Racial/Ethnic Disproportionality in Special Education

Measuring Disproportionality and Using the Data Analysis Workbook

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Objectives

- Introduction to the NYU/NYSED-VESID Technical Assistance Center on Disproportionality (TACD) and the Data Analysis Toolkit
- The definition of **disproportionality**
- **Methods** of data analysis
- **Levels** of data analysis
- How to use the Data Analysis Toolkit (overview)
- **Practice** using the Data Analysis Toolkit
Disproportionality Is:

- The **over-representation** of specific groups in special education programs in relation to their representation in the overall enrollment, and/or the **under-representation** of specific groups in accessing intervention services, resources, programs, rigorous curriculum and instruction.
Disproportionality Occurs When students are:

- Under-represented in intervention services, resources, and access to programs, rigorous curriculum and instruction.
- Inappropriately referred and classified for special education.
Methods of Data Analysis

- Three main data tools (calculations) are used to explore special education data: classification rate, composition index, and relative risk ratio.
Classification Rate

- The classification rate identifies at what rate, or percentage of risk, students of a particular racial/ethnic group have of being classified as students with disabilities.
Composition Index

- The composition index gives the proportion of students by race/ethnicity in a particular situation. Composition indexes are used to determine if a particular group is over or under represented in special education, in a particular disability, or in a particular classroom setting.
Relative Risk Ratios

- **Relative risk ratios** give a comparison of risk for classification of one group in relation to the risk for all other groups. A risk ratio of 1 indicates that there is equal risk. An increase in risk ratio is indicative of increased risk.
Initial Levels of Special-Education Data Analysis

**Level 1: General**
- Overall District Classification Rate

**Level 2: Race/Ethnicity**
- Classification Rate by race/ethnicity
- Composition Index by race/ethnicity
- Risk Ratio by race/ethnicity

**Level 3: CLASSIFICATION**
- Learning Disability
- Emotional Disability
- Speech Impairment

**Level 3: SETTING**
- Least Restrictive Environments <20%
- Most Restrictive Environments >60%

**Level 3: GENDER**
- Male
- Female

- Classification Rate of placement of <20%
- Classification Rate of placement of >60%

- Composition Index of placement of <20%
- Composition Index of placement >60%

- Risk Ratio of placement of <20%
- Risk Ratio of placement of >60%

- Classification Rate of Males
- Classification Rate of Females
How to Use the Toolkit (Overview):
Data Requirements District / School Data

- In order to work through the toolkit you need to have the following data:
  - General education enrollment by race and gender
  - Special education enrollment by race and gender, classification, and placement.

- It is critical the general and special education enrollment data reflect the same school years; a lack in consistency prevents appropriate analysis.
How to Use the Toolkit (Overview):
Working with the Data

- Using your data, input your values into the appropriate cells and follow the calculation procedures.
- Be sure to record all of your answers in the appropriate cells.
How to Use the Toolkit (Overview): Examining your results

- After inputting and running the formulas in each section, it is important to examine the results critically.
  - Write down what you noticed.
  - What patterns are emerging and what possible problems are becoming apparent?
- Attempt to explain your findings (what you have noticed) in the context of the data and current research.
  - What are the possible explanations for your findings?
- Pay close attention to the research notes, critical thoughts, and critical questions to help aid in your analysis.
Level 1: Overall Classification

Question 1: What is the overall district classification rate?
Overall Classification

- Classification Rate = 
  Number SWD \textit{divided by} Total number of students 
  \times 100

- Classification Rate = 
  \underline{_______} \div \underline{_______} \times 100 = \underline{______} \%
Examining your results

- What did you notice?
  - What patterns are emerging and what possible problems are becoming apparent?

- Critical Analysis
  - What are the possible explanations for your findings?
Level 2: Classification Rates, Compositions Indexes, and Risk Ratios by Race/Ethnicity

Question 2: What is the overall classification rate of SWD by race/ethnicity?
## Classification of SWD by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Total # classified</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Observed SWD</strong></td>
<td># classified</td>
<td># classified</td>
<td># classified</td>
<td># classified</td>
<td>Total # classified</td>
</tr>
<tr>
<td><strong>B. Total Enrollment</strong></td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td>Total # enrolled</td>
</tr>
<tr>
<td><strong>C. % observed</strong></td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
</tr>
</tbody>
</table>

### Classification Rate =
Number of SWD in a racial/ethnic group divided by Total number of students in the same racial/ethnic group multiplied by 100

### Classification Rate =
\[
\frac{\text{A/B} \times 100}{\text{A/B} \times 100} \times 100 = \text{______%}
\]

---

1. **Classification Rate =**
2. Number of SWD in a racial/ethnic group divided by Total number of students in the same racial/ethnic group multiplied by 100
3. **Classification Rate =**
4. \[
\frac{\text{A/B} \times 100}{\text{A/B} \times 100} \times 100 = \text{______%}
\]
Classification of SWD by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Observed SWD</td>
<td>500</td>
<td>225</td>
<td>75</td>
<td>80</td>
<td>880</td>
</tr>
<tr>
<td>B. Total Enrollment</td>
<td>1500</td>
<td>900</td>
<td>1700</td>
<td>800</td>
<td>4900</td>
</tr>
<tr>
<td>C. % observed</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
<td>A/B x 100</td>
</tr>
</tbody>
</table>

- **Classification Rate** =
  Number of SWD in a racial/ethnic group *divided by* Total number of students in the same racial/ethnic group *multiplied by* 100

- **Classification Rate** =
  \[
  \frac{\text{A}}{\text{B}} \times 100 = \text{_____} \%
  \]
Examining your results

- What did you notice?
  - What patterns are emerging and what possible problems are becoming apparent?

- Critical Analysis
  - What are the possible explanations for your findings?
Level 2: Classification Rates, Compositions Indexes, and Risk Ratios by Race/Ethnicity

Question 3: What is the racial/ethnic composition of SWD compared to the racial/ethnic composition of the entire district?
Composition of SWD by Race/Ethnicity

Composition Index =

Number of SWD in a racial group divided by Total number of SWD multiplied by 100

Composition Index =

\[
\frac{\text{Number of SWD in a racial group}}{\text{Total number of SWD}} \times 100 = \text{______} \%
\]
## Composition of SWD by Race/Ethnicity

### Observed Composition Index of District

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Enrollment</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E Total</td>
</tr>
<tr>
<td></td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td>Total # enrolled</td>
</tr>
<tr>
<td>F. District Composition</td>
<td>A/E x 100</td>
<td>B/E x 100</td>
<td>C/E x 100</td>
<td>D/E x 100</td>
<td>E Total # enrolled</td>
</tr>
</tbody>
</table>

### Observed Composition Index of SWD in District

<table>
<thead>
<tr>
<th></th>
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<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWD Enrollment</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E Total</td>
</tr>
<tr>
<td></td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td># enrolled</td>
<td>Total # enrolled</td>
</tr>
<tr>
<td>G. SWD Composition</td>
<td>A/E x 100</td>
<td>B/E x 100</td>
<td>C/E x 100</td>
<td>D/E x 100</td>
<td>E Total # enrolled</td>
</tr>
</tbody>
</table>
Composition of SWD by Race/Ethnicity

### Observed Composition Index of District

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<thead>
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</thead>
<tbody>
<tr>
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<td>1500</td>
<td>900</td>
<td>1700</td>
<td>800</td>
<td>4900</td>
</tr>
<tr>
<td>F. District Composition</td>
<td>A/E x 100</td>
<td>B/E x 100</td>
<td>C/E x 100</td>
<td>D/E x 100</td>
<td>E 4900</td>
</tr>
</tbody>
</table>

### Observed Composition Index of SWD in District

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<th>Hispanic</th>
<th>White</th>
<th>Asian</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>SWD Enrollment</td>
<td>500</td>
<td>225</td>
<td>75</td>
<td>80</td>
<td>880</td>
</tr>
<tr>
<td>G. SWD Composition</td>
<td>A/E x 100</td>
<td>B/E x 100</td>
<td>C/E x 100</td>
<td>D/E x 100</td>
<td>E 880</td>
</tr>
</tbody>
</table>
Examining your results

- What did you notice?
  - What patterns are emerging and what possible problems are becoming apparent?

- Critical Analysis
  - What are the possible explanations for your findings?
Level 2: Classification Rates, Compositions Indexes, and Risk Ratios by Race/Ethnicity

Question 4: How much more likely is it that a student from a given ethnic/racial group will be identified with a disability?
Relative Risk Ratio

- We utilize measures of **Risk** to answer questions about the likelihood of students in a given racial/ethnic group being classified and placed in special education.

- A **Relative Risk Ratio** (Risk Ratio) is a comparison of the relative risks of a particular racial/ethnic group compared to the relative risks of the remaining racial/ethnic groups.
Using Relative Risk Ratios we are able to answer questions of how much more likely is it that a student from a particular racial or ethnic group, in a given setting, will receive a certain classification and or placement than will students from all other racial and ethnic groups in the setting.

- If a particular racial or ethnic group’s Risk Ratio is 2.0, it means that students from that racial or ethnic group are twice as likely to receive a certain classification than other students.
- If a particular racial or ethnic group’s Risk Ratio is 1.0, it means that students from that racial or ethnic group are equally likely to receive a certain classification as other students.
- If a particular racial or ethnic group’s Risk Ratio is .50, it means that students from that racial or ethnic group are less than half as likely to receive a certain classification as other students.
Relative Risk Ratio: Formulas

Relative Risk Ratio =

Black SWD Enrollment ÷ Total Black Enrollment
All other SWD Enrollment ÷ All other Enrollment

Relative Risk Ratio =

Hispanic SWD Enrollment ÷ Total Hispanic Enrollment
All other SWD Enrollment ÷ All other Enrollment

Relative Risk Ratio =

Asian SWD Enrollment ÷ Total Asian Enrollment
All other SWD Enrollment ÷ All other Enrollment

Relative Risk Ratio =

White SWD Enrollment ÷ Total White Enrollment
All other SWD Enrollment ÷ All other Enrollment
Relative Risk Ratio: Formulas

- **Black Risk Ratio**
  \[
  \text{Black Risk Ratio} = \frac{\text{Black SWD} \div \text{Black enrollment}}{[\text{Total SWD} - \text{Black SWD}] \div [\text{Total enrollment} - \text{Black enrollment}]} = \text{______ risk}
  \]

- **Hispanic Risk Ratio**
  \[
  \text{Hispanic Risk Ratio} = \frac{\text{Hispanic SWD} \div \text{Hispanic enrollment}}{[\text{Total SWD} - \text{Hispanic SWD}] \div [\text{Total enrollment} - \text{Hispanic enrollment}]} = \text{______ risk}
  \]

- **White Risk Ratio**
  \[
  \text{White Risk Ratio} = \frac{\text{White SWD} \div \text{White enrollment}}{[\text{Total SWD} - \text{White SWD}] \div [\text{Total enrollment} - \text{White enrollment}]} = \text{______ risk}
  \]

- **Asian Risk Ratio**
  \[
  \text{Asian Risk Ratio} = \frac{\text{Asian SWD} \div \text{Asian enrollment}}{[\text{Total SWD} - \text{Asian SWD}] \div [\text{Total enrollment} - \text{Asian enrollment}]} = \text{______ risk}
  \]
Relative Risk Ratio: Example

**Black Risk Ratio**

\[
\frac{\text{Black SWD} \div \text{Black enrollment}}{\left[\frac{\text{Total SWD} - \text{Black SWD}}{\text{Total enrollment} - \text{Black enrollment}}\right]} = \text{______ risk}
\]

\[
\frac{500 \div 1500}{\left[\frac{880 - 500}{4900 - 1500}\right]} =
\]

\[
\frac{0.3333}{\left[\frac{380}{3400}\right]} =
\]

\[
0.3333 \div (0.1118) =
\]
Examining your results

- What did you notice?
  - What patterns are emerging and what possible problems are becoming apparent?

- Critical Analysis
  - What are the possible explanations for your findings?
Questions

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