Longitudinal Changes in Discipline Disparities within Three Variations of SW-PBIS

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Objectives

1. Describe the trajectory of disparities in office discipline referrals across the elementary years.

2. Identify individual and school-level predictors of disparities in office discipline referrals.

3. Articulate how different variations of SW-PBIS implementation relate to disparities in office discipline referrals.
The Problem: Discipline Disparities

- Well established for:
  - Sex
  - Sexual orientation and gender identity
  - Socioeconomic status
  - Ability status
  - Race
- Racial disparities documented in preschool through high school settings

1Welsh & Little, 2018
2Zinsser et al., 2022; Fadus et al., 2021; Heilbrun et al., 2018; Bottiani et al., 2017
The Problem: Discipline Disparities

• Most research has focused on exclusionary discipline, but disparities also exist earlier in process (e.g., for discipline referrals)

• Associated with a variety of negative outcomes (e.g., loss of instruction, lower school attachment, poorer mental and physical health)

• Limited longitudinal research for understanding when and how disparities emerge

1Chen et al., 2021; Losen & Martinez, 2020; Perryman et al., 2022
School-Wide PBIS (SW-PBIS)

- **Multi-tiered framework** for supporting students' social, emotional, behavioral, and academic development

- **Continuum** of support
  - Tier 1: universal practices that support **ALL**
  - Tier 2: targeted supports for **SOME** students
  - Tier 3: intensive and individualized supports for **FEW** students
School-Wide PBIS (SW-PBIS)

• More than the pyramid: SW-PBIS includes systems, data, and practices to improve student, staff, and school functioning
  • Teaming, staffing, scheduling, training and coaching
  • Data-based decision making
  • Evidence-based practices (e.g., teaching and practicing expectations, recognition and feedback, continuum of supports/interventions)
  • Associated with reductions in discipline disparities\(^1\)

• Common challenges: implementing services at higher tiers, addressing internalizing behaviors

\(^1\)Gage et al., 2018
School Mental Health (SMH)

- Mental health clinicians providing services within schools
- Increases accessibility of mental health services
- Improves early identification/intervention
- Associated with positive outcomes
  - Social-emotional well-being, behavior, attendance, attitudes (e.g., self-efficacy), mental health, academic performance¹
- Lack of implementation structure leads to challenges with integration

¹Ballard et al., 2014; Suldo et al., 2014
Interconnected Systems Framework (ISF)

- One cohesive framework integrating education and mental health systems
- Enhances **depth** and **quality** of prevention and intervention

Barrett et al., 2017; Eber et al., 2020
Interconnected Systems Framework (ISF)

Critical elements:

- Partnerships & Teaming
- Data-Based Decision Making
- Evidence-Based Practices & Interventions Across Tiers
- Comprehensive Screening
- Progress Monitoring (Fidelity & Effectiveness)
- Implementation Support (Training & Coaching)
Interconnected Systems Framework (ISF)

• Teaming & Partnerships:

District-Community Leadership Team
• Systems leaders (e.g., District leadership, MH Agency Leader)
• ISF coaches
• Educators, administrators, and clinicians
• Family members and older youth
• Representatives from youth-serving systems (e.g., child welfare, juvenile justice, disabilities, primary healthcare)
• Government officials
• University staff and researchers

Multi-sector Partnerships
• Youth and Families
• Government
• Education
• Child and Adolescent Mental Health
• Juvenile Justice
• Child Welfare
• Primary Healthcare
• Allied Health Services
• Vocational Rehabilitation
• Universities and Colleges
• Faith
• Business
• Disabilities
Interconnected Systems Framework (ISF)

• Data-based Decision Making
  • School data (beyond discipline), community data

• EBP Selection & Implementation
  • Behavior, social-emotional skills, and mental health

• Screening & Progress Monitoring
  • Internalizing and externalizing concerns
  • Fidelity and effectiveness

• Implementation Support
  • Coaching across levels (systems through individual practices)
Aims

1. Examine longitudinal trajectories of racial disparities in ODRs of elementary students

2. Compare trajectories across three different variations on SW-PBIS: SW-PBIS, SW-PBIS + SMH, and ISF
Parent Study

- Multi-year RCT examining the effectiveness of the ISF
  - 2 states, 24 schools in the southeast
  - Randomized to three conditions:

  **PBIS**
  - No additional training or support

  **PBIS + SMH**
  - PBIS
  - Clinician assigned to school 2.5 days/week

  **ISF**
  - PBIS
  - Clinician 2.5 days/week
  - Teaming
  - PD and coaching
  - Universal screening
  - Leadership Teams

- Five years of student records (2013 – 2018)
  - 3 years preceding conditions, 2 years with conditions
Building upon Parent Study

• All conditions were associated with a reduction in schoolwide ODRs\(^1\)
  
  • Greater reduction associated with ISF vs. PBIS or PBIS + SMH
  
  • Black/African American students less likely to receive ODR in ISF schools

• In the current study, we build upon these findings by examining **within person longitudinal trajectories** in the odds of receiving an ODR across all schools and conditions by demographic characteristics

  and

• Describe risk ratios and risk differences within a single school district in the southeastern United States

\(^{1}\text{Weist et al., 2022}\)
Variables

- **Office discipline referrals (ODRs):**
  - Whether student received at least one ODR in a given school year (yes/no)

- **Student demographics:**
  - **Race** (Black, Hispanic/Latinx, White)
  - Sex (male, female)
  - Ability status: whether student was identified as having an educational disability

- **School variables:**
  - **Condition**: PBIS, PBIS + SMH, ISF (4th – 5th grade only)
  - Percent of students receiving free or reduced-price lunch
Analyses

Aim 1: Multilevel logistic models

• Level 1: time
• Level 2: student level (race, sex, ability status)
• Level 3: school level (condition, % FRPL)*

Aim 2: Descriptive analysis of school-level disparities

• Multiple metrics to avoid misinterpretation¹
  • Risk Ratio, Risk Difference

¹ did not converge due to sample size

Curran, 2020; Girvan et al., 2019
Aim 1: Racial Disparities in ODRs

- **Sample**: 2,250 children from 12 elementary schools in the southeast

<table>
<thead>
<tr>
<th></th>
<th>1st Grade</th>
<th>2nd Grade</th>
<th>3rd Grade</th>
<th>4th Grade</th>
<th>5th Grade</th>
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<td>1302</td>
<td>1252</td>
<td>1215</td>
<td>1069</td>
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<td></td>
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<tr>
<td>White</td>
<td>57.33%</td>
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<td>Latinx</td>
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<td>20.58%</td>
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<td>Sex</td>
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<tr>
<td>SPED</td>
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<td>23.72%</td>
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</table>
Aim 1: Trajectories of ODRs by Group

By race

ODRs significantly associated with race and sex within each grade ($p \leq .005$).

ODRs significantly associated with ability status in 2nd grade only ($p < .001$)
About 38% of the variance in ODRs can be explained within person (e.g., having a history of ODRs). Some significant variability explained by within school factors (e.g., general use of ODRs within a school).
Aim 1 Results: Multilevel Models

Multilevel Logistic Regression: Odds of Office Disciplinary Referral in School

<table>
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<tr>
<th>Effect</th>
<th>Log Odds Estimate</th>
<th>Odds</th>
<th>SE</th>
<th>p</th>
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<td>Intercept***</td>
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<td>.226</td>
<td>&lt;.001</td>
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<td>Time***</td>
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<td>1.28</td>
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<td>Race Black**</td>
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<td>SPED</td>
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<tr>
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<tr>
<td>Individual intercept variance</td>
<td>4.431</td>
<td>2.105</td>
<td>&lt;.001</td>
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</tbody>
</table>

*** p <.001, **p <.01

Due to convergence issues when adding random slope effect and only slight model fit differences, the random intercept only model was retained
Aim 1 Results: Multilevel Models

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<tbody>
<tr>
<td>Fixed effects</td>
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<tr>
<td>Intercept***</td>
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<td>1.54</td>
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<tr>
<td>Random effects</td>
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*** p <.001, **p<.01
Aim 2 Results: School-level Disparities

Black/White Disparities by School

Risk Ratio

Risk Difference
Aim 2 Results: School-level Disparities

Black/White Disparities by Condition

Risk Ratio

Risk Difference

PBIS  PBIS + SMH  ISF  Pre-Condition Average
Aim 2 Results: School-level Disparities

Latinx/White Disparities by School

**Risk Ratio**

**Risk Difference**
Aim 2 Results: School-level Disparities

Latinx/White Disparities by Condition

Risk Ratio

Risk Difference

School Year


PBIS

PBIS + SMH

ISF

Pre-Condition Average
Discussion

- Black/White disparities already exist in 1st grade and widen over time
  - MLM results support descriptive analyses suggesting that the likelihood of receiving an ODR accelerates at a steeper rate for Black students than White students
- Latinx/White disparities are negligible throughout elementary school (and favor Latinx students generally), but may emerge later
- Integrated systems of PBIS and SMH may help disrupt concerning trajectories in school discipline
Caveats

- Disparities varied substantially between schools
- Unable to account for SES at individual level due to changes in how variable was measured
- Convergence issues with 3-level MLM (sample size limitations)
- Cautions about generalizability (small number of schools in only one state in the Southeastern US)
Implications

• Early identification and intervention
  • Systemic discipline data should be analyzed early and often (*and before elementary school*) to mitigate and prevent the exacerbation of disparities
  • Disaggregating discipline data by multiple subgroups is essential to identifying and addressing disparities

• Screening and progress monitoring
  • ODRs are an imperfect measure of behavior and progress
  • Importance of recognizing context of disparities and triangulating data in decision making
Implications

• Prevention
  • Promote expected behavior for all (SW-PBIS)
  • Design systems that promote supportive (vs. punitive) approaches
  • Consider the whole child (look beyond behavior)
• Bias reduction practices\(^1\)
  • Develop policy/accountability for equity
  • Examine disaggregated data
  • Identify vulnerable decision points
  • Clearly define behavior and discipline procedures

\(^1\)McIntosh et al., 2014
Where do we go from here?

- Identify **drivers** of discipline disparities
- Explore **intersectionality** in discipline disparities more deeply
- Explore contributions of **equity enhancements**
  - Culturally responsive school mental health\(^1\)
  - Equity-focused PBIS\(^2\)
- Design **systems** to reduce experiences of stereotyping, racial and ethnic aggression, and stigma from peers, teachers, and other school staff
- Strengthen **systemic** support for communities and families before school entry and during the early care to school transition

\(^1\)Clauss-Ehlers et al., 2013
\(^2\)McIntosh et al., 2021
Conversation!
References


References


