

# **Violence Prevention and Educational Accountability: Comprehensive Evaluation of Second Step**

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# Universal Intervention

- Second Step
- Grades 1 – 3
- Violence prevention program designed to:
  - increase empathy skills
  - decrease angry,
  - decrease impulsive behaviors, and
  - decrease aggressive behaviors

# Need for Accountability in Violence Prevention Research

- Bridge the gap between perspectives on accountability and violence prevention
- Evaluate interventions using measures that inform accountability
  - Attendance
  - Academic Performance
  - Tardiness
  - Behavioral Problems (suspensions, disciplinary referrals)
  - Academics (norm-referenced test)

# Participants

**Cohort 1**

**Cohort 2**

<b>Intervention</b>	<b>Tx. G</b>	<b>Cx. G</b>		<b>Tx. G</b>	<b>Cx. G</b>
<b>SS</b>	922	918		1225	1200

# Process Evaluation

- Process measures included
  - Coverage – the right students?
  - Dosage – How much of the intervention was delivered?
  - Fidelity – Intervention delivery as designed?
- Data collected at the end of each school year for project directors (surveys)
  - Descriptive analysis used to analyze data

# Outcome Evaluation

- Pre/Post-intervention design for primary measures
- Pre/Post-intervention matched control group design with follow-up
- Outcome measures included
  - Unexcused Absences and tardiness
  - Disciplinary Actions (suspensions, ISAP)
  - Academic Performance (CTBS, Grade 3)
- Data collected from Teradata

# Pre/Post-intervention Design (Primary Measures)

- The central psycho-social measures were related to
  - (a) empathy,
  - (b) impulse control,
  - (c) problem solving, and
  - (d) anger management.
- These measures were used to calculate a score that represented the primary outcome criteria for establishing success of the program at the district and at the school level.

# Pre/Post Control Group Design (Cognitive Measures)

- The primary dependent variable used in this study was the CTBS Normal Curve Equivalent (NCE) scores (Kramer, Conoley, & Murphy, 1992).
- The CTBS is a standardized achievement test that was group-administered at the end of the school year to third grade students.
- The CTBS includes reading, language arts, and mathematics subtests.
- This study was conducted only with Cohort 1 students who had a CTBS score when in third grade in the school year 2002-2003 (i.e., two years after the intervention).

# Analysis of Outcome Data

- Paired-sample t-test for primary measures
- ANCOVA and MANCOVA comparing treatment and control group, using poverty as covariate
  - Non Academic Measures
    - Unexcused absences
    - Unexcused Tardiness
    - Suspension (number of times, days)
    - ISAPs
  - Academic Measures--MANCOVA

# Matching Procedure

- Matching at school level and student level
  - School Level (Global Characteristics)
    - Schools were matched on percent at-risk, percent ECE, suspension rates.
  - Student Level (Individual Characteristics)
    - Students were matched on ECE category, gender, and age using computer software designed especially for this evaluation by MBS Technologies, Inc.
    - Area of residence and at-risk status were statistically controlled in the analysis

# Matching Verification

- Matching was verified using Chi-square analysis and ANOVA
  - Chi-squares used for categorical variables (ECE category, gender)
  - ANOVA used to verify age matching
- Results indicated that the SS group and their control did not statistically differ

# Matching Results

	ECE			Gender		
	No ECE	ECE	ECE EBD	Girls	Boys	Age
SS	733 80%	177 19%	12 1%	448 49%	474 51%	8.29
Cx.	733 80%	175 19%	10 1%	446 49%	472 51%	8.30

# Attrition Analysis and Results

- Overall Attrition rate was 4.6%
- Attrition group tended to be older than those with data at follow-up in
- No attrition effects found for other demographics, pre-intervention outcomes
- No differential group attrition found

# Process Results

- Coverage
  - 100%
- Dosage
  - 67%
- Implementation fidelity
  - 74%

# Outcome Results: Pre-Post & Follow-up Assessment Periods

- Cohort 1 (services started in Fall 2000)
  - Short-term effects: Spring '00 to Spring '01 (1 semester after services began)
  - Long-term effects: Spring '00 to Spring '02 (2 semesters after services began)
- Cohort 2 (services started in Fall 2001)
  - Short-term effects: Spring '01 to Spring '02
  - Long-term effects: Spring '01 to Spring '03
  - Dosage effects (length of time services rec'd).

# Primary Measures Outcome Results

- The central psycho-social measures were related to (a) empathy, (b) impulse control, (c) problem solving, and (d) anger management.
- As a district, the gains on the pretest/posttest measure were statistically significant at the .001 alpha level.
- Statistically significant gains were also noted in most of the individual schools.

# Short Term Outcome Results

- Decreased absences for Second Step (Cohorts 1 and 2)
- Decreased tardiness for Second Step (Cohort 2)
- Effect sizes ranged from .04 - .12

# Long Term Non-Academic Outcome Results

- Decreased absences in Second Step (Cohorts 1 and 2)
- Decreased tardiness for Second Step (Cohort 2), compared to control students
- Suspensions increased for control students but not for students in Second Step (Cohort 2)

# Long Term Academic Outcome Results

- When compared to the control group, no statistically significant gains were observed on cognitive measures (CTBS):
  - reading,
  - mathematics, and
  - language arts.

# Discussion

- Analysis of psychosocial data indicated positive impact on students' prosocial attitudes and behavior.
- Analysis of non-cognitive data revealed that effects of Second Step were generally small, but favorable, on attendance, tardiness, and disciplinary measures.
- No significant long-term impact was found on cognitive measures.

# Discussion

- Any approach to violence prevention in the schools needs to be a multi-component and multi-context intervention (Stephens, 1995).
- One strategy is to provide information about how violence prevention programs can actually reduce the time teachers spend on disciplinary problems, increasing their time for instructional activities (Kramer, Jones, Kirchner, Miller, & Wilson, 2003).
- It is crucial to start anti-violence interventions early.

# Discussion

- Quasi-experimental design prohibits causal conclusions (not a controlled randomized procedure)
- Threats to internal validity (primary measures)
- These results are in line with other evaluation studies of the effects of the Second Step curriculum (Grossman et al., 1997; Sprague, Walker, Golly, White, Myers, & Shannon, 2001)