempe (1977) randomly assigned "high risk" for child abuse and neglect mothers to an intervention (N=50) or regular care (N=50) condition. There were also 50 "low risk" mothers that received regular care. The intervention consisted of comprehensive pediatric follow-up by a single physician, a lay health visitor, and visits from a public health nurse. There were no statistically significant differences between these groups on measures of abnormal parenting, accidents, immunizations, Denver Developmental Screening Test scores, or verified reports on the Central Child Abuse Registry. No report was provided of the process measures used or the level of intensity of services received by the participants.

Olds, Henderson, Chamberlin, and Tatelbaum (1986) conducted a randomized experimental evaluation of a comprehensive program of prenatal and postpartum nurse home visitation for teenage, unmarried, low socioeconomic status women. The program was designed to prevent a wide range of health and developmental problems. The findings indicated that women who were visited by nurses during pregnancy became aware of more community services; attended childbirth classes more frequently; made more extensive use of a nutritional supplementation program for women, infants and children; made greater dietary improvements; reported that their babies' fathers became more interested in their pregnancies;

were accompanied to the hospital by a support person during labor more frequently; reported talking more frequently to family members, friends, and service providers about their pregnancies and personal problems; and had fewer kidney infections ($p \leq .05$ for all findings.).

The Olds et al. (1986) study also found that, during the first year of the baby's life, mothers in the nurse visited group who were at highest risk for care-giving dysfunction were observed in their homes to restrict and punish their children less frequently; provide more appropriate play materials; and their babies were seen in the emergency room less frequently. During the second year of life, the babies of all nurse-visited women, regardless of the families' risk status, were seen in the emergency room fewer times and were seen by physicians less frequently for accidents and poisonings.

Finally, Olds and his colleagues conducted a search of the verified child abuse and neglect cases through the Department of Social Service records of the state in which the study was conducted and found no statistically significant differences for the total sample. However, within a "high risk" group of poor, unmarried teenage mothers, the differences were significant. That is, significantly more substantiated cases of child abuse and

neglect was documented for this high-risk group as opposed to the other population groups within the study.

Parker-Loewen and Lytton (1987) examined the effects of eight 40-minute interaction coaching sessions on the mother-infant interaction and mothers' knowledge of infant development. Thirty-five mothers of pre-term infants were randomly assigned to a control group in which they were offered toys for their baby and a treatment group which was involved in eight 40-minute interaction coaching sessions provided by a professional parent trainer. Measurement took place over three time periods: prior to treatment, immediately following treatment, and two months post-treatment. Parenting knowledge was measured by the Knowledge of Infant Development Inventory (MacPhee, 1983). Results indicated only a marginally significant difference between the groups in parenting knowledge although knowledge increased for both groups over time. Process measurement for this study appeared straightfoward. Although not specifically indicated it is assumed that each participant received eight 40 minute coaching sessions. The lack of variance in service intensity obviously ruled out any assessment of particular treatment effects.

Paraprofessionally Based Parent Aide Programs

The Perinatal Positive Parenting program (PPP) was developed to provide support to new parents around the time of birth (Boger,

Richter, & Weatherston, 1983). The program included in-hospital contact and follow-up postpartum visits between a trained volunteer and the new mother. The program also offered a peer support group which was intended to be parent-directed by allowing first-time parents flexible opportunities to interact and share experiences.

The PPP groups were well received by the participants who used them to establish new social networks and to develop additional parenting resources. Long-term evaluation of this program is planned, however, the initial evaluations suggested that the program decreased the level of unrealistic expectations of the child on the part of the new parent.

A second study based on the PPP model targeted 70 mothers and 51 fathers with children in a Neonatal Intensive Care Unit (Boger & Roman, 1988). The parents were assigned (non-randomly) to a parent aide intervention group and a control group. The volunteers in this program were trained mothers with previous "experience" with their own NICU baby. Boger and Roman reported one-half of the volunteers (N=27 mothers) making home visits with a range of 1 to 5 visits and an average of 1.6.

Significant differences in favor of the intervention group were found on the measures of parental mood states, self-esteem,

and the total score from the Home Observation for the Measurement of the Environment. Parental mood states was measured by the Profile of Mood States--POMS (McNair, Lorr, & Droppleman, 1971). The POMS measured six negative mood states including: tension-anxiety; depression-rejection; anger-hostility; vigor-activity; fatigue-inertia; confusion-bewilderment. When used as a repeated measures instrument it is reportedly useful in assessing changes in affective states over time as opposed to an enduring personality state.

Heins, Nance, and Ferguson (1987) reported a non-random experimental evaluation which compared 575 rural teenage mothers participating in a "Resource Mothers Program" with 565 teenage mothers in a control group. The resource mothers offered support to the teenagers throughout pregnancy and until the infant's first birthday. The study was designed to measure perinatal outcome in the form of prenatal care, birth weight, and size of baby as related to gestational age. Results showed significant differences in favor of the intervention for adequacy of prenatal care, frequency of low-birth weight, and small-for-gestational-age. No process data indicating the intensity of services was reported.

A study by Jacobson (1988) evaluated 61 high-risk, first-time mothers randomly assigned to a volunteer "coaching"

intervention and a control group. Trained volunteers provided support and education to mothers from the third trimester of pregnancy through the baby's first year of life. Participants were measured on the areas of the adequacy of the home environment for the infant, maternal ego development, attachment, task persistence, and mastery motivation. No significant main effects were found on any of the instruments. The actual number, type, and duration of the services was collected but not reported. Jacobson did however report that the services were of "low intensity."

A study of the effects of a program providing early (within the first three hours) and extended (twice as much as usual) contact between mother and child and the effects of nine home visits by trained paraprofessionals within the first three months of the infant's life was conducted by Siegel, Bauman, Schaefer, Saunders, and Ingram (1980). After establishing a control for maternal background variables, early and extended contact explained statistically significant but small amounts of variance in several attachment areas. However, there were no statistically significant effects of the home visit interventions on maternal attachment, reports of child abuse and neglect, or health care utilization.

Another program which used "paid" paraprofessional "family workers" was evaluated by Spencer, Thomas, and Morris (1989). One-thousand-two-hundred-eighty-eight high-risk for low birth weight women were randomly assigned to receive pre-birth coaching from the family workers or to a no treatment control group. The study assessed the effect of the intervention on infant birthweight. No significant differences were found between the intervention and the control group and no data was provided on the implementation of the services.

Unger and Wandersman (1985) conducted a randomized study of a volunteer coaching intervention which was focused primarily on social support and networking. Teenage mothers were recruited as early in pregnancy as possible to participate in a research and service project, the Resource Mother Home Visit Program. Adolescent mothers were randomly assigned to either the "visited" (n = 70) or the "comparison" (n = 17) group.

In the visited group, Resource Mothers, who were experienced mothers and paraprofessionals similar in race and socioeconomic status to the teenager, visited each mother approximately once each month throughout her pregnancy and the baby's first year. Resource Mothers followed a structured curriculum to guide their intervention. This curriculum provided mothers with emotional help, informational assistance (e.g., problem solving, education,

and referral), and instrumental support (e.g., transportation to doctor, baby toys, and diapers).

Teen mothers in the comparison group were contacted by a Resource Mother approximately once every three months merely to note the progress of the mother and her baby and to provide referral when needed; no structured curriculum was followed, and no support resources were offered other than referral and some emotional support.

Unger and Wandersman reported significant differences between the visited and comparison group on the percentage of low birthweight babies. In addition, at eight months postpartum, visited mothers demonstrated more knowledge about babies, greater satisfaction with mothering, and more responsive attitudes toward their babies than did comparison mothers. The intervention group mothers were also more likely to seek medical care for illness and to talk to the Resource Mother when they had questions about their baby. A higher proportion of the visited mothers remained in school.

Summary of Parent Aide Program Evaluations

Although not conclusive, the findings outlined above and presented in Table 1 suggest that parent aide programs may have positive effects on areas considered to be strong indices of

"parenting competence' such as pregnancy outcomes, parenting knowledge and child care skills, social support, parent-child attachment, parenting attitudes and behaviors, healthy child development, the adequacy of the home environment for the child, utilization of community and personal resources, and life satisfaction.

Unfortunately, the research also points to several areas which are in need of additional investigation. These areas are outlined below:

1. Although several of the programs provided descriptions of the role of the parent aide, with the exception of the Resource Mothers program for teenagers (Unger & Wandersman, in press), very little implementation data has been reported. Several authors have discussed the need for understanding the "treatment" component of an intervention and the level to which the participants have received the services (Fairweather & Davidson, 1986; Yeaton & Sechrest, 1981), particularly in relation to parent support programs (Powell, 1988). Understanding practical implementation issues and expected levels of service provision is particularly important for programs utilizing paraprofessionals in which control and supervision is more difficult. Without sufficient implementation data we are currently unable to advance our understanding and replication of paraprofessionally based

Table 1
Characteristics of Parent Aide Program Research Studies

Authors	Sample	Intervention	Research Measures: Process Variables	Parenting Knowledge	Personal Resources	Parenting Stress	Social Support	Outcome Results
PROFESSIONALLY BASED PROGRAMS								
Barrera et al (1986)	83 mothers of pre-term and full-term babies. Random block assignment to 2 intervention and 1 control group.	Developmental Intervention to improve childs developmental level Parent-infant intervention to improve the interaction between the mother & child. Services provided by infant-parent therapists.	Home Visits: 1 to 2 hours each. Weekly for 1st 4 months. Bi-weekly thereafter. Visits ranged from 12-28. Average of 23.	HOME No parenting knowledge.	None	None	None	Significant effects for the HOME with the Intervention Group Scoring higher.
Booth et al (1989)	147 high-risk mothers randomly assigned to 2 intervention groups.	Mental Health Model facilitating interpersonal competence and improved parenting. Information/ Resource model to improve parenting only. Services provided by public health nurse	Home visits: Average of 19 for Mental Health Group Average of 14 for Information/ Resource group.	None	None	Life Experiences Survey (Sarason, Johnson, & Siegel, 1978)	Personal Resources Questionnaire (Brandt & Weinert, 1981)	No differences on any of the measures of measures of interest.
Bristor et al (1984)	Forty-two first-time mothers half assigned to an intervention group and half to a control group through sequential time sampling	A skill-training program designed to teach and enhance positive mother/father -infant interactions.	Research sample received "perinatal coaching" on days 1, 2, and 7 post-partum.	None	None	Parenting Stress Index (Abiden, 1983) on the Parent Domain	None	Significant differences and the situation/ demographic domain subscale of the Parenting Stress Index

Table 1 (continued)

Gray et al (1977)	100 high-risk mothers randomly assigned to an intervention or regular care group.	Comprehensive pediatric follow-up by physician, lay health visitor, and public health nurse.	None reported.	None	None	None	None	None
Olds et al (1986)	363 women. Random block assignment to 2 intervention and 1 control group.	Nurse visited during pregnancy Nurse visited during pregnancy and infancy.	Intervention 1: home visits every 2 weeks. Total of 9 1:15 visits. Intervention 2: same as Int. 1 during pregnancy. Once a week after pregnancy. diminishing frequency until infants 18 to 24 months of age when visits made every 6 weeks. However, no process measures were used specifically.	HOME	None	None	None	Significant differences found for the high-risk group on the HOME sub-scales of "Appropriate Play Materials" & "Avoidance of Restriction & Punishment."
Parker-Loewen and Lytton (1987)	35 mothers of pre-term infants. Random block assignment to an intervention or control group.	Coaching to facilitate more sensitive responding to infant by mother. Service provided by researcher-trainer.	Eight 40-minute interactive coaching sessions	KIDI Scale	None	Satisfaction with Parenting Scale (Ragozin et al, 1982)	None	None

Table 1 (continued)

PARAPROFESSIONALLY BASED PROGRAMS

Boger et al 1986)	48 first-time mothers randomly assigned to an intervention and control group. parent support groups.	Trained volunteers offering one-on-one support. Informal Peer-	1st meeting with mother in hospital. Telephone contact and at least 3 times before baby's 3-months of age. Support groups initiated by volunteers but led by clients. Actual number of contacts not provided.	AAPI/parental attitude measure HOME Inventory	None	None	None	Significance favoring the intervention group on two HOME subscales: "Appropriate Play Materials" & "Maternal Involvement."
Boger and Roman (1988)	71 mothers (51 fathers) of pre-term infants at an NICU unit of a major urban hospital. Non-random assignment to intervention and control group.	Trained, former NICU mothers offering one-on-one contact in the form of information and support. Peer group home meetings are also offered.	At least 1 visit in the home. Phone and home visits depending on needs of parent. Actual visits: Avg. of 2 in hospital; 1/2 of volunteers made home visits ranging from 1 to 5. Avg. of 1.6 visits.	HOME Inventory	Rosenberg Self-Esteem Scale Profile of Mood States (McNair et al 1971).	None intervention	Maternal & Paternal Social Support Index (Pascoe, 1981).	Significant differences in favor of the group was found on the measures of Parental Mood States, Self-Esteem, and the total HOME scale.
Heins et al (1987)	575 teenage mothers and 565 controls from a separate but similar area. Primarily African American and living in a rural area.	Service provided by 6 paid "Resource Mothers" selected from the community & trained. Each Resource Mother had a case load of 30-35 teenagers.	Highly structured home visits geared toward reinforcing information provided by the professional services recieved in the hospital. No report of actual number or quality of contacts.	None	None	None	None	Significant results favoring the intervention group were found in the areas of amount of prenatal care received, frequency of low birth weight infants, & small for gestational age.

Table 1 (continued)

Jacobson (1988)	61 high-risk, first-time mothers randomly assigned to a one-on-one coaching intervention or a control group. All the mothers were considered high-risk	Support provided by trained volunteer women from the 3rd trimester of pregnancy through the 1st year of the baby's life. Actual number type, & duration of the services was not reported.	Actual number, type, and duration of the services Wessler, provided was not reported.	HOME Inventory	Ego Development Scale (Lowinger & 1970). Measured Maternal Ego Level	None	None	No significant results found on any of the measures.
Siegel et al (1980)	321 low-income women randomly assigned to intervention or control groups immediately after delivery	Early and extended postpartum contact and para-professional home visits.	One hospital visit and nine home visits during first three months of infant's life.	None	None	None	None	None related to this review.
Spencer et al (1989)	1,288 high for low birth weight risk were randomly assigned to a professional coaching intervention group and a control group.	Paid "Family Workers" were trained to provide education practical assistance and social support.	No actual number, type, or duration of contacts was provided.	None	None	None	None	No significant differences found in the main target of the intervention: infant birth weight.
Unger & Wandersman The provision (1986)	adolescent mothers randomly assigned to an intervention or control group	87 low-income of emotional help, informational assistance, and instrumental support by paraprofessionals.	Research group Self-Esteem participants received an average of 7.5 postnatal home visits. "Active" participants had an average of 9.1 postnatal home visits	HOME scale questions on child development information was asked.	Rosenberg Pearlin Mastery Scale	None	A social support questionnaire developed by the researchers measuring both social support and network structure.	Significant findings favoring the intervention group on the percentage of low birthweight babies, knowledge about babies, greater satisfaction with mothering, and more responsive attitudes toward their babies.

(Table 1 Continued)

SUMMARY	10 of the 13 programs used random assignment and control groups 12 of the programs were for high-risk mothers.	6 professional programs. 7 paraprofessional programs. Only 4 programs used unpaid volunteers.	3 of 7 paraprofessional programs provided process data. Professional programs provided more structure although actual service data was limited.	Only 2 programs collected parenting information 5 programs collected HOME data. 1 program collected parent attitude data.	3 programs collected personal resource data.	2 programs collected parenting stress data and one program collected general stress data.	3 programs collected social support data. on the HOME	Significant findings favoring the intervention groups include 4 related to constructs on Scale, 3 found positive birthing outcomes, and 1 each for parenting stress, personal resources, and parenting knowledge.

parent aide programs.

2. Although all of the programs offered social support as a major component of the services they provided, only 3 of the 13 (23%) studies actually measured the construct during the course of the intervention. The presence of a support person does not necessarily mean that social support is being provided or whether it is adequate to meet the mother's parenting needs. The level of social support received and the mother's perception of that support with regard to parenting is important to understanding the effectiveness of parent aide programs and should be included as part of the measurement process.

3. Only one of the studies directly measured parenting knowledge and that study was limited to a few questions during the interview on infant development. It was difficult to assess the degree to which this information related to more standardized infant and child development knowledge as well as child care skills. The importance of these constructs to other aspects of parenting competence and behavior remains in need of further investigation.

4. Only three of the 13 studies cited and none of the paraprofessionally based programs measured parenting stress. Given the theoretical premise that many of the components of parent aide programs are supposed to influence levels of parenting

stress, it is important to include at least the parent's perception of stres as part of the measurement design.

5. Finally, because of these previously disjointed research efforts and the relatively small numbers of subjects overall for whom many of the constructs have been measured, confidence in the viability of parent aide programs for mothers requires further examination and replication of the program components and their reported beneficial outcomes.

Research Hypotheses

The study reported in this paper did not attempt to answer all of the outstanding research questions outlined above. However, in order to assess the impact of a volunteer parent aide program a randomized field experiment was conducted comparing a parent aide intervention with a no-treatment control group.

The parent aide model assumed that the provision of services by volunteer parent aides in the areas of parent education and child care skills, stress reduction, and social support would, at least in the short term, lead to greater parenting knowledge and child care behaviors, higher self-esteem, more effective coping abilities, an improved home environment for the child, a decreased sense of social isolation on the part of first-time mothers, and a decreased perception of parenting stress.

The following null hypotheses were tested in this study using repeated measures and oneway analysis of variance techniques confirming significance at the level of $p \leq .05$. The first set of hypothesis addressed the short term process objectives of the parent aide intervention (i.e., the actual services that were received by the "intervention" mother).

1. The amount of prenatal and parenting information received by the intervention mothers, as measured by a self-report questionnaire would not be different for the intervention and the control group.

2. The amount of social support received by the intervention mothers from personal and professional sources would not be different for the intervention group as compared to the control group. The density of the social support network was measured by a Maternal Social Support Scale which was based on a format developed by Norbeck, Lindsey, and Carrieri (1981) and modified for the purposes of this study.

The remaining set of hypotheses address the outcomes associated with the parent aide intervention.

3. The pregnancy outcomes of the intervention group would not be different, as measured by a postpartum assessment of the mother and infant, from the control condition.

4. The self-esteem of the intervention mothers would not be different, as measured by the Rosenberg Self Esteem Scale (Rosenberg, 1965), from the control mothers.

5. The perceived psychological coping ability of the intervention mothers would not be different from the control mothers. The coping ability or "sense of mastery" was measured using the Pearlin Mastery Scale (Pearlin & Schooler, 1978).

6. The perceived general social support and social support with regard to parenting issues would not be different for the intervention mothers as compared to the control mothers. The Maternal Social Support Scale was used to measure the mother's perceived social support.

7. Parenting skills and knowledge for the intervention mothers would not be different from the control mothers as measured by two instruments: The Knowledge of Infant Development Inventory (MacPhee, 1981) and the Parenting Skills and Knowledge Questionnaire developed for the parent coaching program.

8. The level of parenting stress experienced by the intervention mothers would not be different from that experienced by the control mothers. Parenting stress was measured by scores on the Parenting Stress Index (Abiden, 1983) which was modified for this study.

9. The quality of the infant's home environment and the mother's responsiveness to her child would not be different for the intervention group as compared to the control group. The measurement of the home environment was conducted through the provision of the Home Observation for the Measurement of the Environment (Caldwell & Bradley, 1978).

10. Social support will not contribute to increased parenting knowledge, increased levels of self-esteem and psychological sense of coping, increased levels of an adequate home environment, or decreased levels of parenting stress. This final hypothesis is designed to confirm the theoretical model relating to social support and parenting.

CHAPTER II

METHODS

Site

The volunteer Parent Aide program evaluated in this study is operated by Family Services of Detroit and Wayne County, Michigan. Family Services is a private social service agency that has provided family counseling and family life education for Wayne County families for over 100 years.

The parent aide program entitled "Parent Infant Beginnings" (PIB) was begun through a collaborative effort with one of the major local hospitals in the Detroit area. The program's stated goal is to help prevent communication breakdown between parent(s) and to minimize the risk of parent-child problems early in the child's life.

Subjects

The subjects for this research study included 64 first-time mothers (30 in the intervention and 34 in the control group) within the city of Detroit and the wider Wayne County metropolitan area. In an effort to account for the expected attrition and maintain the 60 projected parents in the study, project staff recruited up to 40 persons for each group. The initial plan was designed to recruit the participants primarily from the prenatal

clinics at several of the hospitals and community health centers in the area. Unfortunately, the rate of recruitment through these efforts was not very successful, even after placing a program recruiter within the clinics. Essentially, the hospital staff and nurses were not very reliable at informing prospective mothers about the program or making referrals.

Fortunately, during the course of the study a new service for parents and children was initiated throughout the city of Detroit through the Public Health Department. This service, entitled "961-BABY" was a telephone hotline set up to provide mothers or prospective mothers with information on how they could access resources and support services to assist them with their parenting responsibilities. This service was advertised through billboards, flyers, and brochures throughout the city and in clinics and doctors' offices. Of the hundreds of calls received through this hotline, the PIB program received referrals from those prospective parents who were first-time mothers, considered low-risk (according to a minor screening during the initial call), and requested further information on the program after being given a brief explanation. Once the PIB program received the referral the prospective participant was called and a more detailed explanation of the program and the research project was provided.

The majority of participants in this research project were recruited through this method.

As shown in Figure 2, a total of 306 individuals were referred to the PIB program by either themselves, hospital or clinic staff, or the "961-BABY" service. Of these, the PIB staff was unable to contact 197 or 64%. The attempts to contact prospective participants included several phone calls and informational packets which were sent to the homes. Of the remaining 109 persons contacted directly by phone, 84 or 78% agreed to participate. A comparison on age of those women who agreed to participate and those not contacted revealed a significant difference between the two groups. The mean age of the participants ($\bar{X}$=21.45, SD=4.64) was significantly older than the non-participants ($\bar{X}$=23.65, SD=4.37) with ($F=10.59$, $p \leq .001$).

Attrition

Once enrolled, the attrition rate for subjects was 20 out of 84. That is, 30% of the subjects initially enrolled were lost due to attrition. Eight of the 20 stopped participating prior to the first interview. The remaining 12 subjects were lost between the first and third interview. Half of these 12 were participants in the intervention group. Of these, two participants stated that they were no longer interested in the program and one was dropped due to drug use. The remaining participants, including all of

those who were assigned to the control groups were dropped from the study after repeated attempts to contact them were unsuccessful.

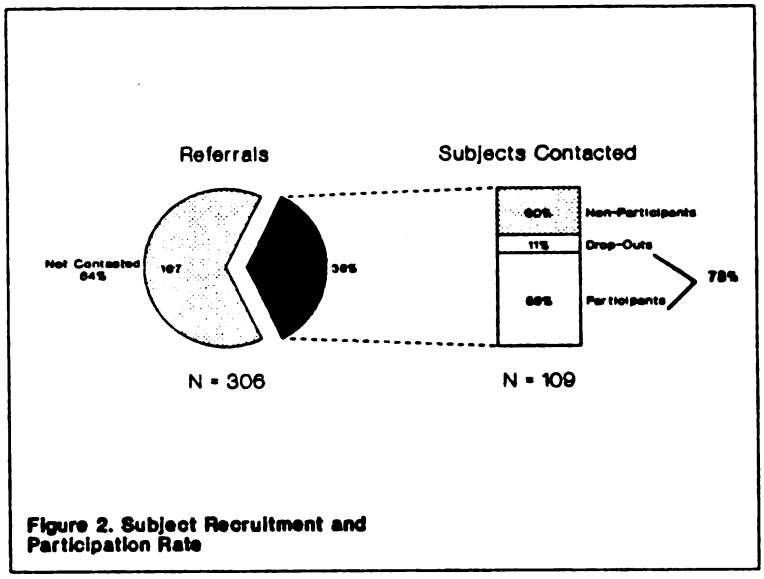

Figure 2. Subject Recruitment and Participation Rate

Eligibility

The program was offered to any first-time mother in the city of Detroit or surrounding area who agreed to participate in the research project. While any first-time mother was eligible for the project, there were some criteria for denial which was based

on the results of a pre-assessment conducted by the professional program staff. Denial of services resulted from one of two conditions: First, if the initial assessment determined that the mother's home environment was not safe or easily accessible for the program staff or the parent aide the mother was not asked to continue with the program. Secondly, if the prospective mother stated that she was a substance abuser then the program staff referred her to another service and did not admit them to the program. During the course of the study only two woman were refused services because of one of these reasons.

Once services were initiated each relationship was handled on a case-by-case basis. If a particular relationship was not working out between the parent and the aide then efforts were made to rematch the parent with another aide. If another aide could not be found then project staff took responsibility for the participant. This particular arrangement was necessary for three families during the course of the study.

Assignment to condition

After the prospective mothers were identified and agreed to participate in the research project an initial home assessment was conducted by the project coordinator. The assessment was designed to determine the "treatment plan" for the mother based on her expressed and observed needs. It included basic demographic

information, information on the pregnancy, why the person was requesting services or had agreed to participate in the program, information on the home environment of the parent as it related to the expected baby, a brief medical history, a family developmental history, and an assessment of the mother's psycho/social status such as her current emotional state and the nature of her support network (Appendix A, p. 120).

Once the assessment was made a pre-interview was scheduled. This first interview was conducted by a trained interviewer within the prospective mother's home. Along with the initial data collection instruments the research project and procedures were explained to the participant and they were required to sign two copies of the informed consent form (Appendix A, p. 124). One copy was returned to the participant for her records.

Randomization was then performed using standard methods. The name of the experimental or control group was recorded on cards and placed in sealed envelopes. After completing the pre-interview the participant was given an envelope and, depending on which group was revealed, informed of the next step in the process. The participant was then thanked and given her stipend. The maximum time for the entire assessment and pre-interview was approximately two hours over a two day period.

Parent aide assignments were made upon agreement by the project staff and the parent aide. The coach had the option of deciding not to work with the mother. Upon agreement, the coordinator called the family to arrange a time for the initial meeting between the parent aide and the prospective mother. The program coordinator was required to be present at this initial meeting.

Participant Characteristics

Table 2 provides demographic data on the 64 subjects recruited into the study. The data was collected using the "Participant Information Form" provided in Appendix A (p. 128). As shown, the subject population was relatively young ($\bar{X}$=21.38. SD=4.64), African American, single, and unemployed with low incomes. Only 30% of the participants had an education that extended beyond the high school level. A comparison of the subjects in the intervention and control group showed no significant differences on any of the demographic characteristics although the level of family income approached significance (X^2=9.17, DF=4, p=.06) with the control group having a greater percentage of families with high incomes.

A comparison of the participants and the 12 mothers who dropped out after the first interview showed the participants averaging more years of schooling than the dropouts (X^2=15.5,

Table 2

Participant Demographics*

	Condition		
	Intervention	Control	p
Number of Participants	30	34	
Parents Age			
Mean	21.78	21.90	NS
Standard Deviation	5.12	4.72	
	N	N	
Race			
African American	27	32	
Caucasian	3	2	
Marital Status			
Married	2	4	NS
Single	28	30	
Primary Source of Income			
Self/Spouse Employment	6	13	NS
Parents	5	2	
Public Assistance	19	16	
Other	0	3	
Family Income			
No Answer	1	3	NS
Under $6,000/year	20	15	
$6,001 to $9,600/year	7	5	
$9,601 to $13,200/year	2	4	
Over $13,200/year	0	7	
Highest Grade of Schooling Completed			
Less than a H.S. Education	13	11	NS
Graduated from H.S. (or GED)	11	14	
Technical Training School	6	4	
Some College Education	6	11	

DF=5, $p \leq .01$). No other demographic differences were found for these two groups.

The demographic characteristics of the parent aides is provided in Table 3. The volunteers were significantly older than the participants ($\bar{X}$=36.85/SD=10.12), primarily African American, married at least once, employed with relatively high incomes (42.4%; $\bar{X}$ = $13,200/year), and highly educated (73% college graduates). Overall, the volunteers were quite different in terms of demographic characteristics than the participating woman. The stated reasons for becoming involved in the program included wanting "to give something back to the community," "to help make a difference in the mortality rate of infants," "to help parents get off to a good start and develop a positive and lasting relationship with their baby," and "to share some of my parenting skills and knowledge with others."

Design

In this study a volunteer parent aide program designed to provide parenting information and support to mothers during the pre- and post-birth periods surrounding their first child was compared to a group of mothers who received no parent aide services. The research design was a simple, one level, repeated measures design with three measurement periods (Figure 3).

Table 3

Volunteer Demographics

Number of Volunteers	34	
Volunteer's Age		
Mean	36.85	
Standard Deviation	10.12	
	N	**Percentage**
Race		
African American	23	69.7%
White	8	24.2%
Hispanic	2	6.1%
Marital Status		
Married	14	45.2%
Single	13	43.0%
Divorced or Widowed	4	12.9%
Primary Source of Income		
Self, Spouse, or both	29	87.9%
Parents	2	6.1%
Public Assistance	1	3.0%
Other	1	3.0%
Family's Income		
Under $6,000/year	4	12.2%
$6,000 to $9,600/year	0	0.0%
$9,600 to $13,200/year	4	12.1%
Over 13,201/year	14	42.4%
Highest Level of Schooling		
Technical Training School	4	12.1%
Some College Education	5	15.2%
College Graduate	24	72.7%
Previous Volunteer Experiences		
None	5	15.1%
One	13	39.4%
Two	2	6.1%
Three or More	13	39.4%

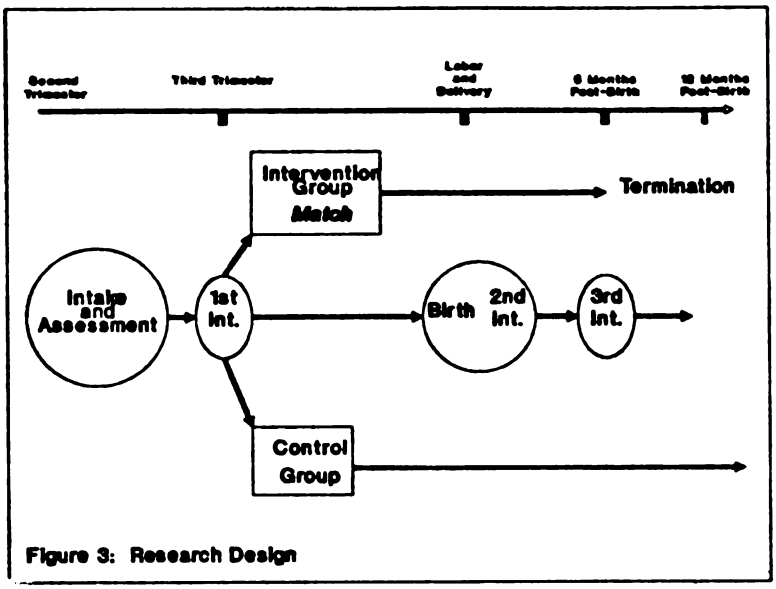

Figure 3: Research Design

Subjects were randomly assigned to one of the two conditions. After accounting for attrition, 30 subjects remained in the experimental group and 34 subjects were in the control group. Measurement included a baseline assessment and pre-interview conducted prior to random assignment, an interview immediately post-partum, and a six months post-birth interview. Subjects in both groups were administered the same evaluation instruments for all time periods. All interviews took place at the subject's home.

Each subject received $15.00 per interview and the trained interviewers were paid $30.00 per interview.

Independent Variables

Volunteer Parent Aide Services

The volunteer parent aide program was designed to offer first-time mothers information and support during the period beginning with the third trimester of pregnancy and ending prior to the baby's first birthday. These services were provided by a trained volunteer woman who had experienced the pre-natal, birthing, and parenting process and raised children of her own although there were a couple of parent aides who were not parents themselves. The parent aides were matched with the first-time mother according to the procedure listed in Appendix A (p. 129). The primary goal of the match was to help the mother become a more competent and effective parent by learning how to raise her child and effectively deal with the stressful situations that all parents encounter around their first pregnancy.

Through this program mothers were provided with an opportunity to develop a personal relationship with their parent aide and receive information and training related to pregnancy, labor, delivery, and the post-birth period. Immediately following birth, parents were encouraged to interact with the newborn. The

parent aide coach tactfully demonstrated normal responses and communication techniques and offered the new parent(s) a "safe" opportunity to practice relating to and interacting with the baby. The role of the coach was to become a friend and advocate for the mother by assisting her in a natural, positive, nurturing, and non-threatening manner.

Schedule of Parent Aide Services

Coaches provided services to mothers through regular home visits and were expected to adhere to the following schedule:

1. Two visits during the seventh month of pregnancy.
2. Three visits during the eighth month of pregnancy.
3. Four visits during the ninth month of pregnancy.
4. One to two hours during the hospital stay when the baby is born.
5. Weekly visits for the first six weeks after the baby is born.
6. Every other week visits for the second six weeks.
7. And then, scheduled visits according to the need decided upon by the mother and the coach, through the rest of the infant's first year.

Telephone contacts on an as needed basis were also included as a service component if they were for more than just arranging meeting times.

Termination of services to the mother was primarily determined by the aide and her mother. Once it had been determined that the mother was operating effectively in the prescribed areas then coaching services were terminated. This could happen anytime through the first year after the birth of the

baby. Otherwise, once the baby was one year old the formal services were automatically terminated. None of the parents in this study had "formally" terminated their relationship with the parent aide services prior to the third interview (six months post-birth).

Training and Supervision of Parent Aides

Parent Aides were required to attend a six week training program prior to their assignment. The training was provided by specialists in the areas of parenting and child care. The aides received training in pre-natal and parenting information/skills and how to provide this information to first-time mothers. Coaches also received support throughout their relationship with the "new" mother from a "parent aide coordinator." The aide was responsible for contacting the coordinator after each visit with the mother and reporting on their progress. Monthly group meetings between the research coordinator and the parent aides were also held. The coordinator was responsible for monitoring the aide/mother relationship, offering advice and assistance on communicating with the mother, and providing information on the resources available in the community.

The aides were trained to focus on and respond to the needs of the mother and baby and how to handle any problems that may

arise with the mother or her family that would impact on the baby. Although the entire family environment was seem as important, the parent aide's overall focus was on the mother and her baby, therefore, all activities were directed toward creating a healthy environment for these two individuals. Aides were trained to provide support to the first-time mother in four areas: parenting and child care skills, social support, and the development of her personal resources to reduce her parenting stress. The activities associated with each of these areas are described below.

Parenting and child care skills. Parent aides were provided with training in prenatal care and nutrition for the mother, child development information, and child care skills. The initial assessment measured how much the mother knew about this basic information. The aide attempted to provide the mother with the information that she did not know, model certain skills for the mother, and assist the mother in learning how to take care of the baby.

The aide was expected to observe the actual interactions between the mother and child and to insure that the mother was following through with the information that had been provided to her. Both the mother and the aide were expected to periodically review their relationship together and follow-up on any problem areas. It was expected that by the end of the program the mother

would know the necessary parenting information and practicing appropriate child care techniques.

Social Support. The aide's primary responsibility was to be a "friend" to the mother, primarily through the sharing of her own pregnancy and parenting experiences. Parent aides were taught to model appropriate child care techniques, offer practical and experiential advice and assistance, provide a non-judgmental outlet for her concerns, and identify and help the mother cope with any social and/or psychological isolation that she may have been experiencing.

As mentioned earlier, the primary focus of the aide's activities were directed toward helping the mother/child dyad. The extent to which other household members (boyfriend, spouse, other family members, etc.) impacted on the mother and child determined the degree to which the aide worked with others in the family. The aide's role was to supplement and not replace the mother's natural support environment. It was expected that the aide would help the mother learn how to obtain the support that she needed in order to properly raise her child.

Parenting Stress. The parent aides were provided with information on the types of stressors that first-time mothers were likely to experience. This included both general and parenting

specific stressors that are related to the pregnancy and the postpartum period. The aide was responsible for bringing this information to the mother's attention and helping her discover effective coping techniques. By the end of the program, while it was not expected that the mother would be able to completely eliminate the stress that she experiences, she would be expected to have developed ways of coping with her parental responsibilities and hopefully preventing them from leading to further stress and inappropriate parenting behavior.

Measurement and Dependent Variables

Data Collection Procedures

The measurement in this study was designed to document the equivalence of the two groups at baseline and to then measure the changes that occurred or did not occur as a result of the intervention. Data was collected from the mother at the post-assessment period, immediately post-partum, and at the six-months post-birth. Process data was collected throughout the study from the project staff and the volunteer coaches. A previous pilot testing of the instruments indicated that each of the interview protocols would take approximately one hour.

Six interviewers were recruited and trained to conduct each of the two-hundred-and-forty (240) interviews. Of these, four interviewers remained throughout the course of the study. The

interviewers, all female, included three students who both attended and worked at the local university and one woman who worked in the local court system. The interviewers were trained and supervised by the research coordinator and program staff. The initial training was held during a one-day session in which the following topics were discussed and followed by extensive role playing.

1. Overview of the research.
2. Establishing rapport with the participant.
3. Explaining the research and interview process and obtaining informed consent.
4. Techniques for handling a distressed participant.
5. Using the interview schedule.
6. Assisting the participant in completing the questionnaires.
7. Closing the interview.
8. Handling the participant payment.
9. Assignment to group.
10. Coding the data.
11. Keeping track of the participant.

A second training session was held prior to the administration of the third interviews and primarily focused on the administration of the observation measurement. The PIB coordinator was responsible for assigning the interviews and maintaining contact with both the interviewers and the participants.

The instruments used in this study are presented below. For each instrument, a brief description is provided along with its

psychometric properties and methods of administration and scoring. Both the process and outcome measures are reviewed.

Process Variables

In accordance with the projected hypotheses, there were five process measures that were used in this study. The process measures looked at the short term objectives of the parent aide intervention. These variables were expected to moderate the effect of the intervention on the outcome variables. The process variables and measures are described below and presented in Appendix B.

Parenting Information. A Parenting Skills and Knowledge Questionnaire (Appendix B, page 132) developed by the program staff was used to measure the amount of parenting information that was learned by the mother. This 22 item true/false questionnaire was specific to the information that parent aides were trained to provide. The instrument was administered at each of the three interview periods. Based on the data from the third interview a Cronbach reliability coefficient of .91 was found. The item-total correlations ranged from .18 to .86 (Table 4).

Social Networking. The Maternal Social Support Scale measured the density and variability of the mother's social support network. Additional information on the scale is provided in the outcome variables section below.

Table 4

Parent Infant Beginnings Knowledge Questionnaire
Scale Reliabilities

Item		Corrected item Total Correlations
Q1.	A baby has a sense of smell at birth...	.70
Q2.	A baby of 8 months can tell the difference between...	.82
Q3.	It should be quiet in the house all the time when...	.67
Q4.	Newborns have much difficulty in seeing & hearin	.23
Q5.	Caffeine, cigarettes or drugs will not harm the baby....	.72
Q7.	Use of a vaginal douche is ineffective in ...	.86
Q8.	Breast feeding babies need to be fed more frequently....	.38
Q9.	It will take several months for infant to...	.37
Q10.	Newborns differ in their fussiness, cuteness...	.75
Q11.	Many babies rarely cry and do not babble.	.70
Q12.	Picking up the baby when s/he cries will spoil...	.30
Q13.	An infant starts to learn at 3 months of age...	.53
Q15.	Babies that won't cuddle are reacting against...	.62
Q16.	Sometimes during 1st year infants can be...	.59
Q17.	The normal child will start using elbows, and...	.52
Q19.	An infant starts to learn at 3 monhs of age.	.25
Q20.	The six month old can roll over, rest on elbows...	.34
Q21.	When newborns nurse after delivery they are not...	.41
Q22.	Talking to a newborn is usually a waste of time.	.66
Q23.	Most infants of 2 months of age do not show much...	.59
Q24.	During the first month of life, infants cannot...	.78
	Standardized Item Alpha	.91

The remaining three process measures were employed to assess the integrity of the intervention. These measures were designed to further describe the components of the volunteer parent aide program. These instruments include:

Interview Schedule Log. In order to keep up to date on the scheduling of interviews and to track the participants in both groups a schedule log (Appendix B, page 134) was maintained which recorded the dates and status of all of the significant time events for each participant including the enrollment date, the interview due and completion dates, the match date, the expected and actual date of birth, and the group assignment. Computations of this data provided important information on the time intervals between each of the interviews, the length of time between the match and the date of birth, and the time between the interview duedates and the actual completion of the interviews.

The Volunteer Contact Logs (Appendix B, page 135). This form was used to keep track of the frequency, duration, and types of contacts made between the volunteer aide and her assigned mother. It listed the issues approached/discussed and the results of the communication. Although the volunteer contact log is relatively closed ended to provide for easy completion, there was room on the back to provide project staff with updates on the progress with the parents and indications of future activities. Volunteers were required to complete a contact log for each contact they made with the mother and submit the logs at the end of each month. Approximately 23 out of 36, or 64% of the volunteers kept up-to-date in completing and submitting their logs.

Volunteer Aide Monthly Group Sessions. These sessions were held by project staff with occasional visitation by the research coordinator because it was expected that volunteers would resist completing a log for each visit. The monthly group meetings were designed to give aides an opportunity to discuss their experiences and obtain advice from other volunteers and the project staff.

Outcome Variables

In addition to the process variables, the following seven major outcome variables were assessed: birthing outcomes; parenting skills and knowledge, self-esteem, coping efficacy, social support, parental stress, and the home environment. The schedule for the collection of each measure is listed in Table 5. Copies of each form are provided in Appendix C.

Pregnancy Outcomes. The pregnancy outcomes measure indicated the degree to which the volunteer parent aide intervention had an effect on the prenatal care and birthing experiences for the participating mother. The birth record was a self-report questionnaire which was administered at the second (post-natal) interview. The record contained information including the status of the mother and child at birth and the method of delivery (Appendix C, p. 140).

Self-Esteem. The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to measure the mother's general self-esteem throughout the period of the study (Appendix C, p. 142). This measure consists of ten items measuring self-worth and self-acceptance on a Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Based on the data collected in the first interview the scale had an internal consistency of .81. An example self-esteem item is: "I feel I have a number of good qualities."

Coping Efficacy The mother's psychological sense of coping was measured using the Pearlin Mastery Scale (Pearlin & Schooler, 1978). The mastery scale measures the extent to which individuals believe their lives are under their own control, e.g., "I can do just about anything I set my mind to." The Pearlin Mastery Scale contains 7 items with responses arranged in a likert format from 1 to 4, respectively indicating strongly agree to strongly disagree (Appendix C, page 144). Because of it's format and similarity in construct this scale was administered on the same form as the self-esteem scale. An alpha of .75 was found using the pre-test data.

Table 5

Schedule for Data Collection

Data collection timepoints - 1 = Last trimester of pregnancy
2 = Immediately Post-partum
3 = Six months post-partum

Instruments	Timepoints		
	1	2	3
Birth Record		X	
Rosenberg Self-Esteem Scale (Rosenberg, 1965)	X	X	X
Pearlin Mastery Scale (Pearlin & Schooler, 1978)	X	X	X
Maternal Social Support Questionnaire (Norbeck, 1981)	X	X	X
Knowledge of Infant Development Questionnaire (MacPhee, 1983)	X	X	X
Modified Parenting Stress Index (Abiden, 1983)			X
HOME (Behavioral Observation) (Caldwell & Bradley, 1979)			X

Parenting Skills and Knowledge. Two parenting questionnaires were used in this study. The PIB Parenting Questionnaire described above was developed by the PIB program staff and designed to represent the information that the parent aides were taught to provide to the mothers. The questionnaire used a true-

false format and measured simple child care and child development knowledge.

The second parenting knowledge instrument, the Knowledge of Infant Development Inventory (MacPhee, 1981) was essentially a 75-item questionnaire that assessed the mother's level of knowledge regarding infant norms and milestones; principles and processes of development; child-rearing strategies and responsibilities; and health care and safety concerns (Appendix C, p. 145). For the purpose of this study only the milestones section of the inventory was used. This 20 item sub-scale measured the physical, social, and cognitive norms and milestones in the child's first year of development. The items were in an agree/older/younger/not sure response format which provided not only for correct summary scores but also measured overestimates and underestimates of infant competence. For the purposes of this study, only the total score was used and was calculated according to the following formula:

$$\frac{\text{Number Correct}}{\text{Number Correct + Number Incorrect + Number Not Sure}} = \frac{\text{Number Correct}}{\text{Attempted}}$$

The reported test-retest reliability was .74 and convergent and discriminant validity has also been reported at acceptable levels (MacPhee, 1981). Third interview data using only the dichotomous

scores indicated an alpha of .78 with item total correlations ranging form .28 to .54. Only 10 of the 20 items in the original scale demonstrated reasonable psychometric properties and were used in this analysis (Table 6).

Table 6

Knowledge of Infant Development
Scale Reliabilities

Item		Corrected item Total Correlations
Q1.	Most babies can sit on the floor without...	.51
Q2.	A 6 month old will respond to someone differently...	.41
Q4.	Infants usually are walking by about 12 months of age.	.49
Q5.	An 8-month-old acts differently with a familiar...	.52
Q9.	A 3-month-old often will smile when he sees...	.54
Q12.	Babies begin to laugh at things around 4 months of age.	.29
Q15.	Babbling begins around five months of age.	.49
Q17.	12-month-olds can remember toys he/she...	.37
Q19.	Infants have depth perception by 6 months of age...	.28
Q20.	Two-month-olds can tell some sounds from others.	.35
	Standardized Item Alpha	.78

Social Support. The Maternal Social Support Questionnaire (Appendix C, p. 148) used in this study borrowed from a format developed by Norbeck, Lindsey & Carrieri (1981). Mothers were asked to list up to 20 supporters and indicate for each one how much emotional support, advice and information, and practical

assistance is provided to them specifically around parenting issues. An inquiry was also made as to the degree of general support received. These questions were answered according to a likert scale which ranged from 1 (none at all) to 5 (a great deal) and were designed to measure the level of "functional" social support with regard to parenting that the mother received or expected to receive (once the baby was born) in the case of the first interview.

The second part of the instrument was designed to measure the quality of the mothers social "network." The five items on this scale included the number of social supporters listed, the relationship of the supporter to the respondent, the length of time the respondent had known each supporter (duration of relationship), the proximity of the supporter in terms of where they lived in relation to the respondent, and the frequency of contact that the respondent had with the supporter. The response format for each of these items ranged from 1 to 5 with the higher responses indicating greater frequency or closeness. Scores for each sub-scale were computed by totaling the responses for each item and then averaging across the number of supporters listed.

As shown in Table 7 a principal components factor analysis with a varimax rotation (Norusis, 1988) indicated this "network" sub-scale to be bi-polar with only four of the expected items

supporting the factor. The number of supporters listed was standardized and shown to have a strong negative relationship to the network sub-scale. This would indicate that as the number of people listed decreased, the closer the relationships, the nearer the supporter tended to live, and the more often the supporter was seen. The "duration of relationship" item, which indicates how long the person has been known, factored out separately from the other two sub-scales.

Table 7

Component Loadings of the Social Support Items

	LOADINGS			
	Functional Support	Network Structure	Duration of Relationship	h^2
Emotional Support	.87	-.07	.12	.70
Advice and Information	.90	.06	.05	.72
Practical Support	.90	.09	-.01	.84
General Support	.85	.01	-.15	.75
Number of supporters Listed	.05	-.81	-.03	.72
Relationship of Supporter	.02	.66	.49	.71
Proximity of Supporter	-.09	.78	-.14	.74
Frequency of Contact	.33	.74	.16	.71
Duration of Relationship	-.01	.03	.94	.94

Based on the pre-test data, the internal consistency for the scales was .88 for "Functional Support" and .61 for the "Network Structure" scale (Table 8). Concurrent validity was previously found to be acceptable by Norbeck et al. (1981) who demonstrated moderately high correlations with another social support measure. Norbeck et al also found test-retest reliability ranging from .85 to .92.

Table 8

Maternal Social Support Scale
Scale Reliabilities

Item			Corrected Item Total R
Functional Support			
Q1.	Emotional Support		.72
Q2.	Advice and Information		.70
Q3.	Practical Support		.81
Q4.	General Support		.72
	Standardized Item Alpha	.88	
Network Structure			
	Number of Supporters Listed		
Q5.	Relationship to Supporters		.39
Q6.	Proximity of Support Person		.32
Q8.	Frequency of contact within last six months		.54
	Standardized Item Alpha	.61	
	Standardized Item Alpha (Total Scale)	.67	

Parenting Stress. The Parenting Stress Index (Abiden, 1983) is a 101-item instrument designed to measure the relative degree of stress between parent and child. Specifically, the Parenting Stress Index (PSI) is a measure of parental competence and stress. Subscores are obtained in two major areas: the child domain and the parent domain. The child domain determines stress associated with specific child characteristics in areas including adaptability, acceptability, demandingness, mood, distractibility/hyperactivity, and reinforcement of the parent.

The parent domain measures stress solely associated with the parental role and includes minor subscales on depression attachment, restrictions of role, sense of competence, social isolation, relationship with spouse, and parental health. Items are rated on a five-point Likert scale ranging from strongly agree to strongly disagree.

Because of the high internal consistency (a reported alpha reliability coefficient of .95) and the fact that some of the items were not appropriate for the target population of this study the scale was reduced to 31 items (Appendix C, p. 154). The remaining scale contains the two to three items within each particular subscale with factor loadings of .50 or greater. Several studies have provided evidence of the concurrent, construct, and discriminant validity of the scale (Abiden, 1982;

Awalt, 1981; Bristor, 1982; Lafiosca, 1981). Data collected in the third interview indicated internal consistencies for the sub-scales which ranged from .52 to .76. The alphas for the domain scores was .75 (child domain) and .78 (parent domain). The overall scale had an alpha of .84. The corrected item total correlations for the entire scale are presented in Table 9.

Home Environmental Observation. The Home Observation for the Measurement of the Environment (HOME) (Caldwell & Bradley, 1984) assessed the qualities of the child's home environment and the mother's responsiveness to her child. The HOME has been shown to be appropriate for populations including low-income Black and White urban mothers (Stevens & Bakeman, 1985) which corresponds to the participants in this study. The HOME was completed during the third interview and after the interviewer had watched the mother feed and diaper her baby. The HOME is a semi-structured observation/ interview instrument developed to assess quantitative and qualitative aspects of the child rearing environment. The version used in the present study was the 45 item measure developed for infants and toddlers (Appendix C, p. 157). Each of the items was scored "yes" or "no" and all items were weighted equally. Five sub-scale scores and a total score for the HOME was determined by counting the number of items scored "yes."

Table 9

Parenting Stress Index
Scale Reliability Estimates

Item		Corrected Item Total R
Q1.	My child is so active that it exhausts me	.23
Q2.	My child is much more active than I expected	.43
Q5.	Sometimes I feel that my child doesn't like me and...	.21
Q6.	My child seems to cry or fuss more often than most...	.40
Q7.	I feel that my child is very moody and easily upset.	.44
Q8.	My child doesn't seem to learn as quickly as most...	.39
Q9.	My child is not able to do as much as I expected.	.58
Q10.	Leaving my child with a babysitter is usually a problem.	.43
Q11.	My child usually avoids a new toy before playing with it	.33
Q12.	My child doesn't seem comfortable when meeting...	.27
Q13.	There are some things my child does that really bother..	.67
Q14.	I often have the feeling that I cannot handle things...	.46
Q15.	It takes a long time for parents to develop close...	.37
Q16.	I expect to have closer feelings for my child than I do	.36
Q17.	I find myself giving up more of my life than expected...	.38
Q18.	I often feel that my child's needs control my life.	.27
Q19.	Since having this child I am unable to do new things.	.45
Q20.	Since having a child I am unable to do what I like to do	.52
Q21.	It is hard to find a place in home to be alone	.59
Q22.	When child misbehaves too much, I feel responsible...	.43
Q24.	I feel guilty when I get angry at my child...	.28
Q25.	Since having child, my mate and I don't do much together	.36
Q26.	When I go to a party I usually expect not to enjoy...	.35
Q27.	I am not as interested in people as I used to be.	.25
Q28.	I often feel my peers don't like my company...	.44
	Standardized Item Alpha (Total Scale)	.84

The sub-scales and their reliability coefficients included: the emotional and verbal responsivity of the mother (.70); the avoidance of restriction and punishment on the part of the mother (.91); the organization of the physical and temporal environment for the child (.40); the provision of appropriate play materials (.60); the maternal involvement with the child (.64); and the opportunities for variety in daily stimulation that is provided for the child (.32). The overall reliability was found to be .79. Only the first 5 sub-scales were used in the analysis. The interrater reliability for the interviewers was .92. The corrected item total correlations for the entire scale are presented in Table 10.

Table 10

Home Observation for the Measurement of the Environment Scale Reliability Estimates

Item		Corrected Item Total R
Q1.	Mother spontaneously vocalizes to child	.26
Q2.	Mother responds to child's vocalizations verbally	.25
Q3.	Mother tells child name of object in "teaching style"	.42
Q5.	Mother initiates verbal interchanges with observer	.50
Q6.	Mother expresses ideas freely and appropriately...	.64
Q7.	Mother permits child to engage in "messy" behavior...	.23
Q8.	Mother praises child's qualities twice during visit	.43
Q10.	Mother caresses or kisses child at least once during...	.42
Q11.	Mother positively responds to praise of child by visitor	.32
Q12.	Mother does not shout at child during visit	.76
Q13.	Mother does not express overt annoyance towards child	.76
Q14.	Mother neither slaps nor spanks child during visit	.76
Q16.	Mother does not scold or derogate child during visit	.92
Q23.	Child is taken regularly to doctor's office or clinic	.21
Q24.	Child has a special place to keep his toys and...	.34
Q27.	Child has push or pull toy	.44
Q29.	Mother provides toys or activities for child during...	.36
Q32.	Provides eye-hand toys that go in and out of receptacle	.36
Q33.	Provides eye-hand toys that permit combinations...	.40
Q34.	Provides toys for literature and music	.21
Q37.	Mother consciously encourages developmental advance	.29
Q38.	Mother invests "maturing toys" with her attention...	.55
Q39.	Mother structures child's play periods	.30
Q40.	Mother provides toys that challenge child's new skills	.61
	Standardized Item Alpha (Total Scale)	.79

CHAPTER III

RESULTS

The purpose of this study was to evaluate the effectiveness of a volunteer parent aide program for first-time mothers by comparing a group of woman who received the intervention to a control group that received no services. The design for these analyses was one level of the condition by three (3) time periods. Data on both process and outcomes were collected for both the intervention and control conditions. The results from the process measures are presented first, followed by the results for the outcome measures.

The general strategy for testing each null hypothesis was to first run an analysis of variance (MANOVA) entering all of the repeated dependent measures associated with the hypothesis. Then a MANOVA was run for the relevant dependent measures that were only administered at the third data collection period. For all of these analyses a minimum alpha level of $p \leq .05$ was used to reject the null. Univariate analyses for each dependent measure and time period examined.

Overall, the data analyses were organized in direct relation to the hypotheses. However, although not initially presented as a research hypothesis, this study examined the integrity of the parent aide program and is discussed first.

Program Integrity

Two instruments were used to assess the integrity of the program. The first instrument, the "Interview Schedule Log" kept track of the timing of the interviews. Data from this log revealed that seven of the participants were not matched until immediately before to just after the birth of the baby. The average amount of time between the match and the actual date-of-birth was 26 days or approximately one month. In contrast, the time between enrollment and the date of birth was 96 days for the intervention group and 85 days for the control group. Consequently, although the majority of participants were enrolled early in the third trimester, the intervention participants were typically not matched until the last month of pregnancy.

The second instrument used for examining program integrity was the Volunteer Contact Log. Although some resistance was encountered in maintaining complete records a response rate of 76% was obtained for those parent aides who regularly submitted their forms. This measure looked at the number, type, and duration of the contacts that the parent aides had with their assigned mothers.

As indicated in the method section, the program expected the parent aids to make 9 home visits during the pregnancy period; 1 visit while the mother was in the hospital; 9 visits through the

first three months post-birth; and the remaining visits would be according to need as determined by the parent aide and the mother. In total, this represents 19 personal contacts during the six month period surrounding the birth of the baby. In addition, phone contacts were also considered part of the services provided if they were for more than just arranging appointments. The expected frequency of phone contacts was also according to need. The corresponding time projections was approximately 1 hour per personal contact and 15 minutes for each telephone contact.

For comparative purposes the contact data was divided into 3 periods to match the expected contacts. Because the average time participants were matched prior to the birth of the baby was 26 days, the first time period presented in Table 11 represents only one month prior to birth. The total number of months through one year post-birth is 13.

For those contact logs received, the mean number of personal contacts was 6.58. Overall, the actual number and duration of personal contacts was lower than the number expected. However, Figure 4 shows that the total number of contacts (personal and telephone), with the exception of the pre-birth period, were relatively equivalent to the projected numbers. The actual time spent with participants as compared to the projected time held the

same pattern (Figure 5). The figures also show that the majority of the contacts were made during the first three months following the pregnancy and declined quickly thereafter. The parent aides averaged about one home visit per month from the third through the sixth month post-birth. This pattern was consistent with the contacts prescribed by the program staff.

Table 11

Mean Number of Contacts* and Time Spent** by Time Periods***

	T_1		T_2		T_3		Entire Time Period	
	X	SD	X	SD	X	SD	X	SD
Home Visits	1.47	1.16	3.86	3.83	1.25	1.86	6.58	5.73
Phone Visits	1.47	1.73	7.64	8.91	1.80	2.57	11.14	11.67
Time Spent on Home Visits	2.19	2.29	6.97	11.75	.75	1.19	10.97	14.24
Time Spent on Phone Visits	.58	.96	.63	.26	2.03	2.74	3.96	5.85
Total contacts	2.94	2.47	11.50	11.08	3.05	4.30	17.72	15.15
Total Time Spent	2.77	2.91	9.60	13.75	2.78	3.76	14.92	17.77

* = represented by personal contacts
** = number of hours
*** = T_1 = one month pre-birth
T_2 = birth to 3 months post-birth
T_3 = 3 months post-birth to six months post birth

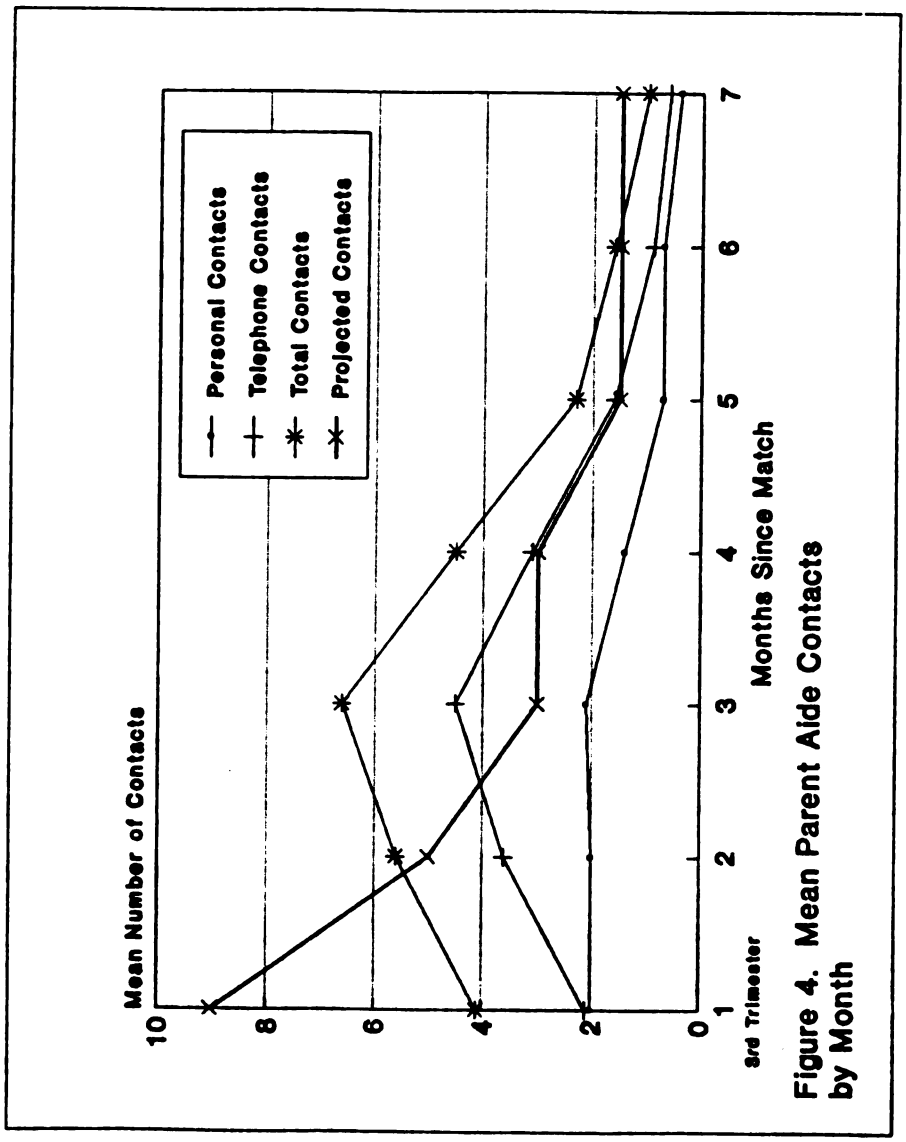

Figure 4. Mean Parent Aide Contacts by Month

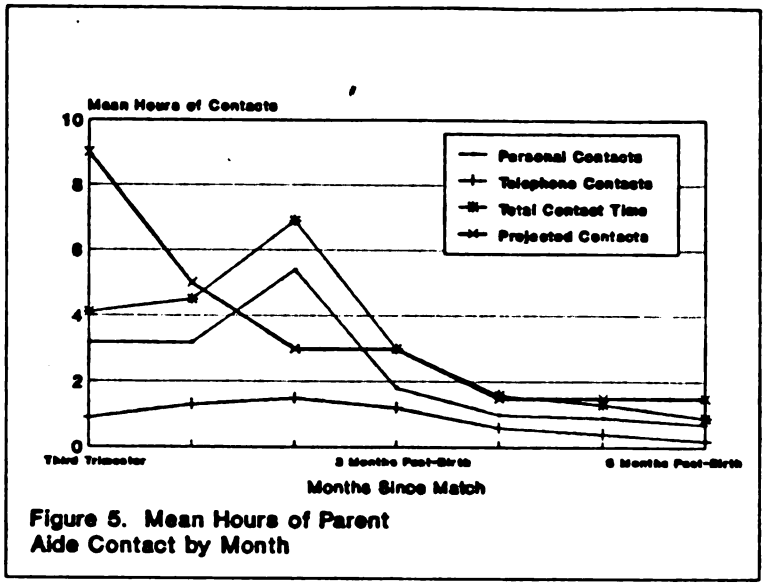

Figure 5. Mean Hours of Parent Aide Contact by Month

Process Measures

There were two main hypotheses associated with the process measures. The first null hypotheses stated: The amount of parenting information received by the intervention mothers, as measured by a self-report questionnaire would not be different for the intervention and the control group. A repeated measures MANOVA was conducted on the total scores from the PIB Parenting Questionnaire which was administered at all three time points. The items on this questionnaire related to the specific parenting and child development information that was provided to the parent

aides during training and expected to be taught to the participating mothers during the course of their relationship.

The analysis found no significant F's for group (condition), thus the null hypothesis could not be rejected (Table 12). The mothers scores were approximately 63% correct throughout all three interview periods. The parent aides reported that parenting and child development was not the primary focus during their contacts. In general, the contacts tended to focus more on support issues such as family and living problems (e.g., relationships with family members, obtaining resources, etc.). These findings suggest that specific parenting knowledge of the kind provided by the parent aide did not effect the parenting knowledge scores, at least on this particular instrument.

The second process hypothesis stated: The amount of social support received by the intervention mothers from personal and professional sources would not be different for the intervention group as compared to the control group. The social support network structure was analyzed through the scores on the network sub-scale on the Maternal Social Support Questionnaire. The findings from the analysis of these variables are presented in Tables 13 and 14.

Table 12

Repeated Measures Analysis of the
PIB Parenting Questionnaire Scores
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
PIB Parenting Questionnaire	I	30	15.9	2.5	16.0	2.4	14.8	5.2
	C	34	16.0	2.5	15.9	2.8	15.2	3.8

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	48171.99	2694.43	.00	
Condition	1	1.21	.07	.80	-.01
Time	2	18.30	2.31	.10	.02
Condition X Time	2	1.05	.13	.87	-.01
Within Cells	128	7.91			

Table 13
Repeated Measures Analysis for the Network Structure Score
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
Network Scale	I	30	9.6	1.5	10.0	1.2	9.9	1.1
	C	34	9.7	1.4	10.1	1.7	10.2	1.3

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	18821.15	6124.11	.00	
Condition	1	1.56	.51	.48	.00
Time	2	2.77	2.13	.12	.02
Condition X Time	2	.40	.31	.74	.01
Within Cells	124	1.30			

Table 14

Repeated Measures Analysis of the Number of Supporters Listed
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
# of Supporters	I	30	7.6	3.4	6.4	3.4	5.3	2.6
	C	34	7.3	3.4	5.8	2.4	5.1	2.1

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	7778.67	496.47	00	
Condition	1	7.40	.47	.49	.00
Time	2	84.54	17.76	.00	.20
Condition X Time	2	.87	.18	.83	-.01
Within Cells	128	4.76			

There were no significant between-group effects found for either the network score or the number of supporters listed. The null hypothesis was therefore not rejected. The mean number of supporters listed in the first interview corresponded favorably with scores shown in other studies using the Norbeck format (Norbeck, 1989). There were no time effects found for the network score although the number of supporters listed by participants significantly decreased between the first and third interview

(N=64, F=17.76, p=.001) as shown in Figure 6. Moreover, this decline in support persons was evident between both the first and second interview (F=13.23, p=.001) and the second and third interview (F=22.47, p≤.001). The strength of the time effects relationship was strong as evidenced by the Omega Squared (w^2) also indicated in Table 14.

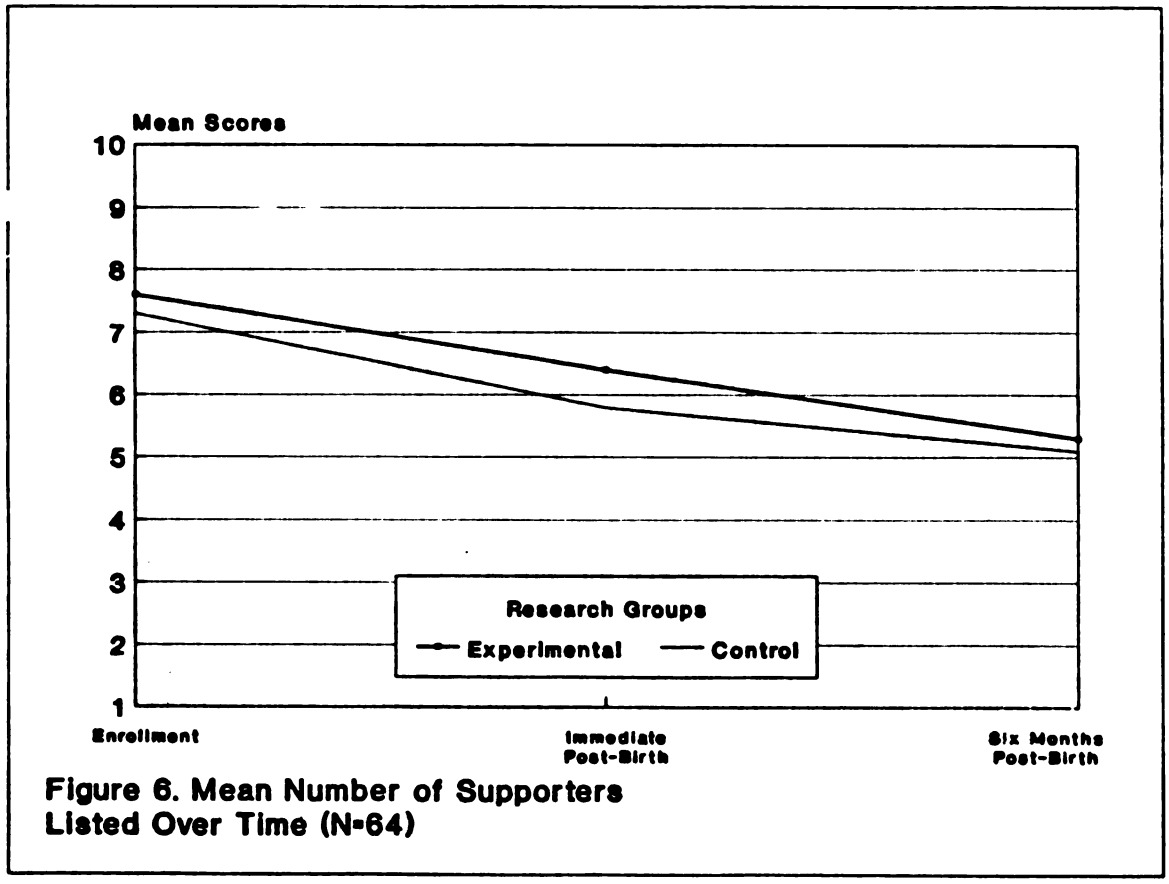

Figure 6. Mean Number of Supporters Listed Over Time (N=64)

The social network findings suggest that the network structure was not influenced by the parent aide intervention. The network structure also appears to be unaffected by the number of supporters that are perceived to contribute to that network.

Outcome Measures

Pregnancy Outcomes

The first of the seven outcome hypothesis related to the question of birthing outcomes: The pregnancy outcomes of the intervention group would not be different, as measured by a postpartum assessment of the mother and infant, from the control condition. The birthing outcomes data were collected during the second interview, after the birth of the baby. The results of the analysis on the 11 variables measured found no significant differences and the null hypothesis was not discarded.

The findings listed in Table 15 did indicate that most of the mothers had a support person available during the pregnancy. There was a low incidence of birthing complications and poor birthing outcomes for both groups although one parent in the intervention group had a stillborn baby.

Parenting Skills and Knowledge

The second outcome hypothesis stated: Parenting skills and knowledge for the intervention mothers would not be different from the control mothers as measured by two instruments. The findings

Table 15

Birth Record Information

	Condition		
	Intervention	Control	p
Weight of Baby in Pounds			
Mean	6.59	6.87	NS
Standard Deviation	1.10	1.83	
Duration of Pregnancy in Weeks			
Mean	37.84	35.55	NS
Standard Deviation	7.35	10.75	
Length of Labor in Hours			
Mean	18.03	12.34	NS
Standard Deviation	16.37	9.98	
Length of Hospital Stay for the Baby in Days			
Mean	3.22	5.61	NS
Standard Deviation	1.75	9.46	
Length of Hospital Stay for the Mother in Days			
Mean	2.72	3.47	NS
Standard Deviation	1.30	2.09	
	N	N	
Person Present During Delivery			
No one was present	3	5	NS
Baby's Father	13	17	
Relative	13	11	
Friend	2	1	
Parent Coach	1	N/A	
Other		1	
Did You Attend Prenatal Classes?			
Yes	14	16	NS
No	18	22	

from the PIB Parenting Questionnaire was presented earlier. The mean scores from the second instrument, the Knowledge of Infant Development Inventory (KIDI), were analyzed and found to be consistent with the norms for a similar population (.46 vs .51) as reported by MacPhee (1981). This suggests that the mothers achieved about a 50% correct rate on the KIDI throughout the first three interviews. No univariate significant differences were found for interaction or time effects (Table 16). Consequently, no group differences were found on either of the knowledge questionnaires.

Self-Esteem

The research hypothesis relating to self-esteem states: The self-esteem of the intervention mothers would not be different, as measured by the Rosenberg Self Esteem Scale (Rosenberg, 1965), from the control mothers. In general, the scores on the Rosenberg scale were high for all participants (Table 17). The data revealed that there were significant time effects related to the self-esteem scores ($F=4.97$, $p \leq .01$), with both groups exhibiting increases between the first and second interview ($F=12.26$, $p=.001$), and substantial decreases between the second and third interview ($F=3.89$, $p=.05$), particularly for the intervention group (Figure 7). No significant between groups effects were found and the null hypothesis was not rejected.

Table 16

Repeated Measures Analysis of the
Knowledge of Infant Development Scores
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
KIDI Score	I	30	.53	.25	.57	.23	.62	.26
	C	34	.59	.29	.60	.25	.62	.28

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	6529.82	937.96	.00	
Condition	1	11.10	1.59	.21	.02
Time	2	6.24	1.75	.18	.01
Condition X Time	2	1.21	.34	.71	-.01
Within Cells	128	3.56			

Table 17

Repeated Measures Analysis of the Self-Esteem Scores
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
Self Esteem Scores	I	30	32.6	4.4	34.5	3.3	30.8	9.9
	C	34	32.9	4.4	34.0	4.3	32.4	7.4

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	213274.82	3390.78	.00	
Condition	1	9.94	.16	.69	-.01
Time	2	115.28	4.97	.01	.06
Condition X Time	2	19.33	.83	.44	-.00
Within Cells	128	23.21			

Coping Efficacy

The hypothesis related to coping abilities stated: The perceived psychological coping ability of the intervention mothers would not be different from the control mothers. Consequently, an assessment of the participants was conducted by analyzing the scores on the Pearlin Mastery Scale over the three measurement time periods. Overall, the mean coping scores remained stable

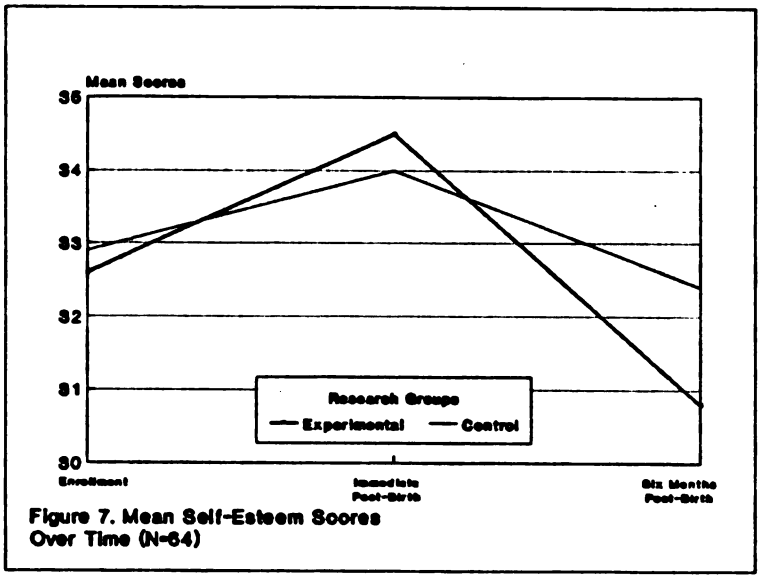

Figure 7. Mean Self-Esteem Scores Over Time (N=64)

over time and there were no significant differences between the intervention and the control groups although the intervention group scores decrease slightly from Time 2 to Time 3 (Table 18). The null hypothesis was not disconfirmed.

Social Support Scale

The outcome hypothesis related to the funtional social support received by the participants states: The perceived general social support and social support with regard to parenting issues would not be different for the intervention mothers as

compared to the control mothers. Analyses were performed on the entire Functional support scale as well as it's subscales of Emotional Support; Advice and Information; Practical Support; and General Support.

Table 18

Repeated Measures Analysis of the Coping Efficacy Scores
N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
Coping Efficacy	I	30	22.1	3.3	22.7	2.3	20.6	6.8
	C	34	22.6	3.4	21.9	4.0	21.7	4.9

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	95059.13	3136.85	.00	
Condition	1	3.56	.12	.73	.00
Time	2	28.45	2.12	.12	.02
Condition X Time	1	15.33	1.14	.32	.00
Within Cells	128	13.42			

There were no significant group effects found for either the Functional support scale or any of it's subscales although Emotional and General support approached significance. For the

total sample, the mean Functional support scores increased between the first and second interview and then stabilized (Table 19). For the subscales, there were significant time effects for the Advice and Information scale between Time 1 and Time 2 (N=64, F=5.70, p=.02) as shown in Figure 8.

Table 19

Repeated Measures Analysis of the Functional Support Scale Scores N=64

			Means					
Variable	Status	N	T_1	SD	T_2	SD	T_3	SD
Functional Support Scale	I	30	14.3	2.9	15.5	2.6	15.3	2.3
	C	34	14.2	3.0	14.8	3.1	14.7	3.4

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subject	1	41968.99	2837.33	.00	
Condition	1	11.41	.77	.38	.01
Time	2	13.89	2.53	.08	.02
Condition X Time	2	1.67	.30	.74	.01
Within Cells	124	5.49			

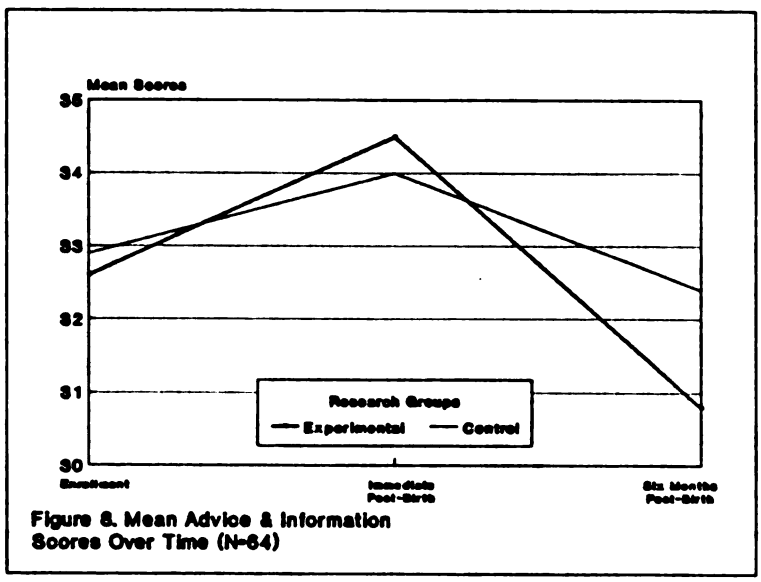

Figure 8. Mean Advice & Information Scores Over Time (N=64)

The final two outcome hypothesis were only assessed at the third (6-month) interview period.

Parenting Stress

The hypothesis related to parenting stress stated: The level of parenting stress experienced by the intervention mothers

would not be different from that experienced by the control mothers. Using a modified version of the Parenting Stress Index univariate F-tests were performed on each of the 13 subscale scores, both the child and the parent domain scale scores, and the total scale score. Findings indicated no significant effects for any of the scores (Table 20). The null hypothesis was not rejected.

Table 20

Univariate Analysis of the
Parenting Stress Index Scores
N=64

			Post Means	
Variable	Status	N	T_3	SD
PSI Total Scale	I	30	87.8	23.3
	C	34	89.7	26.7

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	517897.94	819.69	.00	.93
Condition	1	58.06	.09	.76	.00
Within Cells	64	631.82			

Observation of the Home Environment

The final outcome measure administered was the Home Observation for the Measurement of the Environment which looked at the attributes of the home environment and the mother/child interaction that indicate the adequacy of the environment for the child. The hypothesis related to this construct stated: The quality of the infant's home environment and the mother's responsiveness to her child would not be different for the intervention group as compared to the control group. Analysis was conducted on both the sub-scales and the entire instrument. The intervention group was found to offer significantly more Appropriate Play Materials within their home for their child than the control group ($N=64$, $F=3.87$, $p=.05$). No other significant differences were found (Tables 21 and 22). Consequently, the null hypothesis was partially rejected.

Summary of Outcomes

An overview of all of the analyses related to the outcome measures revealed that, with the exception of the "Appropriate Play Materials" subscale of the HOME scale there were no significant intervention effects. None of the seven null hypotheses could be completely rejected.

There were, however, several significant time effects found in these analyses suggesting that the instruments appear to be

Table 21

Univariate Analysis of the
Provision of Play Materials Scale
Home Observation for Measurement of the Environment
N=64

			Post Means	
Variable	Status	N	T_3	SD
Provision of Play Materials Scale	I	30	2.5	1.5
	C	34	1.8	1.5

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	314.94	143.31	.00	.67
Condition	1	8.52	3.88	.05	.01
Within Cells	64	2.20			

sensitive to the constructs they were attempting to measure and present a picture of the types of psychological and perceptual movement which took place for these first-time mothers. These findings do not however provide support for the efficacy of the intervention model as it relates to the several constructs measured. In order to further examine the appropriateness of the theoretical model on which the intervention was based additional

analyses were performed using bivariate correlations and multiple regression. The following section presents these findings.

Table 22

Univariate Analysis of the
Home Observation for Measurement of the Environment
N=64

		Post Means		
Variable	Status	N	T_3	SD
Total HOME Scale	I	30	16.3	4.8
	C	34	14.9	5.1

Univariate Anova Summary

Source of Variation	DF	MS	F	Sig. of F	w^2
Subjects	1	16011.27	644.35	.00	.91
Condition	1	33.94	1.37	.25	.00
Within Cells	64	24.85			

Multiple Regressions

To test the hypothesis regarding the theoretical model, namely, to predict parenting competence, a hierarchical multiple regression analysis was performed in which the intervention characteristics (i.e., self-esteem, coping efficacy, parenting

knowledge, functional support, and network structure) were entered in a stepwise manner. Interaction terms between each of the intervention characteristics was also assessed. As a result of significant bivariate correlations the self-esteem and coping efficacy scores were combined (N=64, r=.87, $p \leq .001$) into one variable representing "Personal Resources" and the two knowledge questionnaires (r=.66, $p \leq .001$) were combined into one knowledge score representing "Parenting Knowledge." The resulting alpha reliability estimates for these combined scales was .84 and .92, respectively. In addition, given the high correlations and internal consistencies between the four components on the Functional Support subscale, it was also treated as a singular construct. Finally, as outlined in the theoretical model described earlier, parenting competence in this study was projected to be effected by levels of parenting stress and parenting knowledge.

The results of the analysis, shown in Table 23, indicated that functional support was the only significant predictor of parenting stress contributing 9% of the variance. None of the other variables or any of the interactions made significant contributions. The initial model suggested that an individual's personal resources, in this case self-esteem and coping efficacy

Table 23

Multiple Regression Predicting Parenting Stress
N=64

Step	Variable	r	R	R^2	β	F Change
1	Functional Support	.30	.30	.09	.30	6.16*
2	Personal Resources	.15	.40	.16	-.80	1.74
3	Functional Support X Resources	.32	.33	.11	.21	1.2
4	HOME Score	.22	.37	.14	.17	1.91
5	Parent Knowledge Scores	-.04	.40	.16	-.04	.08
6	Network Structure Scores	.005	.41	.17	-.12	.75

*$p \leq .01$

would interact with functional support producing varying effects of parenting stress at the different levels of one's personal resources. The regression did not support this aspect of the model.

The initial model also predicted that parenting knowledge would be influenced by the advice and information component of the functional support construct. As mentioned earlier, the functional

support scale did not factor out the four predicted components (i.e., emotional support, practical support, advice and information, and general support). The scale, at least according to this measure, was unidimensional appearing to be associated with more general and emotional aspects of the support construct. The multiple regression analysis, as shown in Table 24, found only the personal resources scores to be predictive of parenting knowledge.

Table 24

Multiple Regression Predicting Parenting Knowledge
N=64

Step	Variable	r	R	R^2	β	F Change
1	Personal Resources	.40	.39	.16	.39	11.53**
2	Functional Support Scores	.07	.40	.16	-.06	0.23
3	Functional Support X Resource	.24	.18	.18	-1.23	1.77
4	Parenting Stress Scores	-.01	.43	.18	-.04	0.09
5	HOME Scores	.03	.43	.18	-.006	0.002

*$p \leq .001$

Social support demonstrated a weak relationship with personal resources and a relatively non-existent relationship with parenting knowledge. Consequently, the expected influence of social support on parenting knowledge was unfounded. Personal resources and parenting knowledge appears from this data to be separate from the original model. The actual causal relationship between these two variables is unknown.

Overall, these results provide partial theoretical support for the social support model and the volunteer parent aide intervention model. The main component of the model relating to the provision of social support is strongly supported. It does appear to be predictive of parenting stress. Surprisingly however, parenting knowledge appears to be unaffected by the provision of social support but strongly influenced by the personal resources variable. A revised theoretical model based on these data is provided in Figure 9.

Additional Analysis

To further assess whether the provision of social support through the parent aide intervention was appropriate from a theoretical basis, correlational analyses were conducted on the demographics and scores from the first and third interviews and the frequency of contact data for the participants in the intervention group. The pre-test data showed only family income

to be significantly negatively correlated with contacts (N=29, r=-.38, p=.02), that is, lower income participants tended to have more contacts with their parent aide.

For the third interview data, contacts revealed a significant negative relationship with the Emotional Support subscale of the social support measure (N=29, r=-.38, p=.02). This suggests that those mothers who perceived little emotional support with regard to parenting issues tended to have greater contact with their parent aide. Contacts also approached significance for both of the personal resource measures of self-esteem (r=-.27, p=.09) and coping efficacy (r=-.30, p=.06).

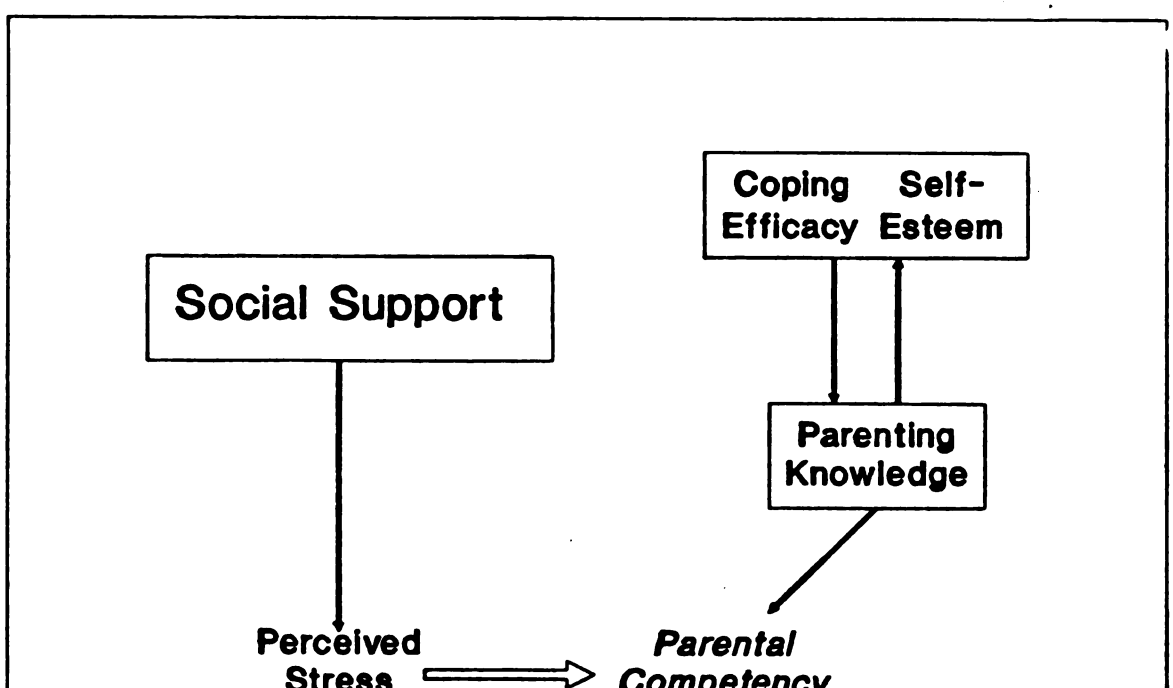

Figure 9. Revised Theoretical Model

CHAPTER IV

DISCUSSION

The present study contributes to the literature and the research on parent aide programs for first-time mothers. These programs represent a model of parent education and support that has been increasingly advocated and implemented within the past few years. Although there have been some experimental studies conducted on programs of this type which utilize professional service providers, only one study could be found which studied paraprofessionally offered support services (Unger & Wandersman, 1985). One impetus for the present study was to conduct a rigorously designed experiment to test the efficacy of social support offered by a volunteer parent aide.

The study was designed to compare a volunteer parent aide program for first-time mothers to a control group which did not receive similar services. The relationship between the intervention and certain individual (i.e., parenting knowledge and skills, self-esteem, self-efficacy, parenting stress) and familial (i.e., social support, home environment) characteristics were of primary interest. A secondary interest was in documenting the implementation and integrity of the intervention for first-time mothers in an urban setting. The findings provide valuable information on both the outcomes and processes and are discussed

in that order.

With regard to the outcomes, the mothers in the intervention group were found to provide significantly more appropriate play materials for their child within the home environment than the control group mothers. Unfortunately, this relationship was reported to be relatively weak and is most likely a chance effect. Otherwise, there was no evidence found of any other intervention effects through the 6-months post-birth period. That is, the repeated measures and univariate analysis of variance tests for effects related to the intervention were non-significant. Some time effects, unrelated to the intervention, demonstrated the progression of changes that first-time mothers apparently experienced in relation to their self-esteem, coping abilities, and the social support they received.

The data from this study did, however, support the major theoretical premise underlying the parent aide intervention model. That is, social support was shown to positively influence the mother's perceived levels of parenting stress. The following sections attempt to further delineate these findings. In particular, discussion will first center on the process issues as they relate to program implementation. Secondly, the theoretical model will be examined as it relates directly to the intervention.

Finally, the possible reasons for the lack of significant findings will be discussed along with the areas that they point to for future studies.

Programmatic Considerations

An assessment of the integrity and strength of the parent aide program was a major goal of this study. The findings point to the difficulties that program staff encountered in initiating and maintaining the desired relationship with the participants. These problems extended from the initial recruitment stages in which many prospective parents were "unavailable" after their initial inquiry; through the matching of the participants with the parent aide; to the maintaining of a regular schedule of home visits with the mothers.

Based on the number of woman for whom contact was not able to be made after their initial "call" for help, it is apparent that much more intensive and active outreach is needed for programs of this type. The majority of woman who were contacted and given a detailed explanation of the program did agree to participate. It can be assumed that the "non-contacted" mothers were initially in need of some type of support. Unfortunately, the available data do not provide us with much useful information on the exact nature of this need. This experience does, however, correspond with other programs that attempt to work with "high

risk" populations (Barth & Ash, 1986). At the least, given these findings it would seem appropriate to target more active outreach efforts at prospective mothers who are at high risk for social support.

The belief on the part of the parent aides and project staff that "post-birth" matches interfered with the development of a strong and healthy relationship is supported by similar findings from a study of a Resource Mothers Program for adolescent mothers (Unger & Wandersman, 1987). These researchers suggest that the changes in the mother's level of distress over time (i.e., the impending birth of the child is no longer a troublesome issue) contributes to the difficulty encountered in developing a relationship. The authors do however suggest that this level of distress probably resumes later in the post-birth period thereby indicating the possible need for support at least into the second year of the baby's life. Since the data from this study do not support any effects for either the pre- or post-birth participants the actual benefits derived from such a healthy relationship with the mother remains unknown. Findings from a one-year assessment of these parents presently being conducted should provide further information in this area.

Finally, the maintenance of a supportive relationship appears to be situationally and crisis related. The majority of contacts between the parent aide and the mother took place between the ninth month of pregnancy and the third month post-partum, a time when the most stress and activity with regard to the birth of the baby is a novel experience. This also was consistent with the initial structure of the program as evidenced by the number and types of contacts required of the parent aides. The extension of services beyond this point clearly depended on the quality of the relationship that the aide and mother had developed and the mother's perceived need for the aide's support. The low level of services provided later during the first year of the baby's life did not produce any significant effects in any of the outcome areas measured, at least through sixth months post-birth. Again, the one-year assessment should provide additional information.

An additional concern with regard to the matching process is the availability of trained volunteers. As reported, three of the participants had to be re-matched during the course of the study and, according to program staff and the parent aides, seven of the matches did not form good relationships. Most of the woman recruited for volunteers were employed and married with children. The amount of time required to participate is substantial and no doubt limits the number of parent aides available. Consequently,

even if outreach and recruitment efforts were intensified and the number of prospective participants increased, it would be difficult to find enough parent aides, particularly for high-risk families. Thus, the issue of cost-effectiveness and appropriateness of services for particular populations becomes of increasing concern.

Theoretical Considerations

The results of this study provide support for the effects of social support on first-time mothers' levels of parenting stress and, as the research literature suggests, this should positively effect parenting competency. Although the intervention did not appreciably effect the mothers' level of stress beyond that of those mothers who did not receive a parent aide, it did confirm the efficacy of social support for this purpose.

The findings do not support any of the proposed relationships or interactions between parenting knowledge, personal resources, and social support. Consequently, parenting knowledge was not only unaffected by the parent aide intervention, but also appeared to be unrelated to parenting stress, at least through six months post-birth.

Nevertheless, the confirmation of the parent aide/social support model is important in that it supports many program

interventions and other general helping strategies which operate on the belief that the availability of social support assists in the development and maintenance of parenting abilities. The reasons this particular intervention was not successful in the areas measured through the six-months post birth period is discussed in the following section.

Methodological Considerations

The findings of this study provide mixed results compared to previous research in this area. Focus on the impact of a volunteer parent aide program for first-time mothers provided a look at two previously unexamined areas; parenting knowledge/skills and parental stress, and took a more rigorous look at the area of social support. Although the study adhered to a rigorous experimental design throughout, the failing to reject the null hypothesis points to the ineffectiveness of the program model, at least as it was implemented in this study. The results also point to areas in need of further examination and future directions for where the impact of such a model may be found. In accordance with the three major areas under which we began this inquiry the following sections will offer several possible explanations for these findings.

Parenting Knowledge and Skills

One of the basic premises underlying the notion of being a competent parent concerns the level of child development knowledge that the parent possesses. A primary goal of the parent aide intervention was to transmit parenting information, child development knowledge and child care skills to first-time mothers. The two instruments used to assess this goal were specific to child developmental milestones within the baby's first year of life (the KIDI) and the specific information that the volunteer parent aides were trained to provide (PIB Mother's Questionnaire).

Not only was there no relationship between the amount of services the mothers in the intervention group received and their scores on the knowledge questionnaires, the actual parenting knowledge scores (about a 50% accuracy rate) did not significantly increase for either the intervention or control groups throughout the course of the study.

These findings are not in line with an earlier study on the impact of a Resource Mother program as reported by Unger and Wandersman (1985) although the nature and specificity of the instrument they employed was not clear. The findings are, however, supported by at least one other previous study which examined how mothers acquired parenting knowledge (MacPhee, 1984). MacPhee found that knowledge about norms and milestones using the

KIDI instrument were most likely influenced by first-hand child-rearing experiences. Because only eight of the 20 questions on the KIDI scale referred to events within the first six months of the baby's life the scores indicating only 50% accuracy may not have been a fair assessment of what the first-time mother knew (or could be anticipated to know). A further follow-up to this study presently taking place should provide further insight into whether there is any difference in outcomes on the KIDI scale at the 12 month post-birth period.

On the other hand, MacPhee (1984) also found that general knowledge of child rearing strategies for first time mothers, as measured by the PIB Mothers Questionnaire, was better influenced through vicarious experiences of the type provided in this intervention (reading books and pamphlets, conversations with the parent aide, etc.) and can come from a variety of people within the mother's environment. The fact that social support does not appear to influence parenting knowledge and that the parent aides reported the desire for parenting information and the consequent provision of such information to have been a lower priority for the mothers than expected, it is not surprising that the intervention had little impact on this area.

Finally, the program expected that a minimum of 19 home contacts between the 3rd trimester of pregnancy and 6 months post-birth would produce the desired outcomes. Given that the actual number of home visits made was 6.5, the level of services provided appeared to be inadequate to produce the desired outcomes. That is, it is possible that the level of contacts that the mothers had with their parent aide was insufficient to produce any measurable change in parenting knowledge. Although parenting knowledge is shown to have relatively little influence on parenting stress, we do not know what effect it may have on other indices of parenting competence (e.g., parenting attitudes and behaviors). It seems, therefore, that future studies should not only focus on parenting attitudes and behaviors but should continue to pay attention to both parenting knowledge and the intensity level at which these services are provided.

An outcome related to parenting knowledge concerned the impact that the intervention had on the home environment of the infant. The intervention did positively influence the provision of appropriate play materials for first-time mothers through six-months post-birth. Unfortunately, there were no other notable effects on any of the HOME's other subscales or the total score. This finding suggests that the parent aide model does not strongly impact the mother's provision of a stimulating environment for her

child. This has consequences for the areas of infant development and parent-child interactions, areas which come the closest in this study to assessing the actual behaviors of the parent. There is no direct evidence of what relationship a socially supportive environment may have on the provision of adequate stimulation within the home. These findings are consistent with those on more general parenting knowledge in that the question of intensity with which the services are provided may be crucial to understanding the intervention's impact.

Parenting Stress

Theoretically, parent support programs are designed to decrease the amount of parenting stress that a mother experiences by increasing her personal resources as reflected in her levels of self-esteem and coping efficacy. Our findings suggest that a volunteer parent aide intervention targeted at individual mothers with an adequate support environment does not appreciably influence self-esteem, coping efficacy, or parenting stress as related to the stressors originating from either the parent or the child, at least through six-months post-birth.

Unger and Wandersman (1985) suggest that self-esteem and coping efficacy for mothers are probably both a consequence and a determinant of perceived support and network resources. These

findings would support that notion in the fact that both groups of parents in the study began with and maintained a strong support network and high levels of both self-esteem and coping efficacy. Again, the addition of a parent coach to this network did not appear to make much of a difference.

It is important to note that the measures on self-esteem and coping efficacy examined the mothers' perceived level of personal resources and not the actual behaviors related to dealing with the parenting issues. Actual behaviors, particularly individual coping behaviors, may differ depending on the specific stressful situation (Pearlin & Schooler, 1978), and may be either helpful or detrimental to resolving the situation and decreasing the subsequent levels of stress experienced. If so, one's self-esteem and perceived sense of coping may be situation specific and not identifiable by the general nature of these particular instruments.

With regard to self-esteem, the instrument used in this study measured general as opposed to specific aspects of self-esteem. Shea and Tronick (1988) have pointed out that there are many diverse factors which appear to affect a woman's adaptation to motherhood. Among these are her beliefs with regard to her caretaking ability; more general abilities as a mother; acceptance of the baby; expected relationship with the baby; complications

during labor and delivery; parental influence; and body image and maternal health after the baby is born. These researchers have developed an inventory which attempts to measure each of these components. It is possible that the general self-esteem instrument used in this study was not specific enough to detect these differences. Perhaps it would be beneficial for future studies to examine these more diverse components of maternal self-esteem.

Even taking into account the cautionary notes above, the findings from this study provide strong evidence that the social support surrounding the birth of the baby does not impact the general self-esteem, perceived coping abilities, or perceived levels of parental stress for first time mothers.

Social Support

Up to this point, the discussion of the findings relating to the impact of the intervention have all centered on the impact that the volunteer parent aide had on the supportive environment of the first-time mother. In general, the volunteer parent aide intervention did not significantly affect the social environment of the first-time mother to the degree necessary to produce the projected changes in parenting knowledge and skills, personal resources, and parenting stress. However, given that the levels

of parenting knowledge and personal resources was high, and parenting stress was low for both groups, the chances of producing positive changes in these areas was limited. That is, because the indicators of parental competency and maternal health was good for both groups, relatively little change was possible. The data does not provide information on whether the intervention would be useful for participants with lower levels of these variables since none were included in the sample.

Limited Scope of the Research

The initial areas of inquiry with regard to the volunteer parent aide program focused on certain parental and familial outcomes thought to be associated with effective parenting. However, as briefly alluded to above, several other areas of investigation are warranted including those that involve the actual behavior of the parents and the interactions that they have with their children. In particular, programs of this type are reported to be beneficial for parents in the areas of parent-child relationships (Barrera et al., 1986; Bristor et al., 1984; Olds et al., 1986; Resnick et al., 1988; Unger & Wandersman, 1985) and the reduction of abusive behaviors (Gray et al., 1977; Olds et al., 1986). Although it is suspected that the constructs examined in this study are related to those mentioned above, most directly those concerning the home environment, it will be necessary to use

more specific and sensitive instrumentation in order to draw a clearer picture of the parent-child relationship.

Summary

The findings from this study do not support the notion that a volunteer parent aide program offered to first-time parents promotes increases in parenting knowledge and skills, beneficial characteristics of the home environment, self-esteem, coping efficacy, or decreases in parenting stress through the sixth month of the baby's life beyond that which is available in an already supportive environment. The use of these programs for primary prevention in these areas is not warranted. Further research is needed to determine if these programs are beneficial for high-risk parents who do not already have a socially supportive environment. Further investigation also needs to be made into the intensity level at which parent aide services are provided as well as the effects of social support and parenting knowledge on other aspects of the parenting experience including parenting behavior (i.e., parent-child interactions and child abuse and neglect) and parenting attitudes, for which parent aide programs are also thought to impact.

APPENDICES

APPENDIX A

FEE INFORMATION

Funding Source _____

_____

Client Fee _____

FAMILY SERVICE OF DETROIT AND WAYNE COUNTY

CLIENT PROFILE

INTAKE INFORMATION

Case Name _____ Case Number _____ Cross Reference _____

Date Opened _____ Intake Status _____ District No._____ Worker No._____

Street Address City Apt. Zip Code Home Phone Business Phone

Census Tract _____ Civil Division _____

Intake Appointment: For Whom _____ Worker _____

Date _____ Time _____

CASE CATEGORY (Check One)

Family and Individual Counseling .....( )
Family Life Education .....( )
Substance Abuse Service .....( )

Source of Referral (Check One)

Self-referral .....( )
Family or relative .....( )
Friend or neighbor .....( )
Department of Social Services .....( )
Mental health agencies et al .....( )
Other social and health agencies et al .....( )
Law enforcement et al .....( )
Religious organizations et al .....( )
Educational system .....( )
Community Information Services (CIS) .....( )
Media, written and electronic .....( )
Employee counseling contract .....( )
Other sources .....( )

Please indicate all problems at intake and closing.
At closing, circle the primary problem.

PROBLEMS OF CASE

Problem of family relationships

Marital relationships:
- Pre-marital counseling .....( )
- Initial marriage .....( )
- Re-marriage .....( )

Parent-child relationships .....( )
Other family relationships .....( )

Problems of individual relationships and adjustment.

Divorce adjustment .....( )
Individual adjustment and personal growth ....( )

Problems of home and role

Domestic Violence:
- Child Abuse .....( )
- Spouse Abuse .....( )
- Other Abuse .....( )

Physical care of person:
- Child .....( )
- Adult .....( )
- Aged Person .....( )

Home or money management .....( )
Single parent household .....( )

Problems of physical and mental health

Developmentally disabled .....( )
Handicapped .....( )
Emotional disturbance .....( )

Problems of economic activity and need

Unemployment .....( )
Low/Insufficient income .....( )

Special Problems or Situations

Teen pregnancy .....( )
Teen Suicide:
- Ideation .....( )
- Attempt .....( )

Substance abuse:
- Alcohol only .....( )
- Drugs only .....( )
- Both alcohol and drugs .....( )

Victim of Violence or crime .....( )
Housing problems .....( )
Other problems or situations .....( )

Agency Research Project - List

Enter code number (when applicable)
Agency Research Project # 1 _____
Agency Research Project # 2 _____

FAMILY SERVICE OF DETROIT AND WAYNE COUNTY

CLIENT APPLICATION

PLEASE LIST BELOW YOUR NAME AND THE NAMES OF ALL THE PEOPLE WHO LIVE WITH YOU:

Name	Relationship	Birthdate	Race/ Ethnic Backgrd.	Sex	Birthplace	Last Grade Completed or Present Grade (Indicate School)

Check One:	Current Marriage Date	Former Spouses	Previous Marriages Dates of: Marriage	Death	Divorce	Separation
Single _____		M _____				
Married _____		M _____				
Divorced _____		W _____				
Widowed _____		W _____				
Separated _____						
Live w/ someone _____						

EMPLOYMENT AND INCOME INFORMATION

PLEASE INDICATE EMPLOYERS OF ALL HOUSEHOLD MEMBERS AND OTHER INCOME:

	Name of Employer or Source of Income	Job Title	Income Amount	Union yes	Member no	Name of Union & Local
Man's employer_____						
Woman's employer _____						
Other Related Household Member's Employer _____						

Man's Social Security Number _____
Woman's Social Security Number _____
Other Social Security Number _____
Insurance Information: Do you have any form of medical insurance?
Please specify company and number _____

CHILDREN OUT OF THE HOME

Name	Birthdate	Date of Death or Current Whereabouts

Woman's maiden name or other last name the family has used: _____

What is your religious preference? (Man) _____ (Woman) _____

Did you or any family member serve in the military?

Name: _____ Branch: _____ From _____ To _____

Name: _____ Branch: _____ From _____ To _____

Are there any agencies, hospital or other organizations you have counseled with in the past five years? Please list:

_____

_____

It is important for us to know about any medical problems you or your family members have and any major illness previously suffered. We also need to know about what medicines or drugs, including alcohol, are being taken now. Please fill in the following table.

Name	Illness	Medicine or Drugs

Name of Physician: _____ Date of Last Appointment: _____

PERSON TO CONTACT IN CASE OF EMERGENCY: _____

Who referred you to the Agency? _____

Person's Name: _____ Organization: _____

Do Not Write Below This Line — Office Use Only

TERMINATION INFORMATION

Termination: Month _____ Year _____

Reason for Termination: (Check one)

Service completed as planned .....( )
Referred elsewhere .....( )
Insufficient or no progress .....( )
Community resource not available .....( )
Other reasons .....( )

Family Intact at Termination

Yes .....( )
No .....( )

Protective Service Report Filed While Case Active

Yes .....( )
No .....( )

Evaluation of Change (Check one)

Substantial improvement .....( )
Moderate improvement .....( )
Arrested deterioration .....( )
Situation remained same .....( )
Deterioration .....( )
Insufficient evidence for judgement .....( )

CHANGES/UPDATES TO CLIENT PROFILE

Name _____ Date _____ Name _____ Date _____

Address _____ Address _____

Telephone _____ Telephone _____

Name _____ Name _____

Address _____ Address _____

Telephone _____ Telephone _____

FAMILY SERVICE OF DETROIT AND WAYNE COUNTY

Family Service of Detroit and Wayne County is fully accredited by the Council on Accreditation of Services for Families and Children, funded by the United Foundation and other sources, and is a member agency of Family Service America. Counselors are social workers who are certified by the State of Michigan, Department of Licensing and Regulation, have university education to the Master's Degree level, and training in family, marital, individual and substance abuse counseling. Counselors provide personal counseling or psychotherapeutic treatment to clients.

ACKNOWLEDGEMENTS AND CONSENT

Occasionally the agency will need to send information to your home. This may be a letter about an appointment, a questionnaire about the services, etc. Please indicate your preference:

_____DO NOT send information _____O.K. to send information

If I am a Family Mental Health Service patient who requires a review by a medical doctor, the Family Service of Detroit and Wayne County psychiatrist will be responsible for my treatment. He does this by reviewing client treatment plans and consulting on medical/psychiatric problems with the social worker who provides personal counseling to clients. The Psychiatric Director will provide direct treatment to clients when appropriate.

I have been given the Recipient Rights Statement, which informs me of my rights. I have had the opportunity to ask questions regarding this statement or my treatment and I understand that if I have more questions, I should be sure to ask the Family Service staff member(s) who provides services to me. No one has given me a promise or guarantee of what the results of my care at Family Services will be.

I consent to receive service from Family Service of Detroit and Wayne County.

Signed: _____ Date: _____

Signed: _____ Date: _____

I hereby consent to service on behalf of:

Name	Age	Relationship	Minor's Signature

because the above named are my minor child(ren) or legal responsibility.

_____
Signature of Parent or Legal Guardian

PERINATAL COACHING STUDY PROJECT
Participant Information

The Family Services of Detroit and Wayne County and the Children's Trust Fund of Michigan is interested in looking at the effects on first-time mothers and their babys who receive volunteer perinatal coaching services and on first-time mothers and their babys who do not receive such services. In order to do this they are conducting a study along with researchers at Michigan State University. We are interested in getting your feedback on your experience as a first-time mother in the city of Detroit whether or not you receive the perinatal coaching services.

People who decide to participate in this study will receive either volunteer perinatal coaching services or no services from the Family Services of Detroit and Wayne County. If you decide to participate, whether or not you receive the program will be determined by lottery. We do it this way because it is the fairest way we know to make sure that both programs have an equal number of participants. We cannot guarantee the benefits of the perinatal coaching program. However, in the last few years it has been a very popular program for assisting first-time mothers.

A description of each of the groups is listed below:

1. A VOLUNTEER PERINATAL COACHING group in which you will receive parenting support from a volunteer coach. This coach will be assigned to you from the time you agree to participate in the program (during the third trimester of your pregnancy) to at least six months following the birth of your baby. This coach will hopefully become a friend and support person for you. She will provide you with prenatal, birthing, and parenting information, as well as support and advocacy for you and your baby.

2. A FIRST-TIME PARENT CONTROL group in which no actual services will be offered by the Family Services of Detroit and Wayne County agency. Parents will obviously be allowed to approach and receive services from other agencies.

In order to determine how well this program works we want your feedback for four times over the next year. The feedback will be gathered in the form of interviews in your own home. These interviews usually only take about an hour. Whether you participate in the Perinatal Coaching or the Parent Control group you will be paid a stipend of fifteen dollars ($15) for each interview that you complete. If you decide to participate, the first interview will be given immediately after you sign the participant agreement form. The remaining interviews will take place immediate following the birth of your baby, about six to twelve months after the birth of your baby, and then six months after the previous interview. The interviewer will also call you every three months to see how you and your baby are doing and to check that you are still living at your present address.

All information that you provide during the interviews will be kept strictly confidential. No one but the project staff will have access to what you tell us. In addition, all of the information will be stored without your name on it to make sure that your privacy is protected. Your participation in the project will remain anonymous. If you wish, when the study is over we will send you a copy of the results.

By participating in this project you will help us to find out how well the volunteer perinatal coaching program works. However, you are under no obligation to participate. If you decide that you do not want to participate we will still provide you with some information about services available through the Family Services of Detroit and Wayne County and other agencies in the Detroit area. If you decide to participate, but later want to change your mind you are free to stop at any time.

We think this project is important because it will help us to improve programs for first-time parents. We would like to encourage you to participate.

Any questions?

Your signature on this agreement indicates that this information was read to you, provided for you to read, and that any questions regarding the research project were answered.

Will you participate? _____YES _____NO
INTERVIEWER NAME: _____
PARTICIPANT NAME: _____

PERINATAL COACHING STUDY PROJECT
Participant Agreement Form

1. I understand that I will either receive the volunteer perinatal coaching services offered by Family and Child Services of Detroit and Wayne County or I will receive no Perinatal Coaching Services.

2. I understand that my participation in this study I voluntary and that I may discontinue my involvement at any time without penalty.

3. I understand that I am not guaranteed any benefits from participation in this research project whether I am in the perinatal coaching group or the parent control group.

4. I understand that I will be interviewed four times in the next year; once today, once immediately after the birth of my baby, about 6 months after the birth of my baby, and about one year after the birth of my baby. Each of these interviews will take about one hour. All of these interviews will take place wherever I may be living at the time. I understand that I will be paid a fifteen dollar ($15) stipend for each interview.

5. I understand that I will be contacted by telephone every three months to check that I am still living at the last address given.

6. I understand that all of the information from the interview will be handled CONFIDENTIALLY by the project staff and that this information will only be released anonymously (without names attached).

7. I understand that the following information will be gathered during the interviews:

   a. Background information such as information about my family, employment, education, etc.

b. Information about how I feel about such things as my health, my baby's health, what I know about parenting, my attitudes towards my baby and parenting in general, my relationships with other people.

8. I authorize release of all medical records and other relevant information to the project staff from the agencies listed below. This authorization is in effect from the date this release is signed until 17 months from that date.

- o The clinics or hospitals where I received prenatal services.
- o The hospital where I deliver my baby.
- o The hospitals, health clinics or private physicians where I receive services for my baby.
- o The schools that I have attended.
- o The Protective Services Register
- o The Department of Social Services

9. I understand that I have had an opportunity to ask any questions about the study and have them answered. If I have additional questions about the study, I may contact Craig C. Brookins at the Children's Trust Fund Office in Lansing Michigan (517) 373-9822.

10. I understand that if I am no longer living at my present address when the project interviewer tries to contact me that he/she will try to find out where I have moved by contacting friends or relatives that I have designated. I also understand that the interviewer will not reveal my participation in this study to my friends or relatives. I agree to try and inform the project staff about my new address if I move.

11. I understand that I have had this study explained to me and have had the chance to talk about the research and to ask questions, and hereby consent to participate in the project as described. I understand that I am free to withdraw at any time without penalty.

_____ _____

Participant's Signature Please print full name

_____ _____

Witness Date

(For CIF Use Only)

PARTICIPANT INFORMATION AND PRE-QUESTIONNAIRE
PREGNANCY/NEWBORN PROGRAM'S

In order to improve our services for parents, we would appreciate your response to the following questions. Please check the correct response.

Date: _____

Name of Program: _____

Your Age: _____

Are you the child's (1) ____ Mother (2) ____ Father (3) ____ Guardian

Parent's Race:

(1) ____ White
(2) ____ Black
(3) ____ Asian
(4) ____ Native American
(5) ____ Hispanic
(6) ____ Other (please specify) _____

Parent's primary source of income:

(1) ____ employment of yourself, spouse, or both
(2) ____ parents
(3) ____ public assistance (welfare, G.A., A.F.D.C.)
(4) ____ other (please specify) _____

Family income:

(1) ____ under $500/month
(2) ____ $501 to $800/month
(3) ____ $801 to $1,100/month
(4) ____ Over $1,101/month

What is the highest grade of schooling you completed?

(1) ____ no formal education
(2) ____ completed grade _____ (please specify)
(3) ____ graduated from high school (or G.E.D.)
(4) ____ technical training school
(5) ____ college education (specify number of years) ____1 ____2 ____3 ____4+

Are you a single parent? (1) ____ Yes (2) ____ No

How many children do you have?

(1) ____ One
(2) ____ Two
(3) ____ Three or more
(4) ____ None

PLEASE CONTINUE ON OTHER SIDE

Procedures: Matching a Volunteer Perinatal Coach with a First-Time Family

1. The family assessments are presented, and a decision is made between the program manager and senior caseworker as to which available coach is best suited to work with which family waiting for service. These decisions will take place in regular staff meetings.

2. The match is assigned to either the program manager or senior caseworker who both act as perinatal coordinators.

3. The coordinaotr calls the available coach to see if she/he is interested in working with the selected family. The coach has the option of saying no, if the family does not meet enough of the coach's preferences. The coach may want to wait for another family, if so, the coach for the family is brought back up for negotation at the next P.I.B. staff meeting.

4. If the coach accepts the family, the coordinator will ask the coach if she/he has provided documentation of rubella immunity to Christa Keller. If yes, the coordinator must call Christa Keller to confirm this, before the match takes place. If no, the coordinator will walk through the rubella rationale and steps to secure immunity and do what is needed to help the coach get this requirement taken care of.

5. Once, Christa Keller has received documentation of immunity for rubella, for the coach, the coach can be matched with the family.

6. The coordinator calls the family to arrange a time the family can meet with the coordinator and the coach. The coach calls the coach-family back and forth until a time convenient to all is agreed upon. Contacts with the family are documented in progress note form in this process. A matching appointment at the expectant parents' home is secured.

7. The coordinator meets with the coach for 20-30 minutes, prior to the matching appointment in order to review the suggested schedule of visits and requirements of the program, i.e. written documentation, follow-up calls to coordinator 48 hrs. after contact with the family, and quarterly case conference.

   a) Procedures are explained for filling out the contact sheet. These are to be filled out for each contact with family and kept with the coach until the end of the 15 months commitment, when they are turned in and put in the family's file.

   b) Procedures are explained for filling out the log sheet, expense voucher, and is requested that each of these 2 forms be completed and sent to the coordinator by the 25th of each month, for the records. Rationale is given. The expense voucher for mileage to and from home visits, or day care while on visits, is optional. (All these monies are charged off the Junior League account.)

Procedures: Matching a Volunteer Perinatal Coach with a First-Time Family (continued)

c) procedures regarding evaluation tools are explained, instructions given, rationale explained

d) a folder is given to the coach which includes 30 contact sheets, 15 log sheets, 15 expense vouchers, evaluation tools and a coach staff I.D. Card

e) this visit can take place at the coach's home, 51 W. Warren, or a public meeting place near the family's home

8. The coordinator and coach arrive together at the family home.

9. The coordinator makes the introduction of the family to coach and coach to the family.

10. To "break the ice", the coordinator can ask both the parent(s) and coach, what it was that made them decide to join the P.I.B. program.

11. At an appropriate place in the discussion, the coordinator reviews the purpose/goals of the program, role of the coach and suggested frequency of visits. Supervision by the coordinator and supportive back-up of Family Service of Detroit and Wayne County and Henry Ford Hospital is also explained.

12. Two forsm are explained, signed, and dated by the coordinator, coach and expectant parent(s): the informed consent, (signed once by the intake worker and expectant parent(s) at time of assessment) and the memorandum of understanding. These are kept in the family's file.

13. After the introductions are made, athe agreements signed, and the coach and expectant parent(s) have developed a beginning level of comfort, the coordinator should leave the coach and family alone, in order to get further acquainted and schedule the next visit. This visit is indicated in progress note in family file, and the first entry for progress notes on the coach.

14. The coach should call the coordinator to report how the last part of the matching appointment went and plan for the next visit. (This is the scond entry by the coordinator in progress note for the coach)

15. The identifying information of the match is indicated on the family waiting list, the available coach list, and coach I.D. card.

APPENDIX B

PARENT - INFANT BEGINNINGS PROGRAM
FAMILY SERVICE OF DETROIT AND WAYNE COUNTY

MOTHER'S TRUE-FALSE QUESTIONNAIRE

Coach: _____

To be completed by the mother in the presence of the coach.

Family ID#: _____

Today's Date: _____

Please circle either True or False for each statement.

		True	False
1.	A baby has a sense of smell at birth.	T	F
2.	A baby of 8 months can tell the difference between his/her parents and other people.	T	F
3.	It should be quiet in the house all the time when a baby is sleeping.	T	F
4.	Newborns have much difficulty in seeing and hearing things around them during the first few weeks after birth.	T	F
5.	Caffeine, cigarettes or drugs will not harm the baby because of the natural protection provided by the mother's womb.	T	F
6.	The most dangerous period of pregnancy for the unborn child's development is the first three months.	T	F
7.	A small breasted woman will have trouble producing enough milk for her baby.	T	F
8.	Breast feeding babies need to be fed more frequently than formula fed infants.	T	F
9.	Use of a vaginal douche immediately after sexual intercourse is completely ineffective for preventing pregnancy.	T	F
10.	A woman cannot become pregnant while she is breastfeeding. Therefore, no form of contraceptive is needed to prevent pregnancy while breastfeeding.	T	F
11.	Intercourse during pregnancy is likely to harm the fetus.	T	F
12.	It will take several months for the newborn infant to develop the ability to grasp.	T	F
13.	Newborn infants can differ a lot in their fussiness, cuteness or ways of being comforted. These differences can be present at birth, and are not learned from the parent(s).	T	F
14.	Most babies should be able to walk when led by an adult by 6 months of age.	T	F
15.	Babies that won't cuddle are reacting against their parent.	T	F
16.	Many babies rarely cry and do not babble.	T	F
17.	Picking up the baby when s/he cries will spoil the baby.	T	F
18.	Most babies are able to sleep through the night by 8 weeks of age.	T	F

19.	An infant starts to learn at 3 months of age.	T	F
20.	Sometime during the first year of life most infants can be successfully toilet trained.	T	F
21.	The normal child will start using his/her first words like "mommy" or "daddy" at about 2 years of age.	T	F
22.	The six month old can roll over, rest on his/her elbows, and may sit up momentarily.	T	F
23.	Most infants of 2 months of age do not show much sign of upset at mother leaving the room.	T	F
24.	When newborns nurse shortly after delivery they are not getting milk and therefore there's no benefit to the baby.	T	F
25.	Talking to a newborn is usually a waste of time.	T	F
26.	During the first month of life, infants cannot detect changes in the loudness of a sound.	T	F

Please circle ONE NUMBER as your response to each of the following statements.

1. How confident do you feel as a parent?

1	2	3	4	5	6	7	8	9	10
Very unconfident									Very confident

2. Having a baby changes one's life.

1	2	3	4	5	6	7	8	9	10
Strongly disagree									Strongly agree

PARTICIPANT LOG SHEET

ID NUMBER	NAME	PHONE #	ENROLLMENT DATE	E.D.C.	1ST INTERVIEW	2ND INTERVIEW	3RD INTERVIEW	4TH INTERVIEW	GROUP E	GROUP C
001										
002										
003										
004										
005										
006										
007										
008										
009										
010										
011										
012										
013										
014										
015										
016										
017										
018										
019										

PARENT INFANT BEGINNINGS

Family Service of Detroit and Wayne County

VOLUNTEER LOG PACKET

MAY 1988 TO JUNE 1990

GTF

REFERENCE FOR COMPLETING VOLUNTEER LOG

Family Name = Give the last name of the family you are working with.
Volunteer = Give your name.
Family members seen during the month = give the title of those family members seen at some point during the month (i.e., father, boyfriend, baby, grandmother, uncle, etc).

The following represents the definitions of the activities that you did with your family during the month:

Personal Visits = any personal contacts, home visits, visits of the mother to your home, etc.
Telephone Visits = any telephone calls made to or by the mother in which you actually talked to the mother.
Business trips = any professional trips that you went on or transported the family to such as trips to the medical clinic, doctors office, public assistance office, dentist, housing office, etc.
Program Activities = any PIB or other parenting programs or groups that you attended with the family including pre-natal classes, parent education or support group programs, etc.
Fun trips = any recreational outings that you attended with your family including picnics, trips to McDonalds or Boblo island, etc

Program staff are identified as follows:

Program Manager = Shirley Mann Gray
PIB Coordinator = Carol Spurrier
PIB Clerical Staff = Pat Kean

Dear Volunteer,

Thank you for being a part of Parent Infant Beginnings. Your time, interest, and efforts are greatly appreciated.

Record keeping is a necessity. This booklet is a simple, concise format on which you can record your time with the families. We ask you to keep accurate records that can be forwarded to us on the 20th of each month.

We are here to assist you with ideas, suggestions, and support when necessary. Please feel free to call us if you have any questions or concerns:

From 8:30 A.M. to 4:30 P.M. CALL (961-1584)

FOR EMERGENCIES - AFTER HOURS OR WEEKENDS
CALL 863-0700

Your continued interest and efforts are appreciated.

Carol Spurrier

May 1988

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Hours			:15		2		½
Type			I		V		V
	1	2	3	4	5	6	7
Hours		3		1½			½
Type		V		V			T
	8	9	10	11	12	13	14
Hours	:30	:15	:15	:15		1½	½
Type	T	T	T	V		V	V
	15	16	17	18	19	20	21
Hours	4			1			
Type	V			V			
	22	23	24	25	26	27	28
Hours		1	:15				1½
Type		T	T				V
	29	30	31				

Type (T=Telephone contact)
(V=Personal Visit)

Family Name Smith C

Volunteer Maria Ortiz

Family members seen during the month: Mother, Baby, grandmother, Mother's sister

Please check the activities you did with your family during this month:

- ✓ Personal Visits
- ✓ Telephone Visits
- ___ Business trips(Doc/Dentist, etc)
- ___ Program Activities
- ✓ Fun trips

Please check contact with Program Staff during the month:

- ✓ Contact with PIB Coordinator
- ___ Contact with Program Manager
- ___ Contact with PIB Clerical Staff

Plan for the month: TO TEACH THE MOTHER WHAT TO EXPECT DURING THE LABOR & DELIVERY, TO TRY AND HELP HER COMMUNICATE BETTER WITH HER MOTHER

Concerns or Impressions: THE MOTHER DOES NOT SEEM TO FULLY UNDERSTAND THE RESPONSIBILITY SHE WILL HAVE TOWARDS HER BABY

Progress made by the family: THE MOTHER IS PREPARING HER HOUSE FOR THE NEW BABY - BUYING CLOTHES AND BORROWING FURNITURE FROM FRIENDS & RELATIVES

May 1988

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
Hours							
Type							
	1	2	3	4	5	6	7
Hours							
Type							
	8	9	10	11	12	13	14
Hours							
Type							
	15	16	17	18	19	20	21
Hours							
Type							
	22	23	24	25	26	27	28
Hours							
Type							
	29	30	31				

Type (T=Telephone contact)
(V=Personal Visit)

Family Name _____

Volunteer _____

Family members seen during the month:

_____

_____

Please check the activities you did with your family during this month:

_____*Personal Visits*
_____*Telephone Visits*
_____*Business trips(Doc/Dentist, etc)*
_____*Program Activities*
_____*Fun trips*

Please check contact with Program Staff during the month:

_____*Contact with PIB Coordinator*
_____*Contact with Program Manager*
_____*Contact with PIB Clerical Staff*

_____

Plan for the month: _____

_____

_____

_____

Concerns or Impressions: _____

_____

_____

_____

Progress made by the family: _____

_____

_____

_____

APPENDIX C

ID# _____

BIRTH RECORD

CONGRATULATIONS!!!

Please give the following information about the recent birth of your baby.

1. Date of Baby's Birth: _____

2. What hospital was baby born at? _____

3. Sex of Baby (check one): _____ male (1) _____ female (2)

4. Baby's Weight: _____ lbs. Baby's Height: _____ inches

5. Duration of Pregnancy: _____ weeks

6. Length of Labor: _____ hours

7. Length of Hospitalization of baby after birth: _____ days

8. Length of Hospitalization of mother after birth: _____ days

9. Please check any of the following if applicable:

_____ cesarian delivery
_____ use of forceps
_____ natural childbirth (no medication)
_____ newborn respiratory distress
_____ jaundice
_____ birth defects (please explain): _____

_____ delivery in labor room
_____ delivery in birthing room

10. Which of the following persons was present in the room during your delivery to provide you with support? (check one only):

_____ (1) No one was present
_____ (2) Baby's Father
_____ (3) Relative
_____ (4) Friend
_____ (5) Parent Coach
_____ (6) Other (please list): _____

11. Did you attend pre-natal classes? _____ Yes (1) _____ No (2)

12. Are you breast-feeding? _____ Yes (1) _____ No (2)

Rosenberg Self-Esteem Scale

Directions: Below are 18 questions. For each question, please circle the number which best matches how you feel about yourself. Use the following scale to complete your answers:

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

---

1. I feel I'm a person of worth, at least on an equal plane with others.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

2. I feel that I have a number of good qualities.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

3. All in all, I am inclined to feel I am a failure.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

4. I am able to do things as well as most other people.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

5. I feel I do not have much to be proud of.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

6. I take a positive attitude toward myself.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

7. On the whole, I am satisfied with myself.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

8. I wish I could have more respect for myself.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

9. I certainly feel useless at times.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

10. At times I think I am no good at all.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

Pearlin Mastery Scale

1. There is really no way I can solve some of the problems I have.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

2. Sometimes I feel that I'm being pushed around in life.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

3. I have little control over the things that happen to me.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

4. I can do just about anything I really set my mind to do.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

5. I often feel helpless in dealing with the problems of life.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

6. What happens to me in the future depends mostly on me.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

7. There is little I can do to change many of the important things in my life.

Strongly Agree	Agree	Disagree	Strongly Disagree

Knowledge of Infant Development Inventory

DIRECTIONS: Each of the following questions asks you about the age at which infants can do something. If you think the age is about right, circle (#1) "Agree." If you do not agree, then decide whether a Younger or Older infant could do it and circle either (#2) or (#3). If you are not sure of the age, circle (#4) "Not Sure."

1. Most babies can sit on the floor without falling over by the time they are 7 months old.

1	2	3	4
Agree	Younger	Older	Not Sure

2. A baby of 6 months will respond to someone differently depending on whether the person is happy, sad or upset.

1	2	3	4
Agree	Younger	Older	Not Sure

3. Most two-year-olds can tell the difference between a make-believe story on TV and a true one.

1	2	3	4
Agree	Younger	Older	Not Sure

4. Infants usually are walking by about 12 months of age.

1	2	3	4
Agree	Younger	Older	Not Sure

5. An eight-month-old acts differently with a familiar person than with someone not seen before.

1	2	3	4
Agree	Younger	Older	Not Sure

6. A baby is about 7 months old before he/she can reach for and grab things.

1	2	3	4
Agree	Younger	Older	Not Sure

7. A two-year-old is able to reason logically, much as an adult would.

1	2	3	4
Agree	Younger	Older	Not Sure

8. A one-year-old knows right from wrong.

1	2	3	4
Agree	Younger	Older	Not Sure

9. An infant of 3 months often will smile when he/she sees an adult face.

1	2	3	4
Agree	Younger	Older	Not Sure

10. Most infants are ready to be toilet trained by one year of age.

1	2	3	4
Agree	Younger	Older	Not Sure

11. An infant will begin to respond to his/her name at 10 months.

1	2	3	4
Agree	Younger	Older	Not Sure

12. Babies begin to laugh at things around 4 months of age.

1	2	3	4
Agree	Younger	Older	Not Sure

13. Five-month-olds know what "no" means.

1	2	3	4
Agree	Younger	Older	Not Sure

14. A four-month-old lying on his/her stomach can lift their head.

1	2	3	4
Agree	Younger	Older	Not Sure

15. Babbling ("a-bah-bah" or "bup-bup") begins around 5 months.

1	2	3	4
Agree	Younger	Older	Not Sure

16. One-year-olds often cooperate and share when they play together.

1	2	3	4
Agree	Younger	Older	Not Sure

17. An infant of 12 months can remember toys he/she has watched being hidden.

1	2	3	4
Agree	Younger	Older	Not Sure

18. The baby usually says his/her first real word at 6 months.

1	2	3	4
Agree	Younger	Older	Not Sure

19. Infants have depth perception by 6 months of age. This means that they can tell that they are on a high place.

1	2	3	4
Agree	Younger	Older	Not Sure

20. Two-month-olds can tell some sounds from others when someone is talking to them.

1	2	3	4
Agree	Younger	Older	Not Sure

SOCIAL SUPPORT QUESTIONNAIRE

Directions: This questionnaire asks about the people in your life who provide you with support. Specifically, we are interested in several different ways in which people can support you.

Emotional Support includes: listening to your troubles, being understanding, comforting, and sympathetic.

Advice and Information includes: telling you how to solve a particular problem, sharing what they would do in a situation like yours, helping you get the information you need to help yourself.

Practical Assistance includes: helping by doing things for you (for example, baby-sitting, housecleaning, shopping, driving, and so forth), lending you money, solving a problem for you.

Please list each significant person in your life on the right. Consider all the persons who provide support for you or are important to you. Use only first names in initials, and then indicate whether this person is a male or female, as in the following example:

Example:

	First name or Initials	Male or Female?	
1.	D. S.	M	(F)
2.	Tim	(M)	F
3.	Deb	M	(F)
4.	Uncle H.	(M)	F

and so on .....

Use the following list to help you think of the people important to you, and list as many people as apply in your case.

-spouse or partner
-family members or relatives
-in-laws
-friends and neighbors
-work or school associates
-health care providers
-counselor, therapist, or clergy
-other

You do not have to use all 20 spaces. Use as many spaces as you have important persons in your life.

WHEN YOU HAVE FINISHED YOUR LIST, PLEASE TURN TO PAGE 2.

	First name or Initials	Male or Female?	
1.	_____	M	F
2.	_____	M	F
3.	_____	M	F
4.	_____	M	F
5.	_____	M	F
6.	_____	M	F
7.	_____	M	F
8.	_____	M	F
9.	_____	M	F
10.	_____	M	F
11.	_____	M	F
12.	_____	M	F
13.	_____	M	F
14.	_____	M	F
15.	_____	M	F
16.	_____	M	F
17.	_____	M	F
18.	_____	M	F
19.	_____	M	F
20.	_____	M	F

For each person you listed, please answer the following questions by writing in the number that applies.

1 = none at all
2 = a little
3 = some
4 = quite a bit
5 = a great deal

	Question 1 How much emotional support, <u>specifically about being a parent</u>, do you receive from this person?	Question 2 How much advice and information, <u>specifically about being a parent</u> do you receive from this person?	First name or Initials	Male or Female?
1.				M F
2.				M F
3.				M F
4.				M F
5.				M F
6.				M F
7.				M F
8.				M F
9.				M F
10.				M F
11.				M F
12.				M F
13.				M F
14.				M F
15.				M F
16.				M F
17.				M F
18.				M F
19.				M F
20.				M F

1 = none at all
2 = a little
3 = some
4 = quite a bit
5 = a great deal

Question 3

How much practical assistance, specifically about being a parent, do you receive from this person?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 4

How much support, in general, do you receive from this person about other important aspects of your life?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

First name or Initials	Male or Female?	
1. _____	M	F
2. _____	M	F
3. _____	M	F
4. _____	M	F
5. _____	M	F
6. _____	M	F
7. _____	M	F
8. _____	M	F
9. _____	M	F
10. _____	M	F
11. _____	M	F
12. _____	M	F
13. _____	M	F
14. _____	M	F
15. _____	M	F
16. _____	M	F
17. _____	M	F
18. _____	M	F
19. _____	M	F
20. _____	M	F

Question 5

What is your major relationship with this person?

1 = spouse or partner
2 = immediate family (parent, brother, sister)
3 = other relative
4 = friend
5 = co-worker or classmate
6 = member of a group to which I belong
7 = professional or health care provider
8 = other

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 6 pa

For how long have you known this p

1 = less than six months
2 = between six months and a year
3 = about a year
4 = two to three years
5 = four years or more

18

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

	First name or Initials	Male or Female?	
1.	_____	M	F
2.	_____	M	F
3.	_____	M	F
4.	_____	M	F
5.	_____	M	F
6.	_____	M	F
7.	_____	M	F
8.	_____	M	F
9.	_____	M	F
10.	_____	M	F
11.	_____	M	F
12.	_____	M	F
13.	_____	M	F
14.	_____	M	F
15.	_____	M	F
16.	_____	M	F
17.	_____	M	F
18.	_____	M	F
19.	_____	M	F
20.	_____	M	F

Question 7

Is this person:

1 = currently married with children?
2 = currently married without children?
3 = currently single with children?
4 = currently single without children?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 8

Where does this person live?

1 = same house as me
2 = same neighborhood as me
3 = same city or town as me
4 = same state as me
5 = out of state

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

	First name or Initials	Male or Female?	
1.	_____	M	F
2.	_____	M	F
3.	_____	M	F
4.	_____	M	F
5.	_____	M	F
6.	_____	M	F
7.	_____	M	F
8.	_____	M	F
9.	_____	M	F
10.	_____	M	F
11.	_____	M	F
12.	_____	M	F
13.	_____	M	F
14.	_____	M	F
15.	_____	M	F
16.	_____	M	F
17.	_____	M	F
18.	_____	M	F
19.	_____	M	F
20.	_____	M	F

Question 9

How frequently have you had contact with this person during the last six months?

1 = daily or almost daily contact
2 = several times a week
3 = several times a month
4 = several times in the last six months
5 = once or less in the last six months

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

Question 10

How often during the last six months has this person caused you trouble or made things more difficult for you?

1 = daily or almost daily trouble
2 = several times a week
3 = several times a month
4 = several times in the last six months
5 = once or less in the last six months

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____

	First name or Initials	Male or Female?	
1.	_____	M	F
2.	_____	M	F
3.	_____	M	F
4.	_____	M	F
5.	_____	M	F
6.	_____	M	F
7.	_____	M	F
8.	_____	M	F
9.	_____	M	F
10.	_____	M	F
11.	_____	M	F
12.	_____	M	F
13.	_____	M	F
14.	_____	M	F
15.	_____	M	F
16.	_____	M	F
17.	_____	M	F
18.	_____	M	F
19.	_____	M	F
20.	_____	M	F

Parenting Stress Index

Directions:

In answering the following questions, please think about your child.

The questions on the following pages ask you to mark an answer which best describes your feelings. While you may not find an answer which exactly states your feelings, please mark the answer which comes closest to describing how you feel. **YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.**

Please mark the degree to which you agree or disagree with the following statements by circling the number to the left of the question which best matches how you feel. If you are not sure, please circle #3.

1	2	3	4	5
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

Example: 1 2 3 4 5

I enjoy going to the movies (If you sometimes enjoy going to the movies, you would circle #2.)

---

(1)	1	2	3	4	5	My child is so active that it exhausts me.
(2)	1	2	3	4	5	I expected to have closer and warmer feelings for my child than I do and this bothers me.
(3)	1	2	3	4	5	Physically, I feel good most of the time.
(4)	1	2	3	4	5	Sometimes I feel that my child doesn't like me and doesn't want to be close to me.
(5)	1	2	3	4	5	I often feel that my child's needs control my life.
(6)	1	2	3	4	5	I feel that my child is very moody and easily upset.

1 Strongly Agree	2 Agree	3 Not Sure	4 Disagree	5 Strongly Disagree

(7)	1	2	3	4	5	My child is not able to do as much as I expected.
(8)	1	2	3	4	5	Leaving my child with a babysitter is usually a problem.
(9)	1	2	3	4	5	My child is much more active than I expected.
(10)	1	2	3	4	5	My child usually avoids a new toy for a while before beginning to play with it.
(11)	1	2	3	4	5	Since having a child I feel that I am almost never able to do things that I like to do.
(12)	1	2	3	4	5	There are some things my child does that really bother me a lot.
(13)	1	2	3	4	5	Most times I feel that my child likes me and wants to be close to me.
(14)	1	2	3	4	5	I often have the feeling that I cannot handle things very well.
(15)	1	2	3	4	5	It takes a long time for parents to develop close, warm feelings for their children.
(16)	1	2	3	4	5	My child seems to cry or fuss more often than most children.
(17)	1	2	3	4	5	I find myself giving up more of my life to meet my children's needs than I ever expected.
(18)	1	2	3	4	5	My child doesn't seem to learn as quickly as most children.
(19)	1	2	3	4	5	It is hard to find a place in our home where I can go to be by myself.

1 Strongly Agree		2 Agree		3 Not Sure	4 Disagree	5 Strongly Disagree	
(20)	1	2	3	4	5		My child doesn't seem comfortable when meeting strangers.
(21)	1	2	3	4	5		When my child misbehaves or fusses too much I feel responsible, as if I didn't do something right.
(22)	1	2	3	4	5		I felt sadder and more depressed than I expected after leaving the hospital with my baby.
(23)	1	2	3	4	5		I wind up feeling guilty when I get angry at my child and this bothers me.
(24)	1	2	3	4	5		Since having my child, my spouse (male/female friend) and I don't do as many things together.
(25)	1	2	3	4	5		When I go to a party I usually expect not to enjoy myself.
(26)	1	2	3	4	5		I am not as interested in people as I used to be.
(27)	1	2	3	4	5		I often have the feeling that other people my own age don't particularly like my company.
(28)	1	2	3	4	5		Since having this child I have been unable to do new and different things.
(29)	1	2	3	4	5		My child squirms and kicks a great deal when being dressed or bathed.

Home Observation for Measurement of the Environment

UNIVERSITY OF WASHINGTON
SCHOOL OF NURSING
NURSING CHILD ASSESSMENT TRAINING

HOME OBSERVATION FOR MEASUREMENT OF THE ENVIRONMENT
(BIRTH TO THREE YEARS)

PERSON OBSERVED (CIRCLE)
MOTHER FATHER OTHER

MAJOR CAREGIVER (CIRCLE)
YES NO

MOTHER'S EDUCATION (CIRCLE)
6 YRS OR LESS 7-8-9-10-11-12-13-14
15-16-17-18-19-20+

MARITAL STATUS (CIRCLE)
MARRIED NOT MARRIED

CHILD'S FIRST NAME _____
CHILD'S AGE (IN MONTHS) _____
CHILD'S SEX _____
CHILD'S RACE _____
PARITY _____
MOTHER'S AGE (AT BIRTH OF CHILD) _____

	YES	NO
I. EMOTIONAL AND VERBAL RESPONSIVITY OF MOTHER		
1. MOTHER SPONTANEOUSLY VOCALIZES TO CHILD AT LEAST TWICE DURING VISIT (EXCLUDING SCOLDING).		
2. MOTHER RESPONDS TO CHILD'S VOCALIZATIONS WITH VERBAL RESPONSE.		
3. MOTHER TELLS CHILD THE NAME OF SOME OBJECT DURING VISIT OR SAYS NAME OF PERSON OR OBJECT IN A "TEACHING STYLE."		
4. MOTHER'S SPEECH IS DISTINCT, CLEAR AND AUDIBLE.		
5. MOTHER INITIATES VERBAL INTERCHANGES WITH OBSERVER—ASKS QUESTIONS, MAKES SPONTANEOUS COMMENTS.		
6. MOTHER EXPRESSES IDEAS FREELY AND EASILY AND USES STATEMENTS OF APPROPRIATE LENGTH FOR CONVERSATIONS (E.G. GIVES MORE THAN BRIEF ANSWERS).		
*7. MOTHER PERMITS CHILD OCCASIONALLY TO ENGAGE IN "MESSY" TYPES OF PLAY		
8. MOTHER SPONTANEOUSLY PRAISES THE CHILD'S QUALITIES OR BEHAVIOR TWICE DURING VISIT		
9. WHEN SPEAKING OF OR TO CHILD, MOTHER'S VOICE CONVEYS POSITIVE FEELING		
10. MOTHER CARESSES OR KISSES CHILD AT LEAST ONCE DURING VISIT.		
11. MOTHER SHOWS SOME POSITIVE EMOTIONAL RESPONSES TO PRAISE OF CHILD OFFERED BY VISITOR		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
II. AVOIDANCE OF RESTRICTION AND PUNISHMENT		
12. MOTHER DOES NOT SHOUT AT CHILD DURING VISIT		
13. MOTHER DOES NOT EXPRESS OVERT ANNOYANCE WITH OR HOSTILITY TOWARD CHILD		
14. MOTHER NEITHER SLAPS NOR SPANKS CHILD DURING VISIT		
*15. MOTHER REPORTS THAT NO MORE THAN ONE INSTANCE OF PHYSICAL PUNISHMENT OCCURRED DURING THE PAST WEEK.		
16. MOTHER DOES NOT SCOLD OR DEROGATE CHILD DURING VISIT		
17. MOTHER DOES NOT INTERFERE WITH CHILD'S ACTIONS OR RESTRICT CHILD'S MOVEMENTS MORE THAN 3 TIMES DURING MY VISIT		
18. AT LEAST TEN BOOKS ARE PRESENT AND VISIBLE.		
*19. FAMILY HAS A PET		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
III. ORGANIZATION OF ENVIRONMENT		
20. WHEN MOTHER IS AWAY CARE IS PROVIDED BY ONE OF THREE REGULAR SUBSTITUTES		
21. SOMEONE TAKES CHILD INTO GROCERY STORE AT LEAST ONCE A WEEK		
22. CHILD GETS OUT OF HOUSE AT LEAST FOUR TIMES A WEEK		
23. CHILD IS TAKEN REGULARLY TO DOCTOR'S OFFICE OR CLINIC		
*24. CHILD HAS A SPECIAL PLACE IN WHICH TO KEEP HIS TOYS AND TREASURES		

	YES	NO
25. CHILD'S PLAY ENVIRONMENT APPEARS SAFE AND FREE OF HAZARDS.		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
IV. PROVISION OF APPROPRIATE PLAY MATERIAL		
26. CHILD HAS SOME MUSCLE ACTIVITY TOYS OR EQUIPMENT.		
27. CHILD HAS PUSH OR PULL TOY		
28. CHILD HAS STROLLER OR WALKER, RIDING CAR, SCOOTER, OR TRICYCLE		
29. MOTHER PROVIDES TOYS OR INTERESTING ACTIVITIES FOR CHILD DURING INTERVIEW		
30. PROVIDES LEARNING EQUIPMENT APPROPRIATE TO AGE—CUDDLY TOY OR ROLE PLAYING TOYS.		
31. PROVIDES LEARNING EQUIPMENT APPROPRIATE TO AGE—MOBILE, TABLE AND CHAIRS, HIGH CHAIR, PLAY PEN.		
32. PROVIDES EYE-HAND COORDINATION TOYS—ITEMS TO GO IN AND OUT OF RECEPTACLE, FIT TOGETHER TOYS, BEADS.		
33. PROVIDES EYE-HAND COORDINATION TOYS THAT PERMIT COMBINATIONS—STACKING OR NESTING TOYS, BLOCKS OR BUILDING TOYS.		
34. PROVIDES TOYS FOR LITERATURE AND MUSIC.		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
V. MATERNAL INVOLVEMENT WITH CHILD		
35. MOTHER TENDS TO KEEP CHILD WITHIN VISUAL RANGE AND TO LOOK AT HIM OFTEN.		
36. MOTHER "TALKS" TO CHILD WHILE DOING HER WORK.		
37. MOTHER CONSCIOUSLY ENCOURAGES DEVELOPMENTAL ADVANCE.		
38. MOTHER INVESTS "MATURING TOYS" WITH VALUE VIA HER ATTENTION.		
39. MOTHER STRUCTURES CHILD'S PLAY PERIODS.		
40. MOTHER PROVIDES TOYS THAT CHALLENGE CHILD TO DEVELOP NEW SKILLS.		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		
VI. OPPORTUNITIES FOR VARIETY IN DAILY STIMULATION		
41. FATHER PROVIDES SOME CARETAKING EVERY DAY		
42. MOTHER READS STORIES AT LEAST THREE TIMES WEEKLY.		
43. CHILD EATS AT LEAST ONE MEAL PER DAY WITH MOTHER AND FATHER.		
44. FAMILY VISITS OR RECEIVES VISITS FROM RELATIVES (APPROX. ONCE A MONTH).		
45. CHILD HAS THREE OR MORE BOOKS OF HIS OWN		
SUBSCALE TOTAL (NO. OF YES ANSWERS)		

*ITEMS WHICH MAY REQUIRE DIRECT QUESTIONS

ENTER TOTALS FOR EACH CATEGORY:	
EMOTIONAL AND VERBAL RESPONSIVITY OF MOTHER	
AVOIDANCE OF RESTRICTION AND PUNISHMENT	
ORGANIZATION OF ENVIRONMENT	
PROVISION OF APPROPRIATE PLAY MATERIAL	
MATERNAL INVOLVEMENT WITH CHILD	
OPPORTUNITIES FOR VARIETY IN DAILY STIMULATION	
TOTAL SCORE (NO. OF YES ANSWERS)	

EXAMPLES OF SELECTED QUESTIONS FOR THE HOME (BIRTH-3 YEARS)

SECTION I: EMOTIONAL AND VERBAL RESPONSIVITY OF MOTHER

ITEM 7. MESSINESS: DOES HE SOMETIMES WANT TO PLAY IN HIS FOOD OR IN HIS BATH? OR "DO YOU SOMETIMES LET HIM PLAY AND BE MESSY?

SECTION II: AVOIDANCE OF RESTRICTION AND PUNISHMENT

ITEM 15. DISCIPLINE: HOW DO YOU MANAGE HIS DISCIPLINE AT THIS AGE—WHAT WORKS THE BEST? IN GENERAL, DOES HE MIND PRETTY WELL, OR DO YOU HAVE TO OCCASIONALLY SLAP HIS HANDS OR PHYSICALLY PUNISH HIM IN SOME WAY?"
IF YES: PROBE FOR NUMBER OF TIMES IN THE PAST WEEK.

SECTION III: ORGANIZATION OF ENVIRONMENT

ITEM 20. "HOW ABOUT YOUR TIME OUTSIDE THE HOME AND AWAY FROM YOUR CHILD DO YOU HAVE A REGULAR SITTER THAT YOU CAN COUNT ON OR DO YOU HAVE TO GET SOMEONE DIFFERENT EACH TIME?
PROBE FOR: GROCERY STORE (ONCE A WEEK)
RELATIVES (MONTHLY)

ITEM 21 & 22. HOW ABOUT HIS TIME OUT OF THE HOME: WHERE ARE SOME OF THE PLACES YOU TAKE HIM AND ABOUT HOW OFTEN DOES HE GET OUT OF THE HOUSE EACH WEEK?"
PROBE FOR: GROCERY STORE (ONCE PER WEEK)
RELATIVES (MONTHLY)

ITEM 24. SPECIAL PLACE FOR TOYS: USUALLY ASK THIS AT THE END OF THE INTERVIEW SAYING, "I'M INTERESTED IN SEEING SOME OF YOUR CHILD'S TOYS. WHERE HE KEEPS THEM AND SOME OF HIS FAVORITE THINGS TO PLAY WITH."

SECTION V: MATERNAL INVOLVEMENT WITH CHILD (CAN ASK WHILE LOOKING AT CHILD'S TOYS)

ITEM 36. "DO YOU SOMETIMES FIND YOURSELF HAVING CONVERSATION WITH HIM WHILE YOU'RE WORKING AROUND THE HOUSE, OR IS HE USUALLY ASLEEP WHILE YOU'RE DOING YOUR HOUSEWORK?"

ITEM 37. "WHAT ARE SOME OF THE THINGS YOU'RE HELPING YOUR CHILD TO LEARN AT THIS AGE?"
PROBE FOR: DEVELOPMENT AGE APPROPRIATE THINGS, I.E. SELF-FEEDING, WALKING, ETC.

ITEM 38. "HOW DOES HE USUALLY GET STARTED PLAYING WITH A NEW TOY—DO YOU SHOW HIM HOW TO WORK IT AND TRY TO GET HIM INVOLVED WITH IT OR DOES HE USUALLY FIGURE IT OUT FOR HIMSELF?"

ITEM 39. "ON A DAY TO DAY BASIS, HOW DOES HE GET STARTED PLAYING WITH HIS TOYS? DO YOU SOMETIMES SIT AND PLAY WITH HIM OR DOES HE USUALLY GET STARTED BY HIMSELF AND PLAY ALONE?"

ITEM 40. "HOW DO YOU USUALLY DECIDE WHAT KINDS OF TOYS TO SELECT AND OFFER YOUR CHILD TO PLAY WITH AT THIS AGE—WHAT ARE SOME OF YOUR GUIDELINES?"

LISTEN FOR TOYS THAT WILL CHALLENGE CHILD TO DEVELOP NEW SKILLS.

SECTION VI: OPPORTUNITIES FOR VARIETY IN DAILY STIMULATION

ITEM 45 & 46. HOW ABOUT BOOKS, DOES HE HAVE SOME OF HIS OWN YET?"
PROBE FOR NUMBER OF HIS OWN BOOKS

"DOES HE SOMETIMES LIKE FOR YOU TO READ TO HIM?
IF YES: "HOW MANY TIMES A WEEK DO YOU HAVE TIME TO DO THAT?"

ITEM 48. "WHAT DOES HE DO WHILE YOU AND YOUR HUSBAND EAT YOUR MEALS? DOES HE USUALLY EAT WITH YOU OR DOES HE EAT AT ANOTHER TIME?"

REFERENCES

REFERENCES

Abiden, R. R. (1982). Parenting stress and the utilization of pediatric services. Children's Health Care, Fall, 1982.

Abiden, R. R. (1983). Parenting Stress Index--Manual. Charlottesvile, VA: Pediatric Psychology Press.

Adamakos, M.A., Ryan, K., Ullman, D.G., Pascoe, J., Diaz, R., & Chessare, J. (1986). Maternal social support as a predictor of mother-child stress and stimulation. Child Abuse and Neglect, 10, 463-470.

Alloway, R. & Bebbington, P. (1987). The buffer theory of social support - a review of the literature. Psychological Medicine, 17, 91-108.

Alvy, K. T., & Rubin, H. S. (1981). Parent training and the parent trainers. Journal of Community Psychology, 9, 53-56.

Atkins, M. (1986). The welcome baby program: A community-based volunteer prevention model of caring, sharing, and support for new parents. Infant Mental Health Journal, 7(2), 156-167.

Ayoub, C. C., & Milner, J. S. (1985). Failure to thrive: Parental indicators, types and outcomes. Child Abuse and Neglect, 9, 491-499.

Barber-Madden, R., Cohn, A.H., & Schloesser, P. (1988). Prevention of child abuse: A public health agenda. Journal of Public Health Policy, 9, 167-176.

Barrerra, M. (1981) Social support in the adjustment of pregnant adolescents: Assessment issues. In B. H. Gottlieb (Ed.), Social networks and social support (pp. 66-96). Beverly Hills, CA: Sage.

Barrera, M. E., Rosenbaum, P. L., & Cunningham, C. E. (1986). Early home intervention with low-birth-weight infants and their parents. Child Development, 57, 20-33.

Barth, R.P., & Ash, J.R. (1986). Identifying, screening and engaging high-risk clients in private non-profit child abuse prevention programs. Child Abuse and Neglect, 10, 99-109.

Blue, S. W. (1982). A parent education program as an approach toward primary and secondary prevention of child abuse and neglect. (Doctoral dissertation, Florida State University, 1981), Dissertation Abstracts International, 42, 4359A.

Boger, R., Richter, R., & Weatherston, D. (1983). Perinatal positive parenting: A program of primary prevention through support of first-time parents. Infant Mental Health Journal, 4, 297-308.

Boger, R. & Roman, L. (1988). NICU/perinatal positive parenting: A demonstration and research evaluation project. Final Report Submitted to the Michigan Children's Trust Fund. East Lansing, MI: Michigan State University, Institute for Family and Child Study.

Booth, C.L., Mitchell, S.K., Barnard, K.E., & Spieker, S.J. (1989). Development of maternal social skills in multiproblem families: Effects on the mother-child relationship. Developmental Psychology, 25(3), 403-412.

Bristor, M. W., Helfer, R. E., & Coy, K. B. (1984). Effects of prenatal coaching on mother-infant interaction. American Journal of Diseases of Children, 138, 254-257.

Broman, S. H. (1981). Long-term development of children born to teenagers. In K. G. Scott, T. Field, & E. G. Robertson (Eds.), Teenage parents and their offspring (pp. 195-224). New York: Grune and Stratton.

Brown, M.A. (1986a). Social support, stress, and health: A comparison of expectant mothers and fathers. Nursing Research, 35(2), 72-76.

Brown, M.A. (1986b). Social support during pregnancy: A unidimensional or multidimensional construct. Nursing Research, 35(1), 4-9.

Caldwell, B.M., & Bradley, R.H. (1984). Home observation for measurement of the environment: Revised edition. Little Rock AR: University of Arkansas.

Cleary, P.D. (1988). Social support: Conceptualization and measurement. In H.B. Weiss and F.H. Jacobs (Eds.), Evaluating family programs (pp. 195-216). New York: Aldine De Gruyter.

Cochran, M. M., & Brassard, J. A. (1979). Child development and personal social networks. Child Development, 50, 601-616.

Colletta, N. D. (1981). Social support and the risk of maternal rejection by adolescent mothers. Journal of Psychology, 109, 191-197.

Colombo, M. (1987). Parent-infant beginnings program: An evaluation of the first 18 months. Detroit: Wayne State University, Survey and Evaluation Services, Center for Urban Studies.

Crnic, K. A., Greenberg, M. T., Ragozin, A. S., Robinson, N. M., & Basham, R. B. (1983). Effects of stress and social support on mothers and premature and full-term infants. Child Development, 54, 209-217.

Crockenberg, S. B. (1981). Infant irritability, mother responsiveness, and social support influences on the security of infant-mother attachment. Child Development, 52, 857-865.

Crockenberg, S.B. (1988). Social support and parenting. In H.E. Fitzgerald, B.M. Lester, & M.W. Yogman (Eds.), Theory and research in behavioral pediatrics Vol. 4. (pp. 141-174). New York: Plenum.

Egeland, B., Breitenbucher, M., & Rosenberg, D. (1980). Prospective study of the significance of life stress in the etiology of child abuse. Journal of Consulting and Clinical Psychology, 48(2), 195-205.

Elster, A. B., McAnarney, E. R., & Lamb, M. E. (1983). Parental behavior of adolescent mothers. Pediatrics, 71(4), 494-503.

Fairweather, G.W. & Davidson, W.S. (1986). An introduction to community experimentation: Theory, methods, and practice. New York: McGraw-Hill.

Field, T. M., Widmayer, S. M., Stringer, S., & Ignatoff, E. (1980). Teenage, lower-class, black mothers and their preterm infants: An intervention and developmental follow-up. Child Development, 51, 426-436.

Garbarino, J. (1982). Children and families in the social environment. New York: Aldine.

Garbarino, J. (1983). Social support networks: Rx for the helping professionals. In J. K. Whittaker & J. Garbarino (Eds.), Social support networks: Informal helping in the human services (pp. 3-28). Hawthorne, NH: Aldine.

Gray, J. D., Cutler, C. A., Dean, J. G., & Kempe, C. H. (1977). Prediction and prevention of child abuse and neglect. Child Abuse and Neglect, 1, 45-58.

Halpern, R. & Larner, M. (1987). Lay family support during pregnancy and infancy: The child survival/fair start initiative. Infant Mental Health Journal, 8(2), 130-143.

Heins, H.C., Nance, N.W., & Ferguson, J.E. (1987). Social support in improving perinatal outcome: The resource mothers program. Obstetrics and Gynecology, 70, 263-266.

Helfer, R. E. (1982). A review of the literature on the prevention of child abuse and neglect. Child Abuse and Neglect, 6, 251-261.

Jacobson, S.W. (1988). The effect of maternal social support on attachment, task persistence, and mastery motivation at 1 year. Final Report to the Foundation for Child Development. Detroit, MI: Wayne State University, Department of Psychology.

Koniak-Griffin, D. (1988). The relationship between social support, self-esteem, and maternal-fetal attachment in adolescents. Research in Nursing, 11, 269-278.

Lamb, M. E., & Easterbrooks, A. (1981). Individual differences in parental sensitivity: Origins, components, and consequences. In M. E. Lamb, L. R. Sherrod (Eds.), Infant social cognition: Empirical and theoretical considerations (pp. 127-153). Hillsdale, NJ: Erlbaum.

Lipson, J. G. (1982). Effects of a support group on the emotional impact of cesarean childbirth. Prevention in Human Services, 1, 17-29.

MacPhee, D. (N.D.). Knowledge of infant development inventory. Unpublished Manual.

MacPhee, D. (1984, March). Mothers' acquisition and reconstruction of knowledge about infancy. Paper presented at the biennial meeting of the Southwestern Society for Research in Human Development, Denver, CO.

McGuire, J. C., & Gottlieb, B. H. (1979). Social support groups among new parents: An experimental study in primary prevention. Journal of Clinical Child Psychology, 8, 111-115.

Michigan Children's Trust Fund (1986). Child abuse and neglect prevention: A literature review. Michigan Children's Trust Fund, Lansing, MI.

Milner, J. S., Gold, R. G., Ayoub, C., & Jacewitz, M. M. (1984). Predictive validity of the Child Abuse Potential Inventory. Journal of Consulting and Clinical Psychology, 52, 879-884.

Minde, K., Shosenberg, N., Marton, P., Thompson, J., Ripley, R., & Burns, S. (1980). Self help groups in a premature nursery--a controlled evaluation. Journal of Pediatrics, 96, 933-940.

Monkus, E., & Bancalari, E. (1981). Neonatal outcome. In K. G. Scott, T. Field, & E. G. Robertson (Eds.), Teenage parents and their offspring (pp. 131-144). New York: Grune and Stratton.

National Committee for the Prevention of Child Abuse. (1986). Education and support programs for new parents. Chicago: NCPCA, Publishing Department.

Norbeck J. S., Lindsey, A. M. & Carrieri, V. L. (1981). The development of an instrument to measure social support. Nursing Research, 30, 264-269.

Norusis, M.J. (1988). SPSS/PC+ Advanced Statistics Vol. 2.0. Chicago: SPSS Incorporated.

O'Reilly, P. (1988). Methodological issues in social support and social network research. Social Science and Medicine, 26(8), 863-873.

Olds, D. L., Henderson, C. R., Chamberlin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect: A randomized trial of nurse home visitation. Pediatrics, 78, 65-78.

Olds, D.L., Henderson, C.R., Tatelbaum, R., & Chamberlin, R. (1986). Improving the delivery of prenatal care and outcomes of pregnancy: A randomized trial of nurse home visitation. Pediatrics, 77(1), 16-28.

Parke, R. D., & Lewis, N. G. (1981). The family in context: A multilevel interactional analysis of child abuse. In R. W. Henderson (Ed.), Parent child interaction: Theory, research and prospects (pp. 169-204). New York: Academic Press.

Parker-Loewen, D. L. & Lytton, H. (1987). Effects of short-term interaction coaching with mothers of preterm infants. Infant Mental Health Journal, 8(3), 277-287.

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.

Powell, D.R. (1988). Toward an understanding of the program variable in comprehensive parent support programs. In H.B. Weiss & F.H. Jacobs (Eds.), Evaluating family programs (pp. 267-285). New York: Aldine De Gruyter.

Ragozin, A. S., Basham, R. B., & Crnic, K. A. (1982). Effects of maternal age on parenting role. Developmental Psychology, 18, 627-634.

Roosa, M. W. (1983). A comparative study of pregnant teenager's parenting attitudes and knolwedge of sexuality and child development. Journal of Youth and Adloescence, 12, 213-223.

Rosenberg, M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press..PA

Rosenberg, M. S., & Reppucci, N. D. (1983). Abusive mothers: Perceptions of their own and their children's behavior. Journal of Consulting and Clinical Psychology, 51, 674-682.

Shea, E. & Tronick, E.Z. (1988). The maternal self-report inventory. In H.E. Fitzgerald, B.M. Lester, & M.W. Yogman (Eds.), Theory and research in behavioral pediatrics, Vol. 4. (pp. 101-139). New York: Plenum.

Siegel, E., Bauman, K. E., Schaefer, E. S., Saunders, M. M., & Ingram, D. D. (1980). Hospital and home support during infancy: Impact on maternal attachment, child abuse and neglect, and health care utilization. Pediatrics, 66, 183-190.

Smith, S. M., Hanson, R., & Noble, S. (1974). Social aspects of the battered baby syndrome. British Journal of Psychiatry, 125, 568-582.

Snyder, C., Eyres, S. J., & Barnard, K. (1979). New findings about mothers' antenatal expectations and their relationship to infant development. Maternal Child Nursing, 4, 354-357.

Spencer, B., Thomas, H., & Morris, J. (1989). A randomized controlled trial of the provision of a social support service during pregnancy: the South Manchester Family Worker Project. British Journal of Obstetrics and Gynaecology, 96, 281-288.

St. Clair, P.A., Smeriglio, V.L., Alexander, C.S., & Celentano, D.D. (1989). Social network structure and prenatal care utilization. Medical Care, 27(8), 823-832.

Starker, J. (1986). Methodological and conceptual issues in research on social support. Hospital and Community Psychiatry, 37(5), 485-490.

Thompson, R. A., Lamb, M. E., & Estes, D. (1982). Stability of infant-mother attachment and its relationship to changing life circumstances in an unselected middle class sample. Child Development, 53, 144-148.

Unger, D. G., & Powell, D. R. (1980). Supporting families under stress: The role of social networks. Family Relations, 29, 556-574.

Unger, D. G., & Wandersman, L. P. (in press). A Support Program for Adolescent Mothers: Predictors of Participation. In D.R. Powell (Ed.), Parent education and support programs: Consequences for children and families (pp. 1-50). New Jersey: ABLEX.

Unger, D. G., & Wandersman, L. P. (1985). Social support and adolescent mothers: Action research contributions to theory and application. Journal of Social Issues, 41, 29-45.

Vaughn, B., Egeland, B., & Stroufe, L. A. (1979). Individual differences in infant-mother attachment at 12 and 18 months: Stability and change in families under stress. Child Development, 50, 971-975.

Vaux, A. (1985). Variations in social support associated with gender, ethnicity, and age. Journal of Social Issues, 41, 89-110.

Wandersman, L. P. (1978). Parenting groups to support the adjustment to parenthood. Family Perspective, 12(3), 117-128.

Weiss, H.B. (1988). Family support and education programs: Working through ecological theories of human development. In H.B. Weiss and F.H. Jacobs (Eds.), Evaluating family programs (pp. 3-36). New York: Aldine De Gruyter.

Weiss, H.B. & Jacobs, F.H. (1988). Introduction: Family support and education programs--challenges and opportunities. In H.B. Weiss and F.H. Jacobs (Eds.), Evaluating family programs (pp. xix-xxix). New York: Aldine De Gruyter.

Weissbourd, B. (1987). A brief history of family support programs. In S.L. Kagan, D.R. Powell, B. Weissbourd, & E.F. Zigler (Eds.), America's family support programs (pp. 38-56). New Haven, CT: Yale University Press.

Yeaton, W.H. & Sechrest, L. (1981). Critical dimensions in the choice and maintenance of successful treatments: Strength, integrity, and effectiveness. Journal of Counseling and Clinical Psychology, 49(2), 156-167.