FINAL REPORT
of the
TIES Program Evaluation

Team for Infants Endangered by Substance abuse

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EXECUTIVE SUMMARY

INTRODUCTION TO THE TIES PROGRAM

The TIES Program provides comprehensive, multi-disciplinary, community-based services to families of pregnant and post partum women with substance abuse or HIV problems, with funding from the U.S. Department of Health and Human Services under the Abandoned Infants Assistance Act and matching funds from the Jackson County Community Backed Anti-drug Tax (COMBAT).

The TIES Program is operated through Children’s Mercy Hospital of Kansas City, MO, with governance by the following interagency groups:
- The TIES Community Consortium, with representation from 12 human service agencies, and
- The TIES Advisory Council, comprised of 12 community leaders and stakeholders.

Following are some key administrative accomplishments in which the TIES Program, the TIES Consortium, and the TIES Advisory Council have participated:
- Maintained consortium membership to ensure community response to the issues;
- Retention of the C-STAR Women and Children’s substance abuse treatment model in Missouri’s Medicaid managed care plan;
- Improved access to family planning services for women enrolled in TIES;
- Partnership with the Metropolitan Drug Exposed Infants Task Force to open a supportive housing program for recovering women and children in April 2000, serving 38 families with 79 children since;
- Passage of the Grandparents as Guardians legislation in Missouri to provide benefits to relative caregivers; and
- Delivery of services to 159 enrolled families by highly trained personnel in the four-year program period.

The TIES model of comprehensive case management has been employed and refined for over 14 years in the Kansas City area. Key features of the model include the following:
- A clear process for screening and referral to determine eligibility;
- An extensive initial assessment of the resources and needs of the family;
- The development of a comprehensive plan, which emphasizes family strengths, addresses family goals, and includes relevant partnerships with others;
- The delivery of ongoing home-based intervention, based on a nurturing relationship between the TIES Specialist and the family members;
- The opportunity for participation in a women’s support group;
- Coordinated efforts to address the needs of all children in the enrolled families, e.g., assessment, health care, immunizations, child care, specialized services, support through any placement transitions;
- Promotion of permanency through parenting education, counseling, assistance with housing and other basic needs, referral and coordination to substance abuse treatment or programs addressing other physical or mental health needs, and coordination with child protection and the court system; and
- Full case management and support for relative caregivers who are providing temporary or permanent care for children in the enrolled families.
The TIES Program has disseminated valuable information about characteristics of the families of infants at risk for abandonment, strategies for serving the families, and findings from the evaluation of the program. Approximately 21 formal presentations and 13 publications have reached various audiences at the local, regional, and national level.

**PROFILE OF FAMILIES SERVED BY THE TIES PROGRAM AND COMPARISON GROUP FAMILIES**

The TIES Program gathered this demographic information at intake regarding the enrolled families:

- Women range in age from 18 to 44, with a mean of 27.8 years.
- Almost all of the women are single at the time of enrollment.
- Approximately 64% of the women are African-American and 31% are Caucasian.
- About three quarters of the families indicate no cash income. The mean monthly income for families with cash income is $461.
- Less than one-half of the mothers have attained their GED or high school diploma. However, all but 2 of the participants can read and write.
- Ninety-two percent of the women receive some prenatal care, with an average of 6 medical visits before delivery.
- The most commonly used drug is crack cocaine, used by approximately 56% of enrollees. In addition, 48% use marijuana, 17% use alcohol, 11% use methamphetamines, and 14% use PCP. In many instances, multiple drug use is noted.

Infants and young children served by the TIES Program display these characteristics at intake:

- The target children include 84 males and 70 females.
- Sixty-five percent of the children are African-American, 18% are Caucasian, 1% are Hispanic, and 15% are multi-racial.
- Infants born to prenatally enrolled women average 39 weeks of gestation, while those born to women enrolled after delivery average 38 weeks.
- Infants of mothers enrolled prenatally are larger at birth, with a mean birthweight of 3092 grams, compared to a mean of 2689 grams for infants of post partum enrollees.
- Almost 80% of the infants of prenatal enrollees have negative toxicology results at birth.

A mother's level of engagement with the TIES Program is rated at 3 months and discharge, with mean engagement statistically decreasing over time.

Participating families present high risks in these areas at intake:

- Considerable parental substance abuse with serious or severe consequences;
- Serious financial problems;
- Partial or complete isolation from family and friends; and
- Inadequate living conditions.

Strengths that families typically exhibit at intake include the following:

- Low to very low mental health risks;
- Adequate supervision of children;
- Good physical health of the children;
- Attentive and appropriate care and emotional stimulation of the infant; and
- Absence of sexual abuse.
Women who had discharged early from the TIES Program have statistically higher risks than women who remained with regard to these factors: number of children removed from the household, Parent Physical Health risk, and Parent Mental Health risk.

Comparisons over time reveal that some risks decrease statistically over time for all women enrolled, including:

- Parental substance abuse,
- Financial risks,
- Habitability of the family residence, and
- Client’s cooperation with the agency.

**INDIVIDUALIZED FAMILY SERVICE PLANNING**

Women in the TIES Program improve statistically over time for all five primary goals:

- On the goal of becoming drug free, improvement over time is consistent between intake and 3 months, tending to level off at 13 months and drop slightly at discharge.
- Goal ratings on improved parenting increase from intake to 3 months, and remain stable to discharge, suggesting that mothers tend to maintain a consistent level of performance on this goal as time goes on.
- Improvement over time is apparent on the goal of adequate housing, with increases in goal attainment over the first three assessment times, stabilizing at discharge. Thus, women tend to improve on finding adequate housing throughout their participation in the TIES Program.
- Improvement is seen on economic stability between intake and 3 months, with means tending to fluctuate slightly thereafter. Despite the fluctuation, goal attainment is highest at discharge.
- The goal of child health care emerges with the highest overall means, as well as the most pronounced trend of improvement over time. Thus, mothers are achieving very high goal outcomes to begin with, and they manage to continuously improve as well.

In comparing the goal attainment of prenatal and postpartum enrollees, prenatal enrollees generally score better when differences are seen.

In general, mothers struggle the most with getting appropriate education and/or employment, getting their basic needs met, and finding emotional and social support.

A TIES Specialist attended all IFSP meetings at 3 and 13 months, while mothers attended 81% and 75% of the meetings at these times. Representatives from child protective services and drug treatment programs also attended a number of the meetings.

IFSP documents note the frequent involvement of the following agencies with TIES families:

- The most commonly used services by families in the TIES Program at 3 months was the Missouri Children's Division (68%) and drug/alcohol treatment (67%). In addition 53% of families were involved with Family Court.
- The most commonly involved agency at both 3 and 13 months was child protective services. Other organizations often involved with the family include Family Court and drug/alcohol treatment programs.
PARTICIPANT SURVEY INFORMATION

Mothers enrolled in the TIES Program generally indicate moderate levels of need for information, services, support, assistance with family relationships, and financial assistance, with less than half of mothers tending to indicate the need for help on individual items.

- The women most frequently express need for help with service-related issues, finding and paying for child care, and job assistance/counseling.
- The lack of statistical differences in most between-group comparisons suggests that mothers in the prenatal and post partum TIES groups expressed fairly similar needs for help.
- Comparisons over time on family needs result in statistically significant decreases in need from the 1-month to the 12-month interview on the need for information, services, financial assistance, and also the total needs scale.

Several sources of support are indicated to be available by over 75% of the mothers interviewed at both time periods, including their own parents, relatives, and friends, as well as the family physician, professional helpers and agencies, and child protective services.

- Four supports appear to be unavailable to the majority of participants, especially at 1 month, including coworkers, early intervention, the child’s school or child care center, and visiting nurses. This may be due in part to limits placed on mothers caring for young children.
- There are no statistically significant differences between the prenatal and post partum groups on changes over time. When considering all participants assessed at both times, several statistically significant findings emerge, with the availability of coworkers and social groups increasing over time, while visiting nurses become less available.

Mothers tend to consider professional supports to be very helpful at both time periods, giving these supports higher ratings of perceived helpfulness than partners, parents, other relatives, children, or friends at both time periods.

- Partner-related supports are rated as the least helpful overall by the TIES mothers who report that they had access to these supports.
- TIES participants as a whole report coworkers to become statistically more helpful from 1 to 12 months. In addition, prenatal participants report an increase in helpfulness over time and post partum participants report no change.

The majority of mothers do not report symptom levels that would warrant a psychiatric diagnosis. However, the mothers interviewed at 1 month tend to obtain scores that are slightly higher than those obtained by mothers assessed at 12 months. Overall, the TIES mothers tend to report a higher degree of symptoms than the average group of non-patient adult females.

- Only one statistically significant difference is found over time, with mean T-scores on the Positive Symptom Distress Index statistically decreasing from 1 to 12 months.
- Six scales emerge with statistically significant time by group differences, including four symptom dimensions (Obsessive-Compulsive, Interpersonal Sensitivity, Hostility, and Psychoticism), and two global indices (Global Severity Index and Positive Symptom Total). In all instances, participants in the prenatal group score lower at 12 months than at 1 month, indicating a reduction in assessed symptoms. In contrast, post partum participants score higher at 12 months than at 1 month, indicating an increase in reported symptoms over time.
DEVELOPMENTAL OUTCOMES FOR INFANTS

The Bayley Scales of Infant Development-II (BSID-II) are administered to the infants at approximately 6 and 12 months of age, adjusted for prematurity.

- Over 80% of the infants assessed at each time period score within or above normal limits on the Mental Development scale.
- At each time period, over 60% of infants at 6 months and 80% at 12 months score within or above normal limits on the Psychomotor Development scale.
- The Motor Quality subscale of the Behavior Rating Scale (BRS) reflects some developmental challenges, particularly at 6 months when 45% of infants score below normal.
- Eighty percent of infants at both times are in the normal range on the Emotional/Regulation BRS subscale.
- Seventy-two percent of infants at 6 months and 82% at 12 months score in the normal range on the Orientation/Engagement subscale of the BRS.

Scores of infants in the TIES sample average higher than the scores of a sample of drug-exposed infants participating in the psychometric testing of the BSID-II on all scales at all times, with the exception of Psychomotor Development at 6 months.

Preterm infants in the TIES sample (<34 weeks gestation) tend to score higher on the three BSID-II scales than preterm infants assessed during the psychometric testing of the BSID-II.

Comparisons on the BSID-II resulted in the following:

- No statistical differences between groups appear in the mean scores of infants from the prenatal and post partum groups.
- Mean standard scores statistically increase over time for the PDI. The mean MDI scores also increase over time, though not to a statistically significant degree.
- There is a general trend on the BRS and the three subscales of improvement in scores over time, though this improvement is statistically significant only with the Motor Quality subscale.

A number of variables assist in predicting developmental outcomes for the infants in the study, including birth weight, gender, and the mean score of the Modified Family Needs Survey.

VIDEOTAPE ASSESSMENT OF PARENT-CHILD INTERACTION

A videotaped assessment of the interaction between mothers and their infants at 1 month, 6 months, and 12 months assesses a range of mother and infant behaviors, both positive and negative, as they occur during videotaped child-parent interactions.

These generalizations about the participating mothers can be made from the findings:

- Mothers exhibit a low rate of occurrence of harsh, disapproving, or teasing behavior and
- Mothers generally do not display overt negative behavior toward the infant, but they are only moderately successful in engaging positively.
- Mothers appear to lack a general knowledge of child development, suggested by their lack of intentional attempts to provide age-appropriate developmentally enhancing stimulation.
- Mothers are not adept at observing and responding appropriately to their child’s cues.
- Mothers tend to be intrusive during their play sessions with the child; thus, the video sessions were not child-centered, but rather were driven by the mother’s ideas and interests.

E-5
The following observations reflect the children:

- Between 40% and 50% of infants are rated highly on sustained attention with objects at both 6 and 12 months.
- Infants tend to score low on engagement of the parent were low at both 6 and 12 months. This indicates that the infants infrequently initiate interactions or share positive affect with the parent.

- These findings are noted with regard to the child-parent dyads:
  - At each time period, between 17% and 29% of the dyads score in the range of moderately high to very high on connectedness.
  - Seventy percent or more of the dyads score in the very low to moderately low range at all three assessment periods. In addition, over 30% of the dyads score in the lowest category on their level of connectedness during all three assessments.

Following are the most notable changes observed over time on the Child-Parent Interaction Scales:

- Parents statistically improve over time on their stimulation of cognitive development in their child. However, the overall mean scores on this scale are the lowest of all the parent scales, indicating lower ratings on a desirable behavior.
- The dyads statistically improved over time on their mutuality and connectedness, indicating a positive outcome.

Groups differed in child engagement of the parent and the mutuality and connectedness of the dyad at 6 months time, with the prenatal group receiving a mean score that is higher than that of the post partum group.

Overall, the mothers, infants, and child-parent dyads tend to receive scores that are lower on positive behaviors and higher on negative behaviors than what is desired for these families. However, some positive trends of improvement are seen in comparisons over time, indicating that TIES Program objectives are being accomplished to some degree with these at-risk families.

**PERCEPTIONS OF TIES PARTICIPANTS**

Throughout their involvement with the program, enrollees in the TIES Program consider the TIES Specialists to be very helpful, caring, capable, fair, and knowledgeable.

They also state that the TIES Specialists are very easy to reach, with meetings generally occurring more than once a week and frequent contact usually preferred at 1, 6, 12, and 18 months.

Most respondents indicate that they have addressed their goals during their involvement with the TIES Program, with over 2/3 considering themselves successful in accomplishing their goals at each time period.

During their TIES participation, mothers report that they have addressed such goals as the following:

- Becoming a nurturing parent,
- Getting her children back,
- Seeking drug counseling and treatment,
- Becoming self-sufficient,
- Getting a house,
- Learning to drive, and
- Learning how to deal with stress.
Nearly every responding participant states that the TIES Program has helped with personal support, child-related support, and assistance with numerous basic necessities.

Participants express great satisfaction with the TIES Program, with means higher than 4.8 on a 5-point scale (5=very satisfied) at each time assessed.

At the time of their discharge from the TIES Program, most mothers indicate that the TIES Program has done the following:

- Helped them gain knowledge concerning the effects of drugs and parenting.
- Offered various helpful services, e.g., parenting skills training, emotional support, drug counseling.
- Assisted them in getting basic necessities.
- Referred them to other agencies for assistance when needed.

Overall, mothers report reductions in all major areas of need at the time of discharge.

The most predominant types of needs still expressed by mothers at discharge include needs for emotional support, help with parenting their children, clothing, and transportation.

While the majority of women report fewer and less severe needs at discharge, a few women indicate that their needs at that time are multiple and severe.

RECOMMENDATIONS

Many positive outcomes have resulted from the efforts of the TIES Program and its community partners. Over the past 4 years, they have demonstrated their capacity to effectively assist families that face complex challenges. Thus, it is recommended that key components of the TIES model continue to be implemented. These include:

- Trusting relationships that serve as a foundation for intervention with families,
- Individualized goal-oriented planning that fosters self-determination,
- A focus on broad social support networks for families, and
- Collaborative community approaches that maximize the expertise and resources available in the community.

Institution of a more clearly articulated transition process at program discharge is recommended, taking into consideration these issues:

- Families that still have major challenges at program discharge may require a more complete assessment and subsequent referral.
- Families benefit from time to build engagement and trust with others at referral programs prior to discharge from the TIES Program.
- In instances when services are not available in the community, it is important that collaborative interagency planning occur to develop and support those services. Programs that hold promise for helping families extend their short-term gains after program completion are suggested, e.g., parent mentoring programs.

An ongoing focus on optimal child development is urged through the following:

- A strengthened parenting curriculum that addresses parent-child relationships, language interaction, and the child’s cognitive and socio-emotional development, and
- The development of appropriate referral options for families’ long-term parenting support.
Based on reflections of what has been learned during the past 14 years of service and evaluation of the TIES Program, it is recommended that evaluation instruments and processes be re-examined, particularly with regard to these areas:

- Assessment of risks, quality of life, and parenting stress;
- Children's socio-emotional development;
- The home environment; and
- The influence of various organizations on family outcomes.
CHAPTER 1
Introduction to the TIES Program

The TIES Program (Team for Infants Endangered by Substance Abuse) provides comprehensive services to families of pregnant and post partum women affected by substance abuse or HIV. Funded under the Abandoned Infants Assistance Act (AIA) by the U.S. Department of Health and Human Services with matching funds from Jackson County Community Backed Anti-Drug Tax (COMBAT), operated through Children's Mercy Hospital, and governed by the TIES Advisory Council and TIES Consortium, the TIES Program uses a community-based, multidisciplinary approach to prevent abandonment of infants and young children. This is accomplished by identifying and engaging pregnant and post partum women whose pregnancies were affected by drug use or HIV, knowing that these conditions create a greater risk for abandonment. Specific program objectives include the following:

• enhance community collaboration in services for drug or HIV affected families;
• improve family functioning with individualized service planning and delivery;
• identify and address needs of all children in identified families; and
• promote permanency for each child.

This report evaluates the activities and accomplishments of the TIES Program during the four years extending from October 1, 2000 to September 30, 2004.

Though Children's Mercy Hospital was the grantee for this project, it has been acknowledged from the outset that only through effective collaboration and coordination could such an undertaking be successful. Some outcomes of this collaboration are presented in the following sections of this chapter, followed by a description of the two vehicles used to bring parties together and a more detailed description of these key components of the TIES model: comprehensive case management, support for children's needs, and promotion of permanency for families.

TIES ADMINISTRATIVE ACCOMPLISHMENTS

In addition to the direct services provided to families, certain accomplishments of the TIES Program emerged as particular achievements when reviewing all of the activities conducted. Among these are the activities cited in Figure 1-1.

**Figure 1-1. TIES ADMINISTRATIVE ACCOMPLISHMENTS**

- The TIES Consortium maintained 12 agencies and met regularly to enhance information sharing between agencies, to improve access to services, and to identify and address gaps and barriers to providing services.
- The TIES Consortium, along with other community groups, successfully advocated to retain the CSTAR Women and Children's substance abuse treatment model in Missouri's Medicaid managed care plan.
- The TIES Advisory Council improved access to family planning services for TIES mothers, employing members' connections to area providers.
- The TIES Consortium, in conjunction with the Metropolitan Drug Exposed Infants Task Force, opened a supported housing program for recovering women and children in April 2000. It has since served 38 families with 79 children.

*Continued...*
The TIES Consortium and Advisory Council contributed to the passage and subsequent revision of the Grandparents as Guardians legislation in Missouri to provide financial and other benefits to relative caregivers.

The TIES Program retained and added highly qualified personnel in the Program Coordinator and TIES Specialist positions. The 6 current clinical staff members have an average of 10 years with the TIES Program, including the Program Coordinator and one TIES Specialist who have been with the program since its inception 14 years ago.

Raised awareness of Fetal Alcohol Syndrome and related disorders and intervention methods for health care and related professionals via conference jointly presented in October 2003 and ongoing training efforts.

COMMUNITY PARTNERSHIP AND GOVERNANCE

Two primary groups offered the necessary structure and oversight for the effective implementation of the TIES Program – the TIES Community Consortium and the TIES Advisory Council. These two groups, along with program personnel, served as the foundation for the TIES Program. Information about the composition and activities of these interagency groups is presented as follows.

**TIES Community Consortium**

The TIES Consortium provided oversight of program operations and was comprised of 12 human service agencies that represent physical and mental health care, substance abuse treatment, child care and early intervention, child protection services and family court, outreach, and other social services. The participating agencies and a brief description of their services are found in Table 1-1.

<table>
<thead>
<tr>
<th>Name</th>
<th>Agency</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alice Kitchen, Social Work Director and TIES Principal Investigator</td>
<td>Children's Mercy Hospital</td>
<td>Regional pediatric provider</td>
</tr>
<tr>
<td>Mona Perry</td>
<td>American Indian Council</td>
<td>Social services targeted to American Indians</td>
</tr>
<tr>
<td>Linda Dodds</td>
<td>The Children's Place</td>
<td>Day and outpatient treatment for young children &amp; their families</td>
</tr>
<tr>
<td>Tammy Moore, Program Manager</td>
<td>Jackson County Children's Division</td>
<td>State child welfare agency</td>
</tr>
<tr>
<td>Penny Howell, Family and Juvenile Drug Court Program Manager</td>
<td>Jackson County Family Court</td>
<td>Juvenile and Dependency Court, including Family Drug Court</td>
</tr>
<tr>
<td>June Paul, Bridge Coordinator</td>
<td>Rose Brooks Center</td>
<td>Domestic violence services provider including transitional housing program</td>
</tr>
<tr>
<td>Tamara Watson, Service Coordinator</td>
<td>KCMO Health Department</td>
<td>Public health agency</td>
</tr>
<tr>
<td>Lori Whitehead, Community Support Supervisor</td>
<td>ReDiscover Mental Health and Substance Abuse Services</td>
<td>CSTAR Women and Children's substance abuse treatment</td>
</tr>
<tr>
<td>Christie Horn, Community Support</td>
<td>Renaissance West Women's Place</td>
<td>CSTAR Women and Children's substance abuse treatment</td>
</tr>
<tr>
<td>Sr. Berta Sailer, Associate Director</td>
<td>St. Vincent's Operation Breakthrough</td>
<td>Child care and family services</td>
</tr>
</tbody>
</table>
This Consortium was a continuation of the group of community agencies formed in early 1990 to seek solutions for substance-exposed infants. The Consortium met bi-monthly to review recruitment and enrollment, to discuss intervention strategies, and to address barriers to providing services. Agencies represented in the TIES Consortium provided direct services to some TIES families and guided the overall program. The Consortium was very effective in sharing information about services and resources, addressing unmet needs, and planning strategies to address individual and recurring situations.

**The TIES Advisory Council**

The TIES Advisory Council consisted of 12 community volunteers with a variety of perspectives. The Council has met quarterly for over 12 years. Their role was to review information on services and resource needs. They sought outside funding to supplement grant monies and planned for long-term viability. They also provided feedback from the community and generated ideas concerning overall project operations and progress on the desired outcomes of the project. Table 1-2 lists the names and a brief description of each TIES Advisory Council member.

**Table 1-2. TIES Advisory Council**

<table>
<thead>
<tr>
<th>Name</th>
<th>Profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellen Laner, Chair</td>
<td>Founder of Metropolitan Child Abuse Network, Citizen Volunteer</td>
</tr>
<tr>
<td>Leona Booker-Houston</td>
<td>TIES Program alumnus</td>
</tr>
<tr>
<td>Judy Cerwick</td>
<td>Community volunteer</td>
</tr>
<tr>
<td>Alinda Dennis</td>
<td>Director, Metropolitan Child Abuse Network</td>
</tr>
<tr>
<td>Joan Diaz</td>
<td>Missouri State Department of Health and Senior Services</td>
</tr>
<tr>
<td>Sarah Ingram-Eiser</td>
<td>Board Member, Truman Medical Center, Adult Public Hospital</td>
</tr>
<tr>
<td>Williams Kyles</td>
<td>Director, Comprehensive Community Mental Health Services</td>
</tr>
<tr>
<td>Morty Lebedun, PhD</td>
<td>Director, Tri-County Community Mental Health Services</td>
</tr>
<tr>
<td>Judge William F. Mauer</td>
<td>Retired Circuit and Juvenile Court Judge</td>
</tr>
<tr>
<td>Josephine Njoroge</td>
<td>KCMO School District Parents As Teachers</td>
</tr>
<tr>
<td>Nancy and James Petersen</td>
<td>Foster parents for 25 years</td>
</tr>
<tr>
<td>Preston Washington</td>
<td>National Council on Alcoholism and Drug Dependence</td>
</tr>
</tbody>
</table>
Daily Operations of the TIES Program

Program Coordinator Oneta Templeton McMann, with oversight from Principal Investigator Alice Kitchen, managed the daily operations of the TIES Program throughout this 4-year period. Five highly qualified TIES Specialists, who are seasoned practitioners with years of experience in home-based work, provided case management and family support services for 159 families during this time.

The TIES Model of Comprehensive Case Management

Families served by the TIES Program during the past 4 years faced multiple, long-term, complex issues that placed children at risk for abandonment. Comprehensive intervention was required that acknowledged the range of issues and provided an easily accessible, cohesive set of services. The TIES model has been employed by this project over the past 14 years and continues to be implemented. According to the model, TIES Specialists build a unique rapport with families by providing direct services, coordinating services from other providers, and helping families meet their own identified needs. The model also includes the following elements:

- a process for referral and determination of eligibility,
- an assessment of family resources and needs,
- engagement of the family in a problem-solving relationship,
- the development of a home-based intervention plan, ongoing home-based intervention,
- the provision of opportunities for peer support,
- an emphasis on strategies to address the needs of the children,
- multi-faceted supports to promote permanency, and
- relative caregiver support.

These specific TIES Program components are outlined in detail in the sections that follow.

Referral and Eligibility

Referrals to the TIES Program originate from a variety of sources, including the state child protection agency, substance abuse treatment providers, health care providers, emergency and women’s shelters, and self-referrals. Participation by families is entirely voluntary, and families must meet the following criteria:

- the mother is drug or alcohol involved or HIV positive during pregnancy,
- the mother is at least 18 years of age,
- the family is referred while the mother is pregnant or within two weeks of delivery if post partum,
- the discharge or planned discharge from the hospital is to a parent or relative,
- the family lives in the designated program area, and
- the parent agrees to intensive home-based work with a TIES Specialist and active participation in family goal setting.

After initial screening and program explanation by a TIES Specialist, the Program Coordinator determines whether the family is eligible. Eligible families that are willing to participate complete the Consent to Participate and Release of Information forms. Then they are assigned a TIES Specialist who they may access 24 hours-a-day by pager. The intervention is planned to continue until the identified infant is 18 months of age.

Assessment of Resources and Needs

The TIES Specialist conducts an initial assessment of the family’s resources and needs, helping the family immediately identify a primary health care provider for prenatal or newborn care, and pediatric care for any other children. The Specialist obtains a family history, a mental and physical health history, and completes the Family Risk Scale. When the infant is one month, the evaluation team administers the Child-Parent Interaction Rating Scales, which provides feedback to the TIES Specialist and mother about
her interaction with the infant. Specialists make every effort to engage male partners when identified, and any other support persons available to the family. They also contact other involved agencies to identify services, establish goals, coordinate activities, and to monitor the family’s progress.

Comprehensive Planning
Within six weeks of enrollment, the TIES Specialist creates a written plan with the family – a temporary prenatal case management plan if pregnant, or an Individualized Family Service Plan (IFSP) if post partum. Many services have already been provided by this time. For instance, Specialists provide transportation to medical and other appointments and help families apply for all available public assistance [i.e., Women, Infants, and Children Program (WIC), Medicaid, Temporary Assistance for Needy Families (TANF)]. Specialists also provide parenting information, modeling, and supportive counseling from the first encounter. In addition, the TIES Program can supply limited emergency assistance when needed, such as providing diapers, formula, or other infant care items.

When the infant is three months of age, the TIES Specialist convenes the previously identified service team for an IFSP conference with the family. The team determines family needs and resources in such areas as parenting, substance abuse, physical and mental health, housing, and financial stability. With support from the Specialist, parents confirm the services that are needed, determine who will provide them and under what circumstances, define the expected outcomes, and plan how changes will be made. The parents and the Specialist share the responsibility of monitoring the implementation of the plan. At 13 months, another full team conference is held, with the Specialist, family, and other partners reviewing and revising the IFSP as needed. At that time, planning is directed toward identification of the services and supports the family will need after completion of the TIES Program, and how they will be secured.

Ongoing Home-Based Intervention
The TIES model emphasizes intensive, coordinated, home-based case management for families with multiple challenges who must negotiate with many systems to meet their needs. To address the task of such coordination, an intensive home-based intervention has been developed and refined over time. TIES Specialists concentrate on establishing rapport and building productive relationships with the families in order to assist them with meeting their needs. The context of services is constantly evaluated in terms of ethnic and cultural values that are appropriate to the family.

For day-to-day coordination, the Specialists assist families in obtaining services and dealing with crises. These crises can take the form of utility or housing disruption, domestic violence, legal problems or a host of other potential emergencies. Specialists provide both direct services and coordination of other services. They also assist families in advocating for themselves and encourage them to follow through on their commitments. Families become empowered as they learn to address their own identified needs.

The number of families served by each TIES Specialist is limited to approximately ten at a time, to ensure that the Specialists have enough time to devote to individual needs. Families are followed until the infant reaches 18 months of age, at which time they are linked to other services for ongoing support. At the point of program completion, the Specialist’s role evolves from service provider and coordinator to trouble-shooter and resource person. Thus, many families maintain regular contact with TIES staff long after their child has turned 18 months old.
"Waiting to Exhale" Women's Support Group
A number of TIES mothers participate in a bi-monthly support group of their own design, the “Waiting to Exhale” Women's Support Group. Generally, one meeting per month is a recreational activity (i.e., bowling, a trip to the zoo, or a visit to the museum), and one meeting is a process group for sharing concerns and supporting one another. TIES personnel have provided support and encouragement for this group through its many evolutions. Currently 10-12 women regularly attend the group, including those who are active in the program and those who are “alumni.”

Addressing the Needs of Children
The TIES Specialists work with all of the children in enrolled families. The great majority of children are under the age of 10, with an average of just under three children per family including the newborn. The Specialist ensures the identification of a primary pediatric health care provider for each family at the outset. Routine well-child care and immunizations are secured as well as any needed specialty care. Trained personnel from the evaluation team administer the Bayley Scales of Infant Development II (BSID-II) to monitor developmental progress. The BSID-II is administered at two age-determined occasions for each infant – 6 months and 12 months. Any potential problems noted by the evaluation team or by the health care provider are quickly addressed. When needed, diagnosticians at The Children’s Place provide more comprehensive assessments for the infant or other children in the family. The Children’s Place, an original TIES Consortium member, has a long history and substantial expertise in assessing and treating the developmental and behavioral needs of young children.

TIES Specialists interface with schools, parent educators, child care providers, youth programs and other resources. Community child care, early intervention, or day treatment is provided for children when needed. Consortium member Operation Breakthrough provides Early Head Start and Head Start services, as well as before and after school care. This highly regarded and longstanding provider in the service area offers a number of family support services as well. The Children’s Place provides intensive day treatment, and the school district is engaged to provide early intervention services when they are needed. Specialists refer to the Missouri Department of Health and Senior Services contractors for First Steps services when children are eligible.

All child services are coordinated with the Jackson County Children’s Division if the family is currently involved with the agency. Children receive TIES services whether parents or other relative caregivers provided their care in a formal or informal arrangement. When children are placed in alternative care, the Specialists offer relevant information to assure a smooth transition and continuation of needed services. The TIES Specialist can serve as a constant in a child’s life when caregivers and other professionals change.

The Promotion of Permanency
Permanency is the goal for each child affected by the TIES Program. Every effort is made to promote permanency in the biological home as long as the child(ren) will be safe. There is recognition on the program’s part of the multiplicity of needs, the barriers that families face, and the feeling of helplessness that can result. TIES Specialists provide families with support, information, goal-setting assistance, and linkage to other community agencies. Parenting education, skills-building, and modeling are provided to each family. Formal parenting classes are available to those who can benefit, as well as a home-based parent educator from the local school district. Specialists strive to provide supportive counseling, promote self-esteem, and model advocacy in meeting the parents' own needs, as well as those of their children. In addition, mothers are connected to training and employment programs specifically designed for women.
Basic Needs. The TIES Program provides emergency assistance to meet basic needs when no other funding is available. Food, clothing, and utility assistance can be provided as part of a coordinated plan. Specialists will assist families in securing identification and other needed documents, enrolling children in school and other programs, and providing transportation to obtain needed services.

Housing. Among the greatest challenges for the participating families is securing adequate housing. Safe and affordable housing is not sufficiently available in Kansas City, and without it, creating family stability is nearly impossible. TIES Specialists refer families to the rather limited resources that are available in the community, and they encourage the development of an interim plan while long-term housing is sought. The TIES Consortium was instrumental in the creation of a supported housing program for recovering women and their children. More such programs are needed, and this pilot will guide that development.

Substance Abuse Treatment. TIES Specialists have been very successful in encouraging parents to participate in substance abuse treatment during the aforementioned 4-year period. Ninety-two percent of the 130 mothers who were newly enrolled in the TIES Program have participated in drug treatment during their involvement with TIES, many for the first time. The Specialists have worked closely with treatment providers to coordinate related services and ensure appropriate aftercare. These procedures continue to be employed with enrollees in the TIES Program.

Health Issues. TIES Specialists encourage parents to address their mental and physical health needs. Mental health assessments and treatment are secured when needed. Specialists ardently promote family planning to encourage parents to plan their family size and prevent undesired pregnancies. A number of women present serious medical conditions that have often been untreated. Securing health care for mothers is a high priority, including education and treatment of HIV/AIDS.

Collaboration. Many families served by the TIES Program are also involved with the Jackson County Children’s Division and the Jackson County Family Court. A close alliance exists between the TIES Program and these agencies. Both are members of the TIES Consortium, and the TIES Program has had a contractual relationship with each organization in the past. TIES staff members are well-versed in the procedures of these agencies, and they have forged effective partnerships with agency staff for the benefit of individual families. TIES Specialists participate in Family Support Team meetings for each Children’s Division-involved family, serving as an integral part of the team.

Jackson County also has a Family Drug Court, which was established in 1998. The Metropolitan Drug Exposed Infants Task Force, of which the TIES Program is a part, contributed to securing CSAT funds for a pilot of this program. The model has been recognized as a highly effective one by both CSAT and SAMSHA review. TIES staff members have helped shape the program since its creation, and they are pleased to have contributed to its success. TIES Specialists participate in all Drug Court staffings and hearings, and provide direct input in plan development.

Relative Caregiver Support
The TIES Program focuses on preventing abandonment and supporting parents in their desire to care for their own children; however, some families are unable to adequately care for their children, even with comprehensive and coordinated services. For those families, TIES Specialists create a safe environment where other options for permanency can be explored. Some enrolled families have children who are cared for by grandparents or other relatives. In these situations, Specialists identify the caregivers and develop services to enhance their caretaking abilities. Relative caregivers receive the full range of case management and support offered by the project to create a more permanent home for children. Caregivers are also connected to one of the seven Children’s Mercy Family Friends Relative Caregiver
Support Groups. Then, in cases where custody is transferred, the TIES Specialist already has a relationship with the parents, relatives and children ensuring a smoother transition.

COMMUNITY TRAINING AND INFORMATION DISSEMINATION

A great degree of interest has been expressed in information about the population served by the TIES Program and the response of the program to their needs. Persons involved with the TIES Program take responsibility for sharing relevant information from this project, which will inform others who address similar serious issues. TIES representatives have presented regularly at AIA Grantees Meetings, and have prepared a number of written publications based on their work. See the listing of all presentations and publications displayed in Figure 1-2.

Figure 1-2. TIES Presentations and Publications

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Publication Title</th>
<th>Event and Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currier-Ezechlick, J., McMann, O. T., (2003, May).</td>
<td>The supervisor’s role in engagement and retention.</td>
<td>11th Annual National Abandoned Infants Assistance Grantees’ Conference, Washington, DC</td>
</tr>
</tbody>
</table>

Continued...


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SUMMARY OF CHAPTER 1: INTRODUCTION TO THE TIES PROGRAM

- The TIES Program provides comprehensive, multi-disciplinary, community-based services to families of pregnant and post partum women with substance abuse or HIV problems, with funding from the U.S. Department of Health and Human Services under the Abandoned Infants Assistance Act and matching funds from the Jackson County Community Backed Anti-drug Tax (COMBAT).

- The TIES Program is operated through Children's Mercy Hospital of Kansas City, MO, with governance by the following interagency groups:
  - The TIES Community Consortium, with representation from 12 human service agencies, and
  - The TIES Advisory Council, comprised of 12 community leaders and stakeholders.

- Following are some key administrative accomplishments in which the TIES Program, the TIES Consortium, and the TIES Advisory Council have participated:
  - Maintained consortium membership to ensure community response to the issues;
  - Retention of the C-STAR Women and Children’s substance abuse treatment model in Missouri’s Medicaid managed care plan;
  - Improved access to family planning services for women enrolled in TIES;
  - Partnership with the Metropolitan Drug Exposed Infants Task Force to open a supportive housing program for recovering women and children in April 2000, serving 38 families with 79 children since;
  - Passage of the Grandparents as Guardians legislation in Missouri to provide benefits to relative caregivers; and
  - Delivery of services to 159 enrolled families by highly trained personnel in the four-year program period.

- The TIES model of comprehensive case management has been employed and refined for over 14 years in the Kansas City area. Key features of the model include the following:
  - A clear process for screening and referral to determine eligibility;
  - An extensive initial assessment of the resources and needs of the family;
  - The development of a comprehensive plan, which emphasizes family strengths, addresses family goals, and includes relevant partnerships with others;
  - The delivery of ongoing home-based intervention, based on a nurturing relationship between the TIES Specialist and the family members;
  - The opportunity for participation in a women’s support group;
  - Coordinated efforts to address the needs of all children in the enrolled families, e.g., assessment, health care, immunizations, child care, specialized services, support through any placement transitions;
  - Promotion of permanency through parenting education, counseling, assistance with housing and other basic needs, referral and coordination to substance abuse treatment or programs addressing other physical or mental health needs, and coordination with child protection and the court system; and
  - Full case management and support for relative caregivers who are providing temporary or permanent care for children in the enrolled families.

- The TIES Program has disseminated valuable information about characteristics of the families of infants at risk for abandonment, strategies for serving the families, and findings from the evaluation of the program.

- Approximately 21 formal presentations and 13 publications have reached various audiences at the local, regional, and national level.
CHAPTER 2
Profile of Families Served by the TIES Program

INTRODUCTION

Knowledge about families to be served by a given intervention yields valuable information for the design of effective programs. This chapter includes detailed information about the families served by the TIES Program, both as they entered the TIES Program initially and as they progressed through the program. Over the course of the past four years, 162 families have participated in the TIES Program: 82 families entered the program after delivery and 80 families entered prenatally. The TIES staff used a *General Information Form* and the *Family Risk Scales* (Magura, Moses, and Jones, 1987) to describe the enrolled families.

**General Information Form.** The *General Information Form* was constructed by the TIES Program for the purpose of gathering basic demographic information about the family, including the number of children, type of residence, income, and involvement with child protective services. Additionally, included in the general information collected was an assessment of the level of participant engagement in the TIES Program at 3 months after intake and at discharge from the program. This factor of engagement was considered in relationship to the risks and goal attainment of the participants.

**Family Risk Scales.** The *Family Risk Scales* consist of 26 individual risk items that assess family functioning with the aim of identifying any potential risk factors. Twenty-two of the items are separated into three factor-based scales: Parent-Centered Risks, Child-Centered Risks, and Economic Risks. The four remaining risk items are not included in the three factor-based scales, and thus are interpreted individually. The TIES Specialists completed this form based on observations of the family and conversations with family members. The result is a report of the family’s status with regard to substance abuse, living conditions, discipline, and care of their children.

Together, these two instruments comprise the initial assessment completed for enrolling families by the TIES Specialists. The findings from these instruments are summarized in the present chapter for both prenatal and post partum TIES participants. In addition, the results of three comparative analyses are presented: (1) a comparison of the initial risks for the prenatal and post partum groups; (2) an examination of changes in risks over time and between groups; and (3) an analysis of the interaction between engagement and the various risk factors.

Note that varying sample sizes for different items often occurred because information was unavailable. In some instances, items were not applicable to given families (e.g., items concerning older children when there are no older children in the family). In other instances the lack of information reflects the fact that women may not have engaged with the program fully enough during that intake time period to reveal sensitive information.

**GENERAL INFORMATION FORM**

Over the course of the first several meetings with each mother, the TIES Specialists complete the *General Information Form*. Information gathered from this form is presented in the sections that follow for all families participating in the TIES Program over the past four years. A total of 162 women were initially enrolled in the TIES Program: 82 after delivery and 80 during pregnancy. Partial information was available for 95% of the women at initial program enrollment: 75 post partum enrollees and 74 prenatal enrollees. Because engagement of the women was necessary to secure additional information during the intake process, data was not available for 8 women.
Maternal Age
Overall, the TIES participants ranged in age from 18 to 44 years, and the mean age of the 154 mothers at the time of the child’s birth was 27.8 years. The 77 mothers entering the TIES Program after delivery ranged in age from 18 to 44, with a mean of 27.3 years. Similarly, the ages of the 75 prenatal participants ranged from 19 to 42, with a mean age of 28.4 years.

Marital Status
Of 100 women for which marital information was available, 11% were married and the remainder were single through having never been married or having been divorced or separated. While 7% percent of the 45 women in the post partum group were married, 15% of the 55 in the prenatal group were married.

Race and Ethnicity
Of the 154 women in the TIES Program, 64% were African-American, 31% were Caucasian; 3% were Hispanic, and less than 1% were Native American, with another designation selected in 2% of the cases. Among the 79 women in the post partum group were 67% who were African-American, 27% who were Caucasian, 1% who were Hispanic, 1% who were Native American, and 4% who were another race. This compares to 61% African-American, 35% Caucasian, and 4% Hispanic women in the prenatal group of 75 women.

Educational Level
Information about the education of TIES participants was available for 100 women, including 50 post partum enrollees and 54 prenatal enrollees. Figure 2-1 depicts their reported levels of education. The educational level of the participants ranged from 7th grade through several forms of post-secondary education. Fewer than half (41%) had attained their GED or a diploma from high school. All could tell time, all but 1 prenatal participant could write, and all but 2 post partum participants could read. Sixteen percent of the women had attended special education classes.

Post partum group. Sixty percent of the 50 post partum mothers had failed to complete high school or obtain their GED, including 12% with an education below the 10th grade level. Forty percent earned their diploma or acquired their GED, with 40% of those with a high school degree having also received additional training or college. Thirteen percent of the 54 women in the post partum group had reportedly attended special education classes in secondary school.

Prenatal group. Included in the 57% of 54 responding prenatal participants were 11% who had not finished high school or earned their GED. The remaining 43% reportedly earned their high school diploma or GED, with 52% of the graduates having received some additional training or college courses. Nineteen percent of 58 prenatal participants had attended special education classes in school.

Prenatal Visits
Ninety-two percent of 144 TIES participants were known to have received some prenatal medical care. The number of medical appointments was reported for 96 of the women, which ranged from 1 to 20, for an average of 6 appointments. Five local health care providers delivered 89% of the prenatal care services, particularly Truman Medical Center West (37%) and Swope Parkway Health Center (23%).
Among the other service providers were Truman Medical Center East (16%), St. Luke’s Health System (9%), and Samuel U. Rodgers Community Health Center (4%). Prenatal care information is available for 70 of the post partum participants, 84% of whom accessed at least some prenatal care. Information was gathered on the number of appointments kept by 51 of the women who received prenatal care; the number of appointments ranged from 1 to 15, with a mean of 6 appointments. Of the 74 prenatal enrollees, 99% had accessed some prenatal medical care. The number of prenatal visits ranged from 1 to 20 for the 45 participants with this information in the database; they attended a mean of 5.8 appointments.

Missouri Children’s Division
The Children’s Division assigned children’s services workers to 60% of 128 families participating in the TIES Program. This includes 76% of 66 post partum families and 44% of 62 prenatal families for whom this information was available at intake.

Discussions about HIV Testing
TIES Specialists discussed the issues of HIV testing with nearly all of the TIES enrollees, i.e. 97% of them. Conversations between the TIES Specialists and the mothers about HIV testing occurred with 96% of the 52 post partum participants and 98% of the 61 prenatal participants.

Drug Usage
Information about drug usage was collected at initial enrollment for 161 women in the TIES program. This discussion first addressed the prevalence of usage of specific drugs, although multiple drug use was common. The most commonly used drugs were cocaine, typically in the form of crack (56%), marijuana (48%), alcohol (17%), PCP (14%), and methamphetamines (11%). Multiple drug use was reported for 36% of the participants, which often included the combined usage of cocaine, marijuana, and/or alcohol. Other unidentified drugs were used by a few women. Figure 2-2 presents the individual drugs used by women by natal status. Statistically significant differences were seen in the usage of cocaine and marijuana by women in the two groups. A greater percentage of women in the post partum group used marijuana than in the prenatal group,1 while a greater percentage of women in the prenatal group used cocaine.2

Post partum group. The percentages of women in the post partum group using particular drugs, in order of prevalence, are as follows: marijuana (58%), cocaine (48%), PCP (19%), alcohol (17%), and methamphetamines (9%). While 60% used one drug, 30% used two drugs, 9% used three drugs, and 1% used four drugs. Multiple drug use involved at least two of the three drugs of marijuana, cocaine, and/or alcohol 38% of the time. PCP was used in combination with other drugs 67% of the time.

1 X²(1, N=80)=6.80, p=.009, =.433, p=.06 The X² and significance level (p-value), are presented in footnotes for statistically significant analyses. For this report, p<.05 is the level defined as statistically significant.
2 X²(1, N=81)=3.97, p=.046, =.099, p=.34
**Prenatal group.** These percentages of women in the prenatal group used the following drugs: cocaine (64%), marijuana (38%), alcohol (16%), methamphetamines (13%), and PCP (10%). Sixty-eight percent of the women in this group used just one drug, while 21% used two drugs, 9% used three drugs, 1% used four drugs, and 1% used five drugs. Seventy-five percent of the time the multiple drug use involved at least two of the three drugs of marijuana, cocaine, and/or alcohol.

**Household Composition**

The adult household composition for TIES participants was available for 138 women at intake. Women who were homeless or enrolled in a residential drug treatment program were listed as having one adult in the household. The number of adults in each household ranged from one to four, resulting in a mean of 1.7 adults per household. The TIES participant was the only adult in over half of the households.

Information about the number of children in the home was initially available for 137 families. Households included from zero to nine children, with a mean of 2.1 children per household. Almost one-third of the families (30%) had only one child living in the household, while no children resided in 18% of the households. Figure 2-3 and Figure 2-4 display the number of adults and the number of children in the households, respectively.

**Figure 2-3. Number of Adults in the Households of TIES Participants**

- 1 adult (n=76) 54%
- 2 adults (n=36) 26%
- 3 adults (n=26)
- 4 adults (n=3)

**Figure 2-4. Number of Children in the Households of TIES Participants**

- No children (n=25) 30%
- 1 child (n=43) 18%
- 2 children (n=22) 16%
- 3 children (n=25) 9%
- 4 children (n=12) 5%
- 5 children (n=7)
- 6 to 9 children (n=8)

**Post partum group.** Of the 67 post partum households for which information was available, household size ranged from one to four adults and zero to nine children. Forty-eight percent included only one adult, while 30% included two adults, and 21% included three adults, with only 1% including four adults. The infant was the only child in 25% of the post partum households, while 19% had two children, 25% had three children, 9% had four children, and 26% had more than four children living in the household. Six percent of the households did not have any children in residence. Mothers in 47% of the families in the post partum group also had at least one child living outside of the home.

**Prenatal group.** The 71 households of women in the prenatal group consisted of one to four adults and up to seven children. The prenatal participant was the only adult residing in 61% of the households, while two adults resided in 2%, three adults in 16%, and four adults in 3% of the households. No children lived in 38% of the households, while one child lived in 14%, two children lived in 18%, three children lived in 18%, four children lived in 8%, and more than four children lived in 4% of the households. It was determined at intake that 62% of 73 prenatal enrollees had other children living outside of their home.
**Income and Employment**

Of 133 families, only 27% reported at intake that they earned cash income. For the 36 families with cash income, the amount ranged from $120 to $1,800 per month, with a mean of $461.25. While 65% of 107 women had been employed in the past, (most frequently in the food service industry), only 9% were currently employed. Generally families qualified for Medicaid, with 94% of the 136 families reporting Medicaid information being eligible. Figure 2-5 presents the ranges of income for the prenatal and post partum families in the TIES Program, with income categorized into four levels.

**Post partum group.** Thirty-three percent of 63 post partum families reported having a cash income. Monthly income ranged from $120 to $1,211 for the 21 families with income, equating to a mean cash income of $430. Of those with income, 33% earned from $1 to $250 per month, 43% earned from $251 to $500 per month, and 24% earned more than $500 per month. While 66% of 50 post partum mothers had previous work experience, only 6% were employed at the time of intake. The participants with work experience had most frequently worked in food service, retail/cashier, and clerical/business jobs.

**Prenatal group.** Of 66 prenatal participants, 23% reported a cash income and 77% reported no cash income. Mean monthly cash income for those with income was $505, with a range from $126 to $1,800 per month. Of these, 33% earned from $1 to $250 per month, 40% earned from $251 to $500 per month, and 27% earned more than $500 per month. Although 65% of 57 prenatal participants had previously been employed, only 11% were currently working. The women in the prenatal group most frequently reported work experience in food service, clerical/business, and health care positions.

**Residence**

The largest percentage of women in the TIES Program lived with relatives other than their parents, accounting for 36% of the sample of 121 participants. Among the 12 women who benefited from subsidized housing was one who lived with a relative in subsidized housing, 2 who lived in a shelter with subsidies, and the remainder who qualified for a subsidy in their own house. Eight percent of the women were homeless at the time of enrollment, and 7% were residing in a treatment center. Figure 2-6 summarizes the housing situations of the prenatal and post partum women in the program.
Post partum group. At the birth of the child, 21% of the post partum mothers lived in a house, and 10% lived in an apartment. Others lived with friends (7%), parents (7%), and most often with other relatives (41%). In addition, 3% were homeless, 2% lived in a treatment center, 2% lived in a domestic violence shelter, and 8% had other living arrangements. Twenty percent of 35 women reportedly received a housing subsidy.

Prenatal group. Thirteen percent of prenatal participants lived in a house upon enrollment, and 7% lived in an apartment. The largest percentage lived with relatives other than their parents (32%), while others lived with their parents (2%) or friends (3%). Prenatal mothers with other living arrangements included 12% in a treatment center, 10% in a domestic violence shelter, 7% in another living situation, and 15% who were homeless. Among 18 who reported on subsidies were 28% who received subsidized housing.

STATUS AND BIRTH OUTCOMES OF INFANTS IN THE TIES PROGRAM

Information was gathered concerning the newborn infants in the families served by the TIES Program, including both demographics and birth outcomes. While needs of all children in the enrolled families were addressed by the TIES Program, more detailed records were kept with regard to the target infants. Overall, some birth information was ascertained for 161 infants of mothers in the TIES Program. Among these were four sets of twins, including 1 set of twins in the prenatally served group and 3 in the post partum group.

The outcomes of infants in the prenatally enrolled group are of vital importance and particular interest due to the TIES program goal of healthy birth outcomes. Among the prenatally served sample, 7 mothers dropped out or moved away before delivery and 1 infant died in utero before delivery. Information is reported for 72 infants born during their mothers' TIES Program participation.

Child Gender

The infants served by the TIES Program included 84 males and 70 females, although gender was not reported for some infants. Fifty males and 32 females were born to the post partum families, while 34 males and 38 females were born to the prenatally enrolled families.

Child Race/Ethnicity

Child ethnicity is depicted in Figure 2-7. Of 148 children with this information in the database, 97 (66%) were African American, 26 (18%) were Caucasian, 2 (1%) were Hispanic, 1 (1%) was Native American, and 22 (15%) were multi-racial (typically African American and Caucasian). Eighty-one children in the post partum group were comprised of 67% African American, 11% Caucasian, 1% Hispanic/Latino, 1% Native American, and 20% multi-racial children. Among 63 births to the women in the prenatal group were 65% who were African American, 24% who were Caucasian, 2% who were Hispanic, and 10% who were multi-racial children.

Gestational Age

Gestational age ranged from 26 to 42 weeks, with a mean of 38.1 weeks for the 146 infants. For the infants of the 79 post partum enrollees, gestational age ranged from 28 to 42 weeks, with an average of 37.6 weeks. For the 67 infants of prenatal enrollees, the range was 26 to 42 weeks, and the mean gestational age was 38.8 weeks. Encouragingly, the mean gestational age was significantly higher for the
prenatal group than the post partum group. This suggests the possibility that prenatal enrollment in the TIES Program may be a factor in promoting full-term pregnancies. However, the small effect size ($\eta^2=.04$) indicates that only a small amount of the total variance in gestational age may be directly explained by group membership.

**Birth Weight**

Information about the weight of the infants at birth was available for 143 infants, including 79 from the post partum group and 64 from the prenatal group. Their weight at birth ranged from 964 grams to 4395 grams, with a mean of 2869 grams (approximately 6 lb. 5 oz.). Infants of mothers who entered the program after delivery ranged in birth weight from 964 to 4395 grams, and the mean was 2689 grams (approximately 5 lb. 15 oz.). By comparison the 64 infants from the prenatal group ranged in birth weight from 1247 to 4280, with a mean of 3092 grams (approximately 6 lb. 13 oz.). A comparison of the birth weights of infants from the two groups resulted in statistically significant differences, with the infants of mothers served prenatally weighing more. The moderate effect size of group ($\eta^2=.10$) suggests that prenatal participation in TIES was associated with the larger birth weight.

**Toxicology**

Infants in the post partum group were prenatally exposed to drugs, a factor in determining their eligibility for enrollment in the TIES Program. Toxicology information was available for the infants born to 67 of the prenatally enrolled women who delivered while being served by the program. These toxicology reports showed 78% of the 67 births to be drug-free at delivery. This finding speaks to one of the foremost goals of the TIES Program.

**PARTICIPANT ENGAGEMENT WITH THE TIES PROGRAM**

A mother's level of engagement with the TIES Program is a factor that could influence a number of outcome variables outlined and analyzed in this report. Data concerning engagement was collected on two occasions - at 3 months after intake and at discharge from the program. Maternal engagement was rated on a 5-point scale: 1 (limited contact or unknown whereabouts), 2 (all TIES Specialist-initiated contact), 3 (both mother and TIES Specialist initiate contact), 4 (regular contact), and 5 (fully engaged).

Figure 2-8 depicts the percentages of maternal engagement rated at each level for the 3-month assessment time, while Figure 2-9 shows the same for mothers assessed at discharge.

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3 $F(1,144)=6.18$, p=.014, $\eta^2=.04$ Statistical significance is achieved when p<.05. Effect size refers to the magnitude of the contribution of the independent variable to the overall variance in the dependent variable; $\eta^2 > .10$ is considered relatively large.

4 $F(1,144)=15.51$, p<.001, $\eta^2=.10$
At 3 months, 73% of the mothers assessed were initiating contact with their TIES Specialist, while 51% had regular contact or were fully engaged. At discharge, fewer mothers (44%) were initiating contact, and 37% had regular contact or full engagement with the program.

When considering only the 95 women whose engagement was rated at both 3 months and discharge, the difference between mean engagement ratings was statistically significant\(^5\). Mean engagement decreased over time\(^6\), indicating that mothers became less engaged with the TIES Program as time went on. While it is likely that some of these mothers were minimally participating in the program all along, it is also possible that mothers who had been engaged earlier had begun to disengage from the program as they readied for discharge. The former example is a common representation of the women for whom the TIES Program was not effective. However, the latter instance represents a successful journey through the TIES Program, when mothers utilize the resources provided and move toward independence and self-sufficiency by program discharge.

The mean engagement ratings of mothers in the prenatal and post partum groups were also compared. While there were some small differences in these ratings, none of these were large enough to reach statistical significance. All such differences are likely attributable to random fluctuations in the data.

**THE FAMILY RISK SCALES**

The Family Risk Scales (Magura, Moses, and Jones, 1987) provide a framework for documenting the risks present in each of the families. The Family Risk Scales assessment was completed for both post partum mothers and prenatal enrollees. TIES Specialists gathered information about participating families through conversations and visits with family members in order to complete the risk assessment. It must be emphasized that the assessment was completed during the initial stages of developing the relationship between a TIES Specialist and a family; thus, information provided at that time may be determined at a later date to be inaccurate.

The findings for both the post partum group and the prenatal group are described in the following sections for the three factor-based scales: Parent-Centered Risks, Child-Centered Risks, and Economic Risks. In addition, another section of this chapter presents the four remaining risks that are not included in the three factor-based scales. In every item, 1 is assigned as the lowest risk level. However, the highest level of risk differs by item. Scales range from 1 to 4, 1 to 5, or 1 to 6 on the individual items; the anchor points for the lowest risk (1) and the highest risk (4 or 5 or 6) will be shown in parentheses in the discussion of each item. In the presentation of the findings, the initial narrative and figures will summarize the overall results for all enrollees. Then separate paragraphs will discuss any differences between groups. Finally, an analysis of change over time by group will be presented. More detailed tables of the risk assessment findings are presented in Appendix A.

\[^{1}\text{t(1.94)=1.70, p=.001, eta}^2=.13\]
\[^{2}\text{means of 3.3 at 3 months and 2.7 at discharge}\]
THE FAMILY RISK SCALES: PARENT-CENTERED RISKS AT ENROLLMENT

Twelve items address issues regarding the well-being of parents and their parenting practices. These include items addressing the parent’s relationships with others, mental health, and the incidence of substance abuse. In addition, issues related to motivation, cooperation, and preparedness for parenting are included. Other items address how the parents supervise, discipline, and care for their children. The mean scores for the 12 items in the Parent-Centered Risk Scale are displayed in Figure 2-10. In addition, the frequency distribution for these items is presented in Table A-1 of Appendix A, and each risk item is discussed in greater detail in the paragraphs that follow.

Adult Relationships in the Household
This risk scale item measures the adult relationships in the household with risks ranging from good relationships with little arguing (1) to severe and/or injurious discord in the relationships (4). The TIES Specialists reported that 48% of the women entering the TIES Program had good adult relationships characterized by only infrequent and normal arguments. Diminishing numbers of participants were identified at each increased level of risk. Among those with the most optimal rating were 53% of 50 post partum enrollees and 43% of 42 prenatal enrollees (with comparative means of 1.7 and 1.9). While most women did not exhibit extreme risk in this area, 6% experienced physical injury as a result of domestic violence.

Parent Mental Health
This risk scale item assesses mental health risks which range from no identifiable mental difficulties (1) to incapacitating mental illness (5). In all, 74% of the women were assessed as having very low to low mental health risks, with none exhibiting the highest level of risk. Similar percentages of the 44 women in the post partum and 50 women in the prenatal group were assessed at each level, as shown by comparable mean risk scores of 1.9 and 1.8, respectively.

Knowledge of Child Care and Development
The TIES Specialists reported the range of participants’ knowledge of child care and development from a high capacity (1) to a low capacity to provide competent care for children (4). Most participants were assessed as having very low (37%) or low (40%) levels of risk. However, 4% presented indicators of the highest level of risk, i.e., having a very poor understanding of children’s needs. The largest percentage of the 47 post partum women (43%) received a 2, indicating a moderately low risk. By comparison, the largest percentage of the 48 prenatal women (42%) received a 1, indicating a very low risk. This is also reflected in their mean scores of 2.0 and 1.8, respectively.
Parent Substance Abuse
This item identifies risks associated with maternal substance use upon enrollment in the TIES program. The usage ranged from no socially unacceptable use of alcohol (1) to considerable substance abuse with some severe consequences (5). As expected, substance abuse was prevalent in the population of this study, due to the program mission of serving a population with substance abuse issues. The risks were considered very high for 22% and moderately high for 40% of the women. Among the 52 in the post partum group were 12% with very high risks and 42% with moderately high risks. By comparison, a higher percentage of the 61 women in the prenatal group exhibited the highest risks (31%), with 38% in the moderately high risk category. Mean risk scores were 3.2 and 3.7 for the post partum and prenatal group, respectively.

Parent Motivation for Problem Solving
This item identifies the parent’s motivation for solving problems concerning their child’s welfare. The scale ranges from realistic confidence (1) to rejection of parental roles (5). Program participants ranged from very low risk to moderately high risk in this area, with great variability in their capacity to address issues that affect their child’s well-being. While 39% were assessed at low risk, 27% were at moderately low risk, 25% at some risk and 9% at moderately high risk. Within the post partum group of 54 mothers, 65% showed concern for their children, but half of those lacked confidence in their decision-making ability. Similarly, 66% of the 63 women in the prenatal group showed that they were concerned about their children. However, a higher proportion of mothers in the prenatal group demonstrated realistic confidence in making decisions regarding their child’s welfare. Means of 2.2 and 2.0 for the respective groups show a moderately low risk in this area.

Client Cooperation with Agency
This item identifies the women’s level of participation in the TIES Program from fully involved (1) to rejecting of any involvement with the program and planning process (4). Of the 55 post partum women, 33% were fully and actively involved in planning, but 49% were not initiators of their involvement in the program. Comparatively, the 62 prenatally served women generally cooperated with the TIES Program, with 48% being fully and actively involved and 24% being involved but with less initiative. The relatively low risks for both groups are shown by means of 1.9 and 1.8 for the post partum and prenatal groups.

Preparation for Parenthood
The item addressing preparation for parenthood examines the woman’s commitment to the parenting role and her demonstrated awareness of available resources. The scale ranges from strong commitment (1) to denial of this responsibility (4). Over half of the women were assessed at a moderately low risk level because of their willingness to commit to parenting but their difficulty in accessing the resources to effectively parent. This description typified 60% of the 52 women in the post partum group and 51% of the 63 women in the prenatal group. Mean scores were 2.0 for each group.

Supervision of Child under Age 10
This item identifies the extent to which the parent was providing appropriate supervision for their young children, with the scale ranging from adequate supervision (1) to improper supervision resulting in harm or injury (4). The supervision of children did not appear to be a challenge at intake, with most women at the level of lowest risk on this item. Within the post partum group, 71% of the 38 women exhibited low risk in this area; similarly, 68% of the 28 prenatally served women exhibited low risk. This is also shown by respective means of 1.3 and 1.4.

Parenting of Child Age 10 and Over
This scale item addresses issues of guiding older children. The scale ranges from the parent providing appropriate direction (1) to no effective direction and guidance (4). The sample of women parenting
older children is relatively small, and 80% were assessed as having low to moderate risk. Nine post partum women with children over age 10 exhibited varying levels of risk, although most (44%) had moderately low risk that reflected some inconsistency or lack of realism in guidance. Risks for the 11 prenatally served women also varied, with 46% at the moderately low level. Means were similar at 1.9 and 1.8 for the post partum and prenatal group, respectively.

**Physical Punishment of Child**
This item assesses the degree to which mothers use physical punishment with their children. This risk scale ranges from absence of physical punishment as discipline (1) to serious injury resulting from abusive physical punishment (5). Two-thirds of the women did not resort to physical punishment, while the other one-third resorted to it infrequently. The only exception was 1 of the 21 post partum women who was reported to have used inappropriate or excessive physical punishment, while 62% did not use physical punishment and 33% used it sparingly. Of the 23 women in the prenatal group, 70% used no physical punishment and 30% used it sparingly. Mean scores of 1.5 for the post partum group and 1.3 for the prenatal group suggest that this is an area of relatively low risk.

**Verbal Discipline of Child**
This risk scale item identifies the type of verbal discipline used with the child, from constructively controlled to hostile, unpredictable, or disproportionate. In this scale a constructive and controlled parent would discuss the consequences of misbehavior with a child (1), whereas an authoritarian parent would be either overly directive or threatening (4). Compared to physical punishment, verbal discipline appeared to be greatly preferred by the participants, with 89% using this approach, although almost half of them used it in a more authoritarian way. The 19 assessed women in the post partum group tended to use verbal discipline, with the verbal interaction characterized as negative or hostile in only 11% of the cases. The same trend was true of the prenatal group, in which 11% of the 28 women were at moderately high risk for negative verbal discipline. The respective mean ratings were 1.7 and 1.6 for the post partum and prenatal groups on this item.

**Emotional Care and Stimulation of Infant**
This item identifies the level of emotional care given to a child under the age of 2 years, ranging from very attentive to very inattentive. An attentive parent would enjoy smiling, laughing, and maintaining close contact with the child (1). An inattentive parent would appear unresponsive, hostile, or irritated toward the child (4). Overall, the risks in this area were relatively low, with 90% of the women being attentive to a great or moderate degree at the time of program enrollment. This included 51% of the 41 post partum women and 59% of the 41 prenatally served women who were rated at the lowest risk level. Mean scores of 1.6 for each group reflect the fact that a small percentage of the women did have greater risks in providing optimal emotional care for their infants.

**The Family Risk Scales: Child-Centered Risks at Enrollment**
The Child-Centered Risk Scales present possible family risks related to the attitudes, behavior, and care of children in the home. Some risk scale items examine the behaviors of other children living in the household. Others assess the care that children receive, their mental health, and their home or school behavior. The low sample size for some of the questions is attributed to their inapplicability to some of the TIES participants. Mean scores for these six risk items are presented in Figure 2-11, and detailed frequency information is shown in Table A-2 of Appendix A.

**Parent Attitude toward Preventing Placement**
This item indicates whether the parent opposes out-of-home placement for her child (1), considers it an option, prefers it, or requests it immediately (4). Ninety-four percent were opposed to out-of-home
placement. Among the few who would consider or prefer it were 8% of the 50 post partum women and 5% of the 62 prenatally served women. Mean scores of 1.1 for each group document this low risk.

Emotional Care and Stimulation of Child Age 2 and Older
This item identifies the level of emotional care given to a child over the age of 2 years, ranging from great attentiveness toward the child (1) to parental rejection or extreme in-attentiveness (4). The risk for children due to inattentiveness was moderately low, with 35% of the women considered to be attentive and 48% considered to be moderately inattentive. This pattern was similar for the 27 women in the post partum group and the 25 women in the prenatal group, as shown by respective means of 1.9 and 1.8.

Sibling's Mental Health
This scale item rates the siblings' mental health, with a range of no identifiable difficulties (1) to incapacity by mental illness (5). Among the families served were 3 from the post partum group in which a sibling had a mental disturbance determined to be serious in one instance and moderate in the other two instances. All other sibling children had either adequate mental health (61%) or some minor psychological distress reactions (32%). The percentage of families in the lowest risk category was much lower for the post partum group of 20 women (45%) than for the prenatal group of 31 women (76%). This is apparent in the difference in mean scores, as well, with means of 1.8 and 1.2 for the post partum and prenatal group, respectively.

Sibling School Adjustment
Assessment of the school behavior of siblings involves the assignment of ratings ranging from regular attendance with good behavior and performance (1) to violent and dangerous school behavior (6). Although over half of the families with older children were assessed at the lowest risk level, some families were placed in each risk level except the highest risk. Among the 15 post partum families were children who exhibited adequate school performance and behavior, as well as children who were disruptive or aggressive in school. The pattern was similar for the 16 prenatally served families with older children, although none were assessed as in the category typified by aggressive behavior. Mean scores of 2.2 and 1.8 show the moderate risk in this area for the post partum and prenatal groups.

Sibling Delinquent Behavior
The siblings are rated on their behavior, with a range from conventional and acceptable behavior (1) to the perpetration of violent crimes causing significant injuries (6). With the exception of one family with a youth who had committed a dangerous crime, all families with older children were seen as having a low to moderately low risk for delinquent behavior. The mean was 1.4 for both the post partum group of 15 families and the prenatal group of 13 families.
Child Home-Related Behavior
This risk scale item rates the range of children's home behavior from appropriate for the child's development (1) to difficult or disobedient to dangerously inappropriate (5). Risks were seen as low or moderately low for the children of participants in the TIES Program, with none seen as dangerous to self or others. However, 9% of the 32 families in the post partum group and 8% of the 24 families in the prenatal group had a child who exhibited very challenging behavior. Means of 1.3 and 1.2 for the two groups illustrate that such behavioral problems were relatively uncommon.

The Family Risk Scales: Economic-Centered Risks at Enrollment
The Economic-Centered Risks address difficulties the family experiences with basic subsistence needs. These risk scale items assess the conditions of the interior and exterior of participants' homes, as well as the financial and physical needs of the families. These economic-centered results are shown in Figure 2-12, with more detailed information presented in Table A-3 of Appendix A.

<table>
<thead>
<tr>
<th>Figure 2-12. Economic-Centered Risks at Intake</th>
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<tbody>
<tr>
<td>Habitability of family residence (n=94)</td>
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<tr>
<td>Suitability of living conditions (n=97)</td>
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<tr>
<td>Financial problems (n=113)</td>
</tr>
<tr>
<td>Physical needs of child (n=82)</td>
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<tr>
<td>Means</td>
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<td>0 1 2 3 4 5</td>
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Habitability of Family Residence
In assessment of this item, the safety of the home ranges from adequate (1) to so unsafe that a family member sustains an injury or illness because of the condition of this home (5). While nearly two-thirds of participants were in the low risk category for this item, the remainder was distributed in all but the highest risk category. Of most concern are the 4% of 52 post partum enrollees and the 7% of 42 prenatal enrollees whose housing safety places them in imminent danger. Mean scores of 1.6 for both groups suggest that the risks in this area are moderately low for most individuals.

Suitability of Living Conditions
This risk scale item examines the adequacy of living conditions for the performance of all essential household functions, e.g., eating, sleeping, bathing, and socializing. The living situations range from having adequate housing for such functions (1) to lacking housing entirely (5). This risk item showed the wide range of living conditions tolerated by the TIES participants. While 85% of the 52 post partum women had low to moderately low risks in this area, 4% lacked housing and 11% had relatively severe housing limitations. Proportionally even more women in the prenatal group had risks in this area; 18% of the 45 prenatally served women had no housing, and 2% with some correctable housing problems, even though the large majority (81%) had relatively adequate living conditions (80%).

Financial Problems
The financial item identifies the degree to which financial issues affect the family, with a range from no financial problems (1) to difficulties which could imminently result in serious consequences (4). This item captured the variability in risk concerning finances for the TIES participants, with the ratings distributed across the four levels of risk. For both groups, the low risk category was least populated, while the moderately low risk category was most prevalent. The most serious risk is surmised to be for 20% of the 55 women in the post partum group and 28% of 58 women in the prenatal group who were assessed at the highest level of risk concerning finances. Mean scores of 2.4 and 2.7 for the post partum and prenatal group indicate that this is perceived by the assessor to be a higher risk than many other issues.
Physical Needs of Child
This scale item assesses the degree to which the physical needs of the child are being adequately met, with a range from adequate (1) to so inadequate that the child experiences serious illness or injury (4). During the initial enrollment time period, TIES participants were generally not seen as highly at risk concerning meeting the physical needs of their children. Determination was made that the child was at serious risk in one post partum family, while inadequacies placed children in 5 other families at moderately high risk (four post partum families and one prenatally served family). In contrast, 50% of the 48 post partum women and 68% of the 34 prenatally served women were at low risk. Respective mean scores of 1.6 and 1.4 indicate a moderately lower risk over.

The Family Risk Scales: Scales Not Assigned to Factors at Enrollment
This section discusses the risk factors which do not fall within the parent-centered, child-centered, or economic-centered factor-based groups. These risk factors include social support, adult and child physical health, and sexual abuse. The results of these four risk factors are summarized in Figure 2-13 and shown in more detail in Table A-40 of Appendix A.

Family Social Support
This risk scale item identifies the level of social support that families’ experience, ranging from well-supported (1) to completely isolated (4). While only 3 women were reported as being completely isolated, only about one-fourth of the women appeared to receive adequate social support. This translates into 32% well-supported, 49% marginally supported, 17% partially isolated, and 2% completely isolated in the post partum group of 47 women. By comparison, only 21% of the 56 women in the prenatal group were well-supported, while 32% were marginally supported, 43% were partially isolated, and 4% were completely isolated. Mean scores of 1.9 and 2.3 reflect the higher risks for the prenatal group and slightly higher risk of vulnerability in the area of social support overall.

Parent Physical Health
The parent’s physical health risk item assesses the quality of the parent health, with a range from good (1) to seriously injured or impaired (4). Almost all of the participants were considered to be healthy (66%) or moderately healthy (28%). These proportions are similar for the 48 post partum women and the 58 prenatally served women, with each group having a mean score of 1.5 on this item.

Sexual Abuse of Child
The sexual abuse risk item indicates whether the children in the home have been exposed to sexual harassment or sexual abuse. The scale item ranges from no current sexual abuse or exploitation (1) to the sexual commercial exploitation of a child (5). The TIES Specialists assessed moderately high levels of risk for the sexual abuse of children in 3 families enrolled prenatally in the TIES Program. All others, including the 27 post partum families and the 18 other prenatally served families, were at the lowest risk level. Mean scores of 1.0 for the post partum and 1.4 for the prenatal group support the premise that this is not a common problem identified at intake.
Child Physical Health and Disabilities
This item addresses the physical health of the child, with a range from good physical health (1) to serious physical illness or developmental impairment (5). Overall, 81% of the families had children with good physical health, including 74% of the 42 post partum families and 90% of the 31 prenatally served families. Respective means of 1.5 and 1.3 indicate a relatively low level of risk.

COMPARISON OF INITIAL RISK ASSESSMENTS OF PRENATAL AND POST PARTUM ENROLLEES
A series of comparative analyses were made between the risk scale scores of prenatal and post partum participants in the TIES Program to investigate whether there were differences by group.

In most ways the prenatal and post partum participants in the TIES Program presented very similar and comparable risks at the time of enrollment. Three initial differences between groups were identified, however. Table A-5 in Appendix A summarizes the findings from these analyses.

Two risk factors were seen as more challenging for women in the prenatal group. As expected, the risk of parental substance abuse was moderately high for both groups. It was, however, identified to be somewhat higher for the prenatal group than the post partum group (respective means of 3.70 and 3.21 on the 5-point risk scale). For the risk related to family social support, the prenatal group was assessed as having moderate risk (mean of 2.29 on 4-point scale), compared to the slightly lower risk of the post partum group (mean of 1.89). This suggests that the pregnant enrollees appear to have less support from their families prior to the birth of their infants. Together, the heightened risks related to substance abuse and non-optimal family support at enrollment suggest an added vulnerability for pregnant women that may require more intensive intervention.

Mental health risks of siblings were relatively low for both groups, but risks were higher for the post partum group than the prenatal group (means of 1.75 and 1.24 on the 5-point scale, respectively). In addition, the risks associated with sexual abuse of a child and physical needs of a child were assessed as moderately to very low for both groups, but differences between groups approached statistical significance. Caution is necessary in generalizing these findings, due to the small sample sizes resulting from the pregnant status of the prenatal enrollee and the absence of older children from many of the households.

COMPARISON OF RISK ASSESSMENTS OVER TIME AND BETWEEN GROUPS
The TIES Specialists also assessed the level of perceived risk for each family at the time of discharge. If the women completed the program, discharge occurred at the child’s age of 18 months. A multivariate analysis of variance was conducted to examine differences associated with changes occurring between intake and discharge, differences between groups, and the interaction between group and time. Table A-6 in Appendix A presents the risks in which differences approached or reached statistical significance.

Attrition
It is important to first note that differences over time can only be determined for women who remained in the TIES Program. Cross analyses were conducted to determine if mothers who had discharged early from the program differed on key demographic variables or initial risks from mothers who had not discharged early. Of all the key demographic variables and initial risk factors, statistically significant differences were seen only with regard to these factors: number of children removed from the household.

\[ F(1.111)=4.23, \ p=.042, \ \eta^2=.04 \]
\[ F(1.101)=6.02, \ p=.016, \ \eta^2=.06 \]
\[ F(1.39)=5.96, \ p=.019, \ \eta^2=.13 \]
Parent Physical Health risk, and Parent Mental Health risk. In each instance, the women who discharged early from the program had higher risk factors, i.e., more children removed from the home, higher risks related to physical and mental health, and poorer cooperation with the agency. These risks are likely indicators of challenges in engagement at the time of initial enrollment. Differences on other such characteristics as maternal age, education, housing, and drug of choice were not statistically significant. These findings give credibility to the fact that the women were very similar; however, caution must be used in generalizing findings to those who disengaged from the program, based on the differences that were found in previous removal of children and higher risks for physical or mental health problems.

**Differences over Time**

Two encouraging findings relate to decreased risks from the time of program entry to the time of program discharge. In other words, sustained participation in the TIES Program was associated with notable benefits for mothers. The risks associated with parental substance use declined significantly over time for both groups. The very large effect size suggests that a large proportion of the variance in risk scores is associated with changes over time. In addition, a statistically significant decline in financial risks over time was found for both groups. Similarly, the large effect size speaks to the strength of the relationship between the variance in financial risks and time. A reduction in risks over time for both groups regarding the habitability of the family residence approached statistical significance, with a moderately large effect size. These important results for mothers were likely attributed to the efforts of the TIES intervention program in providing assistance addressing issues related to substance abuse, financial security, and housing. Through the TIES Program, families accessed such supports as diapers and infant supplies; referrals to other agencies for basic necessities, housing, and employment assistance; and guidance and support from the TIES Specialist to work on individual goals in these areas.

One family risk item that showed a statistically significant increase over time was the risk associated with the client’s cooperation with the agency. After 18 months of involvement with the TIES Program, the mothers are discharged from the program. Some families are better prepared than others to make the transition away from program support, guidance, and supervision. The degree to which they have internalized program values related to effective parenting, substance abuse, and self-actualization varies from person to person, and risks are likely to still be present for many who were faced with critical challenges at program entry.

Because mothers’ cooperation with the TIES program received a discharge rating even in circumstances of premature discharge from the program, it was important to examine this relationship with the early discharges removed from consideration. When the early discharges were removed from the analysis, the increased risk was still present, but the effect size was diminished, suggesting that this phenomenon also affected the findings. Thus, it is understandable that an increase in risk scores would occur at the time of discharge. This risk may be a precipitator for two other risks that increased over time, approaching statistical significance—the risks concerning adult relationships and parent mental health. At the time of program discharge, TIES participants may be more vulnerable to problems with other adults and their own mental health due to the impending decrease in support from the TIES Program. It might also be hypothesized that sobriety increases a woman’s awareness of other underlying problems that might have contributed to her substance abuse problem, precipitating some mental health symptoms, e.g., depression.

\[ X^2(6, N=124) = 16.93, p = .010, \lambda = .030, \rho = .080; X^2(3, N=94) = 10.42, p = .015, \lambda = .041, \rho = .153; X^2(3, N=82) = 16.49, p = .001. \lambda = .083, \rho = .161 \]

\[ \text{By Time: } F(1,39) = 24.38, p = .001, \eta^2 = .39 \]

\[ \text{By Time: } F(1,47) = 8.85, p = .005, \eta^2 = .16 \]

\[ \text{By Time: } p = .06, \eta^2 = .11 \]

\[ \text{By Time: } F(1,57) = 12.98, p = .001, \eta^2 = .19 \]

\[ \text{By Time: } F(1,46) = 4.24, p = .045, \eta^2 = .08 \]
**Differences between Groups:**
Four differences between groups were seen when examining those cases in which both the intake and discharge assessment were completed, three of which occurred in the Parent-Centered Risk Scale:
- Adult relationships,16
- Parent mental health,17
- Preparation for parenthood,18 and
- Physical needs of the child.19
With regard to each factor, the risks were assessed as higher for the post partum group than for the prenatal group at each time period.

**Group by Time Differences**
A significant interaction between group and time was noted with regard to the risk of parent physical health. While risks were in the moderately low range for each group at each time period, the risks increased over time for the post partum group and decreased over time for the prenatal group.20 This finding might suggest that the time period during pregnancy is one of higher risk to physical health for prenatally served women, but that the risk declines after delivery. On the other hand, the physical health risks of women in the post partum group may be related to other more chronic health concerns.

**CROSS ANALYSES BETWEEN ENGAGEMENT AND FAMILY RISK FACTORS**
Building on the understanding of the family risk factors and the mother’s level of engagement with the TIES Program, cross analyses between these two types of variables were performed. These cross analyses give insight into the relationships between the levels of maternal engagement in the TIES Program and each family risk factor. For the cross analyses yielding statistically significant results, the analyses was elaborated to include changes in risk factors over time as well as the maternal level of engagement in the TIES Program. The following section describes the cross analyses performed and highlights the meaningful results.

Cross analyses were conducted between each family risk factor and the mothers’ level of engagement at intake and at discharge. Of the 26 risk factors comprising the Family Risk Scales, four were significantly related to maternal engagement in the TIES Program: parent substance abuse, client cooperation, emotional care and stimulation of a child over age 2 or older, and sibling delinquent behavior. Specifically at the time of intake, parent substance abuse21 and client cooperation22 were significantly related to maternal engagement. At the time of discharge, client cooperation23 continued to be significantly related to engagement, as well as sibling delinquent behavior24 and emotional care and stimulation of a child over 225. This data suggests that maternal engagement in the TIES program was linked with favorable ratings in these risk areas.

16 By Group: F(1.25) = 4.32, p = .048, eta² = .15
17 By Group: F(1.39) = 5.01, p = .031, eta² = .11
18 By Group: F(1.49) = 4.73, p = .035, eta² = .09
19 By Group: F(1.30) = 9.55, p = .004, eta² = .09
20 Time by Group: F(1.43) = 4.23, p = .046, eta² = .09
21 χ²(4, N=95)=13.67, p = .008; η² = .25, p = .752
22 χ²(3, N=98)=11.87, p = .008; η² = .073, p = .129
23 χ²(3, N=53)=16.72, p = .001; η² = .345, p = .014
24 χ²(1, N=18)=8.29, p = .004; η² = .500, p = .269
25 χ²(4, N=53)=20.68, p = .000; η² = .433, p = .001
Client Cooperation
As mentioned, client cooperation was the only risk to be significantly related to engagement at both the time of intake and discharge. This result is likely due to the similarities between the criteria for rating client cooperation and rating engagement; thus the relationship detected a perceived interdependence.

Parent Substance Abuse
Of the 31 mothers for whom TIES professionals measured family risk and level of engagement at both intake and discharge, 93% were involved in considerable substance abuse with serious to severe consequences at either intake or discharge. More than half (52%) of the 31 mothers were at risk for the most serious or severe consequences due to their substance abuse at intake, but were not abusing drugs or alcohol at discharge. Furthermore, of the 52% of mothers no longer abusing drugs or alcohol at discharge, 35% were engaged in the TIES program at both the time of intake and discharge.

Emotional Care and Stimulation of Child over 2
The relationship between engagement and emotional care and stimulation was significant only at the time of discharge. The data indicated that mothers that were engaged in the TIES Program at discharge primarily had children that were affectionate, accepting, and approving (25%), and mothers that were not engaged at discharge primarily had children exhibiting emotional trauma due to rejection (32%). It is possible that mothers of children facing behavioral challenges may be reluctant to interact with social service professionals in fear of stigma, removal of the child, or other consequences. Another explanation could be that the mothers' struggles and challenges, given the complex range of risk factors, affects not only her willingness or ability to engage in the TIES Program, but also her capacity for addressing the emotional needs of her children.

Sibling Delinquent Behavior
While the relationship between maternal engagement at discharge and sibling delinquent behavior was significant, this finding is not meaningful. Because the majority of siblings (73%) displayed conventional and acceptable behavior, the extent of the relationship between maternal engagement and sibling behavior is difficult to quantify.
SUMMARY OF CHAPTER 2: PROFILE OF FAMILIES SERVED BY THE TIES PROGRAM

- The TIES Program gathered this demographic information at intake regarding the enrolled families:
  - Women range in age from 18 to 44, with a mean of 27.8 years.
  - Almost all of the women are single at the time of enrollment.
  - Approximately 64% of the women are African-American and 31% are Caucasian.
  - About three quarters of the families indicate no cash income. The mean monthly income for families with cash income is $461.
  - Less than one-half of the mothers have attained their GED or high school diploma. However, all but 2 of the participants can read and write.
  - Ninety-two percent of the women receive some prenatal care, with an average of 6 medical visits before delivery.
  - The most commonly used drug is crack cocaine, used by approximately 56% of enrollees. In addition, 48% use marijuana, 17% use alcohol, 11% use methamphetamine, and 14% use PCP. In many instances, multiple drug use is noted.

- Infants and young children served by the TIES Program display these characteristics at intake:
  - The target children include 84 males and 70 females.
  - Sixty-five percent of the children are African-American, 18% are Caucasian, 1% are Hispanic, and 15% are multi-racial.
  - Infants born to prenatally enrolled women average 39 weeks of gestation, while those born to women enrolled after delivery average 38 weeks.
  - Infants of mothers enrolled prenatally are larger at birth, with a mean birthweight of 3092 grams, compared to a mean of 2689 grams for infants of post partum enrollees.
  - Almost 80% of the infants of prenatal enrollees have negative toxicology results at birth.

- A mother's level of engagement with the TIES Program is rated at 3 months and discharge, with mean engagement statistically decreasing over time.

- Participating families present high risks in these areas at intake:
  - Considerable parental substance abuse with serious or severe consequences;
  - Serious financial problems;
  - Partial or complete isolation from family and friends; and
  - Inadequate living conditions.

- Strengths that families typically exhibit at intake include the following:
  - Low to very low mental health risks;
  - Adequate supervision of children;
  - Good physical health of the children;
  - Attentive and appropriate care and emotional stimulation of the infant; and
  - Absence of sexual abuse.

Continued...
SUMMARY OF CHAPTER 2, CONTINUED

- Women who had discharged early from the TIES Program have statistically higher risks than women who remained with regard to these factors: number of children removed from the household, Parent Physical Health risk, and Parent Mental Health risk.
- Comparisons over time reveal that some risks decrease statistically over time for all women enrolled, including:
  - Parental substance abuse,
  - Financial risks,
  - Habitability of the family residence, and
  - Client’s cooperation with the agency.
CHAPTER 3
Individualized Family Service Planning

Each family that participated in the TIES Program was involved in an Individualized Family Service Plan (IFSP) goal planning process. Five categorical goals were selected for participating mothers: 1) becoming drug free; 2) improving parenting; 3) securing adequate housing; 4) achieving economic stability; and 5) providing children with appropriate health care services. Rating criteria were defined for outcomes on a five-point scale labeled 1 (poor), 2 (less than expected), 3 (expected), 4 (better than expected), and 5 (ideal). Family progress on the five goals was assessed at intake (Time 1), at infant age of 3 months (Time 2), at infant age of 13 months (Time 3), and at discharge from the program (Time 4).

INTRODUCTION

Over the years, a family-centered philosophy has steadily gained acceptance in early intervention. Such an approach helps families acquire or maintain a sense of control over their family life, and attribute positive changes to their own strengths, abilities, and actions. Since the Individuals with Disabilities Education Act (IDEA; P.L. 99-457) was passed in 1986, eligible families of children with disabilities receiving early intervention services must be provided with an Individualized Family Service Plan (IFSP). Principles that contributed to the development of the general framework of an IFSP include the following: the design of individualized interventions that reflect respect for diversity in families (racial, situational, ethnic, cultural, and socioeconomic); the role of the family unit in a child’s development, flexible and easily accessed services; and the collaboration between families and other agencies.

These principles provided a foundation for the work of the TIES Program with substance-exposed infants and their families. Each family that participated in the TIES Program, whether enrolled prenatally or after delivery, was involved in an IFSP goal planning process. The families who began working with the TIES Program before the infant was born are referred to as the prenatal group, while the families who began working with the program after their child was born are referred to as the post partum group. The IFSP form tracked the family’s progress in achieving individualized goals that were established at the time of intake into the program. This report describes the desired outcomes for participants in the TIES Program and presents an analysis of their achievement of these outcomes.

GOAL PLANNING PROCESS

A goal planning process and IFSP form were designed for the TIES Program to reflect the specific needs of drug-using women and their families. The content of the form maintained a family-centered philosophy, yet emphasized the generally universal needs of families served by the program.

The TIES Specialist, in collaboration with the mother, played the leading role in the IFSP process. In addition, personnel from all agencies that interacted with the mother or infant were invited to participate by attending IFSP meetings with the family. Included were representatives from child protective services, health care organizations, drug treatment centers, child care programs, early intervention agencies, the Family Court, other agencies interacting with the family, and family members themselves. The IFSP process occurred throughout the 18-month involvement of the TIES Program with each family. At specific intervals, an IFSP form was completed: at intake (a few days after birth); at the first IFSP meeting with the family (infant age of 3 months); at the second IFSP meeting with the family (infant age of 13 months); and at discharge from the program. The TIES Specialist assigned the family a score on goal outcomes at intake, based upon her own knowledge of the family’s situation and her conversations with the mother and other family members. At 3 months and 13 months, agency personnel involved with the family attended a meeting with the family to discuss the situation and assist the mother (or family) in deciding her status on goal attainment. Additional IFSP meetings and documentation occurred as needed.
At discharge, the TIES Specialist used all available information to rate the goal attainment of the mother and family. Table 3-1 indicates both the personnel/agencies who were invited to the IFSP meetings and those who actually attended. At 3 months, there were 114 planned meetings, with 91 meetings actually occurring. At 13 months, 74 meetings were planned, with 55 meetings held.

### Table 3-1. Invitations and Attendance of Personnel at IFSP Meetings

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Invited at 3 mo. (n=114)</th>
<th>Attended at 3 mo. (n=114)</th>
<th>Percent attending from those invited (%)</th>
<th>Invited at 13 mo. (n=74)</th>
<th>Attended at 13 mo. (n=74)</th>
<th>Percent attending from those invited (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td>101</td>
<td>84</td>
<td>83%</td>
<td>61</td>
<td>46</td>
<td>75%</td>
</tr>
<tr>
<td>TIES Specialist</td>
<td>91</td>
<td>91</td>
<td>100%</td>
<td>55</td>
<td>55</td>
<td>100%</td>
</tr>
<tr>
<td>Nurse</td>
<td>5</td>
<td>2</td>
<td>40%</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
<tr>
<td>Child Protective Services</td>
<td>46</td>
<td>27</td>
<td>59%</td>
<td>13</td>
<td>8</td>
<td>62%</td>
</tr>
<tr>
<td>Early Childhood Program</td>
<td>6</td>
<td>3</td>
<td>59%</td>
<td>1</td>
<td>1</td>
<td>100%</td>
</tr>
<tr>
<td>Drug Treatment</td>
<td>45</td>
<td>27</td>
<td>60%</td>
<td>8</td>
<td>5</td>
<td>63%</td>
</tr>
<tr>
<td>Other</td>
<td>49</td>
<td>35</td>
<td>71%</td>
<td>23</td>
<td>17</td>
<td>74%</td>
</tr>
</tbody>
</table>

Ninety-one 3-month IFSP meetings were held, with the highest rate of attendance by TIES Specialists, who attended all meetings, and mothers who attended 83% of the time. Drug treatment and child protective services personnel were invited to attend a high number of meetings, with approximately 60% of those invited actually attending the meeting. Half of the invited representatives from early childhood programs attended, while nearly half of the invited nurses also attended; however, very few persons in these two categories were invited in comparison to the aforementioned categories of personnel. A high rate of representatives from other agencies attended the meetings to which they were invited.

Fifty-five 13-month IFSP meetings were also held. Again, TIES Specialists attended all meetings, and three-quarters of the mothers also attended. The remaining rates of attendance were very similar to what was seen at 3 months. However, the relative numbers of personnel invited were fewer at 13 months. For instance, representatives from Missouri Children's Division were invited to 18% of the planned meetings at 13 months compared to 40% at 3 months. Similarly, drug treatment personnel were invited to 11% of the meetings at 13 months, while they had been invited to 39% of the 3-month IFSP meetings. The one representative from an early childhood program who was invited at 13 months did attend, while no nurses were invited at all. Like the 3-month meeting time, a high percentage of invited other personnel attended at 13 months; however, representatives from other agencies were invited to relatively fewer meetings at 13 months overall.

### Participant Goals

In order to compare the progress of the families, five categorical goals that applied to virtually all of the TIES participants were selected: 1) becoming drug free; 2) improving parenting; 3) securing adequate housing; 4) achieving economic stability; and 5) providing children with appropriate health care services. A 5-point rating scale, labeled from 1 (poor) to 5 (ideal), was created to assess the goal attainment of the women and families in the TIES Program. Each of the five goals and the respective findings for participating families are presented in the following sections of the chapter. In addition, comparisons over time were conducted to determine if there were differences between participant ratings on each goal between assessment times. Such comparisons analyze the mean ratings of the same sample of
participants, allowing for the observation of trends over time. Consequently, every analysis resulted in statistically significant differences, with the exception of the goal of becoming drug free over all four IFSP assessment times. This suggests that events occurring during the time between assessments positively influenced mothers' goal attainment; it is likely that TIES interventions and activities were among the influential factors. The results from these analyses are depicted graphically, with an accompanying discussion. It should be noted when considering the presented findings that some attrition did occur; thus, the data collected is representative of those participants who stayed in the TIES Program for a given length of time, and may not reflect the participants who left the program prematurely.

**Goal 1: Becoming Drug Free**

For the goal of becoming drug-free, the levels of desired outcomes were defined as follows:

<table>
<thead>
<tr>
<th></th>
<th>Poor Outcome</th>
<th>Will continue to use her drug of choice regularly and her life will remain unstable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Less than Expected Outcome</td>
<td>Will continue to use her drug of choice, but will be able to provide minimally for her children.</td>
</tr>
<tr>
<td>3</td>
<td>Expected Outcome</td>
<td>Will become aware of drug effects through treatment or Case Manager teaching and will stop drug use.</td>
</tr>
<tr>
<td>4</td>
<td>Better than Expected Outcome</td>
<td>Will attempt drug treatment, be involved in a self-help group (AA or NA) and stop using her drug of choice.</td>
</tr>
<tr>
<td>5</td>
<td>Ideal Outcome</td>
<td>Will complete a drug treatment program, use no drugs or alcohol, and become involved in AA or NA.</td>
</tr>
</tbody>
</table>

**Findings.** At intake, 58% of the women assessed achieved the expected outcome or better on becoming drug free, while 42% scored below expected. At 3 months, the majority of women rated at or above the expected outcome was more pronounced at 74%, with only 26% below. At 13 months, the majority of women again were rated at or above the expected level, though not to as great a degree as the women assessed at 3 months. At discharge, approximately half of the women were rated below the expected outcome, making the women assessed at this period the most poorly rated among all assessment times. These findings are found in Table 3-2.

<table>
<thead>
<tr>
<th>Time of Assessment</th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake (n=120)</td>
<td>23% (28)</td>
<td>19% (23)</td>
<td>34% (41)</td>
<td>21% (25)</td>
<td>3% (3)</td>
<td>2.6</td>
</tr>
<tr>
<td>3 Months (n=117)</td>
<td>11% (13)</td>
<td>15% (17)</td>
<td>21% (25)</td>
<td>40% (47)</td>
<td>13% (15)</td>
<td>3.3</td>
</tr>
<tr>
<td>13 Months (n=71)</td>
<td>16% (11)</td>
<td>18% (13)</td>
<td>13% (9)</td>
<td>14% (10)</td>
<td>39% (28)</td>
<td>3.5</td>
</tr>
<tr>
<td>Discharge (18 months) (n=69)</td>
<td>30% (27)</td>
<td>12% (8)</td>
<td>12% (8)</td>
<td>10% (7)</td>
<td>27% (19)</td>
<td>2.8</td>
</tr>
</tbody>
</table>

*Scale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

1. The F-value, significance level (p-value), and effect size (eta²) are presented in footnotes for statistically significant analyses. Note that statistical significance is achieved when the p-value is less than .05. Effect size refers to the magnitude of the contribution of the independent variable (time or group) to the overall variance in respondent mean scores between interviews; a large effect size is considered to be .10 or greater.
TIES Specialists provided comments on the IFSP forms regarding mothers who did well on this goal, including the following:

- "Mother remained abstinent throughout treatment and at discharge. Successfully completed drug treatment and attending 12 step meetings."
- "Mother is very active in 12 step recovery program with sponsorship in place; maintaining abstinence."

Among the women who had poor outcomes, the comments below provide some explanation:

- "Parents have really challenged those in the treatment field; mom has left treatment program twice."
- "Mother referred to [outpatient] treatment in April. She left prematurely and was asked to enter residential care after a positive drug screen. She failed to return as requested."

**Comparisons.** A series of comparisons were conducted over time between the mean scores for women who participated in respective IFSP goal planning sessions (see Figure 3-1). Included in each separate analysis were only those women who were assessed at all times being compared, accounting for the decreasing sample sizes as more time periods were included. Statistical significance is indicated with an asterisk. For the goal of becoming drug free, comparisons between intake and 3 months resulted in a statistically significant difference\(^2\), as did the comparison that also included 13 months\(^3\). The large effect sizes of both comparisons suggest that a large proportion of the difference in ratings may be attributed to the influence of time. The trend of improvement over time was consistent between intake and 3 months, tending to level off at 13 months and drop slightly at discharge.

**Goal 2: Improved Parenting Skills**

The desired outcomes for each level of the goal of improved parenting skills are outlined below:

<table>
<thead>
<tr>
<th></th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Unable/unwilling to provide for child's physical needs and uses excessive corporal punishment with possible CPS intervention.</td>
<td>Unable to provide for child's basic physical needs and/or unable to use alternate methods of discipline.</td>
<td>Provide for child's basic physical needs and not use excessive corporal punishment.</td>
<td>Provide for child's basic physical and emotional needs and use effective alternate methods of discipline.</td>
<td>Provide independently for child's physical and emotional needs and not use corporal punishment.</td>
</tr>
</tbody>
</table>

**Findings.** At intake, the majority of women assessed were rated below the expected level at 56%. At 3 months, the findings were drastically different, with 70% of those women being rated at or above the expected outcome on improved parenting skills. At 13 months and discharge, the majority of women

\(^2\) T1-T2 \([F(1,111)=28.15, p<.001. \text{eta}^2=.20]\)
\(^3\) T1-T2-T3 \([F(1,66)=23.45, p<.001. \text{eta}^2=.27]\)
performed at or above what was expected; in fact, roughly 50% assessed at these times were actually rated better than expected or ideal. Table 3-3 presents these findings.

Table 3-3. Improved Parenting Skills

<table>
<thead>
<tr>
<th>Time of Assessment</th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
<th>Mean *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake (n=102)</td>
<td>20% (20)</td>
<td>36% (37)</td>
<td>26% (27)</td>
<td>8% (8)</td>
<td>10% (10)</td>
<td>2.5</td>
</tr>
<tr>
<td>3 Months (n=113)</td>
<td>13% (15)</td>
<td>16% (18)</td>
<td>27% (30)</td>
<td>28% (32)</td>
<td>16% (18)</td>
<td>3.2</td>
</tr>
<tr>
<td>13 Months (n=73)</td>
<td>21% (15)</td>
<td>16% (12)</td>
<td>14% (10)</td>
<td>23% (17)</td>
<td>26% (19)</td>
<td>3.2</td>
</tr>
<tr>
<td>Discharge (18 months) (n=64)</td>
<td>27% (17)</td>
<td>14% (9)</td>
<td>8% (5)</td>
<td>23% (15)</td>
<td>28% (18)</td>
<td>3.1</td>
</tr>
</tbody>
</table>

*aScale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

Comments made by the TIES Specialists about mothers who were rated highly on improving their parenting skills are as follows:

- "Mother still talks about using physical discipline but is willing to NOT use it and learn new methods."
- "Mother is appropriate, positive and effective in parenting child."

Poor outcomes on this goal may be attributed to the explanations offered by TIES Specialists below:

- "Mom's two older children were placed voluntarily with maternal grandmother so that mom could enter residential treatment."
- "Child went into foster care."

Comparisons. Figure 3-2 presents a comparison of mean ratings at the various time periods for the goal of improving parenting skills. All analyses resulted in statistically significant differences, with the largest increase between intake and 3 months in all instances. The rather large effect sizes indicate that assessment time is associated with the differences in mean ratings of this goal. Consequently, goal ratings remained stable after the increase from intake to 3 months, suggesting that mothers tended to maintain a consistent level of performance on this goal as time went on.

\[ T1-T2: F(1,95)=28.90, p<.001, eta^2=.24; T1-T2-T3: F(1,60)=9.84, p=.003, eta^2=.14; T1-T2-T3-T4: F(1,39)=6.45, p=.015, eta^2=.15 \]
Goal 3: Adequate Housing
For the goal of securing adequate housing, these desired outcome levels are identified:

<table>
<thead>
<tr>
<th></th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Homeless without known shelter. Whereabouts unknown, unverified housing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Live in shelter; or live in temporary/permanent, crowded housing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Live in safe, adequate housing while pursuing more affordable housing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Live in safe, adequate, affordable, subsidized housing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Live independently in safe, adequate, affordable, unsubsidized housing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Findings. At intake, 64% of the mothers assessed were rated below the expected outcome on the goal of adequate housing, while only 15% were above the expected outcome level. At 3 months, mothers tended to achieve the expected outcome, with 38% below expected and 20% above. The mothers assessed at 13 months displayed quite a different pattern of goal attainment, with 77% rated at the expected level or above, including 43% who were rated above the expected level, while only 24% were rated below what was expected. At discharge, half of the mothers assessed were rated above the expected goal level, which was more than at any other time period. Interestingly, only 10% of the mothers at discharge achieved the expected outcome, which is considerably lower than the percentages of mothers at other times rated at this level. It appears that mothers at discharge tended to polarize, most achieving either below or above the expected level of goal attainment. These findings are displayed in Table 3-4.

Table 3-4. Adequate Housing

<table>
<thead>
<tr>
<th>Time of Assessment</th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake (n=121)</td>
<td>5% (6)</td>
<td>50% (72)</td>
<td>21% (25)</td>
<td>7% (8)</td>
<td>8% (10)</td>
<td>2.5</td>
</tr>
<tr>
<td>3 Months (n=115)</td>
<td>4% (5)</td>
<td>33% (38)</td>
<td>43% (50)</td>
<td>10% (11)</td>
<td>10% (11)</td>
<td>2.9</td>
</tr>
<tr>
<td>13 Months (n=70)</td>
<td>7% (5)</td>
<td>17% (12)</td>
<td>33% (23)</td>
<td>29% (20)</td>
<td>14% (10)</td>
<td>3.3</td>
</tr>
<tr>
<td>Discharge (18 months) (n=68)</td>
<td>22% (15)</td>
<td>18% (12)</td>
<td>10% (7)</td>
<td>40% (27)</td>
<td>10% (7)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

*a Scale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

The following comments made by TIES Specialists on the IFSP forms suggest factors that may have contributed to the goal attainment of women who did well on this goal:

- "Mother has been living in safe, affordable housing (subsidized) since May, 2004."
- "Mother has maintained housing in one residence for at least one year."

The following TIES Specialist comments present some of the challenges associated with attaining this goal:

- "[Mother] has Section 8 voucher but has not seriously looked for housing."
- "Mother has applied for transitional living arrangement with five different agencies."
**Comparisons.** All three of the comparisons between assessment times for the goal of adequate housing resulted in statistically significant differences with large effect sizes\(^4\) (see Figure 3-3). The trend of improvement over time was apparent with this goal, as it was for the first two goals. However, improvement over time for this goal was seen over the first three assessment times, stabilizing at discharge. Thus, women tended to improve on finding adequate housing throughout their participation in the TIES Program.

**Goal 4: Economic Stability**

The desired outcome levels for the goal of achieving economic stability are as follows:

<table>
<thead>
<tr>
<th>1</th>
<th>Poor Outcome</th>
<th>No income or inappropriate use of income; not meeting basic needs; at risk of DFS intervention.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Less than Expected Outcome</td>
<td>Income sufficient to meet basic needs only with regular use of emergency assistance agencies.</td>
</tr>
<tr>
<td>3</td>
<td>Expected Outcome</td>
<td>Income sufficient to meet basic needs with use of governmental assistance programs (TANF, WIC, subsidized housing).</td>
</tr>
<tr>
<td>4</td>
<td>Better than Expected Outcome</td>
<td>Income sufficient to meet basic needs with minimal use of government assistance; actively pursuing employment.</td>
</tr>
<tr>
<td>5</td>
<td>Ideal Outcome</td>
<td>Employment income sufficient to meet basic needs without subsidy.</td>
</tr>
</tbody>
</table>

**Findings.** Sixty-nine percent of the women at intake were rated below the expected outcome on economic stability, with 24% at the expected level, and only 7% above it. At 3 months, a greater percentage of women tended to achieve the expected outcome level, but 46% were still rated below it. The pattern of goal attainment at 13 months was fairly similar to that observed at 3 months, but with a higher percentage of mothers above expected at 22%. Similar to the goal that was previously discussed, mothers at discharge tended to polarize below or above the expected outcome; however, half of the mothers were rated below expected on economic stability, in contrast to half of the mothers being rated above expected on finding adequate housing. These findings are notable when considered together, as it seems counterintuitive that the majority of mothers would tend to achieve poor outcomes on economic stability at the same time that the majority tended to achieve better than expected outcomes on finding adequate housing. The availability of subsidized housing and transitional housing is likely to explain this phenomenon. The results of ratings on economic stability are depicted in Table 3-5.

\(^4\) T1-T2 \(\chi^2(1,114)=17.18, p<.001, \text{ eta}^2=.13\); T1-T2-T3 \(\chi^2(1,65)=18.42, p<.001, \text{ eta}^2=.22\); T1-T2-T3-T4 \(\chi^2(1,44)=31.36, p<.001, \text{ eta}^2=.42\)

3-7
Table 3-5. Economic Stability

<table>
<thead>
<tr>
<th>Time of Assessment</th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake (n=117)</td>
<td>33% (39)</td>
<td>36% (42)</td>
<td>24% (28)</td>
<td>5% (6)</td>
<td>2% (2)</td>
<td>2.1</td>
</tr>
<tr>
<td>3 Months (n=112)</td>
<td>13% (15)</td>
<td>33% (37)</td>
<td>41% (46)</td>
<td>10% (11)</td>
<td>3% (3)</td>
<td>2.6</td>
</tr>
<tr>
<td>13 Months (n=69)</td>
<td>20% (14)</td>
<td>20% (14)</td>
<td>38% (26)</td>
<td>20% (14)</td>
<td>2% (1)</td>
<td>2.6</td>
</tr>
<tr>
<td>Discharge (18 months) (n=62)</td>
<td>27% (17)</td>
<td>24% (15)</td>
<td>18% (11)</td>
<td>23% (14)</td>
<td>8% (5)</td>
<td>2.6</td>
</tr>
</tbody>
</table>

*Scale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

Possible explanations for women who achieved positive results may be found in the following comments made by TIES Specialists:

- "Enrolled in Futures Program [and] GED completed. Enrollment started for WEN [Women's Employment Network]."
- "Mother and significant other are employed."

Poor outcomes are highlighted by these explanations offered by the TIES Specialists:

- "Just lost TANF benefits due to 5 year limit."
- "Mom has been unemployed since enrollment; unable to receive TANF due to welfare reform; currently receives food stamps and WIC."

Comparisons. Figure 3-4 depicts analyses over time on TIES participant outcomes for the goal of economic stability, with statistical significance found in all three comparisons. Large effect sizes indicate that time was associated with changes in mean ratings. A trend of improvement was seen between intake and 3 months in all instances. However, mean goal attainment tended to fluctuate slightly from the 3-month assessment to 13 months and discharge. Despite the fluctuation, goal attainment was still highest at discharge, suggesting that women tended to maintain fairly consistent outcomes on economic stability through discharge.

---

6 T1-T2 $F(1,109)=25.84$, $p=.001$, $eta^2=.19$; T1-T2-T3 $F(1,61)=10.73$, $p=.002$, $eta^2=.15$; T1-T2-T3-T4 $F(1,38)=12.29$, $p=.001$, $eta^2=.25$
**Goal 5: Child Health Care**

For the goal of providing children with appropriate health care services, the levels and desired outcomes are presented below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Poor Outcome</td>
<td>Basic health care not secured and immunizations not current; at risk of child protective services intervention.</td>
</tr>
<tr>
<td>2 Less than Expected Outcome</td>
<td>Basic health care appointments scheduled, but not all kept or immunizations not current.</td>
</tr>
<tr>
<td>3 Expected Outcome</td>
<td>Basic health care appointments kept and immunizations current.</td>
</tr>
<tr>
<td>4 Better than Expected Outcome</td>
<td>Recommended health care services, including specialty care, obtained, with assistance and immunizations current.</td>
</tr>
<tr>
<td>5 Ideal Outcome</td>
<td>All recommended health care services, including specialty care, obtained independently and immunizations current.</td>
</tr>
</tbody>
</table>

**Findings.** In contrast to the four goals previously discussed, goal outcomes on providing children with health care tended to be at the expected level or above at all assessment times. The highest percentage of mothers who were rated below expected occurred initially at 25%; only 8% at 3 and 13 months were rated below expected, and only 6% were rated this low at discharge. At 3 months, more than half of the women assessed were rated above the expected level, while an overwhelming majority of 80% were rated this high at 13 months and discharge. In fact, more than half of the mothers assessed at the last two IFSP meetings achieved the ideal outcome on providing child health care. These results are found in Table 3-6.

<table>
<thead>
<tr>
<th>Time of Assessment</th>
<th>Poor Outcome</th>
<th>Less than Expected Outcome</th>
<th>Expected Outcome</th>
<th>Better than Expected Outcome</th>
<th>Ideal Outcome</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intake (n=83)</td>
<td>14% (12)</td>
<td>11% (9)</td>
<td>33% (27)</td>
<td>25% (21)</td>
<td>17% (14)</td>
<td>3.2</td>
</tr>
<tr>
<td>3 Months (n=112)</td>
<td>4% (4)</td>
<td>4% (5)</td>
<td>25% (28)</td>
<td>36% (40)</td>
<td>31% (35)</td>
<td>3.9</td>
</tr>
<tr>
<td>13 Months (n=69)</td>
<td>4% (3)</td>
<td>4% (3)</td>
<td>12% (8)</td>
<td>29% (19)</td>
<td>51% (34)</td>
<td>4.2</td>
</tr>
<tr>
<td>Discharge (18 months) (n=51)</td>
<td>6% (3)</td>
<td>0% (0)</td>
<td>14% (7)</td>
<td>25% (13)</td>
<td>55% (28)</td>
<td>4.2</td>
</tr>
</tbody>
</table>

*Scale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

The TIES Specialists described circumstances in which high goal attainment was achieved on this goal:

- "Mom sees medical care for herself and child independently. Knows signs of illness and gets medical attention promptly."
- "Keeps all well baby and specialty (ENT) appointments."

Their comments below give indications of factors that may have contributed to difficulty on this goal:

- "Hernia operation and circumcision scheduled by foster mother because mother did not schedule as recommended."
- "Mom has a difficult time engaging in conversation about the health care appointments for her children. She seems to become frustrated when asked about this."
Comparisons. Comparisons over time for the goal of providing child health are displayed in Figure 3-5. All analyses resulted in statistically significant differences over time, with a consistent trend of improvement seen at each period. In addition, the large effect sizes suggest that time was highly associated with the observed improvement. Mean goal ratings were very high overall, especially after the initial assessment. Thus, mothers were achieving very high goal outcomes initially, and they managed to continuously improve, as well.

Comparison of Goal Attainment by Level of Engagement

Many factors could possibly influence a mother’s goal attainment, including time and the events that occur with time, such as participation in the TIES Program. However, comparisons over time alone do not consider how engaged a mother was in the program and what relationship her level of participation might have with her goal outcomes. Thus, level of engagement in the TIES Program at 3 months and discharge was analyzed as it relates to goal attainment at all assessment times. Only one analysis was statistically significant, indicating a relationship between level of engagement at discharge and the goal of adequate housing at discharge. However, the strength with which this relationship can be predicted without error is only 21%, so this finding should be taken with caution.

An examination of the mothers’ individual ratings of engagement and goal attainment shows several observations of interest. If mothers had limited contact or no contact at discharge, they were more likely to be rated below the expected level of goal attainment on adequate housing. If mothers were in regular contact or were fully engaged at discharge, then they were more likely to be rated as better than expected on this goal. These observations add support to the assumption that mothers who are less engaged are likely to achieve poor goal outcomes, and mothers who are more engaged are likely to achieve good outcomes. While this finding is applicable to the goal of adequate housing, it is unclear whether it can be generalized to other goals that did not emerge with statistically significant relationships. A possible factor that may have influenced this finding is that a number of women in the TIES Program gained residence at Amethyst Place. This transitional housing facility originated during the past 4 years, in part due to community leadership offered by the TIES Program. Thus, women who lived at this facility may have remained more engaged as a result of this placement.

Goals for Relative Caregivers

In fifteen families, children were placed with relatives other than the parents who became their primary caregivers. While their goal attainment scores were not included in the data reported previously, the mean scores for these relative caregivers are presented in Table 3-7 for each time period. Note that sample sizes fluctuated due to the fact that relative caregivers were not rated on IFSP goals that were not applicable to their situation.

---

7 T1-T2 [F(1,77)=16.42, p=.001, eta^2=.18]; T1-T2-T3 [F(1,46)=14.88, p=.001, eta^2=.25]
8 χ^2(N=55)=24.01, p=.020
9 χ^2=.21, p=.044

---

3-10
Table 3-7. Goal Outcomes for Relative Caregivers

<table>
<thead>
<tr>
<th>Goal</th>
<th>Initial Mean*</th>
<th>3 month Mean*</th>
<th>13 month Mean*</th>
<th>Discharge Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Becoming Drug Free (n=3)</td>
<td>2.0</td>
<td>2.0</td>
<td>2.3</td>
<td>1.5</td>
</tr>
<tr>
<td>Improved Parenting Skills (n=9)</td>
<td>3.3</td>
<td>3.8</td>
<td>3.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Adequate Housing (n=9)</td>
<td>3.3</td>
<td>3.9</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Economic Stability (n=9)</td>
<td>2.6</td>
<td>2.7</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>Child Health Care (n=15)</td>
<td>3.0</td>
<td>3.8</td>
<td>4.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

*Scale: 1=Poor, 2=Less than expected, 3=Expected, 4=Better than expected, 5=Ideal

Relative caregivers tended to display a similar pattern of mean goal ratings between the last three goals, with mean outcome ratings successively higher at 3 and 13 months, stabilizing at discharge. This suggests that these caregivers were providing a more stable, healthy environment for the children in their care as they progressed through the TIES Program. On the first two goals, however, relative caregivers tended to achieve higher mean ratings at 3 and 13 months than they received at the initial assessment, with means at discharge being the lowest of all. This implies that they were working toward these more personal goals at the height of their participation in the TIES Program, but were not seen as working effectively towards these goals at discharge. It is important to note that the mean outcome ratings on the goal of becoming drug free were the lowest of all goals. However, all three of the caregivers who were rated on this goal were fathers.

Comparison of Goal Attainment Between Prenatal and Post Partum Participants

When mothers are accepted into the TIES Program, they are accepted either prenatally (before their child is born) or post partum (after delivery). Thus, prenatal participants have had a longer relationship with the TIES Program and their TIES Specialist by the time of the 3-month and subsequent IFSP’s. Differences in goal attainment between groups may offer insights concerning optimal times for engagement with the family and critical periods of involvement. To determine whether such group differences exist, comparisons were made between the prenatal and post partum TIES groups on their mean goal attainment ratings at all four IFSP meeting times, for each of the five goals. In addition, the comparisons over time that were outlined in the above section were further examined to ascertain whether the prenatal and post partum groups differed in their patterns over time. In this second series of analyses, like the first, only the participants with data at each time being compared were included in each respective analysis.

Goal 1: Becoming Drug Free

A statistically significant group difference emerged on the goal of becoming drug free at intake. The prenatal group received a higher mean goal rating than the post partum group, indicating that these groups were statistically different on their attainment of this goal at intake. However, the medium effect size indicates that group was only moderately associated with the difference in mean goal ratings. Consequently, this is the only analysis between groups that was statistically significant for the goal of

---

10 F(1,118)=8.79, p=.004, eta²=.07; means of 2.9 for prenatal and 2.3 for post partum
becoming drug-free, indicating that the prenatal and post partum groups as a whole were not statistically different on the majority of time period comparisons.

**Goal 2: Improved Parenting Skills**

Two comparisons by group over time reached statistical significance, including a comparison of Times 1 and 2 and Times 1, 2, and 3. Figures 3-6 and 3-7 depict the mean goal ratings at all assessment times.

In the analysis of improved parenting skills ratings over the first three time periods, the prenatal group improved moderately from Time 1 to Time 2, then stabilized at Time 3. In contrast, the post partum group improved only slightly between Time 1 and Time 2, and then declined slightly at Time 3. Similar to the findings of the first analysis, the post partum mean was higher than prenatal mean at intake, but the prenatal group improved dramatically over the post partum at Times 2 and 3.

**Goal 3: Adequate Housing**

No statistically significant group differences were found on the goal of adequate housing. This indicates that the prenatal and post partum groups were not different to a statistically significant degree on their mean goal attainment or their goal attainment over time.

**Goal 4: Economic Stability**

The comparison over Times 1, 2, and 3 emerged with statistically significant group differences over time, indicating that the prenatal and post partum groups were different in their level of goal attainment between IFSP assessments. The post partum group had a higher mean rating at intake than the prenatal group, but their improvement at 3 months was not dramatic, and their mean rating declined slightly at 13 months. However, the prenatal group achieved a rather large improvement by 3 months, followed by a very slight decline at 13 months that could be considered as stability. Overall, means for both groups on the goal of economic stability were modest in comparison to the means depicted above for the goal of adequate parenting skills.

**Goal 5: Child Health Care**

No statistically significant group differences emerged on the final goal of providing children with health care. Again, this shows that the two groups of mothers were not different to a degree that is considered statistically significant.

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11: T1-T2 $[F(1,94)=28.90, p<.003, \eta^2=.09];$ T1-T2-T3 $[F(1,59)=5.73, p=.020, \eta^2=.09]$
ASSESSMENT OF IDENTIFIED PERFORMANCE AREAS

In addition to assessing goal attainment for each family, the TIES Specialist rates the mother’s and family’s current performance in the following areas: Basic Needs (food, shelter), Home Safety, Emotional Support, Education/Employment, Cognitive Basic Skills, and Social Support. Performance ratings were given at the 3-month and 13-month IFSP meetings. Higher ratings are indicative of better performance, on a scale ranging from 1 (Major difficulty) to 4 (No difficulty). Specific participant frequencies and means for each performance area may be found in Appendix B.

More than half of the mothers assessed at both 3 and 13 months were reported as having no difficulty in the area of Home Safety. Consequently, this is the only area in which the majority of mothers were given the highest rating by the TIES Specialists. In the area of Cognitive Basic Skills, 40% of mothers at both times were given the highest rating. Though these findings are positive, it is worth mentioning that a greater percentage of mothers at 3 months were reported to have minor to no difficulties in these areas than mothers assessed at 13 months. It may simply be a consequence of the very high ratings given at 3 months that such a high level was not matched at 12 months. It is also important to note that the composition of women assessed at 3 months is not the same as the composition assessed at 13 months, making it impossible to draw conclusions about whether participants truly declined. A comparison over time is needed to determine this, and thus will be discussed in the following section of the chapter.

The highest percentage of mothers was reported as having major difficulty in the area of Education/Employment, with 30% or more at both times rated low in this area. Further, the majority of mothers were reported as having some difficulty to major difficulty in this area, with 71% at 3 months and 61% at 12 months in this range. Another area of concern was Basic Needs, with approximately 20% of mothers reportedly experiencing major difficulty at both times. However, unlike the aforementioned area of concern, scores were not polarized in the lowest ratings of Basic Needs. Rather, more than half of the mothers at both times were reported to be experiencing minor to no difficulty.

The areas of Emotional Support and Social Support showed a fairly even distribution of women across all four ratings, with slightly more than half given the two lowest ratings and slightly less than half given the highest ratings of performance.

Comparisons over Time on Performance Areas

No statistically significant differences emerged on comparisons over time in the six performance areas (see Figure 3-9). However, some observations are still worth mentioning. Education/Employment tended to show slight improvement, though the means at both times are the lowest of all areas assessed. Home Safety and Social Support tended to show slight decline over time. Basic Needs and Emotional Support showed very slight change, but were essentially stable. The mean ratings on Cognitive Skills were the same at both times. The fact that observed changes were only slight, and none were statistically significant, suggests that women may not change to a great degree in these areas of performance from 3 to 13 months. However, another possibility is that fluctuations occur between 3 and 13 months that are not captured in the assessments at these two times.

Figure 3-9. Comparisons over Time on Performance Areas

![Figure 3-9](image-url)
SERVICES

TIES Specialists documented the additional support services that families used at both the 3- and 13-month IFSP meetings. Table 3-8 presents a list of the possible services and the number of mothers involved with them at each time period.

**Table 3-8. Reported Use of Support Services**

<table>
<thead>
<tr>
<th>Service</th>
<th>3 Months n=114 % (n)</th>
<th>13 Months n=85 % (n)</th>
<th>Service</th>
<th>3 Months n=114 % (n)</th>
<th>13 Months n=85 % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child protective Services</td>
<td>68% (78)</td>
<td>52% (44)</td>
<td>12-Step program</td>
<td>36% (41)</td>
<td>24% (20)</td>
</tr>
<tr>
<td>Family court involvement</td>
<td>53% (60)</td>
<td>48% (41)</td>
<td>NCADD (National Council on Alcohol &amp; Drug Dependence)</td>
<td>2% (2)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Child care</td>
<td>22% (25)</td>
<td>36% (31)</td>
<td>Parents as Teachers</td>
<td>11% (12)</td>
<td>7% (6)</td>
</tr>
<tr>
<td>Head Start</td>
<td>4% (5)</td>
<td>5% (4)</td>
<td>Probation/parole</td>
<td>30% (34)</td>
<td>18% (15)</td>
</tr>
<tr>
<td>Early childhood education</td>
<td>2% (2)</td>
<td>1% (1)</td>
<td>Shelter (including domestic violence shelter)</td>
<td>24% (27)</td>
<td>7% (6)</td>
</tr>
<tr>
<td>Day treatment for children</td>
<td>5% (6)</td>
<td>5% (4)</td>
<td>Education/employment service</td>
<td>14% (16)</td>
<td>19% (13)</td>
</tr>
<tr>
<td>Drug/alcohol treatment</td>
<td>67% (76)</td>
<td>24% (20)</td>
<td>Other services</td>
<td>18% (20)</td>
<td>12% (10)</td>
</tr>
</tbody>
</table>

Mothers at 3 months reported participating in drug/alcohol treatment and being involved with the Missouri Children's Division at similar high rates, while over half of the mothers assessed also reported being involved with family court. The percentage of mothers assessed at 13 months reported only slightly less involvement with family court, and over half of the mothers were also involved with child protective services. However, a much lower percentage of mothers at 13 months were participating in drug treatment compared to what was indicated at 3 months. A moderate percentage of mothers were participating in a 12-Step program at 3 months, with somewhat less participation at 13 months. A similar pattern was also seen with probation/parole involvement and residence in a shelter. Overall, the aforementioned support services were reportedly being utilized by mothers at a higher rate than other services that targeted children and the mother on less immediate needs.

A moderate percentage of mothers were utilizing child care at both times, with the percentage being higher for mothers at 13 months. Fairly modest rates of participation were reported for education/employment services at 3 months, with a slightly higher rate of participation reported at 13 months. Consequently, a number of services were utilized by very few mothers at both IFSP assessment times, including Head Start, early childhood education programs, day treatment for children, and NCADD. It is noteworthy that all but the last rarely-used service are child-related services.
SUMMARY OF CHAPTER 3: INDIVIDUALIZED FAMILY SERVICE PLANNING

- Women in the TIES Program improve statistically over time for all five primary goals:
  - On the goal of becoming drug free, improvement over time is consistent between intake and 3 months, tending to level off at 13 months and drop slightly at discharge.
  - Goal ratings on improved parenting increase from intake to 3 months, and remain stable to discharge, suggesting that mothers tend to maintain a consistent level of performance on this goal as time goes on.
  - Improvement over time is apparent on the goal of adequate housing, with increases in goal attainment over the first three assessment times, stabilizing at discharge. Thus, women tend to improve on finding adequate housing throughout their participation in the TIES Program.
  - Improvement is seen on economic stability between intake and 3 months, with means tending to fluctuate slightly thereafter. Despite the fluctuation, goal attainment is highest at discharge.
  - The goal of child health care emerges with the highest overall means, as well as the most pronounced trend of improvement over time. Thus, mothers are achieving very high goal outcomes to begin with, and they manage to continuously improve as well.
- In comparing the goal attainment of prenatal and post partum enrollees, prenatal enrollees generally score better when differences are seen.
- In general, mothers struggle the most with getting appropriate education and/or employment, getting their basic needs met, and finding emotional and social support.
- A TIES Specialist attended all IFSP meetings at 3 and 13 months, while mothers attended 81% and 75% of the meetings at these times. Representatives from child protective services and drug treatment programs also attended a number of the meetings.
- IFSP documents note the frequent involvement of the following agencies with TIES families:
  - The most commonly used services by families in the TIES Program at 3 months was the Missouri Children's Division (68%) and drug/alcohol treatment (67%). In addition 53% of families were involved with Family Court.
  - The most commonly involved agency at both 3 and 13 months was Missouri Children's Division. Other organizations often involved with the family include Family Court and drug/alcohol treatment programs.
CHAPTER 4
Participant Survey Information

INTRODUCTION

The families participating in the TIES Program themselves were the most vital sources of information about their own life situations. Just as it was essential that they actively participated in their own goal planning, it was also important that they provided information from their perspectives concerning their own needs and challenges, as well as their resources and supports. The primary caregivers, whether they enrolled prenatally or after delivery, were interviewed at the infant gestational ages of 1 month and 12 months. This chapter will discuss the findings from surveys administered to the prenatal and post partum TIES participants at the 1-month and 12-month appointments, and will also compare the findings between these two groups.

SURVEY INSTRUMENTS

A number of survey instruments were used to gather information from mothers at both the 1-month and 12-month interviews. These surveys are briefly described as follows.

The Family Needs Survey (Bailey & Simeonsson, 1984) was modified for the TIES population to determine the specific types of needs experienced by the TIES families. Modifications were made to eliminate items that were deemed inappropriate for infants (e.g., “I need help in locating a dentist who will see my child”). The Modified Family Needs Survey consists of a battery of 34 questions, divided into five subscales that ascertain the mother’s needs for: (a) information, (b) support, (c) community services, (d) help with family functioning, and (e) financial assistance. The respondents indicated their degree of need for each item by selecting 0 (Not applicable), 1 (Do not need help), 2 (Not sure), or 3 (Need help).

The Family Support Scale (Dunst, Jenkins, & Trivette, 1988) assesses for whether responding mothers receive social support from a 18 potential sources, consisting of relatives, friends, acquaintances, and community agency staff. Respondents may indicate that a given source of social support is not available by selecting N/A (Not applicable). In addition, the respondents rank how helpful each available source of social support has been to them on a scale ranging from 1 (Not at all helpful) to 5 (Extremely helpful). Psychometric testing of the instrument found a coefficient alpha of .79, split-half reliability of .77, and test-retest reliabilities of .91 for the total scale and .75 for the individual items.

The Brief Symptom Inventory (BSI; Derogatis, 1993) asks respondents to indicate the degree to which they are experiencing 53 independent psychological symptoms from 0 (not at all) to 4 (extremely). Responses are coded according to nine symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. In addition, three global indices were developed to provide an overall assessment of psychological well-being or distress: the Global Severity Index (GSI), the Positive Symptom Total (PST), and the Positive Symptom Distress Index (PSDI). Cronbach’s Alpha coefficients for the nine dimensions ranged from .71 to .85 for 719 psychiatric patients, demonstrating very good internal consistency. Comparison of the BSI dimensions with the MMPI scales for symptomatic volunteers revealed coefficients at or above .30. Correlations above .90 document the equivalence of the SCL-90-R with the BSI. The instrument has been used in HIV research and in clinical studies with drug-abusing populations, assessing for clinical diagnoses that are common among drug-using populations.
SURVEY PROTOCOL

The interviews occurred at the appointments coinciding with the child’s age of 1 month and 12 months, when other developmental assessments of the child were conducted. Most interviews took place in a family room at the UMKC Institute for Human Development. The primary relative caregiver of the child, typically the mother, provided the needed information. Since interviews were sometimes conducted with foster parents or other relatives, the caregiver’s relationship to the child was noted at each interview. In only 5 of 107 instances (5%) at the 1-month interview were the caregivers someone other than the child’s mother; there were 2 aunts, 2 foster parents, and 1 father. At the 12-month interview, 9 of 56 caregivers (16%) were someone other than the mother, with 6 aunts, 1 grandmother, 1 father, and one individual who identified her- or himself as “other.” Thus, the word “mother” will be used for “caregiver” from here on, keeping in mind the aforementioned situations.

The Modified Family Needs Survey, and the Family Support Scale were administered either directly to respondents on paper or as interviews. If respondents were able to read comfortably, then they were asked to fill out the instruments themselves, asking questions to the evaluator when necessary. If they were not comfortable reading independently, then the evaluator would read the items and write down the mother’s responses as they were given. This minimized the effects of comprehension difficulties, low literacy skills, and fatigue effects (e.g., short attention span). The same basic phrases were used in verbally presenting the information on the surveys, but interviews allowed a less intimidating, conversational format. Additional notes were also taken when respondents elaborated on the questions.

For those whose literacy skills allowed, the Brief Symptom Inventory (BSI) was administered in written form. The directions for completing the instrument were explained by the evaluator, and the first item was done together. Then the respondent was allowed to complete the instrument alone. Afterwards, the evaluator asked whether the respondent had any questions or comments about the survey. If a respondent preferred to have assistance with completing the BSI, the evaluator read the items out-loud and filled out the form to reflect the respondent chosen answer.

MODIFIED FAMILY NEEDS SURVEY

The Modified Family Needs Survey assessed the TIES mothers on their family’s needs in the following five areas: information, support, community services, help with family functioning, and financial assistance. Each area of need is represented as a subscale. Findings from this instrument are presented in the following sections of the report.

Need for Information

The first seven items on the survey addressed the mother’s need for information on issues regarding the child’s development and children’s services that may be available. For each item, respondents had the option of choosing 0 (Not applicable), 1 (Do not need help), 2 (Not sure), or 3 (Need help). It should be noted that responses of not applicable were excluded, resulting in slight differences in sample sizes. This is because certain items were irrelevant to some respondents, such as an item pertaining specifically to mothers of children with special needs. One hundred six mothers completed the survey at the child’s age of 1 month (with adjustments for pre-term delivery, when applicable), and 54 completed the survey at the child’s age of 12 months. Responses on the Need for Information subscale are displayed in Figure 4-1 for all TIES participants at the 1-month and 12-month interview times, followed by a discussion of the results.
Mothers tended to express a high degree of need for information about services at both interview times. Seventy-five percent of mothers at 1 month and 47% at 12 months reported the need for information on services that were available for their children at the time of the interview, while 67% of mothers at 1 month and 61% at 12 months reported the need for information about future services for their children. To a slightly lesser degree, mothers at both times indicated a need for information about how children grow and develop, with 59% of mothers at 1 month and 38% of mothers at 12 months expressing this need. Similarly, 46% of the mothers at the 1-month interview and 37% of mothers at the 12-month interview expressed the need for information about how to teach their children. Relatively fewer mothers reported needing information about their child’s physical condition, playing with or talking to their child, or handling their child’s behavior, with one-third or less of the mothers interviewed at both times indicating the need for information in these respective areas.

Need for Support
The family’s need for support is determined by responses to nine survey items concerning such social and emotional supports as the opportunity to talk to friends and family; the availability of counselors, ministers, and advocates for services they need; reading material; and time to oneself. Mothers responded to statements on a scale of 0 (Not applicable), 1 (Do not need help), 2 (Not sure), and 3 (Need help), with responses of not applicable excluded. One hundred five mothers completed the survey at the 1-month
Overall, 50% or less of responding mothers at both interview times expressed the need for the indicated supports. Fifty percent of mothers at 1 month and 41% of mothers at 12 months reported the need for someone to help them get services. Similarly, 49% of the mothers at 1 month and 37% at 12 months reported needing more time to themselves. The need for opportunities to meet and talk with other parents of young children was a concern for 39% of mothers at 1 month and 42% of mothers at 12 months. Relatively few mothers at both interview times reported a need to talk with family members about their problems.
problems, or to talk to their child's teacher, therapist, or other service worker. Very few respondents at both time periods stated that they need to meet regularly with a counseling professional, or to talk with a minister about their problems.

Need for Community Services
The need for community services is determined by five items addressing the need for help in locating various services for the child related to health, child care, and school placement. Mothers chose from responses of 0 (Not applicable), 1 (Do not need help), 2 (Not sure), and 3 (Need help), with responses of not applicable excluded from mean scores. One hundred three mothers completed this portion of the Modified Family Needs Survey at the child's age of 1 month, while 53 mothers completed the survey at the child's age of 12 months. The reported needs for various community services are presented in Figure 4-3 for mothers participating in TIES at both interview times.

![Figure 4-3. Need for Help With Community Services](image)

The majority of mothers at both interview times tended to report that they did not need help with community services. However, 43% of mothers at 1 month and 28% of mothers at 12 months stated that they needed help locating babysitters. Very similarly, 42% of mothers at 1 month and 29% at 12 months indicated that they needed help locating a child care center or preschool for their children. Thirty-five percent of the mothers at 1 month and 32% of mothers at 12 months reported needing help finding school placement for their children. In contrast, very few mothers at both interview times expressed the need for help with finding a doctor and finding church-based child care.
Needs Concerning Family Functioning
The Modified Family Needs Survey includes six items regarding areas of family interaction. These items address issues such as communication, sharing responsibilities, planning, and compatibility among family members. Mothers selected from a scale consisting of 0 (Not applicable), 1 (Do not need help), 2 (Not sure), and 3 (Need help), with selections of not applicable excluded from scoring item means. One hundred three mothers responded to the survey at the 1-month interview, and 53 mothers responded at the 12-month interview, with exceptions noted. A display of mothers’ responses to items reflecting needs concerning family functioning are found in Figure 4-4.

Figure 4-4. Needs Concerning Family Functioning

<table>
<thead>
<tr>
<th>Item</th>
<th>1-102 (n=102)</th>
<th>12-52 (n=52)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping family discuss problems</td>
<td>31.4</td>
<td>23.1</td>
</tr>
<tr>
<td>Helping family support each other</td>
<td>43.1</td>
<td>34.6</td>
</tr>
<tr>
<td>Deciding on family chores</td>
<td>26.7</td>
<td>28.0</td>
</tr>
<tr>
<td>Helping the family get along</td>
<td>35.5</td>
<td>25.5</td>
</tr>
<tr>
<td>Setting family priorities</td>
<td>41.2</td>
<td>40.4</td>
</tr>
<tr>
<td>Balancing time alone and with family</td>
<td>44.1</td>
<td>45.3</td>
</tr>
</tbody>
</table>

The relative percentages of mothers at 1 and 12 months reporting needs concerning family functioning were fairly similar across all of the stated needs. Forty-four percent of mothers at 1 month and 45% at 12 months indicated that their families need help finding a balance between doing things together and doing things as individuals. Forty-one percent of mothers at 1 month and 40% of mothers at 12 months stated that their families needed help with setting priorities. Help with learning how to support each other during difficult times was a need reported by 43% of mothers at 1 month and 35% at 12 months. Slightly fewer mothers at both interview times indicated that their families needed help getting along and deciding who will do family tasks.
**Need for Financial Assistance**

Mothers were asked to respond to six statements about their financial needs, including the need for help with paying for basic necessities, equipment or toys for the child, services for the child, and job counseling for the mother or spouse. Responses were chosen from 0 (Not applicable), 1 (Do not need help), 2 (Not sure), or 3 (Need help), with selections of not applicable excluded from mean scores. One hundred three mothers completed this section of the survey at the child’s age of 1 month, and 54 mothers completed it at the child’s age of 12 months, with exceptions noted. The reported needs for financial assistance are shown in Figure 4-5 for both interview times.

![Figure 4-5. Need for Financial Assistance](image)

Mothers at both interview times reported a fairly high degree of need for financial assistance in several areas. The majority of the mothers interviewed at both times indicated the need for help getting a job or job counseling, with 67% at 1 month and 61% at 12 months expressing this need. Seventy-five percent of mothers at 1 month stated that they needed help paying for babysitting, while only 47% of mothers at 12 months stated that this was a concern. Similarly, 59% of mothers at 1 month and 38% at 12 months expressed a need for assistance in paying for toys. Relatively fewer mothers at both times reported needing help getting child equipment, and even fewer reportedly needed help with paying household expenses and paying for therapy or day care.
**Modified Family Needs Survey: Comparisons in Family Needs**

A series of comparisons were made to examine TIES participants' responses on the *Modified Family Needs Survey* at the 1-month and 12-month interview times. Comparisons were made over time, over time between groups, and between groups. The statistically significant results from these analyses are outlined as follows.

**Comparisons between Groups.** Comparisons were made between mothers in the prenatal group and mothers in the post partum group who completed surveys at each interview time. This type of comparison is useful in determining whether the two groups were statistically different in family needs at each interview time. This knowledge is especially important at the 1-month interview, to determine how similar or different the groups were in the beginning stages of TIES Program intervention.

No statistically significant differences were found between the prenatal and post partum groups at the 1-month interview time on the *Modified Family Needs Survey* subscales or total scale mean. However, one individual item on the Community Services subscale did emerge as statistically significant. The need for help finding a doctor showed a statistical difference between groups, with the post partum participants indicating a higher need than prenatal participants. At the 12-month interview, the Need for Community Services subscale showed a statistically significant group difference, with post partum participants reporting a higher need than prenatal participants. In addition, post partum participants also reported a statistically higher need for help getting school placement at 12 months than prenatal participants. The lack of statistical differences in most between-group comparisons suggests that mothers in the prenatal and post partum TIES groups expressed fairly similar needs for help.

**Comparisons over Time.** It should be noted that comparative analyses between time periods can only be made with those respondents who provided scores at both times. Since the infants of some mothers were still younger than 12 months, they had not yet been interviewed the second time, and were subsequently excluded from this analysis. The overall means for the five subscales and total scale at both interview times are displayed in Figure 4-6, with statistical significance indicated by asterisks.

Comparisons over time on the *Modified Family Needs Survey* resulted in statistically significant decreases in need from the 1-month to the 12-month interview on three subscales, including the need for information, need for support, and need for community services. These decreases were statistically significant at the 0.05 level for each subscale.

\[ F(1, 60) = 4.07, p = .049, \eta^2 = .08 \]  
\[ F(1, 60) = 5.52, p = .022, \eta^2 = .09 \]  
\[ F(1, 60) = 9.53, p = .003, \eta^2 = .16 \]

1 Statistical significance is indicated with an asterisk, with the F-value, significance level (p-value), and effect size (eta squared) depicted in a footnote. Note that statistical significance is achieved when the p-value is less than .05. Effect size refers to the magnitude of the contribution of the independent variable (time or group) to the overall difference in respondent mean scores between interviews: a large effect size is considered to be .10 or greater.

2 F(1, 72) = 6.60, p = .012, \eta^2 = .096; means of 1.7 for 54 post partum, 1.2 for 45 prenatal

3 F(1, 72) = 4.07, p = .049, \eta^2 = .08; means of 1.7 for 54 post partum, 1.2 for 45 prenatal

4 F(1, 72) = 5.52, p = .022, \eta^2 = .09; means of 1.9 for 54 post partum, 1.4 for 25 prenatal

5 F(1, 72) = 9.53, p = .003, \eta^2 = .16

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**Figure 4-6. Modified Family Needs Survey: Comparisons Over Time in Family Needs**

<table>
<thead>
<tr>
<th>Subscale</th>
<th>1 Month Mean</th>
<th>12 Month Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information (n=51)</td>
<td>1.8</td>
<td>1.7</td>
</tr>
<tr>
<td>Support (n=51)</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Community Services (n=50)</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td>Family Functioning (n=49)</td>
<td>1.9</td>
<td>1.8</td>
</tr>
<tr>
<td>Financial Assistance (n=49)</td>
<td>2.0</td>
<td>1.8</td>
</tr>
<tr>
<td>Total Scale Mean (n=51)</td>
<td>1.7</td>
<td>1.9</td>
</tr>
</tbody>
</table>

1 month  □  12 months

Mean Ratings of Need 0.0 1.0 2.0 3.0
community services\textsuperscript{6}, and need for financial assistance\textsuperscript{7}. In addition, the total scale mean also showed a statistically significant decrease over time\textsuperscript{8}.

Individual need items that statistically decreased include the need for information about the child's physical condition, child services presently available, and how children grow and develop. Individual community service items that decreased statistically include the need for help with finding a doctor and finding a babysitter. Regarding the need for financial assistance, the need for help with paying for household expenses and getting a job decreased over time to a statistically significant degree.

These statistically significant findings indicate that mothers appear to report the need for help in various areas to a lesser degree as their children grow older. This may suggest that the TIES Program assisted in reducing family needs in various areas, and/or that mothers needed more guidance with younger infants.

Comparisons over Time and by Group. Changes over time were examined comparatively between 27 prenatal and 22 post partum TIES participants. No statistically significant differences were seen in any subscales based on group and time.

\textsuperscript{6}F(1.49)=7.01, p=.011, \text{eta}^2=.13
\textsuperscript{7}F(1.50)=4.20, p=.046, \text{eta}^2=.08
\textsuperscript{8}F(1.50)=5.72, p=.021, \text{eta}^2=.10
FAMILY SUPPORT SCALE

The Family Support Scale (Dunst, Jenkins, & Trivette, 1988) is a 20-item scale that asks responding mothers to indicate which of a variety of sources of social support (e.g., relatives, friends, community agency personnel) are available to them, as well as their perception of the helpfulness of the available supports. Respondents rank how helpful each available source of social support has been to them on a scale ranging from 1 (Not at all helpful) to 5 (Extremely helpful), with respondents also having the option to indicate that a given source of social support is not available by selecting N/A (Not applicable). TIES participant ratings of social supports are presented and discussed in terms of both degree of helpfulness and availability.

Availability of Social Supports

Mothers were given the option of indicating when a social support was not available for them. See Appendix B for a detailed table of the specific responses of TIES participants. Figure 4-7 depicts the mean availability of the listed social supports reported by 105 mothers in the TIES Program assessed at 1 month, and 53 mothers assessed at 12 months.

It is noteworthy that the mothers interviewed at 1 month and the mothers interviewed at 12 months tended to report that most potential sources of social support were indeed available. In fact, several sources of support were indicated to be available by over 75% of the mothers interviewed at both time periods, including their own parents, relatives, and friends, as well as the family physician, professional helpers and agencies, and child protective services.

Only four supports appeared to be unavailable to the majority of participants, especially at the 1-month interview time. Seventy-seven percent of mothers at 1 month and 55% at 12 months stated that coworkers were not available. Similarly, 85% of mothers at 1 month and 74% at 12 months indicated early intervention to be unavailable. In addition, 64% at 1 month and 49% at 12 months expressed that the child's school or child care center was not available. In contrast, 62% of mothers at 1 month and 77% of mothers at 12 months reported that visiting nurses were not available.
In some instances, the supports reported by mothers to be unavailable at 1 month may have been due to limits placed upon them by the young ages of their children. It is possible that mothers had increased opportunities to interact with others as their children became older, thus exposing them to a wider range of supports. In addition, the TIES Program may have assisted in cultivating various potential sources of social support for the women.

Family Support Scale: Comparisons in Availability of Social Supports over Time and by Group

It is important to consider whether the availability of various sources of social support changed during the time of the intervention. Thus, a series of comparative analyses were conducted to determine if there were differences in reported availability between the 1 and 12 month interviews for the TIES participants as a whole, as well as for the subgroups of prenatal and post partum TIES enrollees. Women rated each of 20 sources of support as either 1 (Available) or 0 (Unavailable). Figure 4-8 depicts changes over time in the availability of social supports reported by mothers who were assessed at both 1 month and 12 months. Note that participants who only were assessed at one time period were excluded from the analyses, resulting in sample sizes ranging from 48 to 50.

There were no statistically significant differences between the prenatal and post partum groups on changes over time. When considering all participants assessed at both times, several statistically significant findings emerged. The availability of coworkers\(^9\) and social groups\(^{10}\) increased statistically over time, while visiting nurses\(^{11}\) became statistically less available. Other observations may be worthy of notice, though they did not reach statistical significance. The mothers' own parents, relatives, and friends tended to be amongst the most available family supports, while physicians, professional helpers, professional agencies, and child protective services were the most available service providers.

\(^{9}\) F(1,48)=8.27, p=.006, eta\(^2\)=.15

\(^{10}\) F(1,48)=14.84, p=.001, eta\(^2\)=.24

\(^{11}\) F(1,47)=10.69, p=.002, eta\(^2\)=.19
Family Support Scale: The Perceived Helpfulness of Various Sources of Social Support

In addition to rating the availability of various sources of social support, mothers rated how helpful they considered the available sources to be on a scale ranging from 1 (Not at all helpful) to 5 (Extremely helpful). The reported means for each source of support at both interview times are found in Figure 4-9 for all TIES participants.

Figure 4-9. Family Support Scale:
Mean Perceived Helpfulness at 1 Month and 12 Months

<table>
<thead>
<tr>
<th>Source of Support</th>
<th>1 Month Mean</th>
<th>12 Month Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your parents</td>
<td>3.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Spouse/Partner</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Partner's parents</td>
<td>2.9</td>
<td>3.0</td>
</tr>
<tr>
<td>Your relatives</td>
<td>2.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Partner's relatives</td>
<td>2.6</td>
<td>3.0</td>
</tr>
<tr>
<td>Your friends</td>
<td>2.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Partner's friends</td>
<td>3.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Own children</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Other parents</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Coworkers</td>
<td>2.6</td>
<td>3.4</td>
</tr>
<tr>
<td>Parent groups</td>
<td>2.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Social groups</td>
<td>2.7</td>
<td>3.0</td>
</tr>
<tr>
<td>Church members/Minister</td>
<td>2.9</td>
<td>3.1</td>
</tr>
<tr>
<td>Physician</td>
<td>3.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Early intervention</td>
<td>2.7</td>
<td>3.4</td>
</tr>
<tr>
<td>School/Child care center</td>
<td>3.1</td>
<td>3.4</td>
</tr>
<tr>
<td>Professional helpers</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Professional agencies</td>
<td>4.6</td>
<td>4.6</td>
</tr>
<tr>
<td>Child protective services</td>
<td>3.6</td>
<td>3.7</td>
</tr>
<tr>
<td>Visiting nurses</td>
<td>3.3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Mothers tended to consider professional supports to be very helpful at both time periods. In fact, professional helpers and agencies received higher ratings of perceived helpfulness than partners, parents, other relatives, children, or friends at both time periods. In addition, more mothers considered the professional supports to be available, in comparison with family or social supports. The majority of mothers reported that professional helpers, such as the TIES Specialists, were extremely helpful, with
62% of mothers at 1 month and 62% of mothers at 12 months giving the highest rating. In addition, only one mother at 1 month considered this support to be unavailable, with all mothers at 12 months considering this support to be available. It is also noteworthy that the mothers’ perceptions of professional helpers remained stable between mothers interviewed initially and mothers interviewed at 12 months. Sixty-two percent of mothers at 1 month and 59% of mothers at 12 months perceived professional agencies such as WIC to be extremely helpful. Along with professional helpers, professional agencies were the only other support with a mean rating by mothers in the range of very helpful, to extremely helpful at both time periods. However, participants at 12 months did give a mean rating in this range for the child’s school or child care center, with 44% indicating this source to be extremely helpful at that time. Thirty-nine percent of mothers at 1 month and 33% of mothers at 12 months gave a rating of extremely helpful to child protective services.

Partner-related supports were rated as the least helpful overall by the TIES mothers who reported that they had access to these supports. However, it is worth noting that at both interview times, a rather large number of mothers indicated that partner supports were not available. For the mothers with partner supports, the means barely fell within the range of generally helpful at 1 and 12 months. In 29% of instances at 1 month and 23% of instances at 12 months, mothers stated that their partners were extremely helpful. The majority of mothers interviewed did not report that the remaining partner-related supports were very helpful. Thirty percent of mothers at 1 month reported that their partners’ parents were not helpful, while 32% of mothers reported this at 12 months. Similarly, 39% of mothers at 1 month and 33% of mothers at 12 months stated that other relatives of their partners were not helpful. It is apparent that many of the mothers did not consider potential supports associated with their spouses or partners to be helpful.

Overall, mothers’ indications of which supports were available suggest that professional services, such as TIES, may have been more available to some mothers than their own family and friends. In addition, it is important to note that mothers tended to consider the support they received from professional supports as the most helpful at both assessment times.

Family Support Scale: Comparisons of the Perceived Helpfulness of Social Support Sources
It is important to determine whether mothers perceived that there were changes in the helpfulness of social supports received during the critical time when they were caring for a newborn child. As such, comparisons were conducted to examine the changes over time in the responses of TIES participants who had completed assessments at both interview times. In addition, data was also examined for group differences that would indicate if prenatal and post partum participants differed in their responses over time. Since these comparisons were made only with mothers who completed the scale at both times, and respondents were required to consider each support as available in order for their response to be included, some very small sample sizes resulted. Thus, the results should be viewed with caution.

No statistical differences were found between groups on the perceived helpfulness of social supports. However, two statistically significant findings emerged in analyses over time by group. TIES participants as a whole reported coworkers12 to become statistically more helpful from 1 to 12 months. In addition, mean responses for coworkers also differed statistically between prenatal and post partum participants over time13, with prenatal participants reporting an increase in helpfulness over time and post partum participants reporting no change in perceived helpfulness over time. However, the sample size for this analysis was extremely small (n=5), so these results are very tentative. The lack of statistically significant results in almost all of the comparisons over time and between groups may be attributed to the very small sample sizes.

12 F(1,3)=17.64, p=.025, eta^2=.86; means of 2.0 at 1 month, 3.4 at 12 months
13 F(1,3)=17.64, p=.025, eta^2=.86; prenatal (mean of 1.0 at 1 month and 4.5 at 12 months), post partum (mean of 2.7 at both times)
BRIEF SYMPTOM INVENTORY

The Brief Symptom Inventory (BSI; Derogatis, 1993) asks respondents to indicate the degree to which they are experiencing 53 independent psychological symptoms, coded according to nine symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. In addition, three global indices were developed to provide an overall assessment of psychological well-being or distress: the Global Severity Index (GSI) is the most sensitive indicator of distress level; the Positive Symptom Total (PST) reveals the number of symptoms reported, and the Positive Symptom Distress Index (PSDI) provides information about the average level of distress (i.e., intensity). Raw scores are converted to standardized T-scores, with a T-score of 50 equivalent to the 50th percentile of the appropriate normative population; for the TIES sample, the normative group of 341 non-patient females serves as the norm. In general, a positive psychiatric diagnosis is indicated by a GSI T-score of 63 or greater, or if any two dimension T-scores are 63 or greater. Seventy-three mothers completed the instrument at the 1-month interview, and 44 mothers completed the instrument at the 12-month interview. The mean T-scores for participants at each interview time are displayed in Figure 4-10.

The mean T-scores derived on the BSI for TIES mothers ranged from approximately 51 to 60 on the nine symptom dimensions and 55 to 60 on the three global indices. Thus, the majority of the mothers did not report symptom levels that would warrant a psychiatric diagnosis. Mean scores at 1 and 12 months appeared to be rather comparable in most instances. However, the mothers interviewed at 1 month tended to obtain scores that were slightly higher than those obtained by mothers assessed at 12 months. This finding can be interpreted as positive, since mothers who have been enrolled in TIES for a longer period of time tended to score lower than mothers who were enrolled for only a short time. Overall, the TIES sample obtained T-scores that were higher than the average reported for the aforementioned BSI norm population (i.e., 50), indicating that TIES mothers tended to report a higher degree of symptoms than a typical group of non-patient adult females.
Brief Symptom Inventory: Comparisons over Time and By Group

A series of comparisons were conducted that included only the women who completed the BSI at both the 1-month and 12-month interviews. Data was examined for changes over time and differences between the prenatal and post partum groups in their responses over time. Only one statistically significant difference was found over time; the scores of TIES participants on the Positive Symptom Distress Index \(^{16}\) statistically decreased from 1 to 12 months. This finding is encouraging, since lower scores on the BSI illustrate less reported psychological symptoms. Further, the PSDI is a scale that is derived from items belonging to multiple symptom dimensions, suggesting that changes over time were positive in a number of assessed areas.

Six scales emerged with statistically significant time by group differences, indicating that participants in prenatal and post partum groups differed in their BSI scores over time. Figure 4-11 depicts T-scores over time for mothers in the prenatal group, while Figure 4-12 depicts T-scores over time for the post partum group. Statistically significant items are indicated with an asterisk.

Statistically significant group differences were found over time on four of the symptom dimensions, including Obsessive-Compulsive \(^{15}\), Interpersonal Sensitivity \(^{16}\), Hostility \(^{17}\), and Psychoticism \(^{18}\). In addition, comparisons on two of the global indices also yielded statistically significant group differences over time: the Global Severity Index \(^{19}\) and the Positive

\(^{14}\) F(1,33)=4.75, p=.037, eta\(^2\)=.13  
\(^{15}\) F(1,33)=4.83, p=.035, eta\(^2\)=.13  
\(^{16}\) F(1,33)=4.79, p=.036, eta\(^2\)=.13  
\(^{17}\) F(1,33)=7.09, p=.012, eta\(^2\)=.18  
\(^{18}\) F(1,33)=8.68, p=.006, eta\(^2\)=.21  
\(^{19}\) F(1,33)=7.42, p=.010, eta\(^2\)=.18
Symptom Total\textsuperscript{20}. In all statistically significant time by group findings, participants in the prenatal group scored lower on the BSI at 12 months than at 1 month, indicating a reduction in assessed symptoms. In contrast, post partum participants scored higher at 12 months than at 1 month, indicating an increase in reported symptoms over time.

CONCLUSION

The survey information gathered from the mothers enrolled in the TIES Program provides a unique, personal perspective that will contribute greatly to an understanding of how the mothers view their situation and themselves. It is hoped that this information will prove valuable in the design of increasingly successful interventions for the families involved in the program.

\textsuperscript{20} F(1.33)=8.58, p=.006, eta\textsuperscript{2}=.21
SUMMARY OF CHAPTER 4: PARTICIPANT SURVEY INFORMATION

- Mothers enrolled in the TIES Program generally indicate moderate levels of need for information, services, support, assistance with family relationships, and financial assistance, with less than half of mothers tending to indicate the need for help on individual items.
  - The women most frequently express need for help with service-related issues, finding and paying for child care, and job assistance/counseling.
  - The lack of statistical differences in most between-group comparisons suggests that mothers in the prenatal and post partum TIES groups expressed fairly similar needs for help.
  - Comparisons over time on family needs result in statistically significant decreases in need from the 1-month to the 12-month interview on the need for information, services, financial assistance, and also the total needs scale.

- Several sources of support are indicated to be available by over 75% of the mothers interviewed at both time periods, including their own parents, relatives, and friends, as well as the family physician, professional helpers and agencies, and child protective services.
  - Four supports appear to be unavailable to the majority of participants, especially at 1-month, including coworkers, early intervention, the child's school or child care center, and visiting nurses. This may be due in part to limits placed on mothers caring for young children.
  - There are no statistically significant differences between the prenatal and post partum groups on changes over time. When considering all participants assessed at both times, several statistically significant findings emerge, with the availability of coworkers and social groups increasing over time, while visiting nurses become less available.

- Mothers tend to consider professional supports to be very helpful at both time periods, giving these supports higher ratings of perceived helpfulness than partners, parents, other relatives, children, or friends at both time periods.
  - Partner-related supports are rated as the least helpful overall by the TIES mothers who report that they had access to these supports.
  - TIES participants as a whole report coworkers to become statistically more helpful from 1 to 12 months. In addition, prenatal participants report an increase in helpfulness over time and post partum participants report no change.

- The majority of mothers do not report symptom levels that would warrant a psychiatric diagnosis. However, the mothers interviewed at 1 month tend to obtain scores that are slightly higher than those obtained by mothers assessed at 12 months. Overall, the TIES mothers tend to report a higher degree of symptoms than the average group of non-patient adult females.
  - Only one statistically significant difference is found over time, with mean T-scores on the Positive Symptom Distress Index statistically decreasing from 1 to 12 months.
  - Six scales emerge with statistically significant time by group differences, including four symptom dimensions (Obsessive-Compulsive, Interpersonal Sensitivity, Hostility, and Psychoticism), and two global indices (Global Severity Index and Positive Symptom Total). In all instances, participants in the prenatal group score lower at 12 months than at 1 month, indicating a reduction in assessed symptoms. In contrast, post partum participants score higher at 12 months than at 1 month, indicating an increase in reported symptoms over time.
CHAPTER 5
Developmental Outcomes for Infants

INTRODUCTION

The multi-faceted goals of the TIES Program address many aspects of the issues related to child abandonment. Of supreme importance among these goals is the well-being of the children, with most program activities attempting to either directly or indirectly foster optimal child development. Thus, it is important to measure the developmental progress of the target children in the families served by the TIES Program. This chapter describes the findings of the developmental assessment of infants assessed during their families' enrollment in the TIES Program.

In the first section, developmental scores are presented for each of the two time periods of assessment (i.e., child ages of 6 months and 12 months). Standardized scores are used in order to compare this sample with a normative population. Second, the scores for each child are compared over time, to determine the degree to which children show developmental progress during enrollment in the TIES Program. Third, the developmental scores of children are compared, based on whether their mothers entered the program prenatally or after delivery. Fourth, a number of factors are considered with regard to whether they appear to be associated with developmental gains for the target children, including the following: birth weight, gestational age, the level of risk at entry into the program, the level of prenatal care, prenatal or post partum enrollment in the TIES Program, maternal age, maternal education, the intensity of intervention, and maternal goal attainment.

RATIONALE FOR INSTRUMENTATION USED

One primary focus of the TIES Program is the optimal development of prenatally drug-exposed infants. Sensitive, reliable, and valid measurement of the development of very young children is challenging to accomplish; this issue was central in selecting the most appropriate instrument to measure this objective. The multi-instrument assessment process conducted during the initial TIES Program (1990-1996) revealed few differences between the development of children in the TIES Program and other traditionally case-managed drug-exposed and non-drug-exposed infants from the same geographic area. Thus, the decision was made in the reapplication of the TIES Program during 1996-2000 to instead employ one overall developmental assessment to track the progress of participants. The Bayley Scales of Infant Development Second Edition (BSID-II) (Bayley, 1993) was selected because of its robust psychometric properties and philosophical foundations concerning infant development, which are compatible with the TIES model of intervention. In this evaluation of the effects of the TIES interventions, the BSID-II was used to chart the development of participating infants and compare their development with normative populations.

THE ASSESSMENT INSTRUMENT

The Bayley Scales of Infant Development Second Edition (BSID-II)

The Bayley Scales of Infant Development-II measure the appropriateness of an infant's developmental functioning through the presentation of situations and tasks designed to interest the child and evoke observable behavioral responses. The BSID-II differs from traditional intelligence testing in its acknowledgement that behaviors differ qualitatively as a child grows and matures. The instrument measures a wide range of developmental abilities, without the assumption that the absence of a particular ability at one assessment time will necessarily predict its presence or absence at a later assessment.

The BSID-II is comprised of the following three complementary scales: the Mental Scale (MDI), the Psychomotor Scale (PDI), and the Behavior Rating Scale (BRS). The items in the MDI measure the
child's developmental progress with regard to memory, habituation, problem solving, grasping number concepts, generalizing, classifying, vocalizing, and demonstrating both language and social skills. The PDI items assess the child's gross motor skills (e.g., rolling, crawling, sitting, standing and walking) and fine motor skills (e.g., holding and manipulating blocks, and other objects).

The BRS includes items that qualitatively assess the child's behavior, such as the child's orientation to the tasks, engagement with the examiner, regulation of emotions, and quality of movement. These items comprise four BRS subscale factors, including the Motor Quality Factor, the Orientation/Engagement Factor, and the Emotional Regulation Factor. Another factor, the Attention/Arousal Factor, assesses the child's level of arousal, alertness, and attention; however, this factor was not computed for the present sample because it is appropriate only for infants that are 5 months of age.

*Standardization of the Scales in the BSID-II*

In the development of the Mental Scales and Motor Scales, the distribution of raw scores for each age level was converted to a standardized scale, with a mean of 100 and a standard deviation of 15. The scoring was derived from a standardization sample of 1,700 cases, comprised of 100 children within each of 17 age groups between the ages of 1 month and 42 months. The standardized index scores range from 50 to 150, with 3 1/3 standard deviations on each side of the mean. The performance of the child, based on the index scores for a child's given age, is also qualitatively designated into the following categories: *Significantly delayed performance (69 and below); Mildly delayed performance (70-84); Performance within normal limits (85-14); and Accelerated performance (115 and above).*

The Behavior Rating Scale was standardized for children in three age groups: 1 to 5 months, 6 to 12 months, and 13 to 42 months. The standardization sample for this analysis included the 1,700 infants in the above sample, plus an additional 370 infants from a clinical sample. The scores are provided as percentiles, with a range from the 1st to the 96th percentile. In addition to the Total Behavior Rating Scale, the aforementioned three factor scales utilized in the present study describe more specific aspects of the scale. The Orientation/Engagement Factor, determined for children ranging from 6 to 42 months in age, assesses the degree to which the child shows initiative and involvement with both social and task-related environmental interactions. The Emotional Regulation Factor measures the degree to which children ages 6 to 42 months cope with heightened emotions through their adaptability, persistence, cooperation, and tolerance of frustration. The Motor Quality Factor considers the quality of movement, muscle tone, and fine and gross motor control of children within the entire range from 1 to 42 months. The following categories for the Behavior Rating Scale and Factors provide a qualitative understanding of the scores: *Non-optimal (1st - 10th percentile), Questionable (11th - 25th percentile), and Within normal limits (26th percentile and above).*

*Psychometric Properties of the Bayley Scales of Infant Development-II*

Extensive psychometric examination has been conducted for the Mental Scale, the Motor Scale, the Behavior Rating Scale, and the four factor subscales within the Behavior Rating Scale. The reliability coefficients have been determined for each of the three scales and the factors at each of the 17 ages, with averages of .74 to .88 (Fisher's z transformation). Inter-scorer reliabilities were .96 for the Mental Scale, .75 for the Motor Scale, and .70 for the Total Behavior Rating Scale for children 1 to 5 months old and .88 for children 13 to 42 months old. Percentages of agreement were computed between the BSID-II and the Denver Developmental Screening Test-II; in a sample of 95 children, ages 3 to 36 months, the two instruments were in agreement for 77.9% of the children.

The BSID-II has been administered to such special populations as children born prematurely, and children prenatally exposed to drugs. Even when corrected for prematurity, preterm infants scored 4/5 of a standard deviation below the mean on the Mental Scale, and 1 standard deviation below the mean on the Motor Scale of the normative sample. For drug-exposed infants, scores were 2/3 of a standard deviation.
below the mean on the Mental Scale, and 1/3 of a standard deviation below the mean on the Motor Scale of the normative sample. Both the normative samples and the special population samples will be useful for comparison with the populations in this proposal.

THE ASSESSMENT PROCESS

The Setting
The developmental assessments generally occurred at the Institute for Human Development, in conjunction with interviews with the mother and the videotaped assessment of parent/child interaction. The setting was a family room containing a couch, comfortable chairs, and a table and chairs. This building is a short distance from the TIES office, and the TIES Specialists typically brought the mother and infant to the assessment meeting.

Service Reports
After the scoring of the assessment, a Service Report was completed and submitted to program staff. Behaviors that occurred during the assessment were described briefly for each of instruments. The raw scores, standard scores, and percentiles were documented, along with the performance levels associated with the scores.

Training of Assessors
Each of the assessors conducted the assessment under the supervision of K. L. Fuger, the program evaluator for the TIES Program. Dr. Fuger received intensive certification training on the BSID-II shortly after its publication. This training was conducted by Dr. Kitt Freier, who was under contract with the Center on Substance Abuse Prevention (CSAP) Pregnant and Post partum Women Initiatives (PPWI) of the U.S. Department of Health and Human Services (HHS). All assessors had access to support from other members of the evaluation team and Dr. Fuger, both for conducting the assessments and scoring them.

The Age of the Child at Each Assessment
Infants were assessed at the ages of 6 months, and 12 months. In a number of instances, the assessment could not be conducted within the recommended window of the BSID-II, which extends from 2 weeks prior to the designated assessment time to 2 weeks after the designated time. Reasons were related to release from drug treatment, relapse, child placement, and the engagement of the family at the designated time necessitated scheduling outside the recommended window of time. In those circumstances, the BSID-II assessment appropriate for the age of the child was used, with the appropriate scoring for the new time period, e.g., a 7-month assessment or a 13 month assessment. The standardized scores of these assessments were included in the data for the closest time period, including the following:

- One 5-month assessment, twenty-three 7-month assessments, ten 8-month assessments, and three 9-month assessments included with the thirty-five 6-month assessments, and
- One 11-month assessment, eleven 13-month assessments, five 14-month assessments, and one 15-month assessment included with the thirty-five 12-month assessments.

The date for conducting the assessments was adjusted for prematurity by using the infant's gestational age to determine the time of assessment. If the infant had a gestational age of less than 34 weeks, this adjustment was extended to the 6-month and 12-month assessment. A factor that prevented the inclusion of some of the assessments was the limited information available about the infant's gestational age. Since some women received little or no prenatal care, or received care from an agency that was unwilling to release the birth information, an accurate gestational age was often unknown until after the first assessment was conducted.

5-3
FINDINGS

This preliminary report includes developmental scores from 88 infants assessed at approximately 6 months and 56 infants assessed at approximately 12 months. Of these, 49 infants were assessed at both times on the BSID-II.

Mental Development Index (MDI)

Infant ratings on the MDI are expressed as standard scores. In addition, the standard score is qualitatively ranked according to four performance levels that may be compared with a normative population. The following categories and standard score ranges were utilized: Significantly Delayed (1-69), Mildly Delayed (70-84), Within Normal Limits (85-114), and Accelerated (115 and above). Table 5-1 displays the standard scores and performance levels of the TIES infants on the MDI at 6 months and 12 months.

Table 5-1. Frequency Distribution of Infant Performance on the Mental Scale (MDI)

<table>
<thead>
<tr>
<th>Assessment Period</th>
<th>Performance Level % (n)</th>
<th>Standard Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Significantly Delayed</td>
<td></td>
</tr>
<tr>
<td>6 Months (n=88)</td>
<td>5% (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mildly Delayed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14% (12)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within Normal Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80% (70)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accelerated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Standard Score Range</td>
<td>52-123</td>
</tr>
<tr>
<td></td>
<td>Standard Score Mean</td>
<td>95.7</td>
</tr>
<tr>
<td></td>
<td>Standard Deviation</td>
<td>12.4</td>
</tr>
<tr>
<td>12 Months (n=56)</td>
<td>2% (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mildly Delayed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>14% (8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within Normal Limits</td>
<td></td>
</tr>
<tr>
<td></td>
<td>71% (40)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accelerated</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13% (7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Standard Score Range</td>
<td>69-143</td>
</tr>
<tr>
<td></td>
<td>Standard Score Mean</td>
<td>99.8</td>
</tr>
<tr>
<td></td>
<td>Standard Deviation</td>
<td>14.2</td>
</tr>
</tbody>
</table>

At both times, the majority of infants scored in the normal range. However, the mean standard score at 6 months fell slightly below the mean standard score of 100.0 for the normative population. At 12 months, the mean standard score for infants in the TIES Program was essentially identical to the norm. It is important to note that standard scores at both times were much higher than the mean score of a drug-exposed sample during psychometric testing of the BSID-II; that sample of 137 infants (median age of 24 months) scored approximately 90.8, or 2/3 S.D. lower than the normative population. Thus, infants in the TIES Program were more comparable to the norm than to a sample of drug-exposed infants.

The distribution of infant scores within the four performance levels was fairly similar between assessment times. At 6 months, 19% of assessed infants scored below normal limits, while 16% at 12 months scored this low. While the majority of infants at both times scored in the normal range, only one infant scored above normal at 6 months while seven infants scored above normal at 12 months. This finding is encouraging because at least six infants who did not score in the accelerated range at 6 months did end up scoring in this range by the time they reached 12 months of age.

Psychomotor Development Index (PDI)

Like the MDI, infant ratings on the PDI are expressed as both standard scores and performance level according to the following categories: Significantly Delayed (1-69), Mildly Delayed (70-84), Within Normal Limits (85-114), and Accelerated (115 and above). The performance levels of the infants on the Motor Scale at 6 months and 12 months, shown in Table 5-2. Note that high scores on the PDI reflect a child’s ability to perform certain motor tasks, but this scale does not address motor quality. Rather, the level of control and quality of muscle movement are instead assessed in the Motor Quality subscale of the Behavior Rating Scale.
Table 5-2. Frequency Distribution of Infant Performance Level on the Motor Scale (PDI)

<table>
<thead>
<tr>
<th>Assessment Period</th>
<th>Performance Level % (n)</th>
<th>Standard Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 Months (n=89)</td>
<td>13% (12)</td>
<td>24% (20)</td>
</tr>
<tr>
<td>12 Months (n=56)</td>
<td>4% (2)</td>
<td>14% (8)</td>
</tr>
</tbody>
</table>

Like the MDI, the majority of infants scored in the normal range on the PDI at both assessment periods, though not to such a great degree. This is reflected in the mean standard scores, falling fairly far below the norm of 100.0 at 6 months, and slightly above the norm at 12 months. Note that the mean standard score of the TIES sample at 6 months was lower than the standard score of the aforementioned sample of 137 drug-exposed infants utilized in the psychometric testing of the BSID-II. That sample of infants scored 96.3 on the PDI. However, infants in the TIES Program obtained a mean standard score at 12 months that is much higher than that of the comparison sample of drug-exposed infants.

Unlike the MDI, the distribution of infant standard scores on the PDI was not similar between 6 and 12 months. At 6 months, 37% of infants were below the normal range and only 6% were above normal. In contrast, 18% of the infants assessed at 12 months were below normal while 30% were above the normal range. These findings are encouraging because at 12 months fewer infants scored as significantly delayed and more infants scored as accelerated on the PDI scale.

Behavior Rating Scale (BRS)
The scores on the Behavior Rating Scale were derived from assessor ratings of numerous behaviors that were observed throughout the administration of the MDI and PDI items. The behaviors are scored on a scale from 1 to 5, with 5 indicating positive observations. These scores are tallied into a total Behavior Rating Scale raw score, and subscale raw scores are computed for the Motor Quality subscale, the Orientation subscale and the Emotion/Regulation subscale. These raw scores are converted to percentile rankings based on the age of the child, within the following ranges: 6-12 months, and 13-42 months.

BRS Performance Level. The percentiles are also qualitatively defined according to performance level within these categories: Non-optimal (1-10%), Questionable (11-25%), and Within normal limits (26-99%). Table 5-3 displays the infant performance levels on the Total Behavior Rating Scale and each subscale at each time period.

Table 5-3. Frequency Distribution of Infant Performance Level on the Behavior Rating Scale (BRS)

<table>
<thead>
<tr>
<th>Behavior Rating Scale (BRS)</th>
<th>Assessment Period</th>
<th>n</th>
<th>Performance Level % (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Non-Optimal</td>
</tr>
<tr>
<td>Total Scale</td>
<td>6 Months</td>
<td>89</td>
<td>15% (13)</td>
</tr>
<tr>
<td></td>
<td>12 Months</td>
<td>56</td>
<td>7% (4)</td>
</tr>
</tbody>
</table>
The majority of infants in the TIES Program scored at percentiles within the normal range, as determined by the scores of the sample on which the instrument was normed. Note that higher percentages of infants assessed at 12 months tended to score in the normal range in comparison with infants assessed at 6 months. However, infants at all assessment times on all components of the BRS compare favorably to the sample of 137 drug-exposed infants studied in the psychometric testing of the BSID-II. In that sample, 34% of the infants scored in the Non-optimal range, while 22% scored in the Questionable range.

The findings on the Motor Quality subscale are worthy of closer examination. At 6 months, the percentage of infants who scored below the normal range was much greater than the percentage who scored below normal at 12 months. In fact, no other subscale at either assessment time emerged with such a high percentage of infants below normal. Some characteristics included in this subscale are motor control, tonicity, and pace of movement. Consequently, this finding at 6 months is comparable to the BSID-II drug-exposed sample, with a rate of 36% in the Non-Optimal range for those infants. At 12 months, a much higher percentage of infants scored in the normal range, similar to the other subscales and the total BRS scale. The findings on the Motor Quality subscale parallel the infant scores on the PDI, with infants assessed at 6 months scoring lower in general than infants assessed at 12 months on that scale.

Another subscale with notable findings is the Emotional/Regulation subscale. In contrast to the other subscales and the total BRS scale, the percentage of infants in the normal range was the same at 6 and 12 months. However, this finding can hardly be considered negative, as such a high percentage of infants scored in the average range at both assessment times. Some behaviors captured by this subscale include hypersensitivity to materials, frustration, orientation to the assessor, and cooperation.

Taking the infants' scores on the BRS and its subscales in comparison to the MDI and PDI, it appears that scores were somewhat comparable between the BRS and MDI. However, the BRS and its subscales may have captured some of the infants' limitations that were not reflected on the MDI. Infant scores on the PSI appeared to follow the same trend that emerged on the Motor Quality subscale of the BRS, with infants at 6 months showing deficits to a much greater degree than infants assessed at 12 months.

**BRS Percentile Scores.** Raw scores on the BRS are converted into percentile ratings. Table 5-4 presents the percentile range and mean of percentile ratings, and the standard deviation on the BRS for infants.
assessed at the ages of 6 months, and 12 months. At both 6 and 12 months, infants in the TIES Program obtained mean percentile scores above the average at the 50th percentile. This positive deviation from the norm was even more pronounced at 12 months than at 6 months.

Table 5-4. Mean Percentile Scores of the Behavior Rating Scale (BRS)

<table>
<thead>
<tr>
<th>Infant Age</th>
<th>n</th>
<th>Percentile Range</th>
<th>Mean Percentile Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 months</td>
<td>89</td>
<td>1-99</td>
<td>55.4</td>
<td>33.7</td>
</tr>
<tr>
<td>12 months</td>
<td>56</td>
<td>4-99</td>
<td>67.3</td>
<td>32.9</td>
</tr>
</tbody>
</table>

**Developmental Outcomes for Preterm Infants**

Developmental scores for the infants born prior to a gestational age of 34 weeks were analyzed separately. Table 5-5 displays the mean standard scores and standard deviations for the preterm infants on the MDI, PDI, and BRS at each time period. Note that the sample sizes were very low for preterm infants in the TIES Program, making interpretation of the findings difficult, and any comparisons with the BSID-II sample of preterm infants preliminary at best.

Table 5-5. Mean Standard Scores for Preterm TIES Infants on the MDI, PDI, and BRS

<table>
<thead>
<tr>
<th>Scale</th>
<th>Assessment Period</th>
<th>n</th>
<th>Mean Standard Score</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDI</td>
<td>6 months</td>
<td>9</td>
<td>93.7</td>
<td>9.4</td>
</tr>
<tr>
<td></td>
<td>12 months</td>
<td>43</td>
<td>90.0</td>
<td>9.2</td>
</tr>
<tr>
<td>PDI</td>
<td>6 months</td>
<td>9</td>
<td>87.4</td>
<td>14.5</td>
</tr>
<tr>
<td></td>
<td>12 months</td>
<td>4</td>
<td>95.3</td>
<td>7.2</td>
</tr>
<tr>
<td>BRS</td>
<td>6 months</td>
<td>9</td>
<td>52.2</td>
<td>36.6</td>
</tr>
<tr>
<td></td>
<td>12 months</td>
<td>4</td>
<td>39.3</td>
<td>38.2</td>
</tr>
</tbody>
</table>

The majority of the scores for preterm infants in the TIES Program are higher than the mean scores of 57 preterm infants (median age of 11 months, assessed at adjusted ages) who participated in the psychometric testing of the BSID-II. The infants in the BSID-II sample had a mean MDI score of 88.6, with a standard deviation of 15.7, and a mean PDI score of 83.5, with a standard deviation of 21.6.

On the BRS at 6 months, a slightly lower percentage of the preterm infants in the TIES sample received ratings in the Non-Optimal category compared with the BSID-II sample of preterm infants. The BSID-II sample included 21% of the infants in the Non-optimal category, compared with 11% of the TIES infants. At 12 months, one of the four TIES infants scored in the lowest range. Compared with 15% of the BSID-II preterm population scoring in the Questionable range, 22% of the TIES infants at 6 months scored in that range, and one of the four infants assessed at 12 months scored in the Questionable range.
COMPARISONS OF ASSESSMENT SCORES

Comparative analyses were conducted based on the time of the assessment (i.e., 6 months and 12 months) and enrollment group (i.e., prenatal or post partum). No statistically significant group differences were found in analyses of change over time, indicating that prenatal and post partum infants were developmentally and behaviorally similar over time. Thus, enrollment in TIES may be beneficial to infant development regardless of when the mothers joined the program. Several statistically significant differences over time did emerge, and are described in the following section.

Infant Developmental Change Over Time and By Group

Forty-nine infants were assessed at both 6 months and 12 months. Figure 5-1 presents the mean standard scores on the PDI and MDI at the two time periods for the aforementioned infants. The mean standard scores statistically increased over time for the PDI. In addition, the large effect size for the PDI suggests that change in scores is associated with time. The mean MDI scores also increased over time, though not to a statistically significant degree. Given the trend of scores on the PDI and MDI increasing over time, it can be hypothesized that some portion of the improvement may be attributed to TIES intervention and the progress of these families in addressing the various risks to child development.

Mean percentile rankings on the BRS and three subscales are found in Figure 5-2 for the 49 infants with data at 6 and 12 months. Similar to the PDI and MDI, there was a general trend on the BRS and the three subscales of improvement in scores over time, though this improvement was statistically significant only with the Motor Quality subscale. In addition, the large effect size suggests that the change in scores is associated with time. The trend of improvement over time on the BRS and its subscales suggests the possibility that TIES Program interventions are positively contributing to the development of these infants.

1 Statistical significance is indicated with an asterisk, with the F-value, significance level (p-value), and effect size (eta2) depicted in footnotes. Note that statistical significance is achieved when the p-value is less than .05. Effect size refers to the magnitude of the contribution of the independent variable (time or group) to the overall difference in respondent mean scores between interviews; a large effect size is considered to be .10 or greater.

2 \( F(1,48) = 10.20, \ p = .002, \ \text{eta}^2 = .18 \)

3 \( F(1,48) = 11.47, \ p = .001, \ \text{eta}^2 = .19 \)

5-8
Comparison of the Infants of Prenatal and Post partum Enrollees at Each Time Period

The development and behavior of infants enrolled in the TIES Program may also be examined by comparing all infants assessed by group to determine if they differed according to prenatal or post partum enrollment. Comparisons of the 46 prenatal group infants and 43 post partum group infants assessed at 6 months yielded no statistically significant group differences in scores on the BSID-II. However, comparisons of the 26 prenatal group infants and 30 post partum group infants assessed at 12 months yielded a statistically significant group difference on the Motor Quality Factor of the BRS. Prenatally enrolled infants obtained statistically higher scores on motor quality than infants enrolled post partum. This indicates that assessors tended to rate infants in the prenatal group higher on quality of movement, muscle tone, and fine and gross motor control than infants in the post partum group.

Predictors of Infant Development Scores

A series of multiple regression analyses were conducted to determine the extent to which specified predictors are respectively related to the MDI, the PDI, and the BRS scales of the BSID-II at 6 months and 12 months. Potential predictor variables were first identified based on their hypothesized logical relationship with performance on the BSID-II. Second, through preliminary statistical analysis of the range and variance of responses on these hypothesized variables and their correlations with BSID-II scores, a list of predictor variables were made. The predictor variables included in the regression analyses were birth weight, gender, family’s perceived needs at 6 and 12 months, number of adults in the household, and number of children in the household. Other variables hypothesized to be related to BSID-II scores at 6 months and 12 months but were not correlated included: child’s race, maternal age, home placement, maternal education, drug treatment, time of enrollment in the TIES program, and having received prenatal care. While some of these variables were calculated to significantly account for variances among BSID-II scores at intake, these variables were not directly related to scores at 6 months and 12 months.

All of the regression analyses were performed stepwise whereby the variables entered into each analysis were restricted to those significant at a minimum p value of .05. These results are presented and discussed in the following sections.

Six-Month Assessments

The regression analyses using the BSID-II scores at 6 months as the dependent variable included the following predictor variables: birth weight, number of adults in the household including the mother, and number of children in the household including the infant. The results for the MDI, PDI, and BRS scales at six months are as follows.

BSID-II at 6 Months. Of the three predictor variables entered stepwise into the regression analysis, birth weight was the only variable to significantly account for a portion of variance across all three scales (see Table 5-13). For the MDI, PDI, and BRS, a higher birth weight was correlated with higher scores. Birth weight accounted for 11.5% (p=.028) of the variance in MDI scores, 5.9% (p=.031) of the variance in PDI scores, and 19.4% (p=.003) of the variance in BRS scores. However, further investigation into the relationship between birth weight and the other variables of interest revealed a path of significant correlates whereby variables are indirect influencers of scores on the BSID-II at 6 months. The variables of (a) having enrolled in the TIES program prior to the birth of the child and (b) fewer children in the household both influenced birth weight. Continuing this path to a third level, the roles of maternal age, prenatal medical care, and mothers’ desire to be drug-free correlated with the aforementioned variables and consequently, birth weight. The finding that these other variables influence infant development,

\[ F(1,54)=8.06, \, p=.006, \, \eta^2=.13 \]

means of 78.4 for prenatal and 52.5 for post partum
albeit indirectly, is consistent with the research literature studying the outcome of low birth weight and maternal factors contributing to low birth weight.

Table 5-6. Summary of Multiple Regression Analysis for Variables Predicting Infant Scores on the BSID-II at 6 Months (n = 42)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Variable</th>
<th>Beta</th>
<th>Standard Error</th>
<th>t</th>
<th>Significance (p)</th>
<th>Proportion of Variance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDI</td>
<td>Birth weight</td>
<td>.005</td>
<td>.002</td>
<td>2.284</td>
<td>.028</td>
<td>11.5</td>
</tr>
<tr>
<td>PDI</td>
<td>Birth weight</td>
<td>.009</td>
<td>.004</td>
<td>2.191</td>
<td>.031</td>
<td>5.9</td>
</tr>
<tr>
<td>BRS</td>
<td>Birth weight</td>
<td>.023</td>
<td>.007</td>
<td>3.107</td>
<td>.003</td>
<td>19.4</td>
</tr>
</tbody>
</table>

Twelve-Month Assessments
The regression analyses predicting infant performance on the BSID-II at 12 months included the three variables calculated to be significantly correlated to scores on the MDI, PDI, and BRS at 12 months: sex of the child, birth weight, and the mean value on the Family Needs Survey.

BSID-II at 12 Months. Figures 5-3, 5-4, and 5-5 illustrate the unique and shared explained variances of BSID-II scores at 12 months. In predicting performance on the MDI scale, the combined contribution of birth weight and mean score on the Modified Family Needs Survey accounted for 23.3% (p=.004) of the variance. Of the total 23.3%, the Family Needs Survey uniquely accounted for 13.2% of the variance and birth weight uniquely accounted for 8.1% of the variance. These same two variables were found to be significant correlates and predictors of performance on the BRS scale at 12 months. Collectively, birth weight and the mean of the Family Needs Survey accounted for 37.1% (p<.001) of the variance in BRS scores. The part correlations indicated that the Family Needs Survey uniquely accounted for 22.5% of the variance and birth weight uniquely accounted for 11.8% of the variance. Scores on the PDI scales were also predicted by the Family Needs Survey, as well as sex of the child. Collectively, these two variables explained 17.7% of the variance in BRS scores. The unique contribution of the Family Needs Survey and the sex of the child were 11.7% and 8% respectively.

Similar to the regression analyses predicting scores on the BSID-II at 6 months, the Beta coefficients were used to further describe the predictive relationship between the BSID-II scores at 12 months and the three aforementioned variables. For both the MDI and BRS scales, the Family Needs Survey was inversely related and birth weight was positively related to performance. In others words, fewer indicated needs on the Family Needs Survey and greater infant birth weight was correlated with higher MDI and BRS scores. On the PDI scale, the same results held true.
indicating fewer indicated needs correlated with greater scores. The Beta coefficient associated with the sex of the child indicated that males scored higher on this particular scale than females.

Additionally, consistent with the findings in regard to scores on the 6 month scale, further investigation revealed indirectly correlating variables. Analyses of the potential indirect contributors to BSID-II scores at 12 months revealed much the same correlates as the analyses of the 6 month scores. The same variables that were indirect correlates at 6 months continued to be indirect correlates at 12 months. However, due to the contribution of the mean results of the Family Needs Survey, this list of correlates expanded to include more parenting goals. Specifically, the goals of improve parenting skills and economic independence were indirectly associated with the likelihood of higher BSID-II scores across scales. Table 5-14 depicts the statistically significant predictors for the BSID-II at 12 months.

Table 5-7. Summary of Multiple Regression Analysis for Variables Predicting Infant Scores on the BSID-II at 12 Months (n = 45)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Variable</th>
<th>Beta</th>
<th>Standard Error</th>
<th>t</th>
<th>Significance (p)</th>
<th>Proportion of Variance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDI</td>
<td>Birth weight</td>
<td>.0073</td>
<td>3.879</td>
<td>-2.695</td>
<td>.004</td>
<td>23.3</td>
</tr>
<tr>
<td></td>
<td>Family Needs Survey</td>
<td>-10.45</td>
<td>.003</td>
<td>2.117</td>
<td>.004</td>
<td>23.3</td>
</tr>
<tr>
<td>PDI</td>
<td>Birth weight</td>
<td>-13.723</td>
<td>5.557</td>
<td>-2.470</td>
<td>.015</td>
<td>17.7</td>
</tr>
<tr>
<td></td>
<td>Sex of the child</td>
<td>-10.252</td>
<td>5.028</td>
<td>-2.039</td>
<td>.015</td>
<td>17.7</td>
</tr>
<tr>
<td>BRS</td>
<td>Birth weight</td>
<td>.021</td>
<td>9.150</td>
<td>-3.877</td>
<td>.000</td>
<td>37.1</td>
</tr>
<tr>
<td></td>
<td>Family Needs Survey</td>
<td>-35.478</td>
<td>.007</td>
<td>2.806</td>
<td>.000</td>
<td>37.1</td>
</tr>
</tbody>
</table>

CONCLUSIONS

The majority of the infants served by the TIES Program displayed development within the range of normal limits at all the time periods assessed. Improvements were seen over time on the Psychomotor Development scale and the Motor Quality factor subscale of the BRS. In addition, infants tended to improve over time on the rest of the scales, though not to a statistically significant degree. The infants of women enrolled in the TIES Program prenatally scored statistically higher on Motor Quality at 12 months, but no other group differences were found. A number of variables assisted in predicting developmental outcomes for the infants in the study, including birth weight, gender, and the mean score of the Modified Family Needs Survey.
SUMMARY OF CHAPTER 5: DEVELOPMENTAL OUTCOMES FOR INFANTS

- The Bayley Scales of Infant Development-II (BSID-II) are administered to the infants at approximately 6 and 12 months of age, adjusted for prematurity.
  - Over 80% of the infants assessed at each time period score within or above normal limits on the Mental Development scale.
  - At each time period, over 60% of infants at 6 months and 80% at 12 months score within or above normal limits on the Psychomotor Development scale.
  - The Motor Quality subscale of the Behavior Rating Scale (BRS) reflects some developmental challenges, particularly at 6 months when 45% of infants score below normal.
  - Eighty percent of infants at both times are in the normal range on the Emotional/Regulation BRS subscale.
  - Seventy-two percent of infants at 6 months and 82% at 12 months score in the normal range on the Orientation/Engagement subscale of the BRS.
- Scores of infants in the TIES sample average higher than the scores of a sample of drug-exposed infants participating in the psychometric testing of the BSID-II on all scales at all times, with the exception of Psychomotor Development at 6 months.
- Preterm infants in the TIES sample (<34 weeks gestation) tend to score higher on the three BSID-II scales than preterm infants assessed during the psychometric testing of the BSID-II.
- No statistical differences between groups appear in the mean scores of infants from the prenatal and post partum groups.
- Mean standard scores statistically increase over time for the PDI. The mean MDI scores also increase over time, though not to a statistically significant degree.
- There is a general trend on the BRS and the three subscales of improvement in scores over time, though this improvement is statistically significant only with the Motor Quality subscale.
- A number of variables assist in predicting developmental outcomes for the infants in the study, including birth weight, gender, and the mean score of the Modified Family Needs Survey.
CHAPTER 6
Videotaped Assessment of Child-Parent Interaction

INTRODUCTION

The TIES Program strives to enhance the quality of interaction between mothers (or other caregivers) and their infants. A primary focus of the program is the development of a healthy parent-child relationship, in which bonding occurs immediately after birth, a long-term attachment forms during infancy, and optimal interaction is achieved throughout childhood. Accomplishment of this goal will subsequently facilitate the child's development.

This chapter includes 63 mothers and infants assessed at the infant's age of 1 month, 59 mothers and infants assessed at 6 months, and 32 mothers and infants assessed at 12 months. Of these, 14 mother/infant pairs have completed all three assessments.

THE ASSESSMENT INSTRUMENT

The Child-Parent Interaction Rating Scales

The TIES Program utilized The Early Head Start Child-Parent Interaction Rating Scales, adapted by Ware, Brady, O'Brien, and Berlin (2000). The instrument was based on the NICHD Study of Early Child Care 15-, 24-, and 36-month ratings of Parent-Child Interaction and on the "Manual for Coding Freeplay-Parenting Styles" from the Newark Observational Study for Teenage Parent Demonstration (Brooks-Gunn, Liaw, Michael, & Zamsky, 1992). The scales assess the relationship between parent and child in terms of parent's behavior, child's behavior, and the mutuality and connectedness displayed in their interaction together. One advantage of this assessment is that it strives to capture a typical daily situation for the mothers and their children. Each videotaped segment lasts for 5 minutes during which time the mother and child are videotaped with no (or minimal) outside interference. Mothers have been instructed to interact with their children as they ordinarily do, ignoring the camera and observer as much as possible.

During the taped segment, the assessor places an assortment of toys (from a standard list) within the parent's reach, usually in a large bin. The parent is instructed that this is a time to interact with her child, during which time she may choose toys to play with together, but is not required to do so. For parents with infants, the assessor displays an assortment which includes a rattle, plastic keys on a ring, a baby book, and a squeeze toy. For toddlers and preschool-aged children, such toys as a cardboard book, a toy telephone, small cars and trucks, a shape box, and a doll are supplied. This situation is an opportune time to observe the parent's enjoyment of the child, the child's capacity for explorative and representational play, and the connectedness and reciprocity of the dyad.

The Child-Parent Interaction Rating Scales consist of ten scales that address child and parent behaviors and interaction based on a semi-structured video-taped play episode between the parent and child. Six scales focus on parent behaviors, three on child behaviors, and one on the dyad.
Scales for Parent Behavior
For the scales addressing parent behavior, the assessor views the adult from the perspective of the child, considering how the child is receiving the parent's behaviors. The parent-oriented scales address the following areas of parent behavior:

1. **Parental Sensitivity.** The focus of this scale is on the parent's ability to be child-centered, i.e., demonstrating awareness of the child's needs by observing and responding to the child's gestures, expressions, and signals during times of distress and non-distress.

2. **Parental Intrusiveness.** This scale examines interactions that are adult-centered, such that the parent exerts control over the child or threatens the child's autonomy, rather than acting in a way that recognizes and respects the child's perspective.

3. **Parental Stimulation of Cognitive Development.** The objective of this scale is to measure the degree to which the parent is able to stimulate cognitive development in the child. This is accomplished by recognizing the child's present developmental level and actively trying to expand the child's capabilities.

4. **Parental Positive Regard.** The parent's demonstration of love, respect, and admiration for the child is the focus of this scale. Of particular concern is how the parent attends to the child, as demonstrated by such behaviors as careful listening and looking at the child's face.

5. **Parental Negative Regard.** This scale examines the negative behavior of the parent directed toward the child, such as discontent, anger, and disapproval. Note that positive and negative regard are independent entities; the presence of one is not indicative of the absence of the other, such that a parent could score high on both scales or low on both scales.

6. **Parental Detachment.** Behaviors that are measured by this scale represent deficiencies and inconsistencies in the parent's awareness of, attention to, and engagement with the child. Note that unresponsiveness to the child's distress is a sign of greater detachment than unresponsiveness to a child's positive bids for attention.

Scales for Child Behavior
The scales for child behavior require the assessor to consider the child's behaviors from the perspective of the adult parent. The three child-related scales assess the areas of the child's behavior as follows:

1. **Child Engagement of Parent.** This scale rates the extent to which the child initiates and demonstrates interaction with parent and shows positive affect toward the parent. The primary focus is on the frequency with which the child shares positive interaction with the parent.

2. **Child's Sustained Attention with Objects.** The behavior of concern for this scale is the overall amount of time that the child spends devoting attention to objects such as toys. The duration of time spent involved with objects is the factor of interest.

3. **Child Negativity toward Parent.** This scale assesses the child's level of anger, hostility, or dislike toward the parent. At the highest rating, the child repeatedly shows overt signs of anger with the parent in behavior or facial expression toward the parent or objects in the room. The primary focus is the frequency of expressed negativity.

The first two child scales (Engagement and Attention) are not appropriate for a 1-month old infant; thus, data are available only at 6 and 12 months for these two scales.
**Dyadic Scale**

The one Dyadic Scale focuses on whether the parent-child interaction reflects synchrony, comfort, and mutual pleasure.

1. **Mutuality/Connectedness.** When the dyad is high on mutuality/connectedness, the parent and child seem to share perspectives, energy levels, and affective states.

The assessor considers the dyadic variables after analysis of the parent from the child's perspective and the child from the parent's perspective. For this portion of the assessment, the rater uses the perspective of an outside observer. Rather than concentrating on specific characteristics of each individual, the rater attempts to assess the interaction between parent and child. Thus, in some instances this will result in a rating that is distinct from ratings given to either individual. For example, neither the parent nor child may appear to be highly anxious, but some tension may be discerned in the relationship of the dyad.

**INSTRUMENT RELIABILITY**

Rating videotapes of very young children is challenging because of visibility problems in taping newborns and ambiguous signals from newborns. To account for this problem, a two-person rating system was employed in rating the Child-Parent Interaction Scales. After each person individually rates the assessment, the pair discusses their observations and ratings. The dialogue continues until a consensus is reached in one final score, which is then used in the statistical analysis. For the current grant cycle, three raters were employed in assessing the videotapes for this project, with one rater being paired with each of the other two to form two rating pairs. Team membership alternated to prevent bias due to team assignment. In scoring each child, a reliability of at least 80% was achieved in the comparison of the consensus score with the individual raters' scores for each item.

**THE ASSESSMENT PROCESS**

A completed Child-Parent Interaction Scales assessment occurs in several stages, including preparing the participants for the assessment prior to the appointment, preparing the environment, videotaping the dyad, and scoring the assessment. This section describes these processes.

**Preparation**

The person who completes the TIES Program intake assessment process describes the Child-Parent Interaction Scales assessment process to the women. Willingness to participate in this assessment is a prerequisite for entry into the TIES Program. The TIES Specialist and the assessor coordinate to schedule the videotaping, with the TIES Specialist typically providing transportation and introducing the woman to the assessor for the first time at the actual event.

**Setting**

The assessments are typically conducted at the evaluator's offices located several blocks from the TIES office. Videotaping occurs in the "family room," furnished with a couch and comfortable chairs, as well as a round table and chairs.
**Assessor's Role during Videotaping**

Each of the assessors has early childhood education and human service training and experience. The assessor begins by gathering current information from the mother, and strives to put the mother and child at ease while giving instructions and describing the assessment process. Prior to videotaping, the mother and a witness sign a written consent form characterizing the assessment and the limits of its usage for research and education purposes.

During the assessment, the assessor operates the videotaping equipment, keeping the time of each segment and logging the case number. She provides the supplies needed by the mother and child for the assessment and prevents outside interference. After the videotaping is completed, the assessor asks the mother for her impression of the experience; if a television is available, she also shows her a segment of the tape. The session is concluded with the assessor thanking the mother and reminding her of the time of her next assessment. As a sign of appreciation for her participation, the mother is given a $25 gift certificate and a copy of the videotape, presented as a gift celebrating the special parent/child relationship. Such affirmation of the relationship could certainly serve as an introductory intervention to solidify the bonding of parent and child, particularly with young infants. In addition, having access to the videotape gives the parent an opportunity to express to others her love for the child and pride in what the child can do, while simultaneously having her parenting role affirmed by others. Mothers also comment that they can see their own progress over time through periodically viewing the videotape, as they begin to address parenting and substance abuse issues.

**Assessment Scoring**

The Child-Parent Interaction Scales manual (Ware, Brady, O'Brien, and Berlin, 2000) clearly describes the scoring process. Scoring involves consideration of a number of nested statements for each variable. Information in the introduction to the subsection, in the item itself, and in the rating number assists the rater in determining the appropriate score.

**Scoring Process**

The ten scale variables are rated on a 7-point scale with the general category expressions of: 1 (very low), 2 (low), 3 (moderately low), 4 (moderate), 5 (moderately high), 6 (high), and 7 (very high). The manual provides narrative descriptions and specific guidelines for rating each scale of the instrument. Common examples of behaviors and responses are outlined in the context of each scale variable. Descriptions of high and low levels of the trait or behavior are provided to further aid in assigning a rating on the 7-point scale.

**Assessment Findings**

Mean scale ratings were computed for the 63 pairs of mothers and infants videotaped at 1 month, the 59 pairs at 6 months, and the 32 pairs at 12 months. Discussion of the Parent Scales, Child Scales, and Dyad Scale follows. Each individual item rated could receive a score from 1 to 7 to reflect the degree to which that trait was exhibited. Note that higher scores are more desirable for some items, indicating a high degree of a positive behavior. In contrast, the lower scores are more desirable for items that assess negative behaviors. This is indicated for each item in the tables below.

**Scores on Parent Scales**

The mean subscale scores on the six Parent Scales summarize the mothers' behaviors in the videotaped situations. These are presented in Table 6-1.
### Table 6-1. Child-Parent Interaction Rating Scales: Parent Scales

<table>
<thead>
<tr>
<th>Parent Scales</th>
<th>Infant Age</th>
<th>n</th>
<th>Distribution of Mean Subscale Scores</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Very Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensitivity</td>
<td>1 mo. 61</td>
<td>28% (17)</td>
<td>13% (8)</td>
<td>16% (10)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>27% (16)</td>
<td>17% (10)</td>
<td>14% (8)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>25% (8)</td>
<td>16% (5)</td>
<td>16% (5)</td>
</tr>
<tr>
<td>Intrusiveness b</td>
<td>1 mo. 61</td>
<td>20% (12)</td>
<td>10% (6)</td>
<td>15% (9)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>7% (4)</td>
<td>19% (11)</td>
<td>15% (9)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>6% (2)</td>
<td>13% (4)</td>
<td>18% (6)</td>
</tr>
<tr>
<td>Stimulation of Cognitive Development</td>
<td>1 mo. 60</td>
<td>40% (24)</td>
<td>40% (24)</td>
<td>2% (1)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>37% (22)</td>
<td>25% (15)</td>
<td>24% (14)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>22% (7)</td>
<td>44% (14)</td>
<td>22% (7)</td>
</tr>
<tr>
<td>Positive Regard</td>
<td>1 mo. 61</td>
<td>13% (8)</td>
<td>28% (17)</td>
<td>15% (9)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>8% (5)</td>
<td>24% (14)</td>
<td>14% (8)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>13% (4)</td>
<td>28% (9)</td>
<td>13% (4)</td>
</tr>
<tr>
<td>Negative Regard b</td>
<td>1 mo. 61</td>
<td>54% (33)</td>
<td>25% (15)</td>
<td>5% (3)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>46% (27)</td>
<td>24% (14)</td>
<td>6% (4)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>29% (9)</td>
<td>31% (10)</td>
<td>3% (1)</td>
</tr>
<tr>
<td>Detachment b</td>
<td>1 mo. 61</td>
<td>20% (12)</td>
<td>15% (9)</td>
<td>10% (6)</td>
</tr>
<tr>
<td></td>
<td>6 mo. 59</td>
<td>19% (11)</td>
<td>13% (8)</td>
<td>5% (3)</td>
</tr>
<tr>
<td></td>
<td>12 mo. 32</td>
<td>6% (2)</td>
<td>21% (7)</td>
<td>16% (5)</td>
</tr>
</tbody>
</table>

*Scale ranges from 1 (very low) to 7 (very high)

bLower scores are desirable, indicating less of a negative behavior.
Parental Strengths. A strength exhibited was the high percentage of mothers obtaining low to very low scores on the Negative Regard indicator. At each time period, over 60% of the mothers received scores in the best two categories for this item. This reflects a low rate of occurrence of harsh, disapproving, or teasing behavior from the mother toward the infant. In addition, mean scores on the Detachment indicator were moderate; scores clustered around the low anchor points (favorable) and the moderately high anchor points (unfavorable); one-fourth to one-third of the women receiving the best two scores possible. Concerning the factors that rated positive behaviors, mothers received the most favorable scores on the Positive Regard indicator, although the mean scores were slightly below the mid-point of the scale at each time period. This finding suggests that while mothers generally did not display overt negative behavior toward the infant, they were only moderately successful in engaging positively.

Parental Weaknesses. Mothers appeared to lack a general knowledge of child development. Participants tended to score low on Stimulation of Cognitive Development during all three assessment periods. This indicator looked at the quality and quantity of cognitive stimulation provided by the parent. Low scores reflect the mothers' lack of intentional attempts to provide age-appropriate developmentally enhancing stimulation during the videotaping. The scores for Parental Sensitivity were moderately low, suggesting that mothers were not adept at observing and responding appropriately to their child's cues. Ratings for Parental Intrusiveness were moderate, indicating that mothers tended to be intrusive during their play sessions with the child. In other words, the video sessions did not tend to be child-centered, but rather, tended to be driven by the mother's ideas and interests.

Scores on Child Scales
The attributes that the infants contribute to the relationship are summarized by the frequencies and mean ratings on the three Child Scales. Table 6-2 presents this information.

Table 6-2. Child-Parent Interaction Rating Scales: Child Scales

| Child Scales | Infant Age | n   | Distribution of Mean Subscale Scores (%) (n) | Mean
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Very Low</td>
<td>Low</td>
</tr>
<tr>
<td>Engagement of Parent</td>
<td>6 mo.</td>
<td>59</td>
<td>37% (22)</td>
<td>25% (15)</td>
</tr>
<tr>
<td></td>
<td>12 mo.</td>
<td>32</td>
<td>40% (13)</td>
<td>16% (5)</td>
</tr>
<tr>
<td>Sustained Attention with Objects</td>
<td>6 mo.</td>
<td>59</td>
<td>10% (6)</td>
<td>3% (2)</td>
</tr>
<tr>
<td></td>
<td>12 mo.</td>
<td>32</td>
<td>0% (3)</td>
<td>0% (3)</td>
</tr>
<tr>
<td>Negativity Toward Parent</td>
<td>1 mo.</td>
<td>59</td>
<td>29% (17)</td>
<td>15% (9)</td>
</tr>
<tr>
<td></td>
<td>6 mo.</td>
<td>59</td>
<td>20% (12)</td>
<td>25% (15)</td>
</tr>
<tr>
<td></td>
<td>12 mo.</td>
<td>32</td>
<td>12% (4)</td>
<td>38% (12)</td>
</tr>
</tbody>
</table>

*p Scale ranges from 1 (very low) to 7 (very high)
*bLower scores are desirable, indicating less of a negative behavior
Child Strengths. A high percentage of infants received desirable scores on the Negativity toward Parent indicator. At each time period, between 40% and 50% of infants were rated in the best two categories for this item. Of the indicators scoring positive attributes, the infants obtained the highest mean scores on the Sustained Attention with Objects indicator at both 6 and 12 months.

Child Weaknesses. The infants' scores on the Engagement of Parent indicator were low at both 6 and 12 months. This indicates that the infants infrequently initiated interactions or shared positive affect with the parent.

Scores on Dyad Scale
To gain an overall perspective of the dyad, mean scale ratings on the Mutuality/Connectedness Scale have been computed for all three assessment periods. Table 6-3 displays these ratings.

<table>
<thead>
<tr>
<th>Dyad Scale</th>
<th>Infant Age</th>
<th>% (n)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutuality/ Connectedness</td>
<td>1 mo.</td>
<td>60</td>
<td>35% (21) 28% (17) 7% (4) 5% (3) 8% (5) 10% (6) 7% (4)</td>
</tr>
<tr>
<td></td>
<td>6 mo.</td>
<td>59</td>
<td>34% (20) 27% (16) 3% (2) 17% (10) 5% (3) 12% (7) 2% (1)</td>
</tr>
<tr>
<td></td>
<td>12 mo.</td>
<td>31</td>
<td>32% (10) 25% (8) 13% (4) 13% (4) 7% (2) 10% (3) 0% (0)</td>
</tr>
</tbody>
</table>

Note: Scale ranges from 1 (very low) to 7 (very high).

Dyadic Strengths. At each time period, between 17% and 29% of the dyads scored in the range of moderately high to very high on connectedness. The dyads scoring high in this area were well-bonded and interacting positively with each other.

Dyadic Weaknesses. Seventy percent or more of the dyads scored in the very low to moderately low range at all three assessment periods. In addition, over 30% of the dyads scored in the lowest category on their level of connectedness during all three assessments.

Comparisons on the Child-Parent Interaction Rating Scales
A series of comparative analyses were conducted on the ten Child-Parent Interaction Scales, including comparisons over time and comparisons by group. Comparisons over all assessment times resulted in two statistically significant findings, while comparisons by group emerged with one statistically significant finding. These results are presented in the following sections.

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1 The F-value, significance level (p-value), and effect size (eta²) are presented in footnotes for statistically significant analyses. Note that statistical significance is achieved when the p-value is less than .05. Effect size refers to the magnitude of the contribution of time or group to the overall difference in respondent mean scores between interviews; a large effect size is considered to be .10 or greater.
**Comparisons over Time.** One parent scale, Stimulation of Cognitive Development, showed statistically significant change (see Figure 6-1). Scores on this scale improved statistically over the three times measured. However, the overall mean scores on this scale were the lowest of all the parent scales, indicating lower ratings on a desirable behavior.

Other findings that did not reach statistical significance are also worth mentioning. Mean scores on Parental Sensitivity tended to increase over time, while Positive Regard remained stable over time. It should be noted that the Intrusiveness, Negative Regard, and Detachment scales assess undesirable behaviors and interactions; thus, lower ratings and decreases in mean ratings on these scales indicate positive outcomes. Thus, the trend of decreasing ratings over time on the Intrusiveness scale, though not statistically significant, is consistent with TIES Program goals. However, the overall mean scores are the highest on this scale, which is a cause for concern. On the scales of Negative Regard and Detachment, scores tended to fluctuate, i.e., increasing at 6 months and decreasing again at 12 months to a level similar to the ratings received at 1 month.

Comparisons over time are presented for the child scales and the dyadic scale in Figure 6-2. Note that the first two child scales (Engagement and Attention) are not appropriate for a one-month infant; thus data are available only for 6 and 12 months for these two scales. Mean scores on the Dyad Mutuality/Connectedness scale increased to a statistically significant degree over the three time periods measured, indicating a positive outcome. However, the mean score at 1 month on this scale was very low.

Other trends that were not statistically significant are notable. Child negativity tended to decrease over time, indicating a positive outcome since negativity in the child toward the parent is an undesirable behavior.
behavior. However, the mean score at 1 month on this scale was rather high. It is worth notice that the mean ratings on the Attention with Objects scale are the highest of all the child scales; they still increased, indicating a positive outcome. In contrast, mean ratings on Engagement of Parent were rather low and stable, which reflects an undesirable outcome.

Comparisons between Groups. Two scales emerged with statistically significant group differences, including Child Engagement of Parent and the Dyad scale, both at the 6-month assessment time. On both scales, the prenatal group received a mean score that was higher than that of the post partum group. Apparently, these groups were statistically different at 6 months, but no other times. An examination of mean Dyad scores at other assessment times reveals that group scores were similar at 1 month, but the 12-month mean scores exhibited the same pattern seen at 6 months, though not to a statistically significant degree. This may be due in part to the smaller sample sizes at the 12-month assessment. Since Child Engagement of Parent was assessed at two times, only the 12-month mean scores may be additionally considered, revealing that group scores were more similar at this time.

CONCLUSIONS

The Child-Parent Interaction Scales assessed a range of mother and infant behaviors, both positive and negative, as they occurred during videotaped child-parent interactions. Overall, the mothers, infants, and child-parent dyads tended to receive scores that were lower on positive behaviors and higher on negative behaviors than what is desired for families. However, some positive trends of improvement were seen in comparisons over time, indicating that TIES Program objectives were being accomplished to some degree with the families served.

\[ F(1,57)=6.21, p=.016, \text{eta}^2=.10; \text{means of 3.0 prenatal (n=30) and 2.0 post partum (n=29)} \]

\[ F(1,57)=5.35, p=.024, \text{eta}^2=.09; \text{means of 3.3 prenatal (n=30) and 2.2 post partum (n=29)} \]
SUMMARY OF CHAPTER 6: VIDEO TAPE ASSESSMENT OF CHILD-PARENT INTERACTION

- A videotaped assessment of the interaction between mothers and their infants at 1 month, 6 months, and 12 months assesses a range of mother and infant behaviors, both positive and negative, as they occur during videotaped child-parent interactions.

- These generalizations about the participating mothers can be made from the findings:
  - Mothers exhibit a low rate of occurrence of harsh, disapproving, or teasing behavior and
  - Mothers generally do not display overt negative behavior toward the infant, but they are only moderately successful in engaging positively.
  - Mothers appear to lack a general knowledge of child development, suggested by their lack of intentional attempts to provide age-appropriate developmentally enhancing stimulation.
  - Mothers are not adept at observing and responding appropriately to their child’s cues.
  - Mothers tend to be intrusive during their play sessions with the child; thus, the video sessions were not child-centered, but rather were driven by the mother’s ideas and interests.

- The following observations reflect the children:
  - Between 40% and 50% of infants are rated highly on sustained attention with objects at both 6 and 12 months.
  - Infants tend to score low on engagement of the parent were low at both 6 and 12 months. This indicates that the infants infrequently initiate interactions or share positive affect with the parent.

- These findings are noted with regard to the child-parent dyads:
  - At each time period, between 17% and 29% of the dyads score in the range of moderately high to very high on connectedness.
  - Seventy percent or more of the dyads score in the very low to moderately low range at all three assessment periods. In addition, over 30% of the dyads score in the lowest category on their level of connectedness during all three assessments.

- Following are the most notable changes observed over time:
  - Parents statistically improve over time on their stimulation of cognitive development in their child. However, the overall mean scores on this scale are the lowest of all the parent scales, indicating lower ratings on a desirable behavior.
  - The dyads statistically improved over time on their mutuality and connectedness, indicating a positive outcome.

- Groups tend to differ in child engagement of the parent and the mutuality and connectedness of the dyad at 6 months time, with the prenatal group receiving a mean score that is higher than that of the post partum group.

- Overall, the mothers, infants, and child-parent dyads tend to receive scores that are lower on positive behaviors and higher on negative behaviors than what is desired for families. However, some positive trends of improvement are seen in comparisons over time, indicating that TIES Program objectives are being accomplished to some degree with the families served.
CHAPTER 7
Perceptions of TIES Participants

INTRODUCTION
The perspectives of women served by the TIES Program provide valuable measures of program effectiveness. In written surveys, participants discussed the features they considered to be key to program success, their recommendations of possible programmatic changes, and their reflections about their involvement with the program. An evaluator met with the mother or other caregiver and the infant at the child's ages of 1 month, 6 months, and 12 months to conduct assessments and collect other information for the program evaluation. Included in the instrumentation was a survey assessing satisfaction with the program. Again, after the family was discharged from the program (when the child turned 18 months old), a survey was administered. This survey was lengthier, including their perspectives on their own progress through the course of the intervention. The evaluator sometimes conducted this final survey at the graduation event. However, in many instances, the survey was sent or delivered to the mother at a later time.

When the survey was administered, the mother or other caregiver had the option of completing it in writing herself or providing the responses orally to the evaluator who then wrote them down. This allowed the respondents to attend to their infants more easily and to communicate their ideas, irrespective of their writing abilities.

Those surveyed were informed that their individual responses were confidential. However, they were asked for permission to share this information with the TIES Program staff to foster program improvement. In no instances were the respondents unwilling to allow the evaluators to share their responses with the TIES Program. Typically they also released their names. The findings from these surveys are presented in this chapter.

CONSUMER SATISFACTION SURVEY
The Consumer Satisfaction Survey is a 15-item instrument that was developed to assess the participants' perceptions of various aspects of the TIES Program. It also allowed them to express their feelings about the program through open-ended questions and space for comments. The intention was to give participants a voice in the program's implementation and a role in promoting changes in the program. The following issues were addressed in the survey:

- **Ratings of the TIES Specialists.** Several aspects of the TIES Specialist role were assessed by the program participants: fairness, care for the family, ability to get things done, knowledge, and helpfulness. In addition, they were asked how hard it was to reach the TIES Specialist, how often they needed to be contacted, and what they liked most about the TIES Specialist.
- **Goals Addressed during TIES Participation.** The respondents described their personal goals and their achievement of these goals.
- **Future Goals.** Participants indicated whether they intended to address any additional new goals during the remainder of their enrollment in the TIES Program.
- **Overall Perceptions of the TIES Program.** The respondents rated their overall satisfaction with the TIES Program and provided information about how the program has helped their family, how it could be improved, and whether they would recommend it to other families.

Consumer Satisfaction Surveys were completed initially by 100 mothers enrolled in the TIES Program; in addition, 1 foster parent and 1 child's father completed the initial survey. Following are the total numbers of respondents at the other time periods: 76 mothers, 2 fathers, 1 aunt, 1 grandparent, and 1 foster grandparent at 6 months; 55 mothers and 2 aunts at 12 months; and 18 mothers at 18 months. Because
the responses of other caregivers did not differ substantially from those of the mothers, the following discussion about the findings includes all respondents.

*TIES Specialist Ratings*

The respondents rated five aspects of the TIES Specialist’s performance on a five-point scale from 1 (*Not at all*) to 5 (*Very much*). An overwhelming majority of the respondents gave high ratings of the TIES Specialist’s characteristics of being fair, caring, capable, knowledgeable, and helpful. In only a few instances at 1, 6, and 12 months had a TIES Specialist received a rating of 3 or lower. At 18 months, 84% of those surveyed gave their TIES Specialist the highest rating on all five aspects. Figure 7-1 presents the mean ratings for these traits.

<table>
<thead>
<tr>
<th>Mean Ratings</th>
<th>Fair</th>
<th>Caring</th>
<th>Gets Things Done</th>
<th>Knowledgeable</th>
<th>Helpful</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.9</td>
<td>4.9</td>
<td>5.0</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>4.9</td>
<td>4.9</td>
<td>5.0</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>4.9</td>
<td>4.9</td>
<td>5.0</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
<tr>
<td>4.8</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
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<td>4.9</td>
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<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
<td>4.9</td>
</tr>
</tbody>
</table>

All ratings are exceptionally positive, 4.8 and above. It is apparent that they were generally very satisfied with the performance of the TIES Specialists.

In the survey program participants commented on the characteristics of the TIES Program that they liked the most. While lacking specificity, these representative comments reflect their feelings about their involvement in the TIES Program.

>This is the best program ever. I think TIES is very helpful. I give this program A+. They really want what's best for you and your kids. They are also very encouraging.

A number of respondents also specifically referenced the TIES Specialist assigned to them. They described the TIES Specialist in positive terms, focusing particularly on her caring nature and supportiveness.

*(Name) is always there. *She is* very supportive, understanding, inspirational and informative. She has been very supportive; we really connect. I love her. She is very honest and tells it like it is. *She is* trustworthy. *She is* very respectful. I like the fact that she really cares about the baby and me. She genuinely cares about me and my family. *She is* down-to-earth, cool and understanding. *She is* very helpful.
Comparison of TIES Specialist Ratings over Time
Participants' ratings of the TIES Specialists on the five aforementioned characteristics may be compared over time to determine whether statistically significant changes occurred. This comparison includes only those who provided ratings at each interview time included in the analysis. To ensure that the sample size would be adequate, the comparison was made between the 1-, 6-, and 12-month interviews, excluding the 18-month interview due to the small number of participants (n=18) with completed surveys at that time. None of the differences over time were statistically significant, since ratings remained consistently high at all three time periods (mean ≥ 4.80), suggesting that the TIES Specialists provided services which were highly regarded by their clients on a continuous basis.

Desired Frequency of Contact
Additionally, respondents rated the TIES Specialist on how hard she is to reach, using a 5-point scale from 1 (Very hard) to 5 (Very easy). Program participants generally considered the TIES Specialist very easy to reach (means ranging from 4.63 to 4.78 at the 4 time periods).

When asked how often they needed to reach the TIES Specialist, respondents indicated contact of more frequently than once a week in 45% of the 1-month surveys, 46% of the 6-month surveys, 19% of the 12-month surveys, and 47% of the 18-month surveys. As shown in Figure 7-2, most participants wished to have contact with the TIES Specialist at least once a week at each time period, with some variability at 12 months. This suggests that the TIES Specialists were available to the families and that the families generally wanted frequent contact with them.

![Figure 7-2. Frequency of Contact](image)

Goals Addressed During TIES Participation
The Consumer Satisfaction Survey asked respondents to describe the main issues that they wanted to address during their involvement with the TIES Program. Altogether, 85% of 96 who responded at 1 month, 91% of 77 at 6 months, 89% of 53 at 12 months, and 100% of 17 who responded at 18 months indicated that they worked on their goals during their involvement with TIES. Some of the goals that they identified are outlined in the following paragraphs.

Respondents rated how successful they have been in accomplishing their goals, using a scale from 1 (Not at all successful) to 5 (Very successful). At all four interview times the majority reported feeling that they have been successful to very successful at accomplishing their goals, as reported by 68% of respondents at 1 month, 81% at 6 months, 71% at 12 months, and 94% at 18 months. This finding implies that participants have been able to communicate their goals to the TIES Specialists and worked successfully towards their achievement. The means are presented in Figure 7-3.
**Future Goals**

In the survey respondents also indicated whether there are other issues that they wanted to address while involved with the TIES Program. Fifty-eight percent of 96 who responded at 1 month, 57% of 79 at 6 months, 60% of 55 at 12 months, and 67% of 18 at 18 months stated that there are other issues. Some respondents also described the goals they wanted to work on in the future.

The following statements present typical examples of goals identified by participants:

**Parenting Goals:**
Being a positive role model for my children.
Understanding children.
To become a loving and nurturing parent.
[Wanting] my baby to be healthy.
Parenting and learning how to deal with life and stress.
Work to be the best care provider I can be.

**Basic Subsistence Goals:**
Getting a house.
Becoming self-sufficient.

**Personal Goals:**
Learning how to drive.
Any help for my drug treatment which is available.
Getting off drugs.
Just getting my life together.
Getting my children back.

**Overall Perceptions of TIES**

The caregivers considered whether the TIES Program had helped them and their children. Ninety-eight percent of the respondents at 1 month, 100% at 6 months, 95% at 12 months, and 100% at 18 months stated that the program had helped them (with 97, 81, 55, and 18 individuals responding at the four respective time periods). Some also added comments, such as those cited to the right.

Participants rated their overall satisfaction with the TIES program on a 5-point scale from 1 (Not at all satisfied) to 5 (Very satisfied). An overwhelming majority reported that they were satisfied to very satisfied with the TIES Program (98% at 1 month and 100% at all three other time periods). Mean scores are presented in Figure 7-4. From the perspective of the participants, it is apparent that the TIES Program has been very successful in providing services to the mothers, the children, and the other family members.
When asked for program improvement recommendations, respondents characteristically did not offer many suggestions. They expressed their appreciation for the program as it was. They were given the opportunity to indicate whether they would recommend the program to others. At the 1-month survey, all but 2 mothers stated that they would; at every other assessment time period, all respondents stated that they would recommend the program.

When asked for program improvement recommendations, respondents characteristically did not offer many suggestions. They expressed their appreciation for the program as it was. They were given the opportunity to indicate whether they would recommend the program to others. At the 1-month survey, all but 2 mothers stated that they would; at every other assessment time period, all respondents stated that they would recommend the program.

**CONSUMER EVALUATION AT DISCHARGE**

After discharge from the program, typically when the child was 18 months old, the TIES participant completed a longer version of the Consumer Satisfaction Survey. The added section of the surveys was completed by 15 mothers. First they reflected on their involvement with the program, adding such comments as these:

> I am going to miss working with... (name).
> It was a good decision to have TIES in my life.

Then, in addition to the other findings already presented, they were asked to rate their level of need in various areas at the time that they entered the TIES Program, and to rate these same areas of need at the time of discharge from the program. Once again, anonymity was offered, yet most mothers shared their names and willingly allowed the evaluators to share their opinions with the TIES staff. Following is a summary of the additional components from this survey at the time of discharge from the program. More detailed tables presenting the findings can be found in Appendix C. It must be noted that the views of women who disengaged early from the program are not captured in this data.

**TIES Program Ratings**

At the time of discharge, TIES Program participants first were asked to rate how the program addressed aspects of the following four topics: (1) knowledge gains; (2) provision of services; (3) provision of or referrals for help with basic needs; and (4) referrals to other agencies. The ratings are on a scale from (1) Not at all addressed to (4) Addressed to a good extent, with the additional option of selecting (0) Not applicable. Note that indications of Not applicable were excluded from the calculations of frequencies and item means.

**Knowledge Gains**

A primary objective of the TIES Program was to give women the basic knowledge they needed to effectively manage their own lives and parent their children. The mothers rated the degree to which the TIES Program provided them with knowledge gains in four areas concerning the effects of drugs and the care of their children. The reported means are presented in Figure 7-5.

Almost all of the respondents indicated that the TIES Program had increased their knowledge regarding these child-related issues to a good extent. The women reported that TIES greatly enhanced their knowledge on their children's health needs, the effects of drugs, child guidance, and child discipline.
Provision of Services

The TIES Program was designed to provide some services directly to the families when needed, including emotional support, parenting skills training, health examinations, and drug counseling. See Figure 7-6 for a summary of the mothers’ perspectives on whether the TIES Program provided them with these services. For each of the four services, over 85% of the respondents indicated that the service was provided to a good extent, with the remainder considering TIES involved in providing a moderate amount of support.

Provision of Basic Needs

Families were offered other services that targeted basic needs, either directly by TIES or through referral by TIES to other community agencies. Most respondents acknowledged the need for such basics as employment, shelter, clothing, food, transportation, and utilities, although a few considered certain services inapplicable. Note that responses of not applicable were excluded from the calculations of item means. Figure 7-7 shows a summary of the results.

For each type of service which families needed, at least 70% of the respondents estimated that TIES was involved to a good extent in either providing the direct service or referring the family to the appropriate agency. With one exception, all respondents stated that TIES was moderately to greatly involved in addressing each of the areas of need.

Referrals to Other Agencies

Such services as drug treatment, early intervention for children, and mental health counseling were not provided by the TIES Program, but rather, were made available through referral to appropriate agencies in the community. The means for the mothers with a need for these referrals are shown in Figure 7-8. In
Among the women stating that they needed a drug treatment referral, 79% estimated that TIES was involved in the referral process to a good extent.

**Figure 7-8. Referrals to Other Agencies**

- Drug Treatment for Self (n=14)
- Drug Treatment for Family Members (n=9)
- Support Program for Children (n=13)
- Mental Health Counseling (n=10)

**NEEDS AT DISCHARGE FROM THE TIES PROGRAM**

While the TIES staff members addressed many of the needs of each family, there remains a question about which needs still existed after the family’s involvement with the program ended. Respondents were asked at discharge to rate their present needs on a four-point scale from 1 (Not needed) to 4 (Critical need). The categories and items were the same as those in the first section: (1) knowledge; (2) provision of services; (3) provision of or referrals for help with basic needs; and (4) referrals to other agencies.

Following is a summary of mothers’ reported needs in these areas after discharge from the TIES Program.

**Need for Knowledge**

The perceptions of mothers at discharge varied widely concerning their needs for knowledge about child health, the effects of drugs, child discipline, and strategies for helping their children. While more than one-third of the respondents to each item stated that additional knowledge was not needed at the time of discharge, many of those with a need considered that need to be critical. Three women stated they did not need additional information on any of the stated topics, while 3 others stated that they had critical needs for information on all four topics. All others specified particular topics about which they would still like to become more knowledgeable. It is possible that the expressed needs on child-related topics reflect the fact that effective parenting strategies change as children grow and develop. Fifty percent of the mothers reported no need for knowledge about the effects of drugs, although 29% considered this need to be critical. See Figure 7-9 for a summary of this information.
Need for Provision of Services
In addition to needs for knowledge, some mothers stated that they needed particular services at the time of discharge. Figure 7-10 shows the level of perceived need for each type of service. Virtually all mothers stated that the TIES Program initially addressed the needs in each area, i.e., emotional support, parenting training, health care, and drug counseling (as shown in Figure 7-6). However, at the time of discharge, the percentage of mothers expressing a continued need for each of these services differed according to topic. Concerning emotional support, 43% still reported a critical need, and only 14% reported no need. While 29% expressed a critical need for parenting skills training, 29% expressed no need for this. The need for health examinations was perceived as critical by 21% of the women, but not needed at all by 43% of them. Similarly, 21% of women reported a critical need for drug counseling at the time of discharge, but 64% reportedly did not need this type of help at this time. It is important to highlight the variability in perceived need for these supports at the time of program discharge. Of the four services, it appears that most women perceived their needs for drug counseling to have declined, presumably due to the support already provided by the TIES Program.

Need for Basic Necessities
Mothers generally reported that provision of services and referrals concerning basic needs were not as critical at discharge. The mean ratings are displayed in Figure 7-11. Clothing and transportation remained issues in which the majority of respondents still indicated some need for support, with 79% needing clothes or diapers and 57% needing help with transportation. While the majority did not indicate critical needs for any of the given services, three mothers defined almost every basic need critical, indicating the lack of stability in their lives. This suggests the need for community solutions that ensure ongoing support for persons with severe challenges at the time of program discharge.
Need for Referral to Other Agencies
By discharge from the TIES Program, roughly two-thirds of the responding mothers no longer expressed a high need for referral to such services as drug treatment for themselves or other family members and to support programs for children. More than half also indicated that they no longer needed referral for mental health counseling. Two to four respondents, however, indicated a critical need for referral to each of the specified services. The generally low levels of need for referrals reported by the mothers may imply that they no longer need help in these areas or that they have already received adequate referrals from TIES. This information is displayed in Figure 7-12.

CONCLUSION

The participants in the TIES Program attested to the success of the program by giving high satisfaction ratings to the overall program and the TIES Specialists themselves. They generally indicated that they worked on their goals and had reduced needs for supportive services by the time they were discharged from the program.
SUMMARY OF CHAPTER 7: PERCEPTIONS OF TIES PARTICIPANTS

- Throughout their involvement with the program, enrollees in the TIES Program consider the TIES Specialists to be very helpful, caring, capable, fair, and knowledgeable.
- They also state that the TIES Specialists are very easy to reach, with meetings generally occurring more than once a week and frequent contact usually preferred at 1, 6, 12, and 18 months.
- Most respondents indicate that they have addressed their goals during their involvement with the TIES Program, with over 2/3 considering themselves successful in accomplishing their goals at each time period.
- During their TIES participation, mothers report that they have addressed such goals as the following:
  - Becoming a nurturing parent,
  - Getting her children back,
  - Seeking drug counseling and treatment,
  - Becoming self-sufficient,
  - Getting a house,
  - Learning to drive, and
  - Learning how to deal with stress.
- Nearly every responding participant states that the TIES Program has helped with personal support, child-related support, and assistance with numerous basic necessities.
- Participants express great satisfaction with the TIES Program, with means higher than 4.8 on a 5-point scale (5=very satisfied) at each time assessed.
- At the time of their discharge from the TIES Program, most mothers indicate that the TIES Program has done the following:
  - Helped them gain knowledge concerning the effects of drugs and parenting.
  - Offered various helpful services, e.g., parenting skills training, emotional support, drug counseling.
  - Assisted them in getting basic necessities.
  - Referred them to other agencies for assistance when needed.
- Overall, mothers report reductions in all major areas of need at the time of discharge.
- The most predominant types of needs still expressed by mothers at discharge include needs for emotional support, help with parenting their children, clothing, and transportation.
- While the majority of women report fewer and less severe needs at discharge, a few women indicate that their needs at that time are multiple and severe.
CHAPTER 8
Recommendations

The efforts of the TIES Program and its community partners have resulted in many positive outcomes during the past 4 years. Families made significant improvements on goals concerning substance abuse issues, parenting, housing, economic stability, and children's health care. The women who were highly engaged with the TIES Program also made greater progress in addressing substance abuse issues. Mothers found new sources of support during their involvement with the program (e.g., women's groups), and they consistently assessed TIES and other community agencies as very helpful. Mothers' symptoms of distress generally declined during the time of their participation in the program. Most children exhibited developmental progress within normal limits. They tended to outperform other drug-exposed infants, and their psychomotor development tended to improve over time. Infants of mothers served prenatally had excellent birth outcomes, e.g., mean gestational age of 39 weeks, mean birth weight of 6 lb. 13 oz., and 78% with clean drug toxicology reports. Child-parent interaction characteristically improved during families' participation in the TIES Program, as well. Overall, participants in the program reported a reduction in their needs for information, services, and referrals at program completion. They considered the expertise and engagement of the TIES staff to be instrumental in their goal achievement, and they enthusiastically endorsed the program as a whole. Based on these findings, the following recommendations are made regarding continuation of the TIES Program.

1. **Continue implementation of the TIES Model.** Certain core components of the TIES model are inherent in the program's success. These characteristics define the model that has contributed to successful outcomes for many families.

   **Trusting Relationships as a Foundation for Intervention**
   Supporting evidence from the TIES Program evaluation has continued to document that women respond best to services within the context of a positive, caring relationship. Participants cited the long-term relationship between the program and the families, with frequent contact and timely responsiveness, as very important to them.

   **Individualized Goal-Oriented Planning**
   In addition, a focus on the development of an individualized plan for goal attainment — based on the family's strengths, resources, and priorities — must be maintained. Statistically significant improvements in becoming drug-free, improving parenting, securing adequate housing, becoming economically stable, and maintaining child health care warrant the continuation of this approach. The marked improvement in each goal area during the early stages of the intervention, with stabilization at the improved level, is a consistent pattern seen among the women served. This finding supports the notion that pregnancy and postpartum time periods may be particularly critical periods in which a woman's motivation for positive change is likely to be enhanced. An emphasis on fostering self-determination among the participants as they set their own priorities for addressing these issues promises to improve the likelihood of long-term progress.

   **A Focus on Broad Social Support Networks**
   While both a productive relationship between the family and the TIES Specialist and improved self-efficacy of the family are critical to the success of this approach, the long-term well-being of the family also depends on a broad network of supports. The program's examination of the entire social network of each family (including formal, biological relationships; kinship and other informal relationships; and other organizational or professional supports) facilitates the intentional cultivation of new or strengthened social supports, e.g., women's support groups and early childhood programs. The limits imposed by the time frame of this intervention, which targets the time immediately before and after the
birth of an infant, warrant continued emphasis on the development of long-term natural supports. The families of participants in the TIES Program often serve as significant sources of support. It is important that the TIES Program continue to foster healthy, nurturing relationships within the natural support system of the participant, especially the closest family members, e.g., fathers, grandmothers, other relatives. They, too, may need additional supports to enhance the life of the child.

**Collaborative Community Approaches**

A key feature of the TIES model is the development of multi-faceted interagency strategies to address the complex issues and needs of families. The TIES Consortium and TIES Advisory Council assist the entire community in collectively addressing the specific risk factors for children and families. This community approach maximizes resources and builds the capacity of human services to supplement natural supports with high quality services that provide opportunities for children and families to thrive.

2. **Build on the existing multi-disciplinary, interagency collaboration of this model by enhancing the transition process at discharge from the program.** While many families stabilize greatly during their involvement with the TIES Program, the risks are still serious in a number of families at the time of program discharge. In some instances, the resources to develop the appropriate services in the community for such families have not yet been accessed. Mentoring and parenting support are two such services that might better enhance the families' and children's long-term outcomes. In addition, a better interagency transition process appears to be warranted, which would promote a thorough assessment of families' needs and the appropriate resources in the community to address those needs. Assuming the necessary resources are available to the families, the transitional time period could be used more strategically to allow families to build engagement and trust with others prior to discharge from the TIES Program.

3. **Continue to focus on optimal child development and the services necessary to promote it.** The findings support the recommendation of strengthening the TIES parenting curriculum. While women generally improved in their interaction with their child over time, their skills at engaging in positive reciprocal relationships with the child and stimulating the child's cognitive development remained quite low. Parent-child language interaction and parenting strategies to promote optimal cognitive and socio-emotional development in children are particularly recommended curriculum components. In conjunction with efforts to enhance the parenting curriculum to be offered by the TIES Program staff, it is encouraged that long-term options for ongoing parenting support through other community agencies be better developed, as well.

4. **Reassess the instrumentation being used to evaluate the program, focusing on tightly targeted, functional outcomes.** Many findings from the existing instruments are highly predictable after 14 years of practice. It is an opportune time to reflect on what has been learned from past evaluations and to use that information to determine which aspects of the program are most critical to track and which desired outcomes for families are most salient to assess. It may be particularly useful to consider new options for the assessment of risk factors, quality of life, parenting stress, children's socio-emotional development, home environment, and the influence of various organizations on family outcomes. Authentic assessment processes are recommended.

**CONCLUSION**

The TIES Program has continued its 14-year track record of building functional community partnerships and providing exemplary services for a very vulnerable population. This strengths-based collaborative model has benefited many families faced with complex challenges during the program's existence. These recommendations hold promise of enhancing the existing model, resulting in even more dramatic positive outcomes.
REFERENCES


## APPENDIX A
Profile of Families Served by the TIES Program

### Table A-1. Parent-Centered Risks at Intake

<table>
<thead>
<tr>
<th>Parent-Centered Risks</th>
<th>Risk Scale</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Adult relationships (n=82)</td>
<td>48% (39)</td>
<td>29% (24)</td>
</tr>
<tr>
<td>Parent mental health (n=94)</td>
<td>45% (42)</td>
<td>29% (27)</td>
</tr>
<tr>
<td>Knowledge of child care and development (n=95)</td>
<td>37% (35)</td>
<td>40% (38)</td>
</tr>
<tr>
<td>Parent substance abuse (n=113)</td>
<td>12% (13)</td>
<td>13% (15)</td>
</tr>
<tr>
<td>Parent motivation for problem-solving (n=117)</td>
<td>39% (45)</td>
<td>27% (32)</td>
</tr>
<tr>
<td>Client cooperation with the agency (n=117)</td>
<td>41% (48)</td>
<td>36% (42)</td>
</tr>
<tr>
<td>Preparation for parenthood (n=115)</td>
<td>24% (27)</td>
<td>55% (63)</td>
</tr>
<tr>
<td>Supervision of children under age 10 (n=66)</td>
<td>70% (46)</td>
<td>24% (16)</td>
</tr>
<tr>
<td>Parenting of child over age 10 (n=20)</td>
<td>35% (7)</td>
<td>45% (9)</td>
</tr>
<tr>
<td>Physical punishment (n=44)</td>
<td>66% (29)</td>
<td>32% (14)</td>
</tr>
<tr>
<td>Verbal discipline (n=47)</td>
<td>49% (23)</td>
<td>40% (19)</td>
</tr>
<tr>
<td>Emotional care and stimulation of infant (n=73)</td>
<td>55% (40)</td>
<td>36% (27)</td>
</tr>
</tbody>
</table>

*Scale 1=Low risk to 4=High risk
*Scale 1=Low risk to 5=High risk
### Table A-2. Child-Centered Risks at Intake

<table>
<thead>
<tr>
<th>Child-Centered Risks</th>
<th>Risk Scale % (n)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parent attitude toward placement (n=116)</td>
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</tr>
<tr>
<td></td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>94% (109)</td>
<td>1.1</td>
</tr>
<tr>
<td></td>
<td>3% (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3% (3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0% (0)</td>
<td></td>
</tr>
<tr>
<td>Emotional care and stimulation of child over age 2 (n=52)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35% (18)</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>48% (25)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15% (8)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2% (1)</td>
<td></td>
</tr>
<tr>
<td>Sibling mental health (n=41)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>61% (25)</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>32% (13)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5% (2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2% (1)</td>
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</tr>
<tr>
<td></td>
<td>0% (0)</td>
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</tr>
<tr>
<td>Sibling school adjustment (n=31)</td>
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</tr>
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<td></td>
<td>52% (16)</td>
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</tr>
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<td></td>
<td>19% (6)</td>
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</tr>
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<td></td>
<td>13% (4)</td>
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</tr>
<tr>
<td></td>
<td>13% (4)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2% (1)</td>
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</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sibling delinquent behavior (n=27)</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>74% (20)</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>22% (6)</td>
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<td></td>
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<td></td>
<td>0% (0)</td>
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<tr>
<td></td>
<td>4% (1)</td>
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</tr>
<tr>
<td></td>
<td>0% (0)</td>
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</tr>
<tr>
<td>Child home related behavior (n=56)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>70% (39)</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>21% (12)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9% (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0% (0)</td>
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<tr>
<td></td>
<td>0% (0)</td>
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</tr>
</tbody>
</table>

* Scale 1 = Low risk to 4 = High risk

### Table A-3. Economic-Centered Risks at Intake

<table>
<thead>
<tr>
<th>Economic-Centered Risks</th>
<th>Risk Scale % (n)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitability of family residence (n=94)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>64% (60)</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>19% (19)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12% (11)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5% (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>0% (0)</td>
<td></td>
</tr>
<tr>
<td>Suitability of living conditions (n=97)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>70% (68)</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>12% (12)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6% (6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% (1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10% (10)</td>
<td></td>
</tr>
<tr>
<td>Financial problems (n=113)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>14% (16)</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>40% (45)</td>
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<td></td>
<td>22% (25)</td>
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<td>24% (27)</td>
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</tr>
<tr>
<td>Physical needs of child (n=82)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>57% (47)</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>35% (29)</td>
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</tr>
<tr>
<td></td>
<td>6% (5)</td>
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</tr>
<tr>
<td></td>
<td>1% (1)</td>
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</table>

* Scale 1 = Low risk to 5 = High risk

* Scale 1 = Low risk to 4 = High risk
Table A-4. Scales Not Assigned to Factors – Findings at Intake

<table>
<thead>
<tr>
<th>Risk Scales Not Assigned to Factors</th>
<th>Risk Scale % (n)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Family social support (n=103)</td>
<td>26% (27)</td>
<td>40% (41)</td>
</tr>
<tr>
<td>Parent physical health (n=106)</td>
<td>66% (70)</td>
<td>28% (30)</td>
</tr>
<tr>
<td>Sexual abuse of child (n=43)</td>
<td>93% (40)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Child physical health and disabilities (n=73)</td>
<td>81% (59)</td>
<td>8% (6)</td>
</tr>
</tbody>
</table>

* Scale 1=Low risk to 4=High risk
* Scale 1=Low risk to 5=High risk

Table A-5. Comparison of Means for Postpartum and Prenatal Groups on Risk Scales at Intake

<table>
<thead>
<tr>
<th>Risk Scale</th>
<th>Postpartum Mean (n)</th>
<th>Prenatal Mean (n)</th>
<th>Significance</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family social support</td>
<td>1.89 (47)</td>
<td>2.29 (56)</td>
<td>F(1,101)=6.02, p=.016</td>
<td>.06</td>
</tr>
<tr>
<td>Parent substance abuse</td>
<td>3.21 (52)</td>
<td>3.70 (61)</td>
<td>F(1,111)=4.23, p=.042</td>
<td>.04</td>
</tr>
<tr>
<td>Physical needs of child</td>
<td>1.63 (48)</td>
<td>1.35 (34)</td>
<td>p=.07</td>
<td>.04</td>
</tr>
<tr>
<td>Sexual abuse of child</td>
<td>1.00 (22)</td>
<td>1.38 (21)</td>
<td>p=.07</td>
<td>.08</td>
</tr>
<tr>
<td>Sibling mental health</td>
<td>1.75 (20)</td>
<td>1.24 (21)</td>
<td>F(1,39)=5.96, p=.019</td>
<td>.13</td>
</tr>
</tbody>
</table>

* Scale 1=Low risk to 4=High risk
* Scale 1=Low risk to 5=High risk
Table A-6. Multivariate Analysis of Variance between Postpartum and Prenatal Groups over Time on Risks

<table>
<thead>
<tr>
<th>Risk Scale</th>
<th>Time</th>
<th>Postpartum Mean (n)</th>
<th>Prenatal Mean (n)</th>
<th>Significance</th>
<th>Eta²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult relationships</td>
<td>1</td>
<td>2.13 (15)</td>
<td>1.58 (12)</td>
<td>By Group: F(1,25) = 4.32, p = .048</td>
<td>.15</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.53 (15)</td>
<td>1.83 (12)</td>
<td>By Time: p = .10</td>
<td></td>
</tr>
<tr>
<td>Parent mental health</td>
<td>1</td>
<td>2.24 (21)</td>
<td>1.65 (20)</td>
<td>By Group: F(1,39) = 5.01, p = .031</td>
<td>.11</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.48 (21)</td>
<td>1.95 (20)</td>
<td>By Time: p = .06</td>
<td>.09</td>
</tr>
<tr>
<td>Parent substance abuse</td>
<td>1</td>
<td>3.42 (19)</td>
<td>3.86 (22)</td>
<td>By Time: F(1,39) = 24.38, p = &lt;.001</td>
<td>.39</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.42 (19)</td>
<td>1.77 (22)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Client cooperation with the</td>
<td>1</td>
<td>1.76 (29)</td>
<td>1.47 (30)</td>
<td>By Time: F(1,57) = 12.98, p = .001</td>
<td>.19</td>
</tr>
<tr>
<td>agency a</td>
<td>2</td>
<td>2.31 (29)</td>
<td>2.17 (30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preparation for parenthood</td>
<td>1</td>
<td>2.08 (25)</td>
<td>1.96 (26)</td>
<td>By Group: F(1,49) = 4.73, p = .035</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.16 (25)</td>
<td>1.58 (26)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Habitability of family</td>
<td>1</td>
<td>1.45 (20)</td>
<td>1.29 (14)</td>
<td>By Time: p = .06</td>
<td>.11</td>
</tr>
<tr>
<td>residence b</td>
<td>2</td>
<td>1.25 (20)</td>
<td>1.00 (14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial problems</td>
<td>1</td>
<td>2.67 (24)</td>
<td>2.68 (25)</td>
<td>By Time: F(1,47) = 8.85, p = .005</td>
<td>.16</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2.42 (24)</td>
<td>2.12 (25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical needs of child</td>
<td>1</td>
<td>1.58 (19)</td>
<td>1.00 (13)</td>
<td>By Group: F(1,30) = 9.55, p = .004</td>
<td>.24</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.58 (19)</td>
<td>1.23 (13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent physical health b</td>
<td>1</td>
<td>1.47 (19)</td>
<td>1.42 (26)</td>
<td>Time by Group: F(1,43) = 4.23, p = .046</td>
<td>.09</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1.79 (19)</td>
<td>1.31 (26)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Scale 1=Low risk to 4=High risk
b Scale 1=Low risk to 5=High risk
# APPENDIX B

Individualized Family Service Planning

Table B-1. Performance Ratings

<table>
<thead>
<tr>
<th>Area of Performance</th>
<th>Time Period for IFSP</th>
<th>Low Performance/ Major Difficulty % (n)</th>
<th>Mod. Low Performance/ Some Difficulty % (n)</th>
<th>Mod. High Performance/ Minor Difficulty % (n)</th>
<th>High Performance/ No Difficulty % (n)</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic needs (food, shelter)</td>
<td>3 month (n=98)</td>
<td>19% (19)</td>
<td>28% (27)</td>
<td>16% (16)</td>
<td>37% (36)</td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>13 month (n=61)</td>
<td>21% (13)</td>
<td>23% (14)</td>
<td>12% (7)</td>
<td>44% (27)</td>
<td>2.8</td>
</tr>
<tr>
<td>Home safety</td>
<td>3 month (n=95)</td>
<td>14% (13)</td>
<td>7% (7)</td>
<td>20% (19)</td>
<td>59% (56)</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>13 month (n=59)</td>
<td>17% (10)</td>
<td>15% (9)</td>
<td>12% (7)</td>
<td>56% (33)</td>
<td>3.1</td>
</tr>
<tr>
<td>Cognitive basic skills</td>
<td>3 month (n=91)</td>
<td>8% (7)</td>
<td>15% (14)</td>
<td>36% (33)</td>
<td>41% (37)</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>13 month (n=60)</td>
<td>5% (5)</td>
<td>28% (17)</td>
<td>25% (15)</td>
<td>42% (25)</td>
<td>3.0</td>
</tr>
<tr>
<td>Education/ employment</td>
<td>3 month (n=97)</td>
<td>29% (28)</td>
<td>41% (40)</td>
<td>19% (18)</td>
<td>11% (11)</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>13 month (n=62)</td>
<td>32% (20)</td>
<td>28% (17)</td>
<td>24% (15)</td>
<td>16% (10)</td>
<td>2.2</td>
</tr>
<tr>
<td>Emotional support</td>
<td>3 month (n=98)</td>
<td>16% (16)</td>
<td>36% (35)</td>
<td>28% (27)</td>
<td>20% (20)</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>13 month (n=62)</td>
<td>14% (9)</td>
<td>39% (24)</td>
<td>24% (15)</td>
<td>23% (14)</td>
<td>2.6</td>
</tr>
<tr>
<td>Social support</td>
<td>3 month (n=95)</td>
<td>15% (14)</td>
<td>37% (35)</td>
<td>29% (28)</td>
<td>19% (18)</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>13 month (n=62)</td>
<td>11% (7)</td>
<td>44% (27)</td>
<td>26% (16)</td>
<td>19% (12)</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Scale: 1=Major difficulty, 2=Some difficulty, 3=Minor difficulty, 4=No difficulty*
**APPENDIX C**

Participant Survey Information

Table C-1. Family Supports Reported Unavailable

<table>
<thead>
<tr>
<th>Social Support</th>
<th>1 Month (n = 104)</th>
<th></th>
<th>12 Months (n = 53)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number Unavailable</td>
<td>%</td>
<td>Number Unavailable</td>
<td>%</td>
</tr>
<tr>
<td>Professional helpers (e.g. TIES)</td>
<td>1</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Child Protective Services</td>
<td>12</td>
<td>12%</td>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>Professional agencies (e.g. WIC)</td>
<td>6</td>
<td>0%</td>
<td>6</td>
<td>11%</td>
</tr>
<tr>
<td>Your children</td>
<td>26</td>
<td>25%</td>
<td>17</td>
<td>32%</td>
</tr>
<tr>
<td>Your parents</td>
<td>17</td>
<td>16%</td>
<td>8</td>
<td>15%</td>
</tr>
<tr>
<td>Family’s / child’s doctor</td>
<td>17</td>
<td>16%</td>
<td>9</td>
<td>17%</td>
</tr>
<tr>
<td>Your relatives or kin</td>
<td>17</td>
<td>16%</td>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>Spouse / partner</td>
<td>38</td>
<td>37%</td>
<td>18</td>
<td>34%</td>
</tr>
<tr>
<td>Other parents</td>
<td>32</td>
<td>31%</td>
<td>15</td>
<td>28%</td>
</tr>
<tr>
<td>Your friends</td>
<td>21</td>
<td>20%</td>
<td>7</td>
<td>13%</td>
</tr>
<tr>
<td>Spouse / partner’s relatives</td>
<td>38</td>
<td>37%</td>
<td>22</td>
<td>42%</td>
</tr>
<tr>
<td>Spouse / partner’s parents</td>
<td>44</td>
<td>42%</td>
<td>26</td>
<td>49%</td>
</tr>
<tr>
<td>Church members / minister</td>
<td>36</td>
<td>35%</td>
<td>16</td>
<td>30%</td>
</tr>
<tr>
<td>Visiting nurses</td>
<td>64</td>
<td>62%</td>
<td>40</td>
<td>75%</td>
</tr>
<tr>
<td>Spouse / partner’s friends</td>
<td>49</td>
<td>47%</td>
<td>22</td>
<td>423%</td>
</tr>
<tr>
<td>Parent groups</td>
<td>43</td>
<td>41%</td>
<td>24</td>
<td>45%</td>
</tr>
<tr>
<td>School / child care center</td>
<td>66</td>
<td>63%</td>
<td>26</td>
<td>49%</td>
</tr>
<tr>
<td>Social groups or clubs</td>
<td>65</td>
<td>35%</td>
<td>20</td>
<td>38%</td>
</tr>
<tr>
<td>Co-workers</td>
<td>66</td>
<td>63%</td>
<td>29</td>
<td>55%</td>
</tr>
<tr>
<td>Early intervention</td>
<td>88</td>
<td>85%</td>
<td>39</td>
<td>74%</td>
</tr>
</tbody>
</table>
## APPENDIX D
Perceptions of TIES Participants

### Table D-1. Provision of Knowledge

<table>
<thead>
<tr>
<th>Knowledge Area</th>
<th>N/A</th>
<th>Not at All % (n)</th>
<th>Some % (n)</th>
<th>Moderately % (n)</th>
<th>To a Good Extent % (n)</th>
<th>Mean * (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child health needs</td>
<td>0</td>
<td>0% (0)</td>
<td>7% (1)</td>
<td>13% (2)</td>
<td>80% (12)</td>
<td>3.7</td>
</tr>
<tr>
<td>Effects of drugs</td>
<td>0</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>13% (2)</td>
<td>87% (13)</td>
<td>3.9</td>
</tr>
<tr>
<td>Disciplining your children</td>
<td>1</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>14% (2)</td>
<td>86% (12)</td>
<td>3.9</td>
</tr>
<tr>
<td>Helping your children</td>
<td>1</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>100% (14)</td>
<td>4.0</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not at all, 2 = Some, 3 = Moderately, 4 = To a good extent

### Table D-2. Provision of Services

<table>
<thead>
<tr>
<th>Service</th>
<th>N/A</th>
<th>Not at All % (n)</th>
<th>Some % (n)</th>
<th>Moderately % (n)</th>
<th>To a Good Extent % (n)</th>
<th>Mean * (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional support</td>
<td></td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>100% (15)</td>
<td>4.0</td>
</tr>
<tr>
<td>Parenting skills training</td>
<td>1</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>7% (1)</td>
<td>93% (13)</td>
<td>3.9</td>
</tr>
<tr>
<td>Health examinations</td>
<td></td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>14% (2)</td>
<td>86% (12)</td>
<td>3.9</td>
</tr>
<tr>
<td>Drug counseling</td>
<td></td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>13% (2)</td>
<td>87% (13)</td>
<td>3.9</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not at all, 2 = Some, 3 = Moderately, 4 = To a good extent
Table D-3. Provision of Basic Needs

<table>
<thead>
<tr>
<th>Need</th>
<th>N/A</th>
<th>Not at All % (n)</th>
<th>Some % (n)</th>
<th>Moderately % (n)</th>
<th>To a Good Extent % (n)</th>
<th>Mean° (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding employment for you or a family member</td>
<td>1</td>
<td>7% (1)</td>
<td>0% (0)</td>
<td>21% (3)</td>
<td>71% (10)</td>
<td>3.6 (14)</td>
</tr>
<tr>
<td>Temporary shelter</td>
<td>2</td>
<td>8% (1)</td>
<td>8% (1)</td>
<td>8% (1)</td>
<td>77% (10)</td>
<td>3.5 (13)</td>
</tr>
<tr>
<td>More permanent housing</td>
<td>1</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>21% (3)</td>
<td>79% (11)</td>
<td>3.8 (14)</td>
</tr>
<tr>
<td>Food</td>
<td>2</td>
<td>8% (1)</td>
<td>0% (0)</td>
<td>15% (2)</td>
<td>77% (10)</td>
<td>3.6 (13)</td>
</tr>
<tr>
<td>Clothing (or diapers)</td>
<td></td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>100% (15)</td>
<td>4.0 (15)</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
<td>0% (0)</td>
<td>7% (1)</td>
<td>7% (1)</td>
<td>87% (13)</td>
<td>3.8 (15)</td>
</tr>
<tr>
<td>Utilities</td>
<td>3</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>25% (3)</td>
<td>75% (9)</td>
<td>3.8 (12)</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>17% (1)</td>
<td>83% (5)</td>
<td>3.8 (6)</td>
</tr>
</tbody>
</table>

°Scale: 1 = Not at all, 2 = Some, 3 = Moderately, 4 = To a good extent

Table D-4. Referrals to Other Agencies

<table>
<thead>
<tr>
<th>Referral Area</th>
<th>N/A</th>
<th>Not at All % (n)</th>
<th>Some % (n)</th>
<th>Moderately % (n)</th>
<th>To a Good Extent % (n)</th>
<th>Mean° (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug treatment for self</td>
<td>1</td>
<td>0% (0)</td>
<td>7% (1)</td>
<td>14% (2)</td>
<td>79% (11)</td>
<td>3.7 (14)</td>
</tr>
<tr>
<td>Drug treatment for family members</td>
<td>6</td>
<td>0% (0)</td>
<td>11% (1)</td>
<td>22% (2)</td>
<td>67% (6)</td>
<td>3.6 (9)</td>
</tr>
<tr>
<td>Support program for children</td>
<td>2</td>
<td>0% (0)</td>
<td>0% (0)</td>
<td>15% (2)</td>
<td>85% (11)</td>
<td>3.9 (13)</td>
</tr>
<tr>
<td>Mental health counseling</td>
<td>5</td>
<td>0% (0)</td>
<td>10% (1)</td>
<td>10% (1)</td>
<td>80% (8)</td>
<td>3.7 (10)</td>
</tr>
</tbody>
</table>

°Scale: 1 = Not at all, 2 = Some, 3 = Moderately, 4 = To a good extent
Table D-5. Need for Knowledge at Discharge

<table>
<thead>
<tr>
<th>Knowledge Area</th>
<th>Not Needed % (n)</th>
<th>Some Need % (n)</th>
<th>Moderate Need % (n)</th>
<th>Critical Need % (n)</th>
<th>Mean* (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child health needs</td>
<td>36% (5)</td>
<td>29% (4)</td>
<td>14% (2)</td>
<td>21% (3)</td>
<td>2.2 (14)</td>
</tr>
<tr>
<td>Effects of drugs</td>
<td>50% (7)</td>
<td>14% (2)</td>
<td>7% (1)</td>
<td>29% (4)</td>
<td>2.1 (14)</td>
</tr>
<tr>
<td>Disciplining your children</td>
<td>36% (5)</td>
<td>14% (2)</td>
<td>14% (2)</td>
<td>36% (5)</td>
<td>2.5 (14)</td>
</tr>
<tr>
<td>Helping your children</td>
<td>36% (5)</td>
<td>14% (2)</td>
<td>7% (1)</td>
<td>43% (6)</td>
<td>2.6 (14)</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not needed, 2 = Some need, 3 = Moderate need, 4 = Critical need

Table D-6. Service Needs at Discharge

<table>
<thead>
<tr>
<th>Service</th>
<th>Not Needed % (n)</th>
<th>Some Need % (n)</th>
<th>Moderate Need % (n)</th>
<th>Critical Need % (n)</th>
<th>Mean* (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional support</td>
<td>14% (2)</td>
<td>29% (4)</td>
<td>14% (2)</td>
<td>43% (6)</td>
<td>2.9 (14)</td>
</tr>
<tr>
<td>Parenting skills training</td>
<td>29% (4)</td>
<td>29% (4)</td>
<td>14% (2)</td>
<td>29% (4)</td>
<td>2.4 (14)</td>
</tr>
<tr>
<td>Health examinations</td>
<td>43% (6)</td>
<td>21% (3)</td>
<td>14% (2)</td>
<td>21% (3)</td>
<td>2.1 (14)</td>
</tr>
<tr>
<td>Drug counseling</td>
<td>64% (9)</td>
<td>14% (2)</td>
<td>0.0% (0)</td>
<td>21% (3)</td>
<td>1.8 (14)</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not needed, 2 = Some need, 3 = Moderate need, 4 = Critical need

A-9
### Table D-7. Assistance with Basic Needs at Discharge

<table>
<thead>
<tr>
<th>Need</th>
<th>Not Needed % (n)</th>
<th>Some Need % (n)</th>
<th>Moderate Need % (n)</th>
<th>Critical Need % (n)</th>
<th>Mean * (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding employment for you or a family member</td>
<td>57% (8)</td>
<td>7% (1)</td>
<td>7% (1)</td>
<td>29% (4)</td>
<td>2.1 (14)</td>
</tr>
<tr>
<td>Temporary shelter</td>
<td>71% (10)</td>
<td>7% (1)</td>
<td>0% (0)</td>
<td>21% (3)</td>
<td>1.7 (14)</td>
</tr>
<tr>
<td>More permanent housing</td>
<td>57% (8)</td>
<td>14% (2)</td>
<td>0% (0)</td>
<td>29% (4)</td>
<td>2.0 (14)</td>
</tr>
<tr>
<td>Food</td>
<td>57% (8)</td>
<td>14% (2)</td>
<td>7% (1)</td>
<td>21% (3)</td>
<td>1.9 (14)</td>
</tr>
<tr>
<td>Clothing (or diapers)</td>
<td>21% (3)</td>
<td>29% (4)</td>
<td>21% (3)</td>
<td>29% (4)</td>
<td>2.6 (14)</td>
</tr>
<tr>
<td>Transportation</td>
<td>43% (6)</td>
<td>7% (1)</td>
<td>29% (4)</td>
<td>21% (3)</td>
<td>2.3 (14)</td>
</tr>
<tr>
<td>Utilities</td>
<td>50% (7)</td>
<td>7% (1)</td>
<td>14% (2)</td>
<td>29% (4)</td>
<td>2.2 (14)</td>
</tr>
<tr>
<td>Other</td>
<td>57% (4)</td>
<td>0% (0)</td>
<td>14% (1)</td>
<td>29% (4)</td>
<td>2.1 (7)</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not needed, 2 = Some need, 3 = Moderate need, 4 = Critical need

### Table D-8. Needs for Referrals to Other Agencies at Discharge

<table>
<thead>
<tr>
<th>Referral Area</th>
<th>Not Needed % (n)</th>
<th>Some Need % (n)</th>
<th>Moderate Need % (n)</th>
<th>Critical Need % (n)</th>
<th>Mean * (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug treatment for self</td>
<td>64% (9)</td>
<td>7% (1)</td>
<td>14% (2)</td>
<td>14% (2)</td>
<td>1.8 (14)</td>
</tr>
<tr>
<td>Drug treatment for family members</td>
<td>64% (9)</td>
<td>7% (1)</td>
<td>0% (0)</td>
<td>29% (4)</td>
<td>1.9 (14)</td>
</tr>
<tr>
<td>Support program for children</td>
<td>64% (9)</td>
<td>7% (1)</td>
<td>0% (0)</td>
<td>29% (4)</td>
<td>1.9 (14)</td>
</tr>
<tr>
<td>Mental health counseling</td>
<td>54% (7)</td>
<td>8% (1)</td>
<td>8% (1)</td>
<td>31% (4)</td>
<td>2.2 (13)</td>
</tr>
</tbody>
</table>

*Scale: 1 = Not needed, 2 = Some need, 3 = Moderate need, 4 = Critical need