

**Randomized Trial of Families and Schools Together (FAST):
Final Report on NIDA Grant R01-10067**

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NOTE: Final editing and interpretations expressed in this report are solely those of the Principal Investigator (Moberg) and may or may not reflect the views of collaborating authors.

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ABSTRACT

This study evaluated the effectiveness of Families and Schools Together (FAST), a widely used school-based multi-family group prevention program, compared to mailed parenting booklets. FAST emphasized building and enhancing relationships and is intended to prevent substance abuse, problem and delinquent behavior and school failure. FAST included 8 weekly family sessions and offered a 2-year monthly follow-up program. Ten predominantly African American or Latino elementary schools from the Milwaukee Public Schools participated. Classrooms (grades 1-3) from which families were subsequently recruited were randomly assigned within school to FAST or to FAME, Family Education, which provided parenting skills booklets sent to participants' homes each week. A total of 473 students and their families participated; 20 FAST groups were implemented. For families that came at least once to FAST, the average retention rate was 78% across study sites.

In addition to the Milwaukee site, supplemental funds enabled implementation of six FAST cycles in three schools in Washington DC. However, these sites were implemented without adequate research and participant tracking resources and the data quality is such that analysis of outcomes is only suggestive. Process evaluation data from the Washington sites provides useful insights complementary to that collected in Milwaukee and is included in the process evaluation sections of this report.

Outcomes were assessed at post-intervention and one and two-year follow-up. Children and families in both FAST and FAME changed significantly in the desired direction on 6 of 7 parent reported measures. Children in both groups, on average, changed in an undesirable direction over time on 4 of 5 teacher reported variables. Applying a hierarchical repeated measures regression model to the data, we found two significant differences between groups at the two year follow-up. Blinded teacher ratings of children's academic performance in the FAST group were significantly higher than in the comparison group (e.s.= .24), and FAST parents reported lower family social support than FAME families (e.s. = -.20). Subpopulation analyses indicate that among Latino children at two years, teachers rated children in FAST as less externalizing (aggressive) and with higher social skills than children in FAME. However, parents reported higher levels of externalizing. Among African American children at two years, teacher ratings of internalizing behavior were higher in the FAST group, with no other between group differences in outcomes.

A number of implementation factors may have affected the results obtained for FAST in the current study. On average, approximately 80% of the content considered essential to FAST was delivered with fidelity. While program implementation was generally adequate, it was not consistent across ethnic groups and cycles, and the lead community agency was changed after the first year to attempt to remedy implementation concerns. FAST cycles in predominantly Latino schools were consistently rated higher than those in African American schools by the FAST trainers and in our process evaluation. Implementation of the FASTWORKS component of the program, intended to be monthly parent run groups for two years, was spotty and poorly attended.

The overall modest effects may be a result of high stress and mobility rates in this low income inner city setting; selection of measures which did not directly tap the intent of the program; and attenuation of between-group differences due to unanticipated effects of the comparison intervention (mailed brochures) combined with the research procedures which effected both groups. Further research is required to determine the cost effectiveness of this complex program, which appears most promising for the Latin subpopulation in this study.

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CHAPTER 1: Introduction and Background

Research shows that strong, affectionate bonds within families, and positive social networks among parents who are engaged in their children's schools and in their neighborhoods are key protective factors against a variety of problem behaviors, including drug abuse (Catalano & Hawkins, 1996). Protective factors are characteristics of families and communities that counteract children's vulnerability in the context of risk (Garmezy, 1985; Rutter, 1979, 1990). When parents are involved in their children's education and are able to establish strong relationships with teachers, neighbors and others in the community, family stress and disruption is mitigated. Parents who feel empowered to support and protect their children garner resources for them that buffer children against risks (Miedel & Reynolds, 1999).

Many prevention practitioners attempt to reinforce strengths that exist in families and communities as a means of forestalling children's problem behaviors (Benson, 1997; Hawkins et al. 1992; Reynolds & Gill, 1994). Research suggests that preventive intervention programs should begin early (Campbell, 1995; Eron & Slaby, 1994; Lee, et al., 1990) and target multiple contexts including families, schools and communities (Webster-Stratton & Taylor, 2001; Kumpfer, 1998). Family-focused interventions have been shown to be highly effective in improving outcomes (Foxcroft et al., 2003; Kumpfer et al., 2002a), particularly when added to universal school-based substance abuse prevention programs (Kumpfer & Alvarado, 2003). The benefits of early intervention include school readiness, improved academic performance and increased rates of school retention (Barnett, 1995; Karoly et al., 1998).

Families and Schools Together (FAST) is a prevention program that attempts to build or reinforce protective factors around vulnerable children and their families (McDonald & Moberg, 2002; McDonald et al., 1991). The program draws on Bronfenbrenner's theory of social ecology (1979; 1989), which posits that children's behavior is rooted in specific contexts: their families, schools and neighborhoods. FAST involves children and families in activities that are intended to build protection against the risks experienced by children living in poverty and/or who are manifesting early behavioral problems. It is delivered by a collaborative team of parents, trained professionals, and school personnel, and involves gatherings of multi-family groups that include target children between the ages of 4 and 12 years. Typically, between 8 and 14 families come together and engage in a sequenced set of activities. The 8-week intervention, followed by two years of monthly parent led meetings, attempts to empower parents to be the primary prevention agents for their own children. FAST is designed to have a positive effect on 1) behaviors within the family system by nurturing parent-child bonding and intra-familial communication, 2) behaviors between families by promoting social connections between parents of children in the school, 3) behaviors between the family and the school by engaging parents in their child's education, and 4) effect parents themselves by providing empowerment and enhancement of self efficacy, and increasing their access to information, treatment and community resources and services.

The rationale for the FAST program draws on research from several broad theoretical orientations. The primary orientation is derived from the family stress literature (Hill, 1949; McCubbin & McCubbin, 1993) and family systems theory (Minuchin, 1974). Minuchin identified types of troubled families; including those that are disengaged from one another and in which parents do not exercise appropriate authority. FAST's sequenced activities, coached by team members, promote positive ways of communicating and parenting styles that break negative patterns. One characteristic of healthy families is the ability to identify feelings and ask how others feel (Beavers & Hampton, 1990); FAST exercises that discuss and identify feelings (Feelings Charade and Scribbles) address this issue. According to Minuchin (1974), establishing boundaries around the family by excluding non-family members can strengthen a family. Creating a family flag, a FAST activity, strengthens family unity; eating together as a unit is a bonding experience. Unconditional, non-judgmental and non-directive attention to a single child by a parent in a dyadic play therapy situation has been found to build parent-child bonds and reduce a child's symptoms in therapeutic settings (Kogan et al., 1972; Kogan, 1978); FAST has adapted play therapy for preventive purposes and dubbed it "special play". Mitigating parental stress, another objective of the FAST program, is accomplished by developing social support networks (dyad time and parent

self help group). Formal and informal networks in communities connect parents to one another, bolstering them and protecting their children (Dunst et al., 1988).

The importance of attachment to family members and others in the community to protect children from harm is derived from social control theory (Hirschi, 1969; Gibbons & Krohn 1986) and social bonding theory (Naroll, 1983). Greater involvement with positive role models and prosocial peers, and high levels of family attachment, are related to commitment to social institutions and conventional values and concomitantly, lower levels of drug abuse, delinquency and other problem behavior.

FAST programs have consistently shown significant positive change in families when evaluated with non-randomized, short-term, pre-post designs (McDonald & Sayger, 1998; McDonald et al., 1997; McDonald and Frey, 1999). Three randomized controlled trials have also recently been conducted. Two of these have used matched pairs designs with untreated control groups, one with Native American families (Kratochwill et al., 2004) and one with children at risk for special education due to emotional disturbance (Kratochwill et al., 2003). A third large sample trial (Layzer et al., 2001) was the first independent replication study and included mostly African American children.

Kratochwill et al., (2004) studied 50 pairs of Native American children who were matched on demographic and behavioral variables (e.g., withdrawn and aggressive behavior) and then randomly assigned to FAST or a no treatment control group. Child outcomes were examined at post-test and again 9 to 12 months later. At post-test, among 19 remaining pairs, FAST parents rated their children as being less withdrawn on the Child Behavior Check List (CBCL) (Achenbach, 1991a) than at pre-test. This finding persisted through the 9-12 month assessment (effect size =1.92). Teacher ratings at 9-12 months (26 remaining pairs) showed improvement on several behavioral dimensions of the CBCL (e.s. ranges from .45 to 1.02). Teacher ratings of children's general academic competence on the Social Skills Rating System (Gresham & Elliott, 1990) also increased for the FAST group compared to the control (e.s.=.77). However, observational and performance based examination of the children's academic performance (observational assessment of academic outcome, teacher behavior and classroom interaction; and curriculum-based assessment of content mastery) showed no differences for the FAST versus control children.

In another recent experimental study of FAST for the Office of Special Education, Kratochwill, McDonald and Levin (2003) studied 67 pairs of children (134 families) matched on age, gender, classroom and pre-test levels of behavior problems. Half of the children were referred by teachers as being at risk for special education services and the other half were universally recruited. The goal was to reduce referrals to special education and enhance child mental health. At 9-12 month follow-up (31 pairs), two parent-reported scales of the CBCL (externalizing, e.s. =.42, and somatic complaints, e.s.= .53) showed significant improvement for FAST relative to controls using cycle as the unit of analysis. On the other hand, teacher ratings (39 pairs) revealed that thought problems increased (e.s.=.45) over time for FAST children compared to the control group, and other measures did not differ significantly on the cycle level of analysis.

Abt Associates assessed the impact of FAST as part of the National Evaluation of Family Support Programs that experimentally tested seven exemplary programs (Layzer et al., 2001). In this study, 407 predominantly African American children in nine schools (2nd-4th grades) in New Orleans were randomly assigned to FAST or a comparison group in which they received a weekly booklet on parenting (similar to the present study). An "intent to treat" model, in which data on all participants assigned to the program whether or not they actively participated (Conduct Problems Prevention Group, 1999) was employed, and data were collected at baseline, post-test (8 weeks) and one year. Parent ratings at one year follow-up showed that FAST children had significantly lower externalizing scores and better social skills than the controls (measures from the CBCL and SSRS respectively, effect sizes not provided). Teacher ratings showed no significant differences between the groups. Related to the project's goal of increasing social networks, parents assigned to FAST reported significantly more volunteer work and more leadership in their community than did the control parents.

Each of the studies described above employed a randomized design that compared the outcomes of the intervention group with those of a control or comparison group. They are also strong in that they examined the effects of FAST over time, though the trajectory was one year and, with the exception of Layzer et al. (2001), sample sizes were generally small. Taken together, the results across these three studies demonstrate a number of modest short-term effects favoring FAST over control or comparison conditions.

The current study employed a larger, more ethnically diverse sample. Cluster randomization of classrooms within schools was used, with universal open recruitment of students/families from classrooms after classrooms were assigned to condition. A low-intensity intervention (mailed parenting skills booklets) was offered to families as an attention-control comparison condition. This study also used a longer follow-up period, examining effects at both 1 and 2 years. An “intent to treat” model was employed that includes in the primary analyses all families who agreed to participate and completed a baseline interview, regardless of actual subsequent extent of program participation. The FAST program was assessed for its impact on children’s emotional, behavioral, social skills and academic outcomes; impact on families’ attachment and social support; and on parents’ self efficacy and school involvement.

In this study, we also examined whether the social, cultural and community factors which coalesce within the categories of race/ethnicity (African-American and Latino), moderated program impacts. Ethnicity is a variable that encapsulates a range of factors related to socio-economic status and child outcomes: parenting and communication style, discipline and educational expectations, social support, family structure and family cohesiveness, among others (Forehand & Kotchick, 1996, Salgado de Synder, 1987). Significant differences on a number of demographic characteristics between ethnic groups in this study are highlighted in Table 1.

It is not our purpose in this research to attempt to disaggregate the effects of the constellation of variables that are correlated with ethnicity, but rather to address the issue of possible ethnic/racial disparity in program effectiveness. Several recent prevention studies with minority populations have shown few differences in the response to intervention as a function of ethnicity (Reid et al., 2002; Barrera, et al., 2002; Kumpfer et al. 2002). These studies have typically validated the effectiveness of programs developed for predominantly European-American samples. Only a few prevention studies have systematically compared the outcomes for different minority groups (e.g., Reid et al., 2002, Botvin et al., 1997), though a number of prevention scientists have suggested that the next generation of studies must begin to look at moderators and cultural adaptation of programs in order to determine which participants benefit most from particular types of intervention (Kellam & Van Horn, 1997; Kumpfer et al., 2002b). The ultimate goal of such research is to reduce disparate outcomes of prevention programs.

CHAPTER 2: Research Design and Methods

While the basic methodological approach was set out in the funded proposal, pilot work (FAST cycles in 2 schools) and further methods development was essential in the first year of the project.

Piloting and Refinement of Research Design

Upon funding, we devoted our initial effort to finalizing the design, cementing relationships with Milwaukee Public Schools administration and with specific elementary schools, developing and piloting instrumentation, and piloting the entire effort (including both research and programmatic efforts) in two schools.

Our detail design work considered a number of options for assignment of schools/classrooms to treatment and control conditions. It was a given (as expressed in our original proposal) that the families would be recruited from randomly assigned schools or classrooms, rather than assigning families at random once they had agreed to participate. The recruitment process itself is considered part of the FAST intervention, and we did not want to interfere with that aspect of the program. After extensive discussion in research team meetings, and examination of data on the MPS schools, we determined that between-school variability in family demographics, neighborhoods, and school climate was a great threat to internal validity if schools were assigned at random. Instead, we determined that random assignment of classrooms within schools to the treatment or control condition had the highest internal validity. Experimental contamination was expected to be minimal, since FAST is not delivered by regular classroom teachers, and is implemented after the end of the school day. Thus the design used experimental assignment within schools of pairs of classrooms to treatment and control condition, with universal recruitment of families from within these classrooms.

Our original aim was to test FAST with equal size groups of African American, Hispanic (predominantly Mexican American), and Caucasian families. However, the demographic makeup of Milwaukee elementary schools was such that there were no elementary schools in which Caucasian students were in the majority. Thus we redefined the third ethnic category as “diverse” and subsequently recruited schools which were predominantly African American (4 schools), predominantly Hispanic (4 schools), or diverse (2 schools). All schools had high rates of poverty and all but one were located in central city neighborhoods with high poverty and crime rates.

Our initial plan was to match pairs of same-grade classrooms within schools and randomize from these pairs to FAST or control. We planned to repeat FAST twice within each school, producing two cycles of FAST per participating school. However, our pilot effort indicated that an insufficient number of families could be recruited to fill an entire FAST group if only one classroom was open for universal recruitment, so we assigned two classrooms to each condition. (With a goal of graduating 12 families per cycle, we needed 15-16 families to attend at least one FAST session. Over one half of the families in each classroom would have needed to participate to meet these numbers.) This in turn led to the need to include more than one grade level per school.

During this process, we successfully recruited 10 elementary schools from the Milwaukee Public School (MPS) district who agreed to participate. This required identification of a set of potential schools who met our needs, multiple contacts with the schools through mailings, telephone calls and meetings, and finally, the execution of a Memorandum of Understanding with each school signed by the school principal, the PI (Moberg), and the co-PI (McDonald) responsible for program implementation.

Family recruitment included distribution of official letters on University letterhead to each family, followed by announcements from teachers, flyers sent home with children, and personal calls from school staff. Once the family expressed interest and gave permission for the FAST team to contact them, the FAST team mental health partner and/or the parent partner typically made a home visit. Parents agreeing to participate were

then contacted by research staff to complete consent and tracking forms and to complete the baseline interview. There were occasional bottle necks in this process (which added the research interview to the standard FAST recruitment process) and a protocol for this process was developed and refined to make the joint effort of the program and research teams more coordinated. However, it was inevitable that recruitment went up to the last minute, and often up to the second FAST meeting. Recruitment was capped once 15-16 families had agreed to participate.

Recruitment into the control condition had to be designed to parallel that of the FAST condition, in order to attract similar families from the matched/randomly assigned control classrooms. In order to do so, a placebo control program needed to be designed so that families believed they would get some benefit from participating. We wanted a process which was similar to “typical services” in the schools. On one visit to a school we saw a rack of parenting brochures which were available to the families but rarely used. There was a series of eight titles available, in both English and Spanish (these were reviewed and then recommended by McDonald as behavior-modification bibliotherapy). Eight weekly mailings of this brochure series (Channing L. Bete Co., Inc., South Deerfield, MA, © 1987, 1997 Edition), coupled with an invitation to a lecture on parenting by a national expert (Dr. McDonald), served as our placebo control “program,” which we called FAME (a contraction of **FAM**ily **E**ducation). As our results indicate, the combined effect of motivation and readiness to change, the recruitment and assessment interviews, our tracking process (which includes sending birthday cards to the focal child and a quarterly newsletter) and the mailed brochures, apparently had significant effects on the participating families at post-test and one and two year follow-up. All of these factors except the mailed brochures would have had similar effects in the FAST group.

We piloted using a computer aided personal interview (CAPI) for data collection. There were numerous problems with this approach, including parents who reacted negatively to the technology, hardware and software failure, insufficient numbers of computers during intensive recruitment periods when multiple interviews were conducted simultaneously, and concerns over theft of notebook computers in the neighborhoods we were working in. After the pilot effort, we decided instead to use optical scan sheets, completed by parents while the questions were read to them by the interviewer. Parents were also given a copy of the interview booklet to follow the interview.

Final Research Design

A cluster-randomized design was used. Over two years, 72 intact classrooms within ten schools were randomly assigned to either FAST or the minimal contact comparison condition, FAME (Family Education). Families were subsequently recruited from these classrooms using a universal invitation to participate. Recruitment began in the fall of 1997 with the identification of schools in the Milwaukee Public School district that reflected high need settings based on school poverty rates (92.5% median free and reduced lunch across the participating schools). Schools were initially selected based on size, geographic location, ethnicity, level of Title I eligibility, proportion of students qualifying for free and reduced lunch, and mobility rates. Four schools serving primarily African American children, four schools serving primarily Latino students, and two serving mixed ethnicities, agreed to participate. Within each school, similar classrooms (grades 1 through 3; in one small school grade four classrooms were also included) were selected and randomly assigned (via a coin toss during a meeting with school staff) to either FAST or FAME during each of two semesters. This was repeated across 10 schools, six of which were provided FAST programs in the 1997-98 school year, while the remaining four received the same programming in 1998-99. Families were recruited universally from classrooms after the classrooms had been assigned to condition. Each of the 20 sessions of FAST, and the 20 corresponding sessions of FAME, were made up of students/families recruited from one or two specific classrooms (clusters) within the same school. These 40 groups are subsequently defined as “cycles” and accounted for as the higher level unit of analysis in statistical modeling. All procedures were piloted in two full cycles in two schools prior to implementation.

The program recruitment phase is considered part of the FAST intervention, so similar processes were implemented in both treatment and comparison classrooms. Random assignment of families after recruitment was avoided so as not to disrupt this engagement process. While FAST was originally designed to use targeted “selective” recruitment, universal or open recruitment from an entire classroom was used in this design. Since between-school differences tend to be large, the assignment of classrooms within school to condition enhanced the initial comparability of groups, allowed FAST to proceed with its typical recruitment and avoided potential confounding of school effects with intervention effects. Contamination of conditions was not of major concern because the FAST program operates after regular school hours and typically does not involve classroom teachers. Balancing the design within schools was given precedence over guarding against possible between-group contamination which could have occurred as a result of communication between parents and students assigned to differing conditions in the same school. Recruitment yield from classrooms varied widely (ranging from 6% to 56%) across schools and cycles; a median of 29.5% of families elected to participate in FAST and 22.5% in FAME.

Intervention—FAST

Structured family activity meetings were held for 8 consecutive weeks. Each FAST meeting, held during the evening in the school, was approximately 2 ½ hours in length and included between 8 and 15 families. All members of the family were invited to participate as a family unit, with child and infant care provided as needed during the session. At least four trained facilitators, one on staff at the school (usually a guidance counselor or social worker), two community agency professionals, and a parent of a child in the school, led the sessions. Facilitators participated in a two-day training as a team before the intervention, were provided detailed program manuals and were supported by experienced FAST trainers.

Each weekly meeting included the following interactive units: 1) family communication activities (Feelings Charade; Scribbles) and shared meal (one hour); 2) adult dyads-spouse or other adult communication (15 minutes); 3) adult self-help group (45 minutes); 4) children’s peer-connecting group activity (1 hour); 5) parent and child quality time together using non-directed “special play” (15 minutes); 6) full group assembly for lottery prizes, personal achievement announcements, and a goodbye ritual. Each of these activities has a basis in the research literature. (See McDonald and Moberg, 2002, or the FAST website-- www.wcer.wisc.edu/fast for a detailed description of the program activities and their empirical and theoretical derivation.)

Following the eight weekly sessions, FAST graduate families were offered parent-directed family activity and support groups called “FASTWORKS.” FASTWORKS is designed as a monthly two-year program to consolidate and continue the relationship-building which was begun during the intensive eight-week FAST program.

Comparison Condition—FAME

In order to recruit a similarly motivated group of parents into the comparison condition, a low intensity intervention was offered as an “attention control” condition. An expectancy of program benefit was intentionally established as part of the recruitment process. The Family Education (FAME) program, like FAST, included an intensive recruitment phase via letters to the home, announcements in the classroom, and a positive personal connection via home visits to interested families. Recruitment was followed by weekly provision of parenting skills booklets which were mailed to the home during the same 8 weeks that FAST was conducted, along with an invitation to a lecture on parenting and family life. The topics of the booklets may have been covered incidentally in the FAST parent groups, but there was no specific correspondence between the FAME materials and the FAST activities. The booklets (Channing L. Bete Co., 1997) contain information that is directive, concise, and in easy-to-read, cartoon-like form. These booklets use the copyrighted “Scriptographic” approach which combines simple key words and graphics, designed for diverse populations and tested with low literacy audiences. Spanish versions of the booklets were sent to Latino families. Titles

included “About Parenting”, “Parents and Stress” “Why Get Involved in Your Child’s Education?” and “About Your Child’s Emotional Health”. While all FAME families were invited to the parenting lectures over the course of the two years, no special effort to increase participation was made and only five parents attended.

Data Collection

One parent (typically the mother but chosen by the family when more than one adult participated) and the focal child were interviewed in person at baseline, at post-test immediately following the program (9-12 weeks after the baseline), one year later, and two years later. In addition, the child’s current teacher was asked to complete a questionnaire at baseline, post-test and two-year follow-up. Trained research interviewers, matched to the family’s ethnicity when possible, contacted the parents and teachers to arrange for interviews and questionnaire completion. Interviewers were not blind to condition. Spanish translations were made of all family data collection materials, and bi-lingual interviewers were assigned to families preferring that the interviews be conducted in Spanish. Informed consent and assent forms were reviewed and signed prior to each interview, and tracking information updated or confirmed. To enhance privacy, parents were provided questionnaire booklets and scannable answer sheets on which they recorded their answers as the 330 baseline or 355 follow-up questions were (in most cases) read aloud by the interviewer. Interviews, lasting 60 to 90 minutes, were held in the family’s home, at the school, at the research office, or other locations convenient to the parent.

A tracking system was implemented which included extensive locator data, notification to interviewers of interviews due, regular mailings to families (newsletters, birthday cards), and immediate tracking whenever change of address or returned mail was received. Parents were provided \$20 grocery store gift certificates as an incentive for each interview completed. Teachers were paid \$10 for each completed questionnaire returned. All procedures were reviewed and approved by the University of Wisconsin’s Health Sciences Institutional Review Board.

Measures

Three domains of outcomes were assessed: family, parent and child. The conceptual model upon which FAST is based posits that a preventive influence on the child’s future behavior can be accomplished by increasing family members’ attachments to one another, the family’s linkages and supports in the community, and the parents’ involvements in the child’s school. Parental empowerment and increased self-efficacy are hypothesized intermediate outcomes of the program, both as positive ends in themselves and as factors that lead to improved child outcomes. A brief description of the measures analyzed in this paper for each of these constructs follows. Additional variables are being assessed in other papers, however, the present variables are the core set of measures that best operationalize the FAST conceptual model.

Family Level Variables:

Family Demographics. At the baseline interview, parents provided information on educational background, marital status, number of children in the family, ethnicity, age, employment status and income.

Family Attachment (Family Attachment and Changeability Index--McCubbin et al. 1996). This 8 item subscale uses a 5-point scale (Never to Always) to rate statements like: “Family members are afraid to say what is on their mind” and “In our family everyone goes his/her own way.” Negative items are reverse scored. The subscale assesses family member attachment to one another. Cronbach’s alpha at baseline was .75 (.71 for the Spanish version).

Family Social Support (Social Support Index, McCubbin et al. 1996). The SSI is a 17-item measure that employs a 5-point Likert scale (strongly agree—strongly disagree) to assess the degree to which families

are integrated into the community, feel they have support systems in the community, and perceive that the members of the family itself support one another. Statements like the following are rated: “People can depend on each other in this community,” “Living in this community gives me a secure feeling,” and “The members of my family make an effort to show their love and affection for me.” The overall Cronbach’s alpha for this measure at baseline was .75 (.79 for English version, .66 for Spanish version).

Parent Level Outcomes

Self Efficacy (Generalized Expectancy of Success; Fibel & Hale, 1978). This 30-item instrument measures parent’s success expectancy, the belief that in most situations one is able to attain desired goals. Subscales include general efficacy, personal problem solving, and long-range career success expectancy. A 5-point Likert scale (highly unlikely –highly likely) is used to rate statements completing the phrase “In the future I expect that I will...”, (e.g.) “...succeed at most things I try,” “...be a good parent,” “... attain the life goals I set for myself”. We used the overall summative scale score for this analysis. Cronbach’s alpha for this measure was .87 at baseline (.89 for the Spanish version).

Parent Involvement with School (Parent-School-Community Involvement Survey; Epstein & Salinas, 1993). This measure was adapted for the current study from scales that were originally developed by Epstein and Salinas (1993). The subscale analyzed for this article measures the parent’s involvement in school functions and structure, using 7 items such as: “Attended parent-teacher conferences at school,” “Attended special event at the school,” and “Wrote a note to your child’s teacher.” It is additively scored using a frequency of involvement response scale (none, once, 2-3 times, 4-5 times, 6 or more times). Alpha reliability for this measure was .69 at baseline (.71 for English and .68 for Spanish versions).

Child Level Outcomes

The Child Behavior Checklist (CBCL; Achenbach, 1991a). The CBCL is a widely-used instrument to assess problem behavior syndromes among children in home and school settings. A list of 120 problem behaviors are rated (not true, somewhat or sometimes true, very true or often true) for the child and organized into specific syndrome scores and three major scales. For the current study we used the total scores for the Internalizing Scale, which incorporates withdrawn, anxious/depressive behaviors, and somatic complaints, and the Externalizing Scale, which includes delinquent and aggressive behaviors. Parent and Teacher versions of the CBCL are essentially parallel, though there are slight differences in the number of items for parents and teachers. We used the full Teacher Report Form, and the original parent CBCL items with three-point responses, modified only by elimination of several items in the “Problem Behavior” scale which parent advisors found offensive and which were not needed for calculation of internalizing and externalizing scales. Standardized t-scores for these scales were used in our analyses. Data on validity and reliability are provided in Achenbach, (1991a&b); reliability of the internalizing and externalizing subscales are consistently reported to be above .90.

The Social Skills Rating System (SSRS, Gresham & Elliott, 1990). Parents and teachers completed the Social Skills Rating System, a standardized and norm referenced instrument which assesses the child’s social skills in the areas of cooperation, assertion, responsibility, self control and academic competence (teacher version). Our modified parent and teacher versions had 38 and 30 items respectively. (The problem behavior scales of the SSRS were not included, in favor of the Child Behavior Checklist.) Using a 3-point rating scale (Never, sometimes, very often), parents and teachers responded to statements like: “Makes friends easily,” “Joins group activities without being told to,” and “Receives criticism well.” Overall social skills scale standard scores were used for analysis. The SSRS has been standardized with various groups, including Latinos, and has documented reliability and validity (Powless & Elliott, 1993).

Academic Performance Scale of the Teacher Report Form (TRF, Achenbach, 1991b). The TRF is a version of the Child Behavior Checklist that is completed by the teacher. In addition to the internalizing and externalizing scales from the TRF, the present study also used the Academic Performance scale. The teacher is instructed to provide information on up to six academic subjects, rating the child's performance relative to his/her grade level. For instance, a teacher indicates the child's math performance as: 1=far below grade level; 2=somewhat below grade level, 3=at grade level, 4=somewhat above grade level and 5=far above grade level. The scale is calculated as the average across all academic subjects rated by the teacher (typically 5-6 subject areas), and a t-score based on a normative sample is assigned. Information on reliability and validity is provided by Achenbach (1991b).

Academic Competence Scale of the Social Skills Rating System (SSRS, Gresham & Elliott, 1990). This alternative measure of academic performance asks teachers to compare the child to her classroom peers on skills in reading, mathematics and motivation to succeed academically. Teachers rate each child's performance in nine areas as being in the lowest 10%, next lowest 20%, middle 40%, next highest 20% and highest 10% compared to other children in the same classroom. Standardized scale T-scores were used for the analysis.

In addition, objective standardized third and fourth grade test scores were accessed from the school district and matched to the interview and teacher survey using student identification numbers. A video-taped family interaction task after FAST exposure and one year later, and at similar time intervals for comparison subjects, were also conducted and blindly scored by one of the developer of the scoring system, the structural family systems rating scale (SFSR) (Szapocznik et al., 1991).

Analysis

The primary analyses used an "intent to treat" model in which all families completing baseline interviews were retained in the data analysis regardless of their actual level of involvement in the program. While this is of concern to practitioners, methodologically it is necessary since there is no accurate way to predict which members of the comparison groups would have completed the program had it been offered to them. To compare the self-selected subgroup of FAST program completers to the entire FAME comparison group would introduce significant selection bias (favoring FAST) to the analysis. (However, alternative analyses including only FAST graduates and all controls did not change the substantive results reported in this article.)

A two-level fixed occasion repeated measures hierarchical linear regression model was fit to the longitudinal data using the ML-WIN software package (Goldstein, 1995) to estimate the net effects of the program on family, parent and child behavior at post-test, one and two years. The two levels in this analysis were the families/children nested in unique treatment or comparison group cycles. Each of the 20 FAST program cycles met separately as a group over an eight-week period, after having been recruited from one or two classrooms in the same school. The 20 FAME 'cycles' also reflect uniquely recruited sets of families who share classrooms and schools in common, but did not physically meet together. The multi-level regression model explicitly models the commonalities between participants who are grouped together, referred to as group or cluster randomization (Bryk & Raudenbush, 1992; Murray and Hannan, 1990; Murray, 1998). This modeling approach has several advantages: 1) it enables us to obtain statistically efficient estimates; 2) it uses the clustering information to provide correct standard errors, confidence intervals and significance tests, which are generally more conservative than traditional analyses, and 3) it allows for the use of covariates measured at either level of the hierarchy (Bryk & Raudenbush, 1992; Goldstein, 1995).

As for any multivariate model, the dependence between the repeated measures can be modeled by the covariance structure at the individual level. The two analytic components (repeated measures across study periods and measures at each study period) are described by a vector of study periods and by the linear equation of predictors (intervention group and covariates) of each outcome examined separately. Let Z_t be the vector of

indicator variables for study period $t = 1, 2, 3$ (or post-intervention, 1 year follow-up and 2 year follow-up respectively), where

$$\begin{aligned} Z_{1i} &= 1 \text{ if } t = \text{post-intervention} \\ Z_{2i} &= 1 \text{ if } t = 1 \text{ year follow-up} \\ Z_{3i} &= 1 \text{ if } t = 2 \text{ year follow-up} \end{aligned}$$

} and 0 otherwise.

The multivariate repeated measures model may be written as:

$$y_{it} = \sum_{t=1}^3 \beta_{0,t} Z_{it} + \sum_{t=1}^3 \sum_{h=1}^H \beta_{h,t} Z_{it} x_{h,it} + \sum_{t=1}^3 \mu_{it}$$

where t = the number of study periods, h = the number of predictors or covariates (x) in the model, are the parameter estimates, and $\mu_{it} \approx N(0, \Omega_{\mu})$. The preceding expression indicates that the residuals in the model approximate a normal distribution, with a mean of 0 and the variances in matrix, which are to be estimated from the data.

$$\Omega_{\mu} = \begin{pmatrix} \sigma_{\mu 1}^2 & & \\ \sigma_{\mu 12} & \sigma_{\mu 2}^2 & \\ \sigma_{\mu 13} & \sigma_{\mu 23} & \sigma_{\mu 3}^2 \end{pmatrix}$$

The 2 estimates on the prime diagonal of the matrix are the variance estimates for each time period respectively, with the off-diagonal 's the covariances. For details regarding contrast procedures, see Goldstein (1995).

At each study period (Ω), the fixed occasions model provided estimates of effects of intervention group and covariates for each of the twelve outcome variables. Variance and covariance estimates were provided for each of these twelve variables. The parameter estimates for the fixed portion of the model together with the standard errors of the estimates are adequate for hypothesis testing or confidence interval construction for each parameter. The alpha level for all tests of effects of treatment group was set at .05.

A benefit of this hierarchical model is that it fits marginal distributions, meaning that it utilizes all available data at each time period, which optimizes the estimates even with missing data. A secondary adjustment was also carried out using an inverse propensity measure for adjustment due to missing values.

In the full sample, effect sizes for each outcome at one and two year follow-up were calculated using an unbiased estimator as described in Hedges and Olkin (1985). A priori statistical power analysis indicated that to detect a minimum effect size of .25 in the primary comparison of FAST and FAME, with an intra-class correlation (ICC) of .05, alpha set at .05, and power of .80, would require a minimum of 10 families in each of 10 clusters per treatment condition. We exceeded these projections. However, post hoc analysis indicates that the ICC exceeded the .05 expectation at two year follow-up on six variables (teacher rated social skills and academic competence, parent involvement with school, parent self efficacy, parent rating of child social skills, and parent rating of child's externalizing), reducing the operative power to approximately .70 for analyses involving these measures.

For purposes of initial descriptive analysis, single-level two-way (time by treatment) repeated measures ANOVA was conducted on each of the dependent variables for the full sample. Next, the hierarchical linear models were fit to the total sample. A second set of planned analyses were subsequently conducted that examined program effects separately for each of the two major ethnic groups involved in the study (African American and Latino), again using the HLM modeling approach.

CHAPTER 3: Implementation and Process Evaluation

Process Evaluation--Quality of Implementation

Monitoring treatment fidelity is a complex task. Without it, however, we have no opportunity to measure the impact of prevention programs. Recruitment and graduation levels were used as indicators of quality of outreach and engagement of families. Implementation quality and fidelity to core FAST components were rated by the FAST project coordinator and lead trainer who observed two sessions in most of the 20 cycles of FAST we implemented. Open-ended qualitative debriefing interviews were also conducted with implementing partners and staff.

The percent of families initially recruited from the selected classrooms is an indicator of the effectiveness of a school teams's planning and commitment, but also reflects the contextual climate of the school. The percent recruited ranged from 13% to 56% with a median of 30%. Percent of higher-risk families in a cycle shows the team's ability to reach even the hard-to-reach families (percent of focal children "at risk" ranged from 36% to 87%, with a median of 60%). Percent of families who graduated (of those who came to at least one session) also varied considerably, and is an indicator of the team's ability to engage and empower families. Overall, of those who came once, 78% graduated (range from 45% to 100% by cycle of those who came once; 9 cycles saw at least 80% of those families graduate).

The lead Certified FAST Trainer and the Co-principal investigator (program founder) observed each cycle at least once and usually twice. They retrospectively rated each FAST cycle as Ideal, Adequate or Unacceptable using the Program Integrity Checklist (PIC) developed specifically for FAST. All cycles were at least adequate, 80% were ideal. The FAST trainer and Program Coordinator met together and developed two additional constructs to assess implementations: overall team functioning and overall program effectiveness. Each cycle was rated on a scale of 1 (poor) to 10 (excellent). Most rated cycles received a rating of 7 or above on both scales.

Despite the high fidelity ratings, there was a considerable amount of variability in the implementation of the 20 cycles of FAST. This variability was a result of team dynamics, program facilities and support, and group dynamics of participant families. Intensive debriefing interviews were also held (by the PI) with a sample of key implementors of the project in Milwaukee and Washington DC (see next Chapter) , which gives another perspective on the project and its implementation. Results from these qualitative interviews provide specific contextual information which is being used in interpretation of outcomes and for subsequent program improvement.

A good and reliable team leader is essential to an effective FAST team. In one case, a very dynamic minister from Chicago signed on to commute to Milwaukee to facilitate, but quit suddenly after two weeks, leaving the team leaderless in mid-stream for the 8 week program.

Second to team leadership is team composition and dynamics. Program leadership intervened in these problems. FAST is designed to recruit team members who are representative of the population they are serving. In four cases, the team members were not representative: for example, one team at a school serving 98% African American children consisted of three white teachers, a Hispanic parent partner, and three African American community partners. This created tension which culminated when the first session's lottery basket (a reward built into the program) was discovered filled with cleaning materials and bath supplies, offending some with a perceived "symbolic message" which was seen as dis-empowering.

The team's ability to follow the FAST manual was crucial. Although teams were trained adequately, in the debriefing interviews some individuals stated that more training would have been beneficial.

Implementation problems were most often seen with Special Play, one-on-one time between the parent and focal child that is central to the FAST program. At more than one site, team members either interfered with or distracted from Special Play.

Aside from the team and team leader, program facilities and support are important to an effective cycle. Principal (or other school official) support is key. Some principals or vice principals will attend sessions as their time permits, showing interest and encouraging families along the way, while others will not even attend the graduation ceremony. The principal or official is also instrumental in releasing school facilities for FAST use. Problems were encountered in at least one school when the FAST team was temporarily not allowed to use the kitchen facilities.

Finally, the dynamics of the families present can influence the effectiveness of FAST. One of the goals of universal recruitment is to get healthy families together with less healthy families, so they can learn from each other. Our groups always had at least some “healthy” families present. Since families were from the same school, and the same 2 or 3 classrooms, they often knew one another. In some ways this was an added bonus, as they could develop those acquaintanceships into support relationships. In rare circumstances this interfered with the sessions. Family resources were often strained, sometimes to the point that transportation must be provided. In one cycle, what began as a simple solution – hiring a bus and driver – ended up interfering with the program when the bus arrived over an hour late for several sessions. Finally, there were serious difficulties in implementing FASTWORKS (the two year ongoing support program) in most schools, and participation in the program has been uneven across schools.

FAST is a complex program to implement with fidelity, even when well funded with the program founder directly involved. The variability in implementation needs to be taken into account in any within-group analysis of results. Good implementation is considered a prerequisite to program effectiveness (Durlak and Wells, 1997; Gottfredson, Gottfredson and Skroban, 1998). We have coded each cycle of implementation on several critical characteristics of implementation fidelity and process, and have found that these ratings correlate with proximal outcome measures, but are confounded with ethnic/cultural context and are thus difficult to interpret.

Program Participation and Fidelity

Of the 272 families initially agreeing to participate in FAST and signing consent forms for the research, 11% never participated in any FAST session. Among the 241 families who came to at least one FAST session, 189 or 78% participated in at least 5 sessions and were considered program “graduates.” Among those who came at least once, Latino participants were more likely to graduate from FAST (83%) than were African American families (71%).

FASTWORKS, the ongoing monthly parent support/activity program, was difficult to implement in this study. There was less funding than initially requested and a consequent attempt to pair schools to offer joint programs. FAST parents reported that their families attended a mean of 7.1 (s.d.= 6.2) FASTWORKS sessions during the 2 years of follow-up. Latino families reported an average of 9.9 FASTWORKS sessions, compared to 4.0 sessions among African American families.

As in any community implementation of a complex program, a variety of difficulties were encountered. These included FAST team turnover, delayed/late transportation of some families to the FAST sites, and variability in staff performance. Partially as a result of these logistical problem, the lead community agency contract was moved to another agency after the first year. Program fidelity was systematically assessed by a veteran FAST trainer and by the FAST founder, at least one of whom observed at least two sessions of each cycle, and both of whom were involved in training and overall management across cycles. All cycles were judged to have been implemented with acceptable fidelity to the program model. The observers further rated

each cycle on a scale of 1 (poor) to 10 (excellent) on the dimensions of team functioning and overall program quality. (Due to serious illness of the senior trainer, only 15 cycles were so rated). Across the rated cycles, the mean rating for team functioning was 7.5 (s.d.= 2.2), with a range from 4 to 10 and a median of 9. The overall quality rating of the program cycles yielded a mean of 8.1 (s.d.=1.3) and a median of 8. These ratings ranged from 5 to 10. The predominantly Latino cycles were rated the highest on both dimensions—all were rated 9 or 10.

The first 12 cycles were also monitored using the FAST “Program Integrity Checklist,” a structured 12 item rubric completed by the FAST trainer/observer. Results yielded an overall 88.5% of the possible integrity rating points, suggesting that 88.5% of the critical components were implemented as intended across these FAST cycles. Finally, debriefing interviews were held with key implementation staff for each cycle. They were asked to provide an overall rating of the program’s implementation at their site on a scale of 1-10. The mean rating, across respondents from 19 cycles, was 7.3.

Among the FAME participants, only five of the 201 families attended parenting lectures offered. At the time of the post-test, FAME parents reported having read a median of 6 (mean 5.2) of the 8 booklets. At two-year follow-up, the parents interviewed reported they still had a median of 6 (mean 4.9) of these booklets.

CHAPTER 4: Qualitative Process Evaluation

(NOTE: Jacqueline Ward, project consultant, contributed significantly as an interviewer and participated in analysis of the data in this chapter)

In Milwaukee and Washington DC, a total of 49 FAST staff and team members participated in open-ended intensive interviews, conducted by the principal investigator and senior research team members. The interviews were conducted with the aim of recognizing the advantages and faults of the program, and consisted of several open-ended questions that referred to issues such as how FAST fit into the school's culture, how the program was received by families, comfort with training and implementation, and the effect of the program evaluation. Most interviews were, with permission, tape recorded. Detailed notes were kept and immediately edited after each interview, using the tapes as an edit check and to extract verbatim illustrative quotations.

Analysis of these qualitative narrative data sought to identify and summarize emerging themes, assessing breadth and depth of content rather than statistical enumeration.

Training

A recurring comment made by respondents was the need for greater intensity and depth in the training program. One parent partner (who had already been involved in FAST as a participant) noted that, "I think I may have needed to sit in on a FAST as a parent partner, and not as a participant to see exactly what my role would be; what to do, what not to do." The training itself created confusion because of what people perceived in training to be an emphasis on sticking strictly to the FAST program manual – some felt that the technical organization of the program helped diminish confusion concerning how the meetings should progress, but others felt it prohibited FAST from adapting to individual schools and unique situations.

Teams

Another sign that more training is necessary is the confusion that existed within the team. It seemed that team members were unsure of who should be in control, but if someone took charge, often people would resent them for it. However, it was said that to make the program work the team needed one "dynamic" member to lead them.

With more understanding of FAST's goals, often people would put the frustrations they had with the way that the program was being executed to the side and focus on the families that they were interacting with. If all employees could see the benefits of the FAST program from the beginning, they could start out with the appreciation for the program that the staff often would not have until they had already seen changes in the behavior of the children and the parents. As one AODA specialist put it:

"There wasn't enough preparation. I think people, the majority of people come in with the idea, oh yeah, I could use some extra money, you know. And then, they get into the program and the majority of them like, some people just see it as extra money... I didn't feel people were as committed, but I think if the training had been better, people would have gotten a better idea if they had been given. Now that I went to a training in Madison, I realize, I knew it was a good program when I was doing it, now I realize why."

Implementation

Sometimes people did not follow FAST protocols. For example, one employee had the parent meetings in the hallway of the school. This is not ideal because the public location could have interfered with the meeting and inhibited sharing between parents. Things such as this may seem small, but taken together can affect the FAST program in a big way. One teacher enjoyed the “trial-and-error” method that she observed in the FAST program:

“It’s a complicated program.... sometimes, things might not go as well the first couple of, the first maybe one or two sessions, but by the end of the six weeks, then you have everything down pat and you’re ready to start up again and you learn from the errors and you pick up and you go on.”

A common observation was that parents were often disappointed that FAST was ending so soon. FAST and school staff also commented that they felt that something more extensive than FASTWORKS could give families extra time to incorporate aspects of FAST into their everyday lives. One school partner had an idea concerning how the program should end:

“For the families, I think that it should be a gradual thing after the eight weeks, if you’re gonna do the eight weeks thing, you drop ‘em down to every other week before you drop ‘em down once a month. Because you get that one family that’s just on the brink of turning around, and then graduating, and all of a sudden, their support is totally gone until they organize their next activity. And we’re gonna lose that, we’re gonna lose that parent.”

School Staff

One teacher felt that the school staff were really the people who were going to reach the parents, and therefore should be thoroughly educated about the program, regardless of whether their room had been picked for that session of FAST. The extra knowledge that the teachers would have could aid in “selling” the program to parents, and could increase enrollment. A community liaison had a similar opinion concerning who should be educated about the program:

“It has to be introduced for people coming on the outside, coming in, doing a formal presentation to the entire school, because FAST does not just affect the classes that it’s serving, it affects the entire school. So, it should be introduced to every faculty member there, so they are aware of what’s going on in the school.”

Recruitment

Our method of classroom selection was subject to few complaints. Some respondents observed that parents did not like that specific classrooms were chosen for FAME. The FAME parents that staff spoke to would have preferred to participate in FAST, and were disappointed that they did not have the opportunity.

In general, most people liked universal recruitment. One benefit to universal recruitment, as a trainer said, was that, “nobody wants to have an at-risk child, even though they know in their hearts maybe they do,” and within the program it wasn’t obvious which children were at-risk. It was also observed that those who have at-risk children could learn from parents who do not have at-risk children - families with good behavior patterns could be an example for other families.

Those who did not like universal recruitment commented that there were families who were not “at-risk enough” for FAST, who would get bored halfway through the program. There were families for whom special play-like activities were already part of their daily life. FAST is designed to be a repetitive program, which benefits the at-risk families but may not do much for the others.

Role of Research

The research was sometimes a source of irritation for the staff. For some, “just having a research component added on to an already complicated program made it... a little harder.” Quotas that were set up for research purposes could sometimes create stress and confusion among the staff who were recruiting families. Setting up interviews with families also proved to be a source of frustration. The program staff complained that the research staff would come to the FAST sessions to set up interviews. This interfered greatly with the sessions and made some program staff angry – they felt that the research staff had little respect for what they were doing.

Research was impeded by a lack of communication between the research and program staff. Often it seemed that the program staff thought that the researchers should be doing certain tasks that no one was doing. The roles of the research and the program staff needed to be more well-defined, with each knowing what responsibilities they were relying on the other to accomplish. Both groups also needed to fully understand what is happening within the program, especially when talking to parents. It shouldn't occur that one part of the staff tells a parent something without being sure that the information is accurate and that any person involved in FAST would say the same.

The FAST Program Model

- Some felt the program should be longer (10-12 weeks).
- Some commented that having the program all in one language was best, although bilingual programs can work if all the families AND all the staff members are bilingual. In single-language programs, parents can talk to one another better and nothing gets lost in translation. When people can't understand what is going on, they tend to just talk amongst themselves and distract others.
- Programs run in Spanish were seen as a bonus to families who were first generation newcomers to the country. FAST provided a place for them to get their cultural questions answered.
- Strengths of FAST:
 - Involves the entire family
 - Some of the learning/teaching is personalized to the individual child (special play)
 - The meal is culturally important, and important to the family because they are not rushed at home to eat before they come to FAST.
 - Builds bonds between the family and school
 - The instructors and organizers can be (and were in certain schools) good resources for parents

Perceptions of Effectiveness

In general, respondents felt the program was beneficial. Most of the time the staff could look beyond the organizational problems and see that the FAST program was impacting the lives of the families that were involved with FAST. Teachers and school administration noticed that the children were interacting with each other more even outside of FAST and that attitudes with the school improved in general. As one teacher put it:

“The more often they come [to school], they have positive experiences. It doesn’t take a rocket scientist to figure out. They’re going to come back for another activity. And you start to see seeds of that. You start to see some of the parents that I expect after this FAST, the next time we have a PTSO meeting, a few of these FAST families are going to come back. ‘Cause I know some of the families from the first time, you know, are a little bit more involved.”

There was also a lot of praise for parent time. It was observed that the parents were helping each other out; they were giving advice on how to deal with certain behaviors, or sharing information on job opportunities and child care. One team member stated that: “you could just see the bonding that they did. You know, they wanted to see each other. Hugs, you know, friendship, and support, where there wasn’t any before.” Another team member felt that possibly long-term friendships and networks were being formed when she saw the parents exchanging phone numbers and agreeing to talk on a more personal level.

Budget Concerns

The main concern regarding funding was whether or not the schools would be able to continue the FAST program without outside funding. It seems that some attention needs to be paid to how to make FAST able to run, and run effectively, with a smaller budget. The local implementation staff ran into some problems with budgeting FAST even on the well-funded NIDA grant, such as inadequate funds to cover some of the special requests parents had or for supplies that would suddenly be needed.

Summary of Emergent Themes

A summary of the themes that emerged from content analysis of the qualitative debriefing interviews with 49 FAST school team and staff members in both Milwaukee and Washington DC follows.

- X There is universal praise of the program as one which appears to be beneficial and is liked very much by those children and families who are engaged and complete the program. (However, at least two people indicated it was a “feel good” program, questioning whether there would be lasting results.)
- X Teachers and school staff felt FAST added structure to a child's life; the child is calmer in school because of it.
- X There is also a general sense that the program is too expensive given the numbers of families it is able to effectively serve. Recruitment and retention of families is very difficult; smaller numbers of participating families significantly decreases cost-efficiency.
- X The number of families we expected (for purposes of the research sample size) is unrealistic--expecting 8-10 graduates, instead of 12, is more reasonable given the difficulty of recruiting families and the complexities of managing program sessions.
- X Respondents favored universal recruitment, especially in light of the fact that all the kids were "at risk" by virtue of the neighborhoods they lived in. Some DC staff used a combination of universal and targeted recruitment and referral to FAST, which seemed to work well.
- X The team is very important, the team members set the tone of FAST initially. It was very helpful if at least one team member is well trained, experienced, and committed to FAST. Team turnover during the cycle is to be avoided, as it does not help families have a sense of consistency, be engaged, or learn to trust the team.

- X It was not clear to staff what parts of FAST were flexible (e.g. child playtime and FAST song). Some people thought it would be nice to add culturally specific things to the sessions, such as during RAIN, or have cultural dress-up days (there were no specific suggestions).
- X The program is very complicated to run, with many details to manage, including staff and volunteers, supplies, food, facilities, and, of course, families and their children. In addition, families are not used to having to follow so many rules and routines - their lives are more chaotic. Respondents repeatedly talked about the complexity of the program model and their desire that it be simplified and streamlined. However, they were short on viable suggestions to do so--they supported the model as it is.
- X For both the DC program and for Milwaukee (in both the program operation phases and for FASTWORKS), there was sentiment that a full-time coordinator working across sessions and groups was needed to be effective. (This would have required a larger scale operation in DC, however, in order to justify this level of resources.)
- X FASTWORKS *doesn't*...Neither DC nor Milwaukee pulled together regular meetings with more than 2-3 families participating. It is probably not simply a budgeting/infrastructure issue--where we fell short on both projects--but also an issue of family time, priorities, commitment and motivation. Recommendation: We suggest considering FASTWORKS as a **booster program** to be offered once or twice a year. These meetings would practice the FAST routines, re-energize and reconnect people, and maintain links to the school and community agencies. Don't try to meet monthly. Focus staff and parent volunteer energy on getting high rates of participation in the less frequent booster sessions, rather than sustaining regular meetings. We anticipate that this would reduce FASTWORKS costs **and** increase its impact by improving participation and by focusing specifically on FAST activities, rather than whatever parents want to do. Even in sites with ongoing FAST cycles, reconceptualization of FAST WORKS as a semi-annual booster would likely be more cost effective by reaching a higher proportion of graduates than does the current model.
- X And, of course... the research questionnaire was too long. The research--particularly in the Washington site with no local research coordinator-- took up time and energy of the staff, further complicating FAST program operations.

CHAPTER 5: Research Participants and Retention

Participants

Table 1 summarizes the characteristics of the baseline sample. No differences between the FAST and FAME groups were significant at $p < .05$. Approximately two-thirds of the sample reported family incomes below \$20,000 per year. Parental education was almost evenly divided between less than high school, high school graduates, and those with some post-secondary education. About half the parents were currently married at baseline. The focal children were mostly in second and third grade at baseline; predominantly African American or Latino; and there were slightly more females than males. Finally, baseline scores on the CBCL (Achenbach, 1991a&b) suggest that 58% of participating children were at the borderline clinical threshold or higher for externalizing and/or internalizing behaviors as reported by either a parent or teacher, which we defined as “high risk” for purposes of this study.

Table 1 also provides summary information on the major ethnic groups in the study. Differences between ethnic groups are significant (chi-square, $p < .05$) in household income, parent education, parent marital status, child’s grade in school at baseline, and proportion of children borderline or higher on the CBCL. While there were significant differences between ethnic groups, within ethnic groups there were no significant differences between FAST and FAME participants. This is likely due to our within-school randomization.

A final significant difference between ethnic groups, not shown on the table because it is not technically a baseline variable, is school mobility from baseline to our final contact. Mobility, defined as attending more than one school during the study period unless a natural transition (e.g., from elementary to middle school), was 20 percent overall; 33 percent among African American participants, 7 percent among Latino children, and 15 percent among students of “other” ethnicity.

TABLE 1: Participant Characteristics At Baseline*

	FAST (Treatment) N=272 Percent (%)	FAME (Control) N=201 Percent (%)	Ethnicity		
			African American N=219 Percent (%)	Latino N=185 Percent (%)	Other N=61 Percent (%)
Household Income					
Under \$10,000	39	32	41	33	26
\$10,000 to less than \$20,000	31	31	32	34	19
\$20,000 to less than \$30,000	18	18	16	21	14
\$30,000 or more	12	19	11	12	41
Parents Education					
Less than High School	39	35	35	45	25
High school grad or GED	33	35	33	31	37
Some college or tech school	24	25	27	19	28
College graduate or more	4	9	5	5	10

TABLE 1: Continued

	FAST (Treatment) N=272 Percent (%)	FAME (Control) N=201 Percent (%)	Ethnicity		
			African American N=219 Percent (%)	Latino N=185 Percent (%)	Other N=61 Percent (%)
Parent(s) Marital Status					
Married	47	48	24	69	66
Divorced/separated/widowed	17	16	19	13	16
Never married/unmarried couple	36	36	57	18	18
Child's Grade in School					
First	21	20	29	9	25
Second	30	39	31	37	34
Third	42	36	35	45	41
Fourth	7	4	5	9	0
Ethnicity of child					
African American	46	48	NA		
Latino/Hispanic	40	40			
Other	14	12			
Child's Sex					
Male	47	39	43	42	48
Female	53	61	57	58	52
Child Higher Risk					
Borderline or above on CBCL	59	55	65	54	39
Percent FAST	NA	NA	56	57	61

*No FAST/FAME between group differences are significant at $p < .05$. Ethnic groups differ significantly on all measures except sex of child and percent assigned to FAST

Tracking of Families

In spite of the mobility of our population, we were able to maintain a high recapture rate for the four waves of interview data (98% at post, 91% at one year, and 76% at two years). During the program, FAST families attended weekly meetings, and FAME families receive weekly mailings. Additionally, FAST team members are taken from the community, and often already know parents and children who join the program. In planning the project, we incorporated a number of tracking processes which have been found in other research projects to reduce sample attrition at follow-up.

Families were asked to provide contact information at each interview by filling out a "Family Portrait". The form consisted of names and birth dates of all family/household members, and their relationship to the identified child; current address and phone numbers (including cellular phones, car phones and pagers); employment information and phone numbers for each working adult; three contacts (friends or relatives) who would know where the family is living at all times; and community organizations the family/parent belongs to (e.g. church groups, neighborhood groups). The Family Portrait also identified whether the household was

primarily English- or Spanish-speaking. (Future efforts should add email address to the tracking form.) Birthday cards and quarterly bilingual newsletters were sent to everyone who had an address on file, with “address service requested” and first class postage, so that non-deliverable mail was returned with forwarding information if available. Whenever returned mail was received, we began a tracking process. Any new information was coded on a tracking form and verified with the family (which may have required using additional family or school contacts). When a family could not be found even by these means, sometimes the only thing for the interviewer to do was to sit on their front porch until someone shows up. Out-of-area respondents were asked to complete paper and pencil instruments by mail and then to participate in a telephone interview, after which they are sent a check for their time.

The cooperation of the Milwaukee Public School District was invaluable in keeping track of families. With the parent consent form we were able to get current addresses and phone numbers from the school, as well as send notices home with the child. Unfortunately, once parents moved out of the school district (or sent their children to a non-MPS school), we lost the ability to track them through the school system.

The project encountered an unusual obstacle in the form of Wisconsin Works (W-2), Wisconsin’s welfare reform package. Several families in our program experienced cuts in public assistance (they were cut off or unaware of different assistance available), stopped paying rent and were forced to move. This creates a myriad of tracking problems.

Our primary interviewers remained in our employ throughout the study. Families got to know and trust the interviewers, were willing to provide address information to them and were not concerned to hear that they were following up with contacts provided by the family. The interviewers were willing to work with the family’s schedule and meet on nights, weekends, and at any place convenient to the parent. While the expense in human resources for this level of tracking was significant the pay-off in high rates of sample retention was considerable, since attrition bias is a major problem in this type of research.

Retention

As a result of this careful and caring tracking, subject retention in this project has been high in both our control and treatment groups. Nearly all families agreed to participate in the immediate post-program interview. Only 2 families refused; most of the remainder of the missing interviews were families we were unable to locate, or families who were scheduled multiple times but did not show up for any of those interviews. At the one-year follow-up, 8% of the focal children’s families were not interviewed. (Of those families, 30% refused, 30% could not be located by our staff, and 17% moved out of the area; the remaining families were not interviewed because of multiple no-shows, the death of the parent or guardian, or for other reasons.) At the two-year follow-up date there were more refusals and more families had moved; our final retention rate was 76% (Table 2).

Table 2: Participant Retention

	Baseline	Post	One Year Follow-up	Two Year Follow-up
FAST	272	265 (97%)	249 (92%)	216 (79%)
FAME	201	198 (99%)	187 (93%)	143 (73%)

We had originally projected an attrition rate of 40% for the treatment group and 48% for the control group by two years, and had based our original power analysis on that. **Thus we far exceeded the original expectations for subject retention, and maintained adequate statistical power.**

At post-test, both parent and teacher reported data were obtained for 98% (n= 463 of 473) of all baseline participants. At the one-year follow-up, parent interview data were obtained from 92% (n=436) of the participating families, with no differential attrition between FAST and FAME. We did not attempt to obtain data from teachers at one year. At the two-year follow-up, teacher reports required a separate new release form. The two-year teacher data were thus available only on students whose parents completed the two-year follow-up interview (76% of baseline subjects, n=360), and whose teachers subsequently completed the Teacher Report Form (63% of baseline, n=296). Parent data were available on 79% of FAST and 73% of FAME participants (n.s.) at two years, and from 68% of FAST students' teachers and 56% of FAME students' teachers (p =.009). Thus the only differential attrition rate is in the two-year teacher reports, where more FAST than FAME data were obtained.

To further assess attrition, we estimated binary logistic regression models for one-year missing parent interviews and two-year missing teacher follow-ups, including baseline demographic variables as well as baseline child, parent and family level measures as predictors. Only "high risk" status of the child (based on CBCL score) significantly (p < .05) predicted attrition from the one-year interview. At the two-year interview and teacher follow-up, African American families had a significantly higher (p < .05) rate of attrition than other participants (34% versus 16%). Due to the balanced design, there was no significant differential bias between conditions, so internal validity is not affected by this difference.

In order to adjust for missing data due to attrition, an inverse attrition propensity score was calculated for each remaining case based on the logistic regression models. The ML-Win software did not allow use of attrition propensity as a weighting variable as used by McGuigan, et al. (1997) and Guttmacher, et al. (2002); instead, this score was included as a covariate in the final models. The hierarchical model fits marginal distributions, utilizing all available data at each time period and thus optimizing the estimates even with missing data.

CHAPTER 6: Results--Parent, Family and Child Outcomes

Parent Reactions

Among parents who participated in FAST, 58% at post-test (and 66% at two year follow-up) answered “yes” when asked “Did you do anything different with your child as a result of what you may have learned at FAST or FASTWORKS?” At post-test, 90% reported that they had made new friends in FAST, with 57% reporting having made 5 or more new friends. The numbers reporting new friends remained similar at two year follow-up; at two years 29% reported contact frequently or “once in a while” with other FAST families. At the two year follow-up, 70% of the FAST parents reported continuing to do “special play” (Kogan et al., 1972) with their child at least 2 to 3 times a week, and 60% reported also doing special play with another child at home

FAME parents also reported positive, but less long-lasting, impact of their involvement. One-half of the FAME parents at post-test, and 29% at two year follow-up, answered “yes” when asked “Did you do anything different with your child as a result of reading those pamphlets or attending the lecture?” At two years, about 60% of the FAME parents reported still having and using one or more of the booklets as a reference.

A number of questions regarding the influence of FAST or FAME on decisions to obtain services and to make life changes or decisions were also included in the follow-up interviews. These items showed little or no reported influence of FAST or FAME, and no differences between groups in parent attributions of life change to their program involvement.

Mean Outcome Changes over Time

Table 3 provides the means and standard deviations at each measurement point on each of the twelve key variables analyzed for this paper. The general pattern of results that emerges from this table is movement of both the FAST and FAME groups over time in similar directions and of similar magnitude on most of these measures. Parents overall reported significant change ($p < .05$) in a positive direction over time on six of seven variables, while teacher reports suggest negative overall change ($p < .05$) on four of five teacher rated measures.

TABLE 3: MEANS ON DEPENDENT VARIABLES ^a

Variable	Baseline		Post-test		One Year		Two Years		
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.	
Family Attachment									
FAME	32.6	5.6	33.4	4.7	33.5	4.5	33.1	4.9	
FAST	32.8	5.2	33.1	5.2	33.4	4.9	33.7	4.9	
Social Support									
FAME	44.3	8.8	47.6	9.2	48.0	8.9	50.4	10.1	
FAST	44.1	8.8	47.4	9.0	46.9	8.7	48.5	8.6	
Variable	Baseline		Post-test		OneYr		Two Yrs		
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.	
Parent Self-Efficacy									
FAME	116.9	16.0	119.4	14.4	121.2	14.8	126.0	13.2	
FAST	118.7	13.6	120.2	14.5	119.4	15.7	125.2	13.5	

TABLE 3: Continued

Variable	Baseline		Post-test		One Year		Two Years		
	Mean	s.d.	Mean	s.d.	Mean	s.d.	Mean	s.d.	
Parent Involvement with School									
FAME	7.2	4.5	7.9	5.1	6.3	4.5	5.5	3.4	
FAST	7.4	4.4	9.5	4.4	5.7	3.9	5.3	3.7	
Child Internalizing (t-scores)									
Parent: FAME	54.8	11.9	52.4	11.6	51.2	11.6	49.2	9.7	
FAST	53.8	12.1	51.7	12.6	51.0	12.2	49.2	10.4	
Teacher: FAME	49.1	9.8	48.7	10.1	NA	--	50.4	9.9	
FAST	46.9	8.9	46.7	8.6	NA	--	52.3	10.1	
Child Externalizing (t-scores)									
Parent: FAME	55.8	12.8	53.9	13.2	52.1	13.2	50.3	12.6	
FAST	54.4	11.9	53.0	12.9	51.2	13.3	49.2	12.2	
Teacher: FAME	53.2	11.4	53.0	11.0	NA	--	55.4	12.0	
FAST	52.3	9.9	52.5	9.2	NA	--	55.4	10.2	
Child Social Skills (SSRS Std Scores)									
Parent: FAME	93.7	20.0	94.6	22.3	98.0	21.6	105.0	19.4	
FAST	95.8	20.6	97.5	21.9	100.8	21.6	107.2	19.7	
Teacher: FAME	95.9	19.2	98.6	21.1	NA	--	96.5	18.3	
FAST	95.5	17.7	99.0	18.1	NA	--	98.0	17.1	
Academic Performance—CBCL (t-score)									
FAME	46.1	9.0	47.3	10.8	NA	--	43.8	8.0	
FAST	44.5	7.6	46.1	9.4	NA	--	45.8	8.3	
Academic Competence—SSRS (std score)									
FAME	93.4	12.6	92.7	12.1	NA	--	91.1	12.7	
FAST	93.4	12.0	94.0	12.9	NA	--	93.6	12.0	

a. All available data included. N's vary by wave and measure. Maximum n =272 FAST and 201 FAME families.

Hierarchical Linear Models

A two-level fixed occasion repeated measures hierarchical linear model was fit to the data for each outcome. Table 4 provides the results for FAST (relative to the control group, FAME) from these models in which the random effects of family/student are nested within cycles of FAST or FAME. All models have been adjusted for the baseline value of the dependent measure (covariate), as well as for family income, parent educational attainment, parent marital status, student sex and grade in school, and student baseline CBCL risk level. The full sample models also include indicator variables for ethnicity. These mixed effects models use the GEE procedure which retains all available data at each measurement point (thus the effective sample size varies by data point). In order to compensate for attrition over time, the inverse attrition propensity score calculated for each participant at one and two-year follow-ups was also incorporated as a covariate adjustment in the models.

The results for FAST at each occasion, net of the effect (if any) of the covariates and adjustment variables and accounting for the dependencies between participants within cycles and within participants over time, are provided in Table 4. For the full sample, which includes all participants in this study, three coefficients are significant for FAST at the conventional .05 level of statistical significance. At post-test, FAST parents' involvement with school was significantly higher than that of FAME parents (Figure 1). Relative to FAME, FAST families scored lower on the social support index at two-year follow-up (effect size= -0.20) (Figure 2). Finally, FAST students' academic performance on the CBCL was rated significantly higher by their teachers, who were blind to condition, than that of FAME students at two-year follow-up (e.s.= 0.24) (Figure 3).

TABLE 4: Results for FAST of Fixed Occasion Repeated Measures Hierarchical Regression Models^a

Variable	Post-test		One Year		Two Years	
	Coefficient	s.e.	Coefficient	s.e.	Coefficient	s.e.
Family Attachment						
Full Sample	-0.39	(0.50)	- 0.29	(0.51)	0.73	(0.54)
Effect Size			- 0.01		0.12	
African Am.	-0.20	(0.77)	-0.54	(0.72)	0.38	(0.71)
Latino	-0.99	(0.99)	-0.17	(0.74)	0.78	(0.87)
Social Support						
Full Sample	-0.51	(0.81)	- 1.47	(0.85)	- 2.23*	(0.91)
Effect Size			-0.12		-0.20	
African Am.	0.25	(1.20)	0.16	(1.10)	- 2.32	(1.24)
Latino	-3.05*	(1.32)	-2.29	(1.30)	- 2.94	(2.14)
Parent Self-Efficacy						
Full Sample	0.62	(1.89)	- 2.71	(2.25)	- 2.62	(1.84)
Effect Size			-0.12		-0.07	
African Am.	1.08	(1.56)	-1.66	(2.50)	0.07	(2.04)
Latino	0.68	(4.73)	-3.98	(3.94)	-2.47	(2.76)
Parent Involvement with School						
Full Sample	1.63*	(0.59)	- 0.49	(0.50)	- 0.10	(0.42)
Effect Size			-0.14		-0.04	
African Am.	1.32	(0.75)	-0.75	(0.70)	- 0.18	(0.79)
Latino	1.08	(0.83)	0.62	(0.66)	0.91	(0.61)
Child Internalizing						
Parent						
Full Sample	-0.60	(1.22)	0.69	(1.25)	0.17	(1.18)
Effect Size			0.02		0.04	
African Am.	-2.19	(1.51)	-0.22	(1.70)	- 0.72	(1.82)
Latino	1.88	(2.00)	0.92	(1.64)	0.86	(1.54)
Teacher						
Full Sample	0.10	(0.86)	NA	--	2.18	(1.57)
Effect Size					0.19	
African Am.	-1.08	(1.42)	NA		4.65*	(1.70)
Latino	2.94*	(1.42)	NA	-	- 0.83	(2.19)
Child Externalizing						
Parent:						
Full Sample	-0.13	(1.33)	0.52	(1.50)	0.25	(2.00)
Effect Size			-0.09		-0.05	
African Am.	-0.24	(1.50)	0.31	(1.86)	- 2.41	(1.91)
Latino	3.52	(1.86)	2.63	(1.58)	3.26*	(1.46)

Table 4 Continued

Variable	Post-test		One Year		Two Years	
	Coefficient	s.e.	Coefficient	s.e.	Coefficient	s.e.
Teacher:	-0.41	(0.82)	NA	--	0.37	(1.32)
Full Sample Effect Size					0.00	
African Am.	0.22	(1.11)	NA	--	1.88	(2.02)
Latino	0.48	(1.21)	NA	--	- 4.67 **	(1.57)
Child Social Skills						
Parent:	0.31	(2.81)	-1.29	(2.41)	0.26	(2.25)
Full Sample Effect Size			0.10		0.11	
African Am.	-1.11	(1.51)	- 0.21	(2.35)	0.64	(1.76)
Latino	0.76	(2.76)	-1.29	(2.12)	- 0.32	(1.72)
Teacher:	0.59	(1.68)	NA	--	2.64	(3.25)
Full Sample Effect Size					0.08	
African Am.	1.84	(1.68)	NA	--	- 0.72	(3.41)
Latino	0.68	(2.38)	NA	--	4.52*	(2.12)
Academic Performance						
Full Sample Effect Size	-0.11	(0.84)	NA	--	2.49*	(0.98)
African Am.	1.09	(0.83)	NA	--	- 0.30	(1.14)
Latino	-0.30	(1.12)	NA	--	2.62	(1.53)
Academic Competence						
Full Sample Effect Size	1.78	(0.95)	NA	--	0.86	(1.64)
African Am.	1.04	(0.93)	NA	--	-0.52	(1.48)
Latino	0.85	(1.11)	NA	--	2.48	1.64

a. All cases with data at each time point included using GEE modeling. Coefficients are provided for the fixed effect of FAST (relative to comparison group, FAME) obtained from fitting fixed occasion repeated measures hierarchical regression models. Random effects of family/student are nested within cycle of FAST or FAME implementation. All models have been adjusted for baseline value of dependent measure, for family income, parent education, parent marital status, student sex and grade in school, and student baseline (CBCL) risk level. Full sample models also include covariate adjustment for race/ethnicity and are adjusted at one and two year follow-up using inverse attrition propensity scores to compensate for missing data due to attrition. Effect sizes calculated at one and two years.

* P < .05

** P < .01

Figure 1: Parent Involvement with School

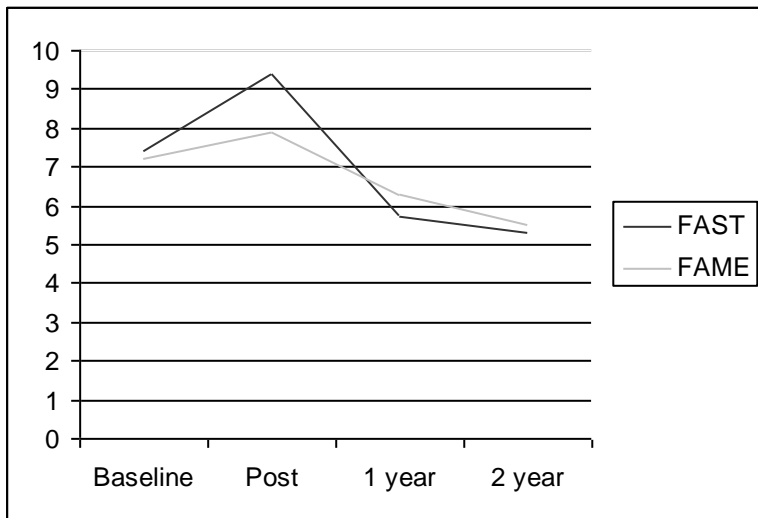


Figure 2: Social Support Index

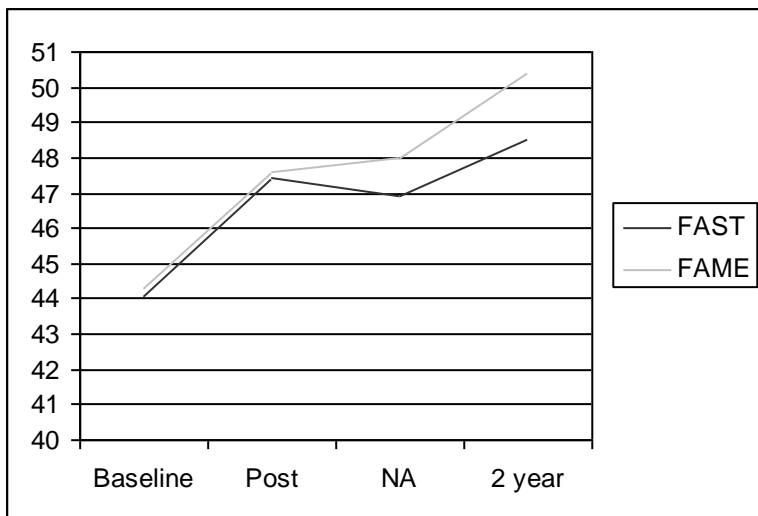
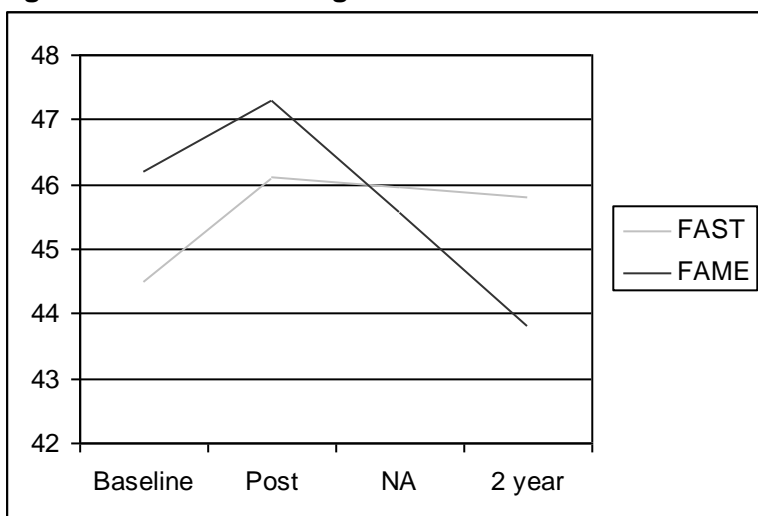


Figure 3: Teacher Rating of Academic Performance on CBCL



Ethnic Subgroup Analyses

The subgroup analyses (also shown in Table 4) for the African American participants in this study yield only one significant result for the comparison of FAST and FAME groups. Teachers at two-year follow-up rate the African American FAST students as significantly higher in Internalizing than the African American FAME students, a negative result contrary to the expected outcome.

Results of the separate analysis of the Latino participants are also presented in Table 4 (see also McDonald et al., 2006).

Latino FAST families scored significantly lower than Latino FAME families on social support at the immediate post-test. The negative coefficient remained but did not reach significance over the remaining waves of data collection. Also on the immediate post-test, teachers rated Latino FAST children higher than Latino FAME children on Internalizing problems. This difference was not maintained at the two-year follow-up. At two years, Latino parents rated FAST children significantly higher than FAME children on Externalizing. Teachers, blind to condition, provided the reverse result on this measure, rating FAST children lower than FAME children on the CBCL externalizing scale at two years. Teachers also rated Latino FAST children significantly higher than Latino FAME children on social skills at two years. As in the full sample, parents rated both FAST and FAME children as improved on social skills, but the groups did not differ significantly from one another at two years. The significant overall result of FAST on teacher ratings of academic performance did not reach $p < .05$ in the Latino subsample in this analysis. However, with a slightly different modeling approach (reported in McDonald et al., 2006), the $p < .05$ threshold was reached on this measure. This marginality and instability of estimation is not surprising given the relatively small effect size (0.24) for this measure which is slightly below the effect size (0.25) used in the initial power analysis for the overall study.

Hierarchical Modeling—A comment

While hierarchical modeling adjusts the standard errors in the models to reflect the dependencies inherent in cluster sample selection, this analytic approach provided limited substantive contribution to interpretation of these data. In general, there was little significant effect of the grouping variable of program cycle in these data, and little variability over time attributable to cycle. Results from single-level models, run as OLS regression and as repeated measures ANOVA, did not substantively differ from the results attained with these more complex models, and yielded nearly identical conclusions regarding mean program effects.

Standardized Academic Test Scores

Standardized data were obtained from central MPS files and matched with interview and survey data on most students in the study. Excluded are students who had moved to another school district or whose parents refused to sign the necessary release form. Analysis of means shows no effect of FAST versus FAME on these data (Table 5).

Table 5: Standardized Test Scores Two Years After FAST

Test	FAST		FAME	
	Mean (s.d.)	N	Mean (s.d.)	N
WRCT Grade 3 Reading Raw Score	48.5 (10.8)	188	49.5 (10.8)	142
WKCE Grade 4 Reading scale	633.6 (32.9)	157	637.5 (34.2)	130
WKCE Grade 4 Mathematics Scale	624.1 (31.9)	159	628.4 (34.9)	131
WKCE Grade 4 Science Scale	630.1 (35.9)	156	631.7 (35.4)	132

(No significant differences)

Further analysis estimated the effect of condition (FAST relative to FAME) using linear regression on the 3rd grade reading score and 4th grade Wisconsin Knowledge and Comprehension Examination (WKCE) scores. Control variables included gender (boy=1) and semesters between the program and the academic tests. The regression included the scholastic tests only for the first time taken - repeats from students held back were left out. The results are reported in Table 6 and show no significant effect of FAST relative to FAME. There was no significant difference between FAST and FAME in the percent who had repeated a grade (*Chi-square*²=.432, 1 d.f.)

TABLE 6: Standardized Test Score Comparison Results

Test		N	P	
			FAST	Boy
3 RD GRADE READING		301	.587	.894
4 TH GRADE Wisconsin Knowledge and Comprehension Exam	Reading	275	.269	.185
	Language	275	.353	.049
	Math	275	.211	.534
	Science	275	.418	.520
	Social studies	275	.205	.581
	Writing	275	.607	.003
4 TH GRADE SUPERA (Spanish)	Reading	65	.487	.064
	Language	65	.449	.463
	Math	65	.955	.281

These data fail to demonstrate any differential effect of FAST over FAME on standardized test scores. Boys scored significantly lower than girls on language and writing.

Since there was a significant teacher-rated effect on CBCL academic performance at two year follow-up, we correlated the academic performance and academic competence measures as rated by teachers with student test scores. The results are shown in Table 7.

Table 7: Correlations between 2-year TRF and SSRS scores and Standardized Test Scores

	Academic Performance (TRF)	Academic Competence (SSRS)
3 rd grade reading	.381	.386
4 th grade reading	.427	.389
4 th grade language	.479	.462
4 th grade math	.338	.330
4 th grade science	.369	.305
4 th grade social science	.277	.286
4 th grade writing	.301	.332

All Correlations are significant at the 0.01 level (2-tailed)

While these correlations are all positive and significant, the absolute magnitude is moderate and a great deal of variability between measures remains. Thus each measure may capture some common variance and some unique variation, and positive results on one measure are not negated by lack of results on another.

Children’s Court Contacts

With permission from parents, FAST and FAME participant lists were checked against county children’s court records at the time of the two-year follow-up. There was no significant difference between the number of FAST and FAME children who had been involved with the children’s court. When we received the original list of ‘hits’, there was concern that substantiated claims were not identified separately from dismissed cases - however, upon more detailed observation all but one or two of the ‘hits’ were legitimate. Of the FAST court contacts, 64% were program “graduates,” statistically the same as in the full sample of participants in the research.

Table 8: Involvement with Juvenile Justice System

	Court Involvement	No court involvement
FAST	26 (9.5%)	247 (90.5%)
FAME	18 (9.0%)	182 (91.0%)

Chi-square = .846, 1 d.f., n.s.

Thus while both groups changed significantly over time, evidence for a difference in the relative mean effectiveness of FAST over FAME by two-year follow-up was minimal. Two significant results at two-year follow-up emerge for the overall sample. Relative to FAME, FAST families scored lower on the social support index (e.s.= -0.20), and FAST students’ academic performance was rated significantly higher by their teachers than that of FAME students (e.s.= 0.24). Other measures failed to provide evidence of an overall effect of FAST.

Chapter 7: WASHINGTON, D.C. FAST

Supplemental funding added six implementations of the program in Washington, D.C. elementary schools (Noyes, Wilson and Langdon), targeting 50 families and their children.

Families in FAST-DC attended eight weeks of Saturday sessions. Following the eight-week program, families who ‘graduate’ were to participate in two years of monthly self-help groups designed to build social networks and neighborhood cohesiveness. A local non-profit family service agency, Family and Children Services, Inc. (F&CS), contracted with the University of Wisconsin to staff and manage the program and collect all evaluation data. The budget did not allow for an on-site research coordinator.

The research in the Washington D.C. site attempted to measure immediate post-test and one year effects of FAST on youth and their families, using the same measures as used in the Milwaukee study. The Milwaukee control sample (one year follow-up) was used for comparison purposes. There was no comparison group in Washington DC.

Process data on program implementation and participation was collected during on-site trips by Wisconsin-based research staff, by the FAST trainer, and by telephone.

Implementation in Washington DC

Implementation was delayed when the federal OHRP required that a local IRB review the protocol for the Washington DC schools rather than using the UW-Madison as the IRB of record. A commercial IRB was engaged to review the protocol. Implementation occurred in 1997-98 and in 1998-1999 school years. FAST is complex program to implement with fidelity, even when well funded with the program founder directly involved, and the distance from Madison WI to Washington DC further complicated the implementation.

Recruitment was more difficult in D.C. than it was in Milwaukee. It was harder to get families to show up, and harder to get them to stay in the program if they did attend. Getting a family to go to 2 sessions in a row was considered an accomplishment. As one team member said, “Things are so bad [in the community], if they [the families] do nothing, they won’t get any worse.” Team members felt that 8-10 families should be the maximum because of the difficulty in recruiting, as well as the high ratio of children to adults. It was mentioned that in that area, schools have had past problems with coordinators and programs, so they are wary.

The Washington DC teams used a combination of open and targeted recruitment (all kids were considered high risk). Open recruitment included talks to classrooms, letters home, lunches/dinners at the school and booths at school events like parent-teacher conferences. Targeted recruitment refers to children whom the teacher identified or who were referred by guidance counselor.

The 1998-99 FAST teams were very well trained. The 1999-00 teams included many new people, but retained enough veterans to hold things together programmatically. The main coordinator was invested in the program, but the ‘higher-ups’ at F&CS were not as interested in FAST as they were in some of the other programs they were running. At times, budgeting and getting budget information was a concern. F&CS was closed on Saturdays, which is when the FAST cycles were held, so no resources from that office were available the day of the session.

In debriefing interviews, local staff reported that having FAST based in the school was important; most families live nearby so transportation is easier, and it is a place where families feel somewhat comfortable. However, it was difficult to get people to attend Saturday sessions; staff reported beginning to call homes at 9:30 a.m. to get people up for the 11 a.m. session.

Data Collection/Retention

A total of 6 cycles of FAST were ultimately provided. A total of 50 families were recruited *and* completed a baseline interview, although more may have attended at least some sessions of the program. Baseline CBCL Teacher Rating Forms (TRFs) were collected from teachers for 33(66%) children. Only 31 (62%) parents and 30 (60%) children completed post-program interviews, and 19 TRFs were returned (38%). One year follow-up data was inappropriately tracked at F&CS, and was available only on 22 families. While of doubtful utility, results from the follow-up are included here. Thus our primary analysis examined the pre and post-program data (n=31 cases).

Retention at post-program was considerably less than Milwaukee's 98% rate. Of the original sample, 63% of parents and 60% of the children completed a post interview, and 38% of teachers turned in a survey. For the first three cycles, retention at one year is similar to the immediate post-program period. Just over 60% of parents and children completed the interview (we did not attempt to collect teacher surveys). However, because of personnel turnover and mismanagement of records at the D.C. office, one year data ultimately were not collected for cycles 4 and 5, in spite of several efforts over an extended time frame. Of the original baseline sample then, the one-year retention rate is 44%.

Table 9: Research Retention—Washington DC Site

	Pre			Post			1Yr	
	Parent	Child	TRF	Parent	Child	TRF	Parent	Child
Cycles 1-3	36	35	33	22	22	19	22	22
Cycles 4-6	14	13	0	9	8	0	0	0
	50 (100%)	48 (96%)	33 (66%)	31 (63%)	30 (60%)	19 (38%)	22 (44%)	22 (44%)

There does not appear to be any significant differences between those we lost and those we kept in the sample (TABLE 9). However, due to the small size of the sample statistical tests between groups may be unreliable.

Comparison Data at Baseline

There was no comparison group on site. The participants in the D.C. FAST program were primarily African American, low-income inner city families, similar to a subgroup of our sample at the Milwaukee site. For analysis purposes we used the Milwaukee African American families assigned to the control group (FAME). This group primarily consists of children from classrooms randomly assigned out of a matched pair (one classroom to FAME, one to FAST) within mostly African American schools in low income, inner city neighborhoods. FAME is a typical service control condition of bibliotherapy families received mailed written materials on parenting issues and were invited to a parenting lecture.

There are no significant demographic differences (using Chi-square) between the D.C. FAST group and the Milwaukee comparison group (TABLE 10). However, due to the small size of the sample statistical tests between groups may be unreliable.

TABLE 10: DEMOGRAPHICS IN FINAL SAMPLE (THOSE WHO COMPLETED 1 YR INTERVIEW)

		MILWAUKEE	WASHINGTON, D.C.	
		FAME	FAST	TOTAL
		N = 89	N = 22	
Marital Status				
$Ch^2 = .208$	Married	22%	10%	19%
	Single	78	90	81
Gender of Child				
$Ch^2 = .221$	Girl	55	70	58
	Boy	45	30	42
High Risk *				
$Ch^2 = .600$	No	39	46	41
	Yes	61	55	59
Hours work/wk				
$Ch^2 = .218$	None	28	38	30
	1 to 30 hours	12	19	14
	31 to 50 hours	44	19	39
	51 or more hours	16	24	17
Parent Education				
$Ch^2 = .192$	Grades 1-8	7	5	6
	Some HS	25	18	24
	HS Grad/GED	34	50	37

Some College	27	18	26
College Grad	6	5	6
Post Grad	1	5	2

Household Income

$Chi^2 = .253$

Under \$10,000	38	58	42
\$10 to under \$20,000	37	16	33
\$20 to under \$30,000	14	11	13
\$30,000 or more	11	16	11

Dependent Measures

Between-group differences on dependent variables were not significant at baseline except for parent-school involvement. Milwaukee FAST parents reported significantly higher pre-program involvement with their child's school ($p=.003$; TABLE 11, 1st column). School involvement was measured as how often the parent attended school functions, such as conferences and special events, and how much contact the parent had with school personnel.

Between-Group Differences T-test

There were no measurable differences between the FAST and FAME groups at the immediate post-program interview (TABLE 11, 2nd column).

There were several significant between-group differences in the one-year post program data (TABLE 11, 3rd column). The D.C. FAST group showed significantly higher family attachment ($p=.031$), control ($p=.001$), and commitment ($p=.000$). Milwaukee FAME parents reported higher self efficacy ($p=.048$), better mental health (on the SF-12) ($p=.000$) and less ethnocentric opinions ($p=.000$). Considerable within group change over time is also documented in table 11.

TABLE 11: Means On Dependent Variables At Baseline, Post-Program And One Year (D.C. Fast N= 22, Milwaukee Fame N= 89)

Variable	Baseline		Post-test		One Year		t1 to t3 Paired T
	Mean	s.d.	Mean	s.d.	Mean	s.d.	
Family Social Support							
FAST DC	43.0	8.6	46.7	6.8	45.2	7.8	1.22
FAME MKE	43.8	8.9	46.5	8.6	46.7	8.0	3.59** *
Family Cohesion							
FAST DC	6.6	2.3	6.9	2.1	6.9	2.5	1.18
FAME MKE	7.2	1.7	7.0	1.8	7.3	1.5	0.03
Family Attachment							
FAST DC	31.2	6.7	30.0	7.0	30.5	4.2	0.63
FAME MKE	31.8	5.9	32.2	4.4	32.7	4.1	1.87+
Family Control							

FAST DC	11.7	4.1	10.7	3.0	8.3	4.6	3.10**
FAME MKE	12.1	3.5	12.0	3.4	12.3	3.5	0.53
Family Challenges							
FAST DC	12.4	3.7	12.1	3.9	11.3	2.1	1.60
FAME MKE	12.5	3.2	12.6	2.9	12.6	3.1	0.44

TABLE 11: Continued

Variable	Baseline		Post-test		One Year		t1 to t3 Paired T
	Mean	s.d.	Mean	s.d.	Mean	s.d.	
Family Commitment							
FAST DC	18.5	4.4	18.3	3.1	17.0	2.2	1.59
FAME MKE	19.8	3.2	19.2	3.2	19.5	3.5	0.92
Family Problem-Solving Communication							
FAST DC	20.8	5.7	20.1	6.3	20.1	3.7	0.51
FAME MKE	20.8	4.3	21.2	4.5	21.4	5.0	1.34
Parent Self-Efficacy							
FAST DC	112.3	15.1	113.4	14.6	112.7	14.6	0.13
FAME MKE	117.3	15.7	118.3	13.3	119.3	13.6	0.91
Parent *Ethnocentricity*							
FAST DC	10.2	3.0	10.7	3.2	15.2	3.2	5.02** *
FAME MKE	11.1	3.4	11.3	3.0	11.2	3.3	0.09
Parent Mental Health							
FAST DC	49.9	12.5	45.8	9.6	42.0	8.6	2.98**
FAME MKE	47.9	10.2	47.9	9.5	49.7	8.8	1.38

Parent Evaluation of School							
FAST DC	14.2	3.8	14.3	3.1	18.7	4.6	4.50** *
FAME MKE	13.8	3.6	14.6	4.1	14.9	4.9	2.00*
Parent Involvement with School							
FAST DC	10.9	5.6	11.2	6.3	8.6	6.1	1.48
FAME MKE	7.4	4.4	8.7	6.0	6.8	4.9	1.18
Child Social Skills							
FAST DC	94.6	16.9	84.3	20.1	97.0	22.1	0.01
FAME MKE	86.6	17.1	84.9	17.9	89.6	19.1	1.98+
Child Internalizing Behaviors							
FAST DC	50.9	15.9	50.3	12.0	44.3	14.9	2.21*
FAME MKE	55.1	12.1	54.2	12.5	53.1	12.5	1.48
Child Externalizing Behaviors							
FAST DC	54.5	13.2	52.7	13.0	44.0	15.4	2.89**
FAME MKE	59.6	12.6	58.9	13.3	57.5	13.5	1.73+

Pre-post change based on paired t-test: + $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Linear Regression

We looked for significant effects of FAST at the immediate and one year post-program interviews, using baseline score (centered) as a covariate and controlling for parent education and marital status, household income, gender of focal child and whether the child was *high risk* based on teacher and parent reports of baseline behavior.

There were no significant immediate post-program effects seen with this basic regression (TABLES 12a, 12b, 12c). Several variables showed change for the one year follow-up (TABLES 13a, 13b, 13c). There were positive effects for FAST DC (relative to FAME MKE controls) seen on school evaluation by parent and parent assessment of their child's externalizing behaviors. FAST DC parents also reported an increase in ethnocentric sentiments. Positive effects for the Milwaukee FAME group (or in terms consistent with the hypotheses being tested, *negative effects* for DC FAST relative to Milwaukee FAME) were seen on family attachment, control, challenges, and commitment, as well as parent mental health. These results are not duplicated when we run the same regressions using the African American FAST families in Milwaukee instead of D.C.

Given the selectivity bias entailed in low follow-up rate in DC, as well as the small sample size and hence limited power, we conclude that these results, particularly for the one-year follow-up, are uninterpretable.

TABLE 12a : Linear Regression On Immediate Post-Program Data

(Washington, D.C. FAST: N = 31 ----- Milwaukee FAME: N = 91*)

		FAMILY VARIABLES						
Dependent Variable:		Social Support	Cohesion	Attachment	Control	Challenges	Commitment	Problem-solving Communication
Fixed Effects:	Constant	45.1 (2.0)	8.4 (0.7)	31.9 (1.3)	12.5 (0.8)	12.2 (0.8)	19.9 (0.8)	20.4 (1.2)
Covariate	T1 Centered	0.7 (0.1)	0.4 (0.1)	0.4 (0.1)	0.6 (0.1)	0.5 (0.1)	0.4 (0.1)	0.6 (0.1)
Parent:	Unmarried	2.0 (1.9)	-1.4 (0.7)	-0.7 (1.2)	-0.3 (0.7)	0.4 (0.7)	-1.3 (0.7)	-0.2 (1.1)
	Low Income	-0.7 (1.5)	0.4 (0.5)	0.4 (1.0)	0.1 (0.6)	0.8 (0.6)	1.3 (0.6)	0.8 (0.9)
	Low Education	-1.1 (1.6)	0.1 (0.5)	-0.3 (1.0)	-0.5 (0.6)	-0.8 (0.6)	-1.6 (0.6)	-0.2 (1.0)
Child:	Male	0.1 (1.4)	-0.2 (0.4)	-0.6 (0.9)	0.2 (0.5)	-0.1 (0.5)	0.4 (0.5)	0.5 (0.8)
	High Risk	0.7 (1.5)	-0.8 (0.5)	1.2 (1.0)	-0.4 (0.6)	0.2 (0.6)	-0.2 (0.6)	0.1 (0.9)
Program Effects:	FAST DC vs FAME MKE	2.2 (1.8)	0.8 (0.5)	-0.1 (1.1)	0.1 (0.7)	0.0 (0.7)	-0.3 (0.7)	0.1 (1.1)

* For the family cohesion scale, N = 31 for Milwaukee FAME & N = 28 for D.C. FAST.

TABLE 12b : Linear Regression On Immediate Post-Program Data

(Washington, D.C. FAST: N = 31 ----- Milwaukee FAME: N = 91)

		PARENT VARIABLES				
Dependent Variable:		Self Efficacy	Ethnocentricity	Mental Health	School Evaluation	Involvement w/School
Fixed	Constant	120.2	12.2	48.5	14.9	8.1
Effects:		(3.0)	(0.7)	(2.4)	(1.1)	(1.4)
	T1 Centered	0.5	0.4	0.5	0.3	0.6
	Covariate	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Parent:	Unmarried	-2.5	-0.9	1.0	-0.4	0.4
		(2.8)	(0.7)	(2.3)	(1.0)	(1.3)
	Low Income	0.6	0.0	-1.4	-0.7	0.9
		(2.3)	(0.6)	(1.8)	(0.8)	(1.1)
	Low Education	-3.0	0.2	1.9	0.6	1.0
		(2.3)	(0.6)	(1.9)	(0.8)	(1.1)
Child:	Male	1.6	0.1	-1.1	-0.1	0.0
		(2.1)	(0.5)	(1.7)	(0.8)	(1.0)
	High Risk	-0.8	-0.7	-1.7	0.4	-0.3
		(2.1)	(0.5)	(1.7)	(0.8)	(1.0)
Program	FAST DC vs	0.1	1.0	-0.5	0.2	0.6
Effects:	FAME MKE	(2.6)	(0.7)	(2.2)	(1.0)	(1.3)

TABLE 12c : Linear Regression On Immediate Post-Program Data

(Washington, D.C. FAST: N = 31 ----- Milwaukee FAME: N = 91)

		CHILD VARIABLES		
Dependent Variable:		Child Social Skills	Child Internalizing	Child Externalizing
Fixed	Constant	86.7	54.3	57.3
Effects:		(4.3)	(2.6)	(2.6)

	T1 Centered	0.6	0.7	0.7
	Covariate	(0.1)	(0.1)	(0.1)
Parent:	Unmarried	0.9 (4.0)	-2.1 (2.4)	-2.1 (2.3)
	Low Income	-2.6 (3.2)	3.9 (1.9)	3.8 (1.8)
	Low Education	-0.1 (3.3)	-4.1 (2.0)	-0.2 (1.9)
Child:	Male	2.2 (2.9)	-0.1 (1.8)	-1.0 (1.7)
	High Risk	-3.0 (3.1)	1.4 (2.1)	2.0 (2.4)
Program	FAST DC vs	0.1	-2.1	-2.1
Effects:	FAME MKE	(3.4)	(2.3)	(2.2)

TABLE 13a : Linear Regression On One Year Post-Program Data

(Washington, D.C. FAST: N = 22 ● Milwaukee FAME: N = 89*)

		FAMILY VARIABLES						
Dependent Variable:		Social Support	Cohesion	Attachment	Control	Challenges	Commitment	Problem-solving Communication
Fixed Effects:	Constant	47.7 (2.0)	8.8 (0.7)	33.0 (1.0)	12.7 (1.0)	13.4 (0.7)	20.8 (0.9)	23.2 (1.3)
	T1 Centered	0.6 (0.1)	0.4 (0.1)	0.4 (0.1)	0.4 (0.1)	0.5 (0.1)	0.3 (0.1)	0.4 (0.1)
Covariate	Unmarried	-0.6 (1.8)	-1.0 (0.6)	-0.1 (0.8)	-1.1 (0.9)	0.2 (0.6)	-1.5 (0.8)	-0.5 (1.1)
	Low Income	0.9 (1.4)	0.9 (0.5)	-1.0 (0.7)	0.3 (0.7)	0.6 (0.5)	1.6 (0.6)	-0.5 (0.9)
Parent:	Low Education	-3.0 (1.5)	-0.2 (0.5)	-0.9 (0.7)	-1.3 (0.7)	-1.5 (0.6)	-1.2 (0.7)	-0.6 (1.0)
	Male	-0.1 (1.3)	-0.7 (0.5)	0.5 (0.7)	0.7 (0.7)	-0.8 (0.5)	-0.7 (0.6)	-1.5 (0.9)
	High Risk	0.5 (1.4)	-1.3 (0.5)	0.1 (0.7)	0.4 (0.7)	-0.5 (0.5)	-0.5 (0.6)	-0.9 (0.9)
Program Effects:	FAST DC vs FAME MKE	-0.3 (1.8)	-0.5 (0.5)	-1.5 (0.9)	-3.5 (0.9)	-1.7 (0.7)	-2.3 (0.8)	-1.1 (1.2)

- For the family cohesion scale, N = 32 for Milwaukee FAME & N = 20 for D.C. FAST.

TABLE 13b: Linear Regression On One Year Post-Program Data

(Washington, D.C. FAST: N = 22 ● Milwaukee FAME: N = 89)

		PARENT VARIABLES				
Dependent Variable:		Self Efficacy	Ethnocentricity	Mental Health	School Evaluation	Involvement w/School
Fixed	Constant	120.4	11.4	50.0	14.9	7.0
Effects:		(3.6)	(0.9)	(2.3)	(1.3)	(1.4)
	T1 Centered	0.4	0.3	0.4	0.5	0.3
	Covariate	(0.1)	(0.1)	(0.1)	(0.1)	(0.1)
Parent:	Unmarried	-5.4	-0.3	-1.4	-0.3	-1.0
		(3.2)	(0.8)	(2.1)	(1.2)	(1.3)
	Low Income	3.7	0.1	0.5	1.1	1.1
		(2.7)	(0.7)	(1.7)	(1.0)	(1.0)
	Low Education	-6.4	0.4	-0.7	-0.9	-1.2
		(2.8)	(0.7)	(1.8)	(1.1)	(1.1)
Child:	Male	3.3	0.0	2.0	0.0	1.6
		(2.5)	(0.6)	(1.6)	(0.9)	(1.0)
	High Risk	3.1	-0.3	0.3	0.2	0.2
		(2.7)	(0.6)	(1.7)	(1.0)	(1.0)
Program	FAST DC vs	-5.7	4.3	-7.4	4.0	0.6
Effects:	FAME MKE	(3.4)	(0.8)	(2.1)	(1.3)	(1.4)

TABLE 13c: Linear Regression On One Year Post-Program Data

(Washington, D.C. FAST: N = 22 ● Milwaukee FAME: N = 89)

		CHILD VARIABLES		
Dependent Variable:		Child Social Skills	Child Internalizing	Child Externalizing
Fixed	Constant	89.7	50.8	56.4
Effects:		(5.4)	(3.3)	(3.6)

	T1 Centered	0.5	0.5	0.6
	Covariate	(0.1)	(0.1)	(0.1)
Parent:	Unmarried	1.3 (4.9)	-0.3 (3.0)	-1.0 (3.1)
	Low Income	-1.6 (4.0)	-0.1 (2.5)	-0.2 (2.6)
	Low Education	1.2 (4.1)	1.2 (2.6)	1.4 (2.7)
Child:	Male	3.0 (3.6)	2.3 (2.3)	-0.4 (2.4)
	High Risk	-2.8 (3.9)	1.5 (2.6)	1.8 (3.4)
Program	FAST DC vs	1.8	-5.2	-9.4
Effects:	FAME MKE	(5.0)	(3.1)	(3.3)

SUMMARY—Washington DC FAST

Implementation of the DC program was difficult due to a lack of consistent on-site program and research staff over the anticipated three year project, and no on-site dedicated researcher. Contextual difficulties in the school district also impacted negatively on program implementation. FAST is a complex program to implement under the best of circumstances, and in this context encountered many difficulties. The primary impetus for the DC site was to bring programming to the city, and the research aim was a secondary vehicle to allow program implementation.

Five cycles of the FAST program were implemented, with (at least) 50 families participating. Data on extent of family participation were not consistently maintained at the DC site. Post-test data from 31 parents did not indicate significantly different change, relative to the African American control group from pre to post-test in Milwaukee. One-year follow-up tracking and data collection in Washington DC was inadequate for placing confidence in analysis of long-term effects of FAST. Several within-group differences were noted. Analyses which were conducted using the Milwaukee African American control sample as the comparison group for DC FAST showed several un-interpretable outcome differences, some favoring FAST-DC and others appearing to favor FAME MKE.

Debriefing interviews with key personnel in the Washington DC site did indicate that families who participated were believed to have benefited from the program.

CHAPTER 8: Discussion

The goal of the current study was to examine the mean longitudinal effects of FAST, an intensive eight-week multiple family prevention program which targeted low-income children and their families. The intervention focused proximally on improving parent-child communication and family cohesion, creating links among parents in the community and of parents with the school, and reducing parental stress. The intermediate outcome is the child's social, emotional and academic well-being, with a distal (unmeasured) goal of reduced substance use, school failure, and delinquent or other problem behavior. The effectiveness of the intervention was measured in terms of family attachment, social support, and school involvement; parent self efficacy; and children's emotional and behavioral well being (internalizing and externalizing), social skills, and academic performance compared to a minimal intervention comparison group, FAME.

While both groups changed significantly over time, evidence for a difference in the relative mean effectiveness of FAST over FAME by two-year follow-up was modest. Two significant results at two-year follow-up emerge for the overall sample. Relative to FAME, FAST families scored lower on the social support index (e.s.= -0.20), and FAST students' academic performance was rated significantly higher by their teachers than that of FAME students (e.s.= 0.24).

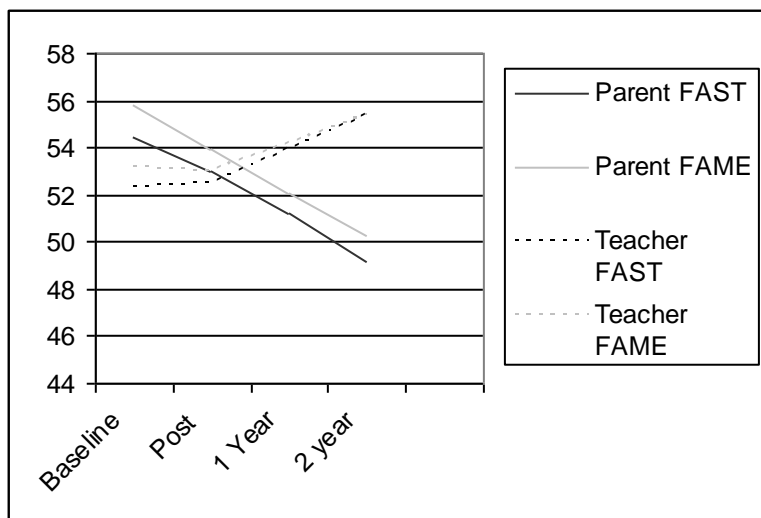
The most robust longitudinal outcome was the significant positive result for FAST on teacher ratings on the CBCL of children's academic performance. On this measure, those assigned to FAST remained stable at the two-year assessment while the mean rating for children assigned to FAME deteriorated. The two year teacher ratings were made by teachers who in general were blind to the child's assignment to condition, in some cases in different schools and in all cases two years later. Due to the randomized design the expectation is equivalence between children in FAST and FAME at two years, except for involvement in the intervention. Thus the differences between FAST and FAME students on the teacher rating of academic performance can be considered a significant result of the intervention. This result was sufficiently robust to hold across a number of alternative analytic approaches. However, standardized test scores do not demonstrate a similar difference between groups.

While the CBCL academic performance measure showed a consistent positive mean effect of FAST, another measure of academic performance, the academic competence scale of the SSRS, showed a similar pattern of means over time but the difference at two years failed to reach significance. Standardized test scores and other administrative indicators of academic performance obtained on participants in the present study also did not show any significant differences between FAST and FAME students two years after the intervention. Another evaluation of FAST showed a positive effect relative to controls on teacher ratings of academic competence after a period of a year. However, similar to our results on standardized tests, direct assessment of children's academic performance (Kratochwill et al., 2004) did not distinguish the intervention from controls. The weak correlation may be due to the nature of the teacher ratings. The ratings constitute a teacher's global perception of child's progress in academic subjects, relative to grade level expectations. These perceptions may be subject to a number of biases, such as the child's conduct at school, racial stereotyping, the teacher's memory of the child and the child's standing relative to other students in the classroom.

The findings obtained for parent and teacher ratings of children's problem behaviors present a number of inconsistencies. Differences in parent and teacher views on behavior problems are not uncommon (e.g., Loeber, 1990; Cai et al., 2004; Achenbach, 1991a,b) and derive in part from the different roles that parents and teachers play in children's lives and the different social settings in which children operate in their presence. In our two year follow-up sample, parent and teacher ratings

correlated at $r = .152$ for internalizing and for externalizing at $r = .417$, and showed change over time in different directions (Figure 4).

Figure 4: Externalizing (T-Score) as Rated by Parent and Teacher



Two years after the intervention, the perception of FAST parents regarding the social support available to them in the community was lower compared to the FAME group. These results suggest that one of the mainstays of the program, the creation of social support networks, was not accomplished to a greater extent than was by the comparison condition in this study. It may be that many of the families in our sample were too stressed and impoverished to benefit measurably from the FAST program: 69% of the intervention group and 62% of the comparison families reported baseline incomes below \$20,000/year, a little more than a third of the parents had not completed HS, and more than half (52%) were unmarried parents. In addition, at baseline we categorized 59% of FAST children and 57% of the comparison group as “high risk”-- borderline or clinical levels of internalizing or externalizing disorders based on parent and/or teacher reports on the CBCL. When parents are too overwhelmed to incorporate changes in their lives and children are clinically disturbed, a relatively short-term intervention may not be enough. Parents with fewer stresses in their lives may profit more from family intervention programs (Hanish & Toland, 2001).

An extensive body of research indicates that prevention of conduct disorders and later delinquency can be achieved by teaching specific parenting skills (e.g., Kumpfer et al., 2002a; Taylor & Biglan, 1998; Webster-Stratton & Taylor, 2001). Most family skills programs hinge on training parents to be less harsh and more positive in communicating with and disciplining their children, to provide behavioral reinforcement, to monitor behavior, and to generally adopt an authoritative but not authoritarian parenting style. Interventions that focus on parenting skills training and other cognitive-behavioral approaches can result in improvements in as many as two-thirds of families treated (Brestan and Eyberg, 1998; Leff et al., 2001; Taylor & Biglan, 1998). FAST does not directly train parents for improved parenting skills. Rather, an indirect approach to facilitate changes in parent-child interaction is used by FAST. Many structured activities are used that are expected to shape and model new parenting behavior, improve communication, empower parents, enhance parent-child relationships and result in greater parental control over their children. This indirect approach, while appealing to parents, may limit the program’s effectiveness.

The assumption that deeply rooted behaviors will be transformed by means of a limited number of encounters may also be overly optimistic. Jeanne Brooks-Gunn (2002) puts it this way: “It is unrealistic given our knowledge of development to expect short-term early interventions to last indefinitely, especially if children end up attending poor quality schools.” Programs that have had the greatest long-term impact begin early and are of long duration (e.g., Karoly et al., 1998; Olds, 2002; Reynolds et al., 2001, 2002; Zigler, 2003).

FAST is an eight week multi-family group followed by two years of monthly group meetings (FASTWORKS) led by parent graduates, supported by program staff and a small budget. This two year follow-up program is intended to sustain the relationships created between parents during the intervention, and is considered an integral component of the FAST program. However, the ongoing program was inconsistently offered at shifting sites and was poorly attended in this trial. FASTWORKS was implemented more frequently and with better attendance in the predominantly Latino sites than in the predominantly African American sites in this study. While not a true booster program, FASTWORKS does offer the opportunity for ongoing multi-family interaction and mutual support.

Limitations

As with any community trial, there are a number of limitations to this research. Our continued development of an outcome monitoring evaluation system for ongoing FAST programs has led to the conclusion that, while most of the measures used in the present study may be psychometrically reliable and valid, they may not all be relevant operationalizations of the constructs explicitly intended by FAST. For example, the measure of social support we used may miss the intended development of social linkages and mutual support specifically between families participating in the program. Similarly, the measure of general parent self efficacy does not directly tap parental empowerment or parenting efficacy as conceptualized by the program. The CBCL focuses on pathology rather than positive adjustment.

Along with the measures per se, interviewer demand characteristics may have also affected the results. Families in both FAST and FAME developed relationships with the interviewers over time due to the close tracking and repeated interviews, and potentially could have responded to subtle cues from the interviewers, who due to the structure of the project were not blinded to condition. Bias resulting from the lack of blinding would be expected to lead to exaggerated apparent treatment effects, of which we see no evidence in these data. General bias due to interviewer relationships could have led to the improved results in both FAST and FAME which we did find.

No conclusions about outcomes can be drawn from the DC supplemental study. The research was primarily a vehicle to bring the program to the DC community. The research component was inadequately funded and staffed to maintain an adequate tracking system and high follow-up rates. The qualitative data from the experience is useful and has been incorporated into the process evaluation sections of this report.

This analysis has focused primarily on mean effects of the intervention on all participants or subgroups of participants. Another approach to analysis looks for more subtle program effects. In this regard, Warren et al. (2005, 2006), using these data, have detected a possible effect of FAST on lowered aggression in the school environment in initially high aggression classrooms. A number of implementation factors may have affected the results obtained for FAST in the current study. While program implementation was generally adequate, it was not consistent across ethnic groups and cycles, and the lead community agency was changed after the first year to attempt to remedy implementation

concerns. FAST cycles in predominantly Latino schools were consistently rated higher than those in African American schools by the FAST trainers and in our process evaluation. The Latino group facilitators developed a strong rapport with the Latino families in FAST. Materials were translated with the predominantly Mexican immigrant population in mind and the facilitators were largely from Latino backgrounds. Program materials were originally developed to be culturally competent and integrally involved African American partners; specific adaptations were also made for low-income African-American families in each distinct Milwaukee school by culturally representative teams. Most family-based prevention programs find greater retention of families, but not improved outcomes, when using culturally sensitive materials (Kumpfer et al, 2002; see also Wood and Baker, 1999). In keeping with these findings, for families that came at least once to FAST, the average retention rate was 78% across our study sites.

Certain aspects of Latino culture may have led to better reception and consequently higher attendance and receptivity on the part of Latino families. Among Latinos, the family is the primary source of identity and social support (Salgado de Synder, 1987). Thus, the family pride and unity activities that figure prominently in the FAST program may be a good “fit” for Latinos (McDonald et al., 2006).

Implementation and attendance for FASTWORKS, the monthly follow-up program, was poor. This may have contributed to the negligible, in some cases negative, findings obtained for the parent variables over time. Increased attention to FASTWORKS, perhaps recasting it as a booster program, is warranted in future implementations of FAST.

The nature of the comparison condition—FAME—is also a limiting factor. An issue that figures prominently in prevention programs with minority groups is the low degree to which minorities enroll in and attend programs. Standard recruitment procedures do not always succeed in enlisting and retaining minority participants (Reid et al., 2002). In this study, recruitment was intensely personal, both for the FAST and FAME groups. Face-to-face meetings with parents were held in order to engage families, and intensive follow-up tracking was carried out in order to maintain the sample across time. The recruitment process in which expectation of benefit was intentionally created, along with the intensive tracking and follow-up process, created positive expectations among both FAME and FAST participants that may have mitigated the effects of FAST. This process intentionally assured that the FAST and FAME families were similarly motivated at the outset of the study. Thus any observed differences should be the result of the FAST intervention itself, rather than parent/family motivation, expectancy and possibly related self-selection bias. This also guarded against the problem of “resentful demoralization” or “compensatory rivalry” which can cloud the interpretation of randomized trials (Cook and Campbell, 1979).

Miller (2000) has documented the power of “small interventions,” effects that emerge from situations that although they are minimal create expectations and provide critical and timely guidance. A three-arm study that includes a true untreated control group (such as a waiting list condition), with no expectation of participation benefit, would assist in sorting out the relative effects of FAST and of the minimal intervention from effects due to the data collection and tracking alone.

Aside from raised expectations, FAME participants were mailed carefully tested booklets (Chaning-Bete, Inc., 1997) on parenting skills and other relevant themes. Mailed booklets followed with telephone calls from health educators have recently been shown to significantly reduce adolescent smoking and alcohol use (Bauman et al, 2002). Mailed interventions have also been shown to be effective in reducing alcohol use (Sobell et al., 2002) and children’s sleep problems (Montgomery and Wiggs; 2004). Brief office-based interventions regarding alcohol use (Grossberg et al., 2004) and

cocaine and heroin use (Bernstein et al., 2005) have also recently been shown to be effective. This further emphasizes the nature of FAME as a significant low intensity—and possibly cost-effective—alternative intervention and not as an untreated control or a placebo treatment. The changes in the FAME group are thus likely a combination of skills learned from the booklets, expectations, maturation, motivation to change, and possibly reflexivity instilled by the research process itself. These factors—except for the booklets—also influenced the FAST group.

Conclusion

At two years, parents assigned to both FAST and the comparison condition (FAME) reported significant improvement on measures of social support, parent self efficacy, and parent reported child internalizing, externalizing, and social skills. Overall positive two year effects of FAST, a complex systemic multi-family group intervention, relative to 8 mailed booklets on parenting skills, are limited to a significant impact on teacher-rated academic performance on the CBCL. On the other hand, for those assigned to both conditions, parent involvement with schools declined over time, and teacher-rated internalizing and externalizing increased. FAST, relative to FAME, also had a significant negative effect on parent-reported family social support at two years. The proximal outcomes FAST intends to address (family attachment, parent self efficacy, parent involvement with school, and family social support) were not differentially and positively affected by the program relative to FAME. Thus one of the three primary intended child outcomes— improved educational performance, but not reductions in externalizing and internalizing behavior, or improved social skills—was attained in the overall sample.

Subgroup analysis indicated significantly better results for FAST relative to FAME on two variables for Latino children/families: externalizing (with positive results from the teacher's perspective but negative results from the parent's) and child's total social skills (as rated by teachers but not significant when rated by parents). Teachers rated African American FAST students significantly higher in internalizing than FAME students at two years.

Other recent studies of FAST (Layzer et al., 2001; Krachowill et al., 2004; Kratochwill et al., 2003; Warren et al., 2005) have also yielded modest positive results on some variables. The controlled trials using a “no treatment” control have shown higher effect sizes than the two large trials which used parenting booklets as an attention-control comparison condition. As an intervention intended to effect children's behavior in the long term, longitudinal studies of these effects should be conducted. Further research and analysis of the subgroup issues responsible for the disparate effects we have noted, particularly for Latinos relative to other subgroups, is also warranted. Multiple carefully conducted replication studies are needed to conclusively assess the cost effectiveness of this complex prevention program, which appears most promising for the Latino subpopulation in this study.

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