



**Center for Health Policy and Program Evaluation**

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# Randomized Trial of Families and Schools Together (FAST)

Funded by the National Institute on Drug  
Abuse (NIH)

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## FAST Program

- Eight week Multiple FAMILY Program
- 2-3 hours per session
- Two year monthly FASTWORKS
- Originally developed to target “at risk” children/families in early elementary grades
- We targeted universally in high risk schools



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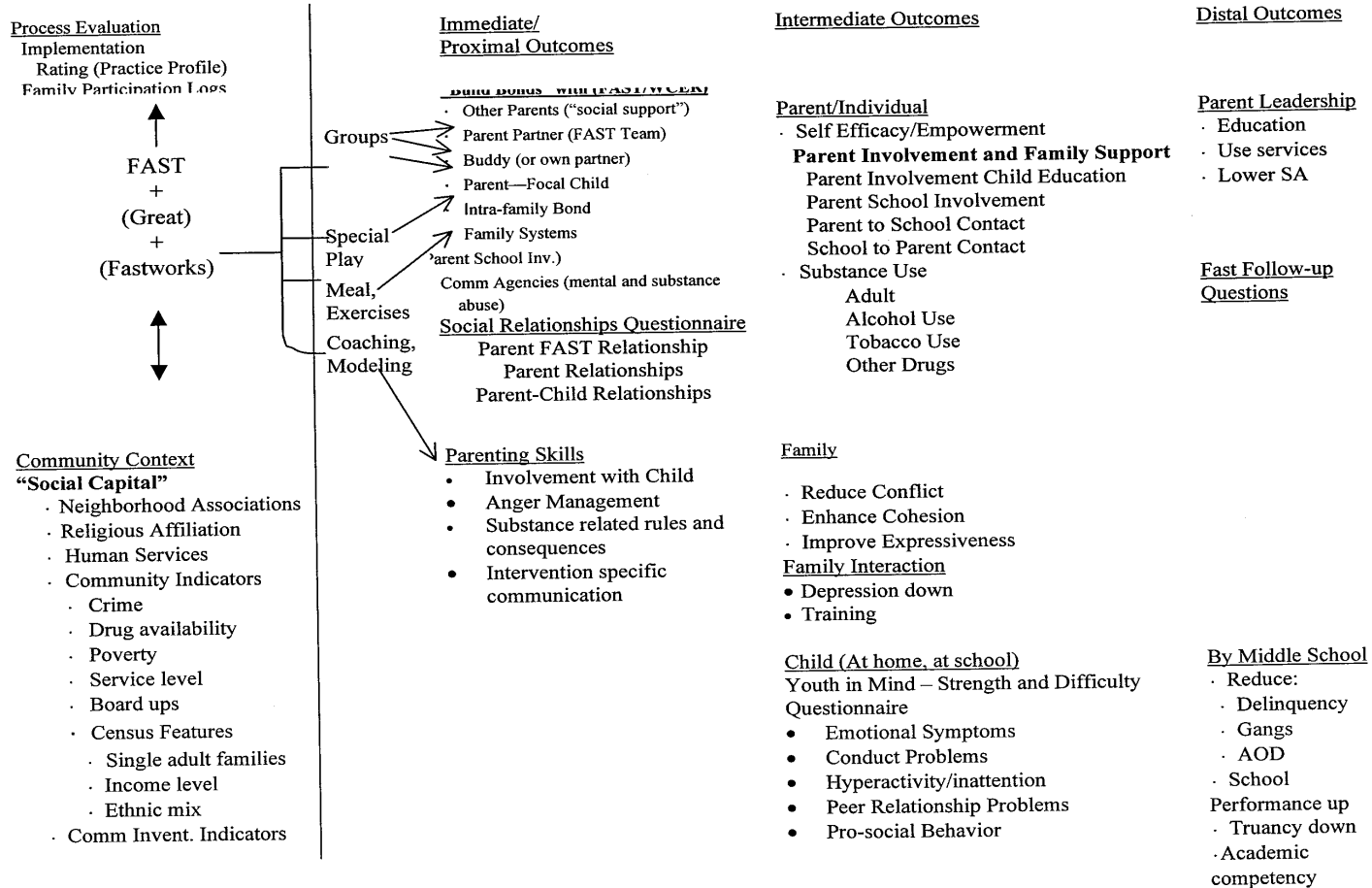
# FAST Program Components

<b>Activity</b>	<b>Description</b>
Flag	Family creates flag for family table – Parents in charge – Each family member adds something
Music	Sing FAST song – Families invited to teach others songs - school songs can be shared
Meal	Host family gets \$ to buy food – Plans menu – Prepares meal - Staff helps children serve parents
Scribbles	Drawing & talking within family about what you drew game – Parent is in charge
Feelings Charades	Play act feelings within family – parent is in charge – Family members take turns guessing and talking about feelings
Kid's Play	Developmentally appropriate organized activities for children - positive peer group experience /w no TV
Parent's Talk	1 to 1 adult time to connect privately, followed by self help group – Parents share successes & help each other help children succeed in school – Informal social support networks emerge
Parent-Child Special Play	Child initiated play -Parent encouraged to follow child's lead – Play materials provided – Children like this best – Parents asked to do Special Play everyday at home – Sticker reward chart given to parents
Lottery	Each family guaranteed to win once – Winning family showcased & receive many prizes – Winner cooks next week's meal
Closing Circle	All participants in a circle for announcements, clapping, birthday singing & closing ceremony
Substance 5 <sup>th</sup> Session	Presentation on substance use & abuse made to children – Parents help discuss with their children
Graduation 8 <sup>th</sup> Session	Held at school to graduate families – Principal gives framed certificate of completion – Graduation hats & Pomp and Circumstance
FASTWORKS Two years	Monthly meetings - Parents determine agenda – Receive small budget - Get help from school – Parents may choose more meetings or outings



## Building Relationships

### Families and Schools Together: Building Relationships





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# FAME (FAMily Education)

- Served as a “usual treatment” or “placebo” comparison
- Weekly informational mailings for eight weeks
  - Channing Bete Parenting Skills booklets
- Lecture on parenting/family dynamics

## Research Component

- Also an intervention?
  - Intensive interviews
  - Tracking
  - Ongoing contact / relationship



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# School Classroom Assignment Design

Fall 97-98

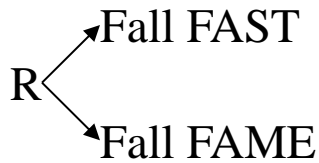
Spring 97-98

Fall 98-99

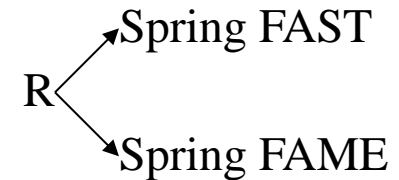
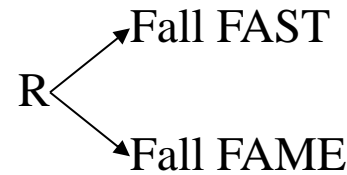
Spring 98-99

[Randomize Classrooms Within 10 Schools]

Schools 1-2-3-4-5-6



Schools 7-8-9-10



6 ongoing FASTWORKS groups provided; One for each pair of nearby schools →

- Schools paired geographically & ethnically
- Within schools similar classrooms in grades 2 & 3 are paired and randomized to either FAST or FAME each semester
- Repeated across 10 schools
  - 6 provided programming in 1997-98 school year
  - 4 provided the same programming in 1998-99 school year



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# Measurement Design

		Fall '97	Spring '98	Fall '98	Spring '99	Fall '99	Spring '00	Fall '00	Spring '01	Fall '01
<b>FAST Classrooms</b>										
Year 1	R	O <sub>1</sub>	Tx <sub>1</sub>	O <sub>2</sub> FASTWORKS	O <sub>3</sub>	FASTWORKS	O <sub>4</sub>			
Year 2	R			O <sub>1</sub>	Tx <sub>1</sub>	O <sub>2</sub>	FASTWORKS	O <sub>3</sub>	FASTWORKS	O <sub>4</sub>
<b>FAME Classrooms</b>										
Year 1	R	O <sub>1</sub>	Tx <sub>2</sub>	O <sub>2</sub>		O <sub>3</sub>		O <sub>4</sub>		
Year 2	R			O <sub>1</sub>	Tx <sub>2</sub>	O <sub>2</sub>		O <sub>3</sub>		O <sub>4</sub>

R = Randomization of 20 classrooms per year from which families will be recruited.

O<sub>i</sub> = Observation/data collection point – O<sub>4</sub> includes retrospective review of school & juvenile records

Tx<sub>1</sub> = Eight week FAST program – 3 hours per week.

Tx<sub>2</sub> = Family education (FAME) condition – materials & resource information.

FASTWORKS = Monthly 3-4 hour support meetings continued for 2 years.



## Data Collection

### ● Parent interview (One hour)

- Family Social Support Index (McCubbin et al.)
- Family Attachment (FACI, McCubbin)
- Family Conflict and Cohesion (Moos FES)
- School/community/parent relationships (Witte, Epstein)
- Parent alcohol & drug use (Brown)
- Child behavior problems (CBCL)
- Child social skills (SSRS, Gresham & Elliot)
- Parental depression (Beck)
- Parental self-efficacy (Fibel & Hale GESS)
- Parental health (SF-12)





## Data Collection

- Child interview (20 minutes)
  - Child substance use (YRBS)
  - Child self-acceptance & competence (Harter & Pike)
- School and teacher data
  - Third grade (reading) & 4<sup>th</sup> grade standardized testing
  - Grades, absenteeism & retention history
  - Teacher Report Form (Achenbach CBCL)
  - Social Skills Rating System  
(Gresham & Elliot)
- Children's Court contact
- Family interaction patterns (SFSR; Szapocznik, et al.)
  - Taped sample (n=42 FAST, 25 FAME)



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# Sample Characteristics (n=473)

	<b>FAST (Treatment) n=272</b>	<b>FAME (Control) n=201</b>		<b>FAST (Treatment) n=272</b>	<b>FAME (Control) n=201</b>
<b>Household Income</b>			<b>Marital Status</b>		
Under \$10,000	39%	32%	Married	48%	48%
\$10,000 – \$19,999	32%	31%	Divorced/separated/widowed	36%	36%
\$20,000 – \$29,999	18%	18%	Never married/ unmarried couple	16%	17%
\$30,000 or more	11%	19%	<b>Ethnicity of Child</b>		
<b>Parent Education</b>			African American	45%	48%
Less than high school	39%	35%	Latino/Hispanic	41%	40%
High school grad or GED	33%	31%	Other	14%	12%
Some college or tech school	24%	25%	<b>Child Higher Risk</b>		
College graduate or more	4%	8%	Borderline and up on CBCL	59%	55%



## Analytic Approach

- Dealing with missingness
  - Propensity weighted modeling of attrition
- Single level multivariate models (OLS & logistic regression)
- Hierarchical linear models (HLM)
  - fixed occasion longitudinal models accounting for time, family and cycle/program grouping
- Sub-population analyses
  - high risk (CBCL)
  - ethnic groups
  - graduates only
- Intent to treat



# Results

## Research Retention Rate

### Parent/Guardian Interview

	Baseline	Post	Follow Ups	
			One Year	Two Year
FAST	272	265(97%)	249(92%)	216(79%)
FAME	201	198(99%)	187(93%)	143(71%)
Total	473	463(98%)	436(92%)	359(76%)

- Of 272 families recruited to FAST
  - 31 (11%) never participated
  - 241 (89%) came at least once
  - 189 (69% or 78% if came once) came at least 5 times & “graduated”



## Research Retention Rate

### Teacher Report Form

	Follow Ups			
	Baseline	Post	One Year	Two Year
FAST	270	272(100%)	--	185(68%)
FAME	193	198(99%)	--	112(56%)
Total	463	473(99%)	--	297(63%)

- Students enrolled in 10 separate schools at baseline
- Students enrolled in 92 separate schools at two year follow-up



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## Means on Dependent Variables Over Time

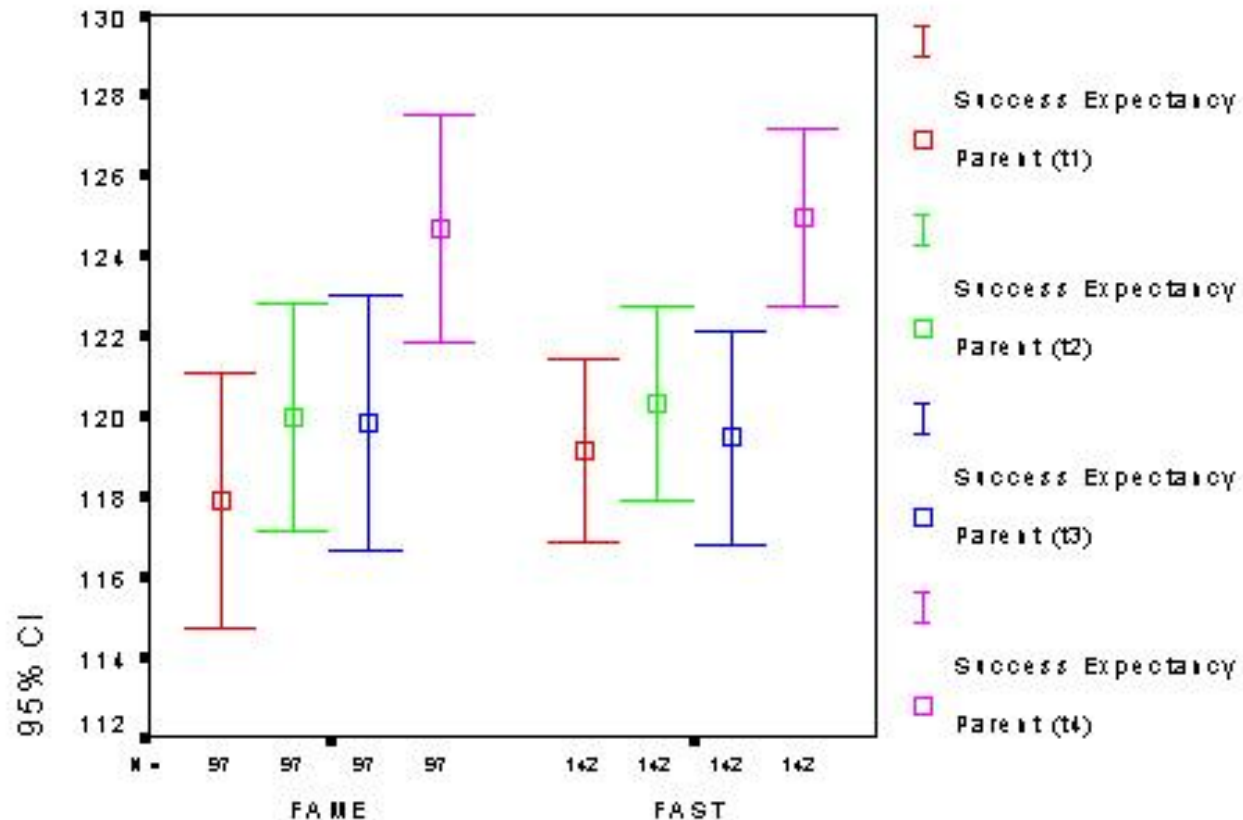
### Parent Report

Variable	Time 1		Time 2		Time3		Time 4	
	Mean	s.d	Mean	s.d	Mean	s.d	Mean	s.d
<b>Social Support</b>								
FAME	44.4	8.9	47.6	9.3	47.9***	8.9	50.9***	10.0
FAST	44.3	8.9	47.3	9.0	47.0***	8.6	48.5***	8.8
<b>Family Attachment</b>								
FAME	32.6	5.6	33.3	4.7	33.5**	4.5	32.9	4.8
FAST	33.0	5.1	33.2	5.2	33.3	5.0	33.7	5.0
<b>Parent Self Efficacy</b>								
FAME	117.0	16.1	119.7	14.4	121.3***	14.7	124.9***	13.9
FAST	118.7	13.6	120.3	14.6	119.4	15.8	124.9***	13.0
<b>Parent Involvement with School</b>								
FAME	7.2	4.5	7.9	5.1	6.2**	4.4	5.6***	3.6
FAST	7.4	4.4	9.4	4.4	5.8***	3.9	5.2***	3.5
<b>Child Social Skills</b>								
FAME	94.6	20.2	94.6	23.1	98.1***	22.7	102.5***	18.6
FAST	95.4	21.1	98.5	22.8	101.6***	21.9	106.1***	20.2
<b>Child Internalizing</b>								
FAME	54.7	11.9	52.2	11.6	51.1***	11.7	50.0***	9.9
FAST	53.7	12.0	51.6	12.7	51.1***	12.3	49.3***	10.8
<b>Child Externalizing</b>								
FAME	55.6	12.7	53.6	13.2	52.1***	13.3	51.6***	13.7
FAST	54.0	11.9	52.9	13.0	51.2***	13.5	49.6***	12.7

Paired sample T-Tests, Time 1 to Time 4: \*p<.05 \*\*p<.01 \*\*\*p<.001



# Parent Self Efficacy

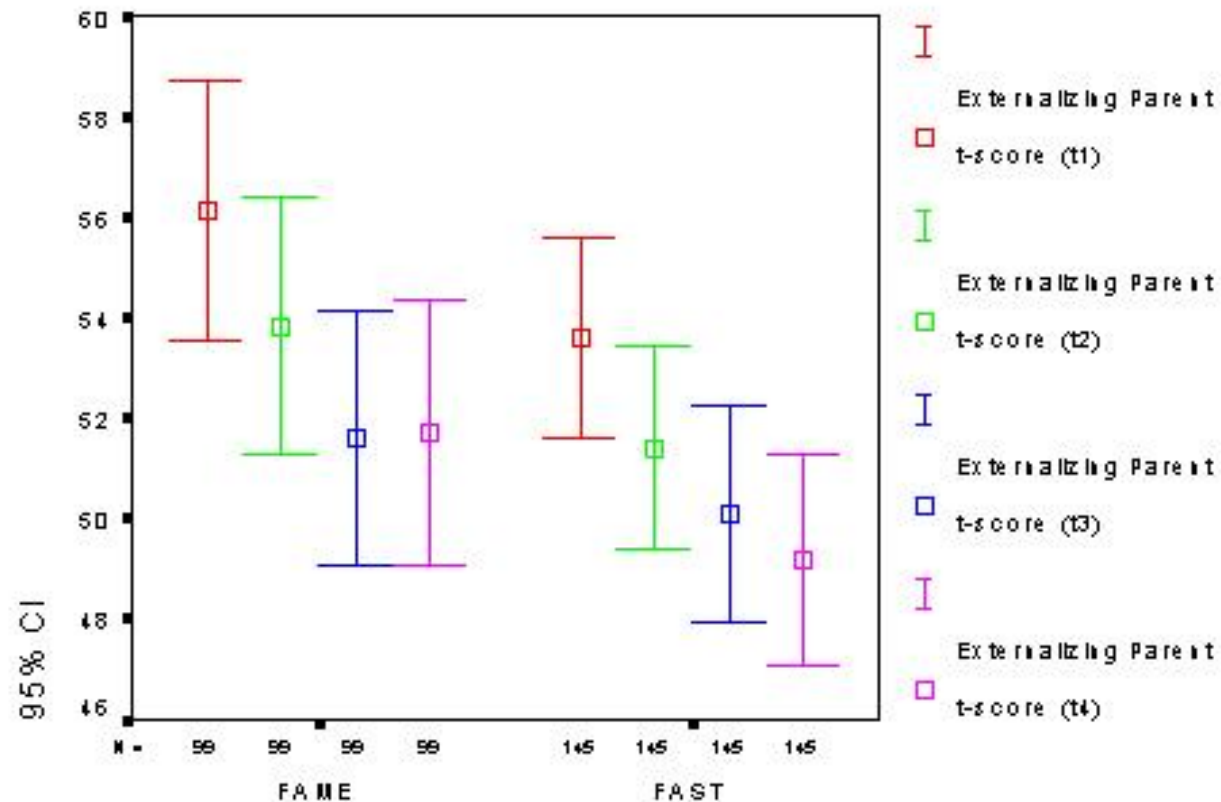


Fast or Fame--All Cases with T4 TRF

Cases weighted by inverse attrition propensity



# Child Externalizing – Parent Survey



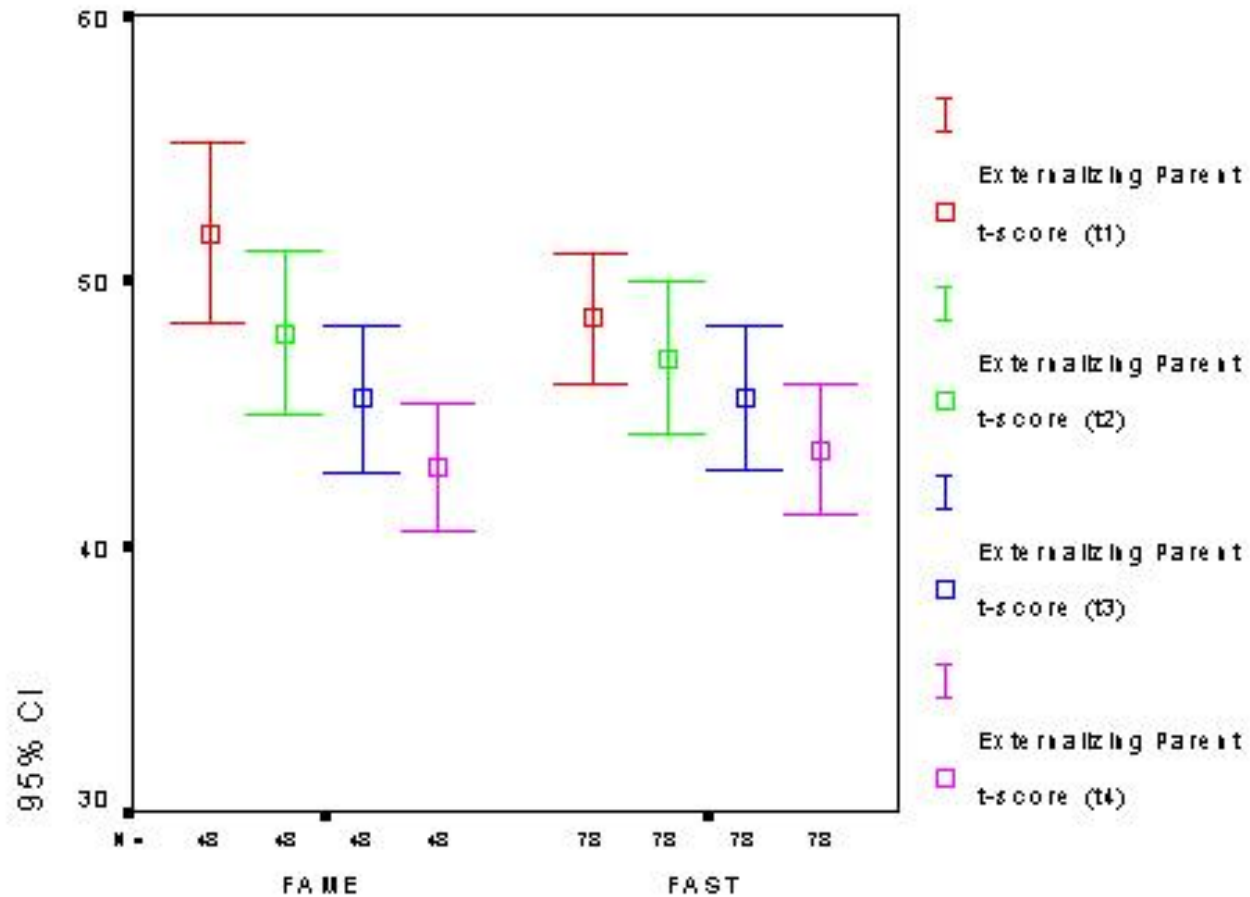
Fast or Fame--All Cases with T4 TRF

Cases weighted by inverse attrition probability





# Child Externalizing – Latino Only



Fast or Fame--Latino Only



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# Means on Key Dependent Variables

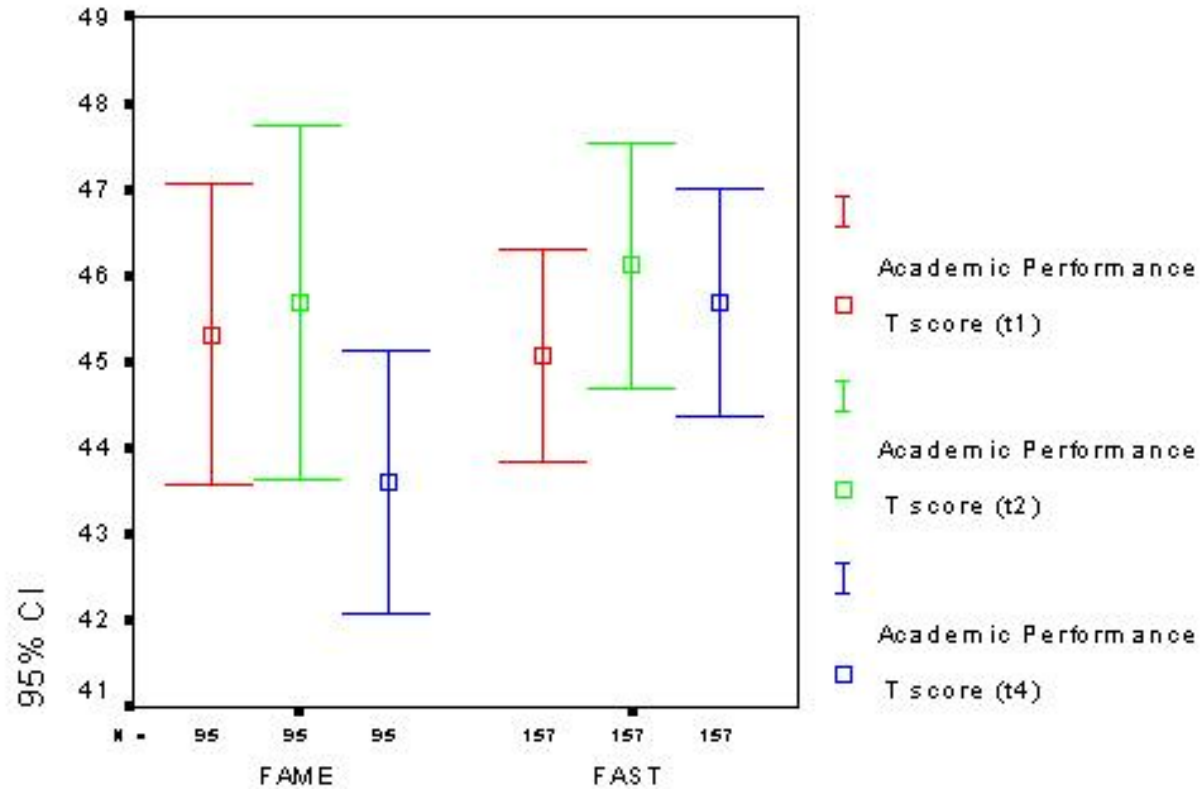
### Teacher Report

Variable	Time 1		Time 2		Time 4	
	Mean	s.d	Mean	s.d	Mean	s.d
<b>Academic Performance</b>						
FAME	45.6	8.7	46.1	10.3	43.8	8.0
FAST	45.3	7.9	46.7	9.8	45.8	8.3
<b>Academic Competence</b>						
FAME	92.8	12.7	91.8	12.1	91.1	12.7
FAST	94.1	12.0	95.2	13.0	93.6	12.0
<b>Child Social Skills</b>						
FAME	95.5	19.6	97.3	21.3	96.5	18.3
FAST	96.9	18.7	101.5	18.5	98.2	17.1
<b>Child Internalizing</b>						
FAME	48.6	9.3	48.5	9.7	52.4	10.9
FAST	46.7	9.4	46.8	9.1	51.5	9.3
<b>Child Externalizing</b>						
FAME	52.8	11.2	52.4	10.9	55.4	12.0
FAST	51.3	9.9	51.7	9.3	55.4	10.2

- No teacher report at T3
- Different teachers over time



# Academic Performance

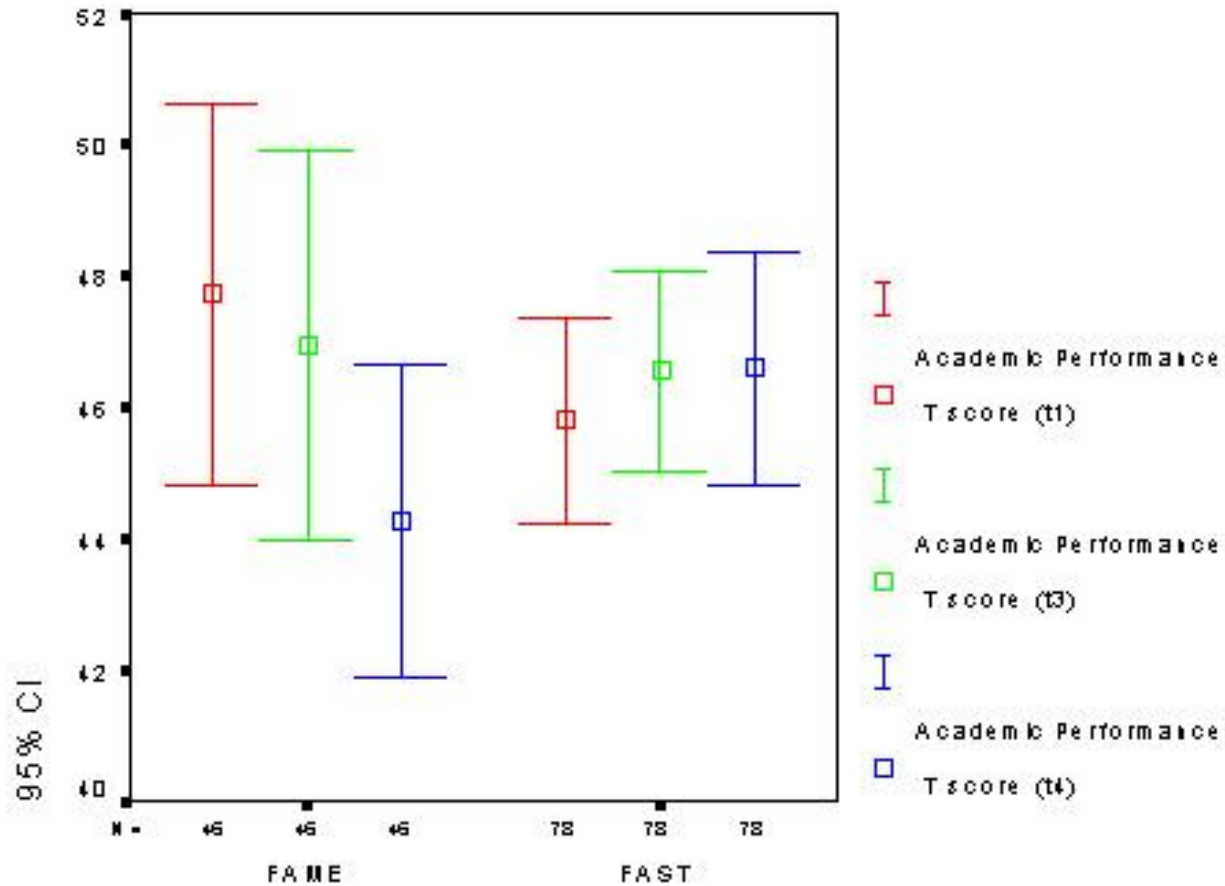


Fast or Fame-- All T4 TRF Cases

Cases weighted by inverse attrition propensity



# Academic Performance – Latino Only

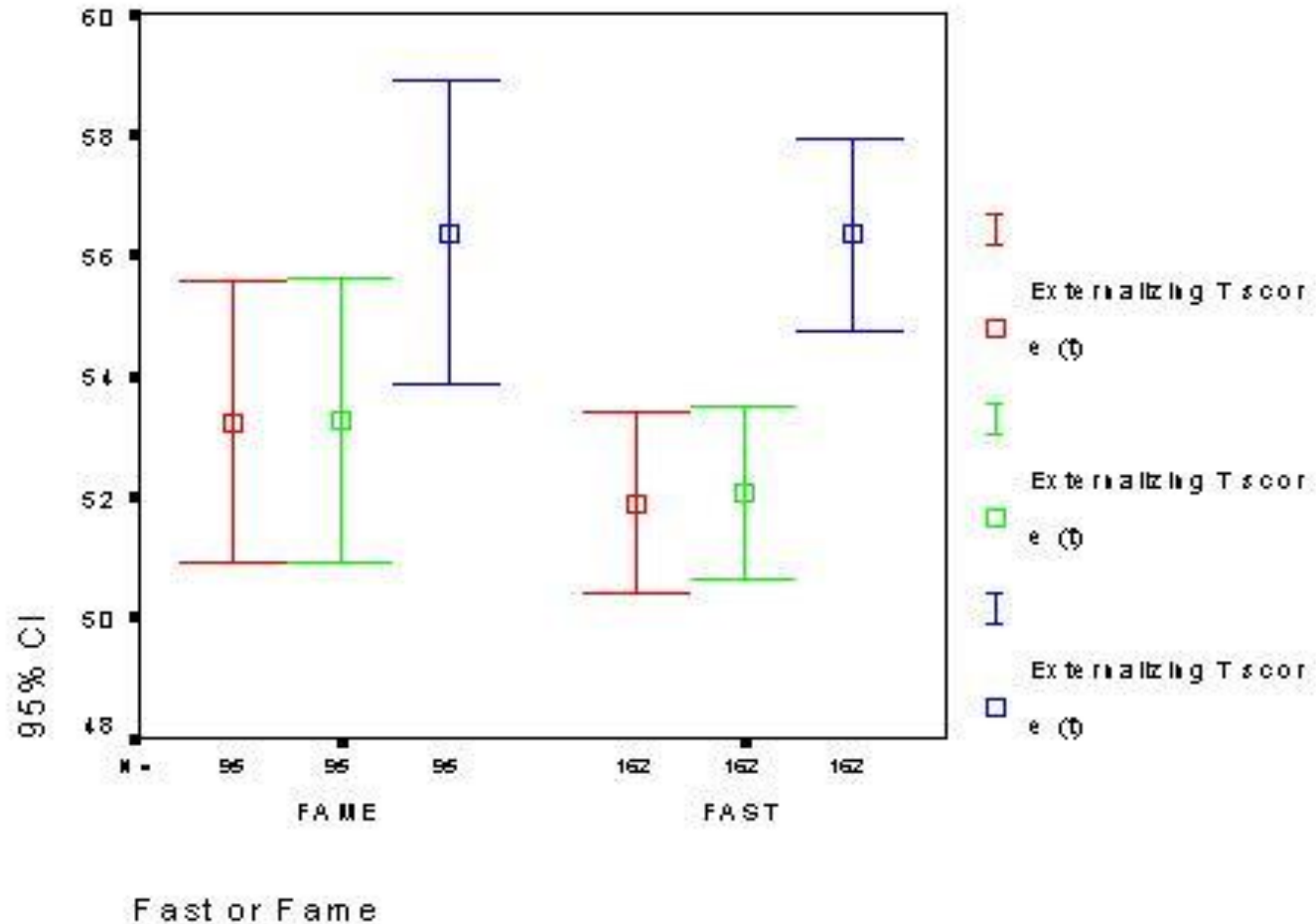


Fast or Fame--Latino Only



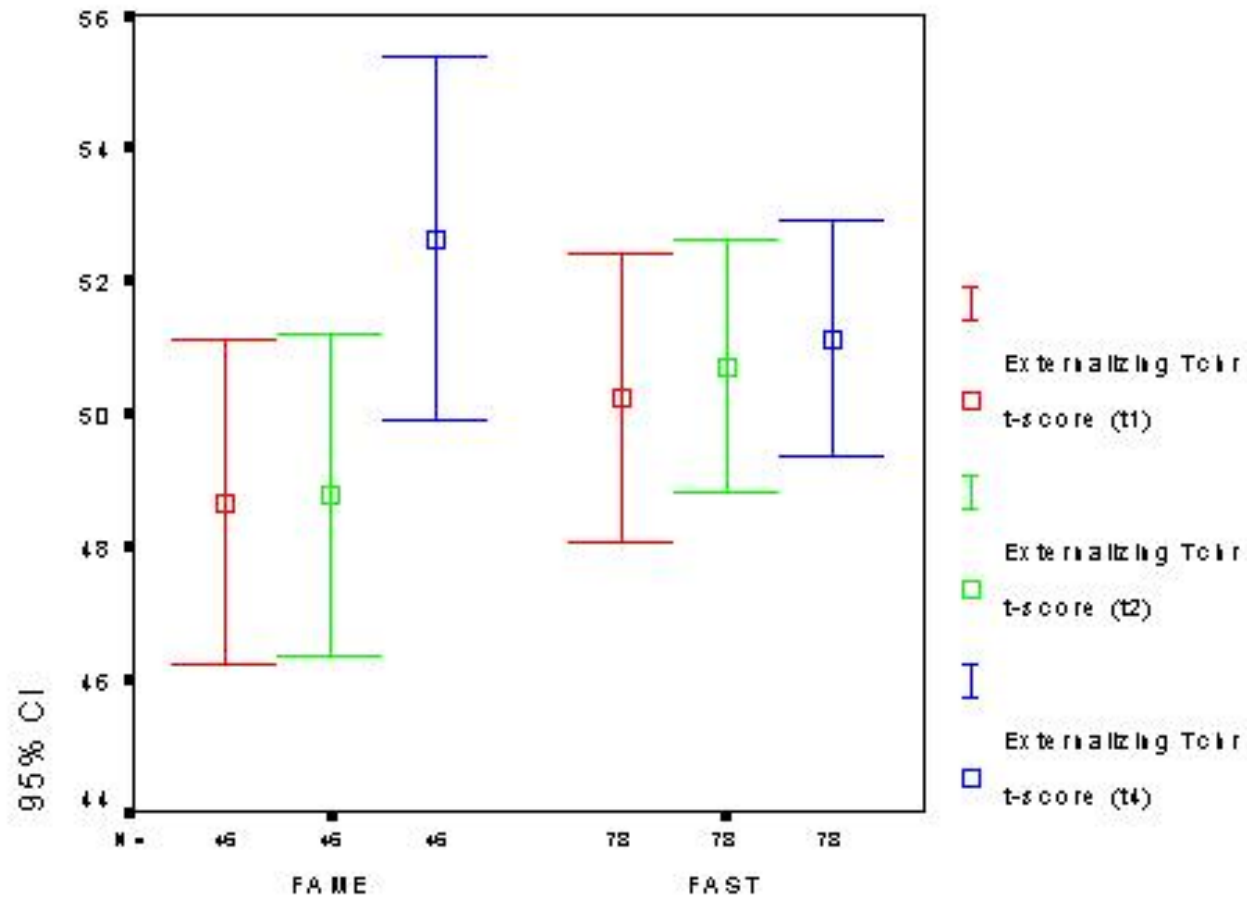
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# Child Externalizing – Teacher Report





# Child Externalizing – Teacher – Latino Only



Fast or Fame--Latino Only



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## Full Fixed Effects Model

SAMPLE of full Fixed Effects Model—Social Support Index

SSI Model 1

SSI Model 2

Fixed Effect	Post-test 1	One Year	Two Years	Post-test	One Year	Two Years
Constant	48.103* (.656)	48.715* (.691)	50.489* (.716)	45.340* (2.756)	48.488* (2.713)	48.428* (3.061)
SSI Covariate	0.583* (.047)	0.537* (.045)	0.522* (.053)	0.568* (.048)	0.523* (.045)	0.494* (.053)
FAST Effect	-0.466 (.869)	-1.287 (.926)	-2.045* (.945)	-0.503 (.868)	-1.099 (.898)	-1.872+ (.953)
Income				0.338 (.334)	0.120 (.316)	0.677 (.372)
Grade				0.279 (.482)	-0.383 (.481)	0.025 (.536)
African American				-2.082 (1.287)	-0.727 (1.237)	-1.117 (1.433)
Hispanic				0.324 (1.262)	0.979 (1.217)	0.924 (1.405)
Unmarried				0.960 (.970)	0.229 (.913)	0.345 (1.080)
Gender				-0.109 (.843)	1.384 (.800)	1.095 (.940)
Highrisk				0.347 (.854)	-0.550 (.808)	-1.196 (.953)
Parent Education				0.276 (.316)	0.257 (.298)	0.081 (.353)

\* p < .05, + p < .10



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# Random Effects

### Random Effects

SSI Model 1

SSI Model 2

Variance Estimate	Post-test	One Year	Two Years	Post-test	One Year	Two Years
Cycle Variance	0.447 (1.30&	2.260 (1.190)	0.000 (0.000)	0.334 (1.259)	1.655 (1.042)	0.000 (0.000)
Family Variance	51.672* (4.401)	44.420* (3.751)	65.081* (5.332)	50.437* (4.295)	43.709* (3.682)	62.489* (5.119)

-2\*loglikelihood(IGLS) = 5800.51

-2\*loglikelihood(IGLS) = 5776.08

$\Delta\chi^2 = 24.43, df = 8, p > .05$





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# Summary of HLM Results – Full Sample Outcomes

Outcome Measure	Post-Test	One Year	Two Year
<b>Parent Report:</b>			
Family Attachment	0	0	0
Family Conflict (FES)	0	0	0
Social Support Index	0	0	-
Parent Involvement with School	+	0	0
Parent Self Efficacy	0	0	0
CBCL Internalizing t-score (Parent)	0	0	0
CBCL Externalizing t-score (Parent)	0	0	0
Child Social Skills Total Score (Parent)	0	0	0
<b>Teacher Report:</b>			
TRF Acad Performance	0	na	+
SSRS Acad Competence	0	na	0
TRF Internalizing t-score	0	na	0
TRF Externalizing t-score	0	na	0
Social Skills Total Score (Teacher)	0	na	0

Cell Entries:

- + significant ( $p < .05$ ) favorable effect of FAST
- significant ( $p < .05$ ) unfavorable effect of FAST
- 0 no significant effect of FAST

All models used intent to treat analysis and controlled for baseline covariate, household income level, parent education, family structure, child's sex and grade in school, level of risk, ethnicity, and attrition propensity. FAST/FAME cycle entered as third level variable



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# Summary of HLM Results – Sub-Sample Outcomes

Outcome Measure	Full Sample (n=359)	High Risk (n=117)	Latino (N=135)	African American (N=131)
<b>Parent Report:</b>				
Family Attachment	0	0	0	0
Family Conflict (FES)	0	0	0	0
Social Support Index	-	0	0	0
Parent Involvement with School	0	0	0	0
Parent Self Efficacy	0	0	0	0
CBCL Internalizing t-score (Parent)	0	0	0	0
CBCL Externalizing t-score (Parent)	0	0	-	0
Child Social Skills Total Score (Parent)	0	0	0	0
<b>Teacher Report:</b>				
TRF Acad Performance	+	+	+	0
SSRS Acad Competence	0	0	0	0
TRF Internalizing t-score	0	0	0	-
TRF Externalizing t-score	0	0	+	0
Social Skills Total Score (Teacher)	0	0	+	0

Cell Entries:

- + significant ( $p < .05$ ) favorable effect of FAST
- significant ( $p < .05$ ) unfavorable effect of FAST
- 0 no significant effect of FAST

All models used intent to treat analysis and controlled for baseline covariate, household income level, parent education, family structure, child's sex and grade in school, level of risk, ethnicity, and attrition propensity. FAST/FAME cycle entered as third level variable



## **Conclusions**

- **Program Engagement and Research Retention**
  - Universal recruitment successfully engaged
    - Inner city
    - Low income
    - High risk families
    - > Half the children had borderline or clinical levels of internalizing or externalizing
  - Of those who attended once 78% graduated (5+ sessions) from FAST



## Results

- By 2 year follow-up FAST and FAME families reported significant improvement on measures of:
  - Family social support
  - Parent self efficacy
  - Child social skills
- Both group's parents reported reduced externalizing & internalizing of their children on the CBCL.



## Results

- Parent involvement with school decreased over time – both groups
- Modeling of **parent reported outcomes** at 1 and 2 years using an intent to treat analysis, accounting for hierarchical dependencies between students within FAST and FAME cycles, controlling/weighting for attrition propensity, yielded no significant overall net program impact at 2 years.



## Results

- **Current teachers** independently rated children at 2 year follow-up
  - Significant positive effect of FAST on child's TRF academic performance (ES=.23)
    - Holds for high risk subgroup
    - Holds for Latino subgroup
    - Not significant for African Americans
    - Not significant for girls
- Latino children in FAST also had significantly lower teacher reported externalizing and higher social skills relative to children in FAME
- African American children in FAST had increased internalizing scores relative to children in FAME



## Results

- Two year results appear to be robust
  - Results hold whether an “intent to treat” or participant only model is applied
  - Results hold when only high risk children/families included
  - Results hold under a variety of modeling approaches and assumptions



## Discussion Issues

- Preventive impact of FAST in areas other than academic performance not evident at two years in full sample
- Academic outcomes have a major impact on future problem behavior (Bryant, Schulenberger, Bachman, O'Malley, & Johnston, 2000; Barnes, 1993) and are thus critical
- The positive expectancy effects of the research & the placebo program on families who choose to participate in the control condition—the power of “small interventions” (Miller, 2000)—may attenuate program effects