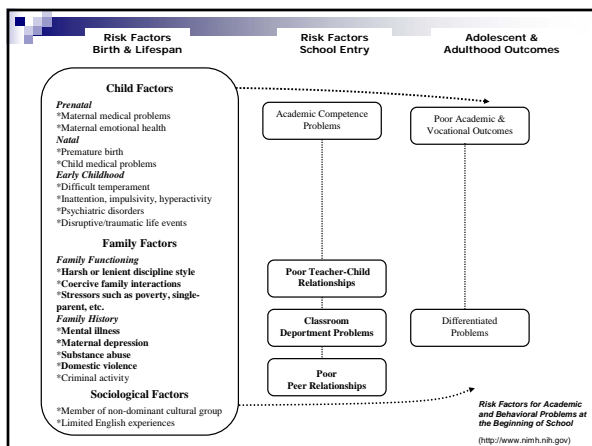


- Focus of Presentation**
- Background
 - Conceptual framework underlying study
 - Intervention selection criteria
 - Three-tiered approach
 - Causal risk factors targeted by interventions
 - Primary Elements of Interventions
 - BASE
 - First Step to Success
 - MST
 - Nebraska Tracking Sample (Cohorts 1 and 2)
 - Eligibility criteria
 - Demographic characteristics
 - Developmental risk factors
 - Outcomes (Cohort 1)
 - Social functioning
 - Family functioning
 - Academic functioning
 - Lessons Learned
 - Participation in Collaborative Effort
 - Planned analyses



Intervention Selection Criteria

- Studies Included a Quasi or True Experimental Design
- Evidence of a Statistically Significant and Practically Significant Treatment Effects
- Replication at Multiple Sites with Demonstrated Effects
- Featured in Compilations of Effective Interventions
 - BASE (n = 3) (e.g., Marzano, 2003; U.S. Department of Education)
 - First Step to Success (n = 6) (e.g., Preventing Mental Disorders in School-Age Children: A Review of the Effectiveness of Prevention Programs (Greenberg): <http://www.psu.edu/dept/prevention>)
 - MST (n = 8) (e.g., Blueprints for Violence Prevention, National Institute of Mental Health, Center for Mental Health Services)
- Manualized
- Target Causal Risk Factors

Causal Risk Factors Targeted by Interventions

Program	Level	Causal Risk Factor
<i>BASE</i>	➤ Primary	➤ Teacher-child relationships, peer relationships, & classroom department
<i>First Step</i>	➤ Secondary	➤ Teacher-child relationships, peer relationships, classroom department, parenting skills, & coercive family interactions
<i>MST</i>	➤ Tertiary	➤ Parental psychopathology (i.e., mental illness, maternal depression, substance abuse, domestic violence), family functioning (i.e., parenting skills, coercive family interactions, stressors), teacher-child relationships, peer relationships, & classroom department

BASE: Primary Elements

- Adjustments of the Ecological Arrangements
- Three Simple Rules Applied School-Wide (i.e., be safe, be responsible, be respectful)
- Active Supervision of the Common Areas
- The *Think Time Strategy* (classroom and common areas management strategy used to increase child self-regulation and problem-solving skills)
- Continuum of Administrative Disciplinary Responses

First Step to Success: Primary Elements

- Class
 - Behavior "game" focusing on verbal and non-verbal positive reinforcement
 - All class members participate
 - Focus on point totals to earn reward
 - Coach and teacher monitor game
- Home-base
 - Weekly lessons with parents
 - 6 skill areas (communication, cooperation, setting limits, solving problems, making friends, & developing confidence)
 - Weekly activities with child
 - Home reward for school performance

First Step to Success: Primary Elements (continued)

- Coach phase (Days 1-6)
 - Secure consent, explain game, implement game, negotiate reward activities, & assist teacher in classroom
- Teacher Phase (Days 7-30)
 - Teacher implements the game, validates child for appropriate behavior, phases out green/red card, communicates with parents (coach), & implements Home-Base (coach)
- Maintenance Phase (after game completion)
 - Teacher and coach work together in classroom to observe student, administer assistance to child, validate student for appropriate choices, and communicate with parents

MST: Primary Elements

- Treatment Site → Home, school, neighborhood and community
- Provider → Single therapist (as part of, and supported by a team)
- Caseloads → 4-6 families
- Length of Treatment → 4 to 6 months in most cases
- Therapist Availability → 24 hr\7 day\wk team available
- Quality Assurance → TAM,SAM, and phone consultation

MST: Primary Elements (continued)

- Adaptations for K-3 population
 - Referrals from school staff
 - Less emphasis on peers as a targeted area of intervention
 - Stronger focus on engagement of caregivers

Nebraska Tracking Sample

- Three Groups Comprise the Tracking Sample
 - First Step to Success (K-1)
 - Exceeded the normative criteria (20th percentile) on one or more of the ESP (K) or SSBD (1st) Critical Events, Adaptive, or Maladaptive scales
 - Non-treatment (K-1)
 - Scored above the 20th percentile (normative criteria) but below the 30th percentile on one or more of the ESP or SSBD Critical Events, Adaptive, or Maladaptive scales
 - MST (K-3)
 - Currently receiving special education services for ED or have a DSM diagnosis
 - Exhibits behaviors that are symptomatic of a serious mental health problem (as determined by exceeding the clinical range on the Child Behavior Checklist or the Teacher Report Form (Achenbach, 1991)
 - Child must have access to a stable placement that is potentially long-term with the same caregiver.

ESP and SSBD t Scores for First Step and Non-Treatment Tracking Sample by Grade and Cohort

Measure	Kindergarten (n=115)						First Grade (n=94)					
	First Step			Non-Treatment			First Step			Non-Treatment		
	C1 (n=29)	C2 (n=20)	Sample (n=49)	C1 (n=42)	C2 (n=24)	Sample (n=66)	C1 (n=29)	C2 (n=28)	Sample (n=57)	C1 (n=21)	C2 (n=16)	Sample (n=37)
Critical Events	53.62 (7.66)	62.89 (11.49)	60.00 (11.24)	54.36 (6.19)	52.66 (3.74)	53.60 (5.17)	62.75 (11.95)	61.03 (9.78)	62.02 (10.67)	46.25 (5.07)	44.63 (3.93)	45.72 (4.74)
Adaptive	69.48 (6.60)	68.42 (7.98)	68.36 (7.22)	59.23 (4.94)	54.68 (3.02)	56.91 (4.62)	39.29 (6.89)	41.61 (9.60)	40.45 (8.63)	48.85 (6.50)	52.44 (6.35)	50.25 (6.50)
Maladaptive	74.14 (6.13)	73.03 (9.76)	73.53 (8.74)	57.56 (6.27)	53.51 (4.53)	55.39 (5.65)	61.22 (9.12)	61.71 (10.31)	61.44 (9.79)	55.35 (5.69)	56.69 (5.23)	55.64 (5.17)

Note. Bold font indicates statistically significant difference.

Academic Functioning Change Scores for Tracking Sample by Group (Cohort 1)

Measure/Subtest	Group					
	Non-Treatment		First Step		MST	
	X	SD	X	SD	X	SD
WRM-R						
Total	2.11	9.15	1.75	10.23	6.33	4.73
Basic Skills Cluster	4.84	9.64	3.47	9.78	5.00	2.64
Word Comprehension	-0.06	11.70	-0.04	11.09	11.33	7.57
WI-III						
Broad Math	--	--	2.07	10.80	5.01	5.00
Broad Written Language	--	--	-0.84	10.28	3.21	8.95
Oral Reading Fluency						
	--	--	14.40	14.30	22.50	33.83

- Lessons Learned**
- Impact of NCLB
 - Time availability (training, curriculum implementation)
 - Anxiety level of staff
 - Assessments
 - BASE
 - Problem: Data collection demands
 - Solution: Reduced data collection and provide data back to staff
 - First Step to Success
 - Problem: IRB allows for teachers to opt out of the program
 - Solution: Sought teacher input to improve the palatability of the program, tailor program to individual classroom, and provide second window in which teachers can screen children
 - MST
 - Problem: Hiring and maintaining staff
 - Solution: Work with MST Services Inc. throughout the hiring process, targeted hiring, multiple interviews, etc.
 - Problem: Wait-list design (staff want immediate services)
 - Solution: Provide monitoring program to all students and discuss design with administration and school staff

- What are the effects of BASE on attendance, academic achievement, and administrative referrals?**
- To evaluate change in cohorts within schools across 5 yrs prior to and after implementation
 - Use a Point Biserial Correlational Coefficient using pre-implementation and post-implementation as dichotomous variable by repeated measure on the dependent measure.
 - Correlation coefficients are used as measures of Effect Sizes for latent growth curve analyses
 - A footnote on analytical procedures described: Preliminary analyses will be conducted to determine that there are no violations of the assumptions of the statistical tests and that a priori differences in the unit of analysis is not present to start with.

What are the short-term outcomes (i.e., child social skills, academic achievement, and family function) of *First Step to Success* and *Multisystemic Therapy (MST)*?

- Repeated measures MANOVA with the dependent measures for child social skills measures (i.e., CBCL-Externalizing, SSRS-Social Skills, Academic Competence, and the BERS).
- Repeated measures MANOVA with the dependent measures of academic achievement (i.e., WRMT-R, WJ-III: Math & WL, Dibels Oral Reading Fluency).
- Repeated measures MANOVA with the dependent measures of family functioning (i.e., maternal Beck's Depression Inventory & Parent Stress Index).
- The between measures independent variable for each of the analyses stated above is initial treatment versus waitlist control.

What are the long-term outcomes of *First Steps* and *MST*?

- Hierarchical Linear Modeling (HLM) growth curve analyses using the fixed effect model will be conducted for each of the student outcomes (i.e., CBCL-Ext, SSRS-SS & Acad Comp, BERS, WRMT-R, WJ-III: Math & WL, DORF), which will be collected each year during the project.
- Level II of the analysis will use the dichotomous treatment variables *First Steps* (coded 1,0) and *MST* (coded 1,0).
- Due to the possibility of inflating Type I errors a Bonferroni correction will be used (i.e., $p < .05 / 6$ comparisons = $p < .01$).

What factors affect the outcomes of *First Steps* and *MST*?

- With the same growth curve analyses described above, the random effects results will be used to select individual student growth curves in which the student scored in the lowest quartile of growth in academic achievement and social skill or the highest quartile in problem behavior.
- These individual student growth curves will be compared to individual student growth curves who showed the most progress in the area of measurement (i.e., highest quartile in achievement and social skills or the lowest in problem behavior).
- These two student outcomes will be analyzed using logistical regression with negative family risk factors (i.e., divorce, mental illness, criminal activity, substance abuse, and violence), abuse (i.e., sexual or physical), as well as critical items from the *Systematic Screening of Behavior Disorders*.

4-Tier Latent Growth Curve Model

- A 4-tier latent growth curve model will be tested, which combines the results of structural equation modeling (SEM) with HLM growth curve analyses in a fully nested model. A sample size of 200 is necessary.
- SEM of Level I Student Outcomes are measured for the Final Status and Slope for each of the constructs measured: achievement, social skills, and problem behavior.
- Level II Family Outcome Indicators (i.e., Initial Level BDI, Change in BDI, Initial Level of PSI and Change in PSI) predict Level I Student Outcomes.
- Level III Treatment (i.e., *First Steps* and *MST*) and Classroom Variables predict Level II and Level I.
- Level IV School-wide Outcomes (i.e., ES in Discipline, Attendance, and MAT) predict Level II, Level II, and Level I.

