DEMOGRAPHIC TRENDS IN ACADEMIC SINGLE-CASE EXPERIMENTAL DESIGNS

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INTRODUCTION AND METHODS

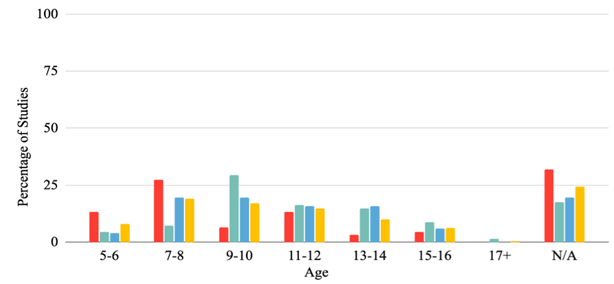
- Prior research on single-case experimental design (SCED) trends do not differentiate intervention types (e.g., Radley et al., 2020).
- Demographic information for SCED studies across subjects is important when considering overrepresentation in special education (Farkas et al., 2020).
- Evidence-based intervention studies may also not include a representative sample of the U.S. population (Graves et al., 2021).

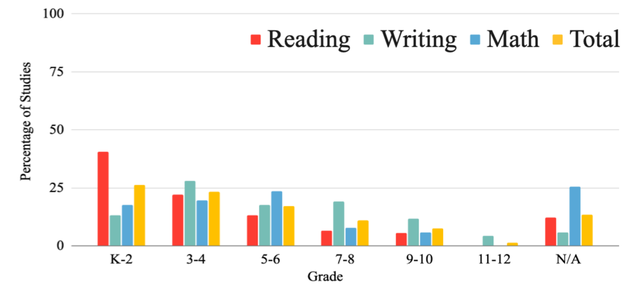
Purpose

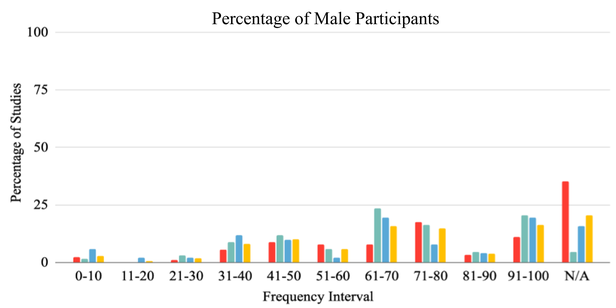
- To present demographic information for a large database of academic-related SCEDs in reading, math, and writing.

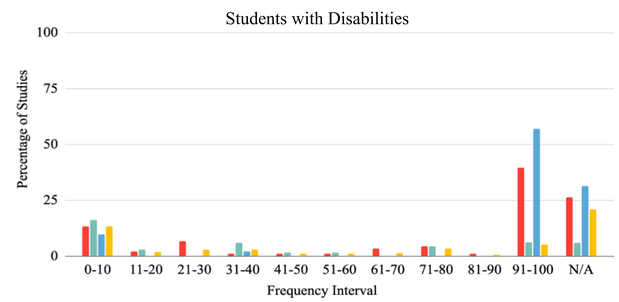
Method

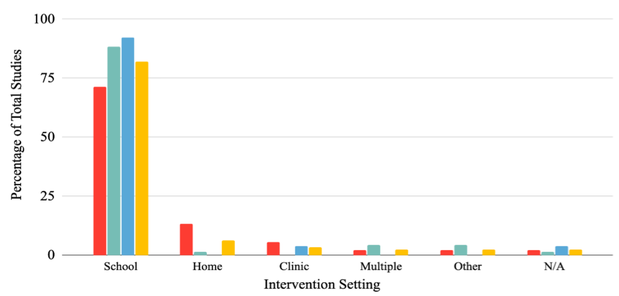
- N = 210 SCED studies with outcomes of Oral Reading Fluency (N = 91), Math Computation (N = 51), and Text Writing Fluency (N = 68)
- Coded demographic indicators include: (a) sex/gender, (b) age, (c) grade, (d) race/ethnicity, (e) disability status, (f) setting of the intervention (e.g., school, clinic, etc.), (g) interventionist (e.g., researcher, teacher, peer), and (h) study inclusion and exclusion criteria (e.g., teacher referral, standardized test scores, etc.)

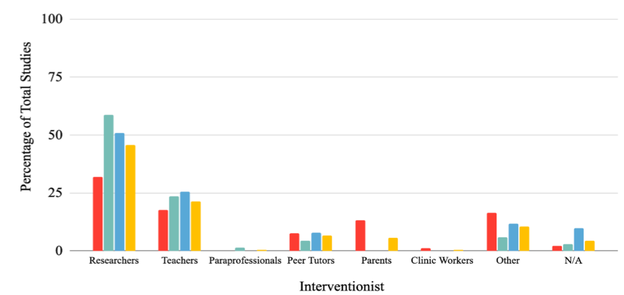












DISCUSSION

- Many studies across subjects did not include demographic characteristics.
  - 20.48% did not report sex/gender
  - 39.52% did not report race/ethnicity
  - 88.57% did not report free/reduced lunch status
  - 70.95% did not report English Learner status
  - 20.10% did not report disability status
- Based on guidelines for SCEDs (e.g., What Works Clearinghouse), demographic characteristics should be included in as much detail as possible.
- Understanding demographics gives a clearer picture of intervention effectiveness across groups.
- Students from minoritized groups and with different disability and language statuses should also be included as participants in these studies in greater numbers, especially for writing and math studies.
- Further research is needed to determine potential factors related to selection criteria in academic SCEDs (e.g., stereotype threat, implicit bias).

READING

The average reading study included:

a) 66.02% males vs. 33.98% females
b) Min Age = 9.14 (*SD* = 2.86); Max Age = 11.09 (*SD* = 3.32)
c) Min Grade = 3.63 (*SD* = 2.43); Max Grade = 4.53 (*SD* = 2.66)
d) Race/Ethnicity = 37.58% White, 30.67% Black, 20.06% Latinx, 3.14% Asian, 4.83% two or more races or other ethnicity
e) Disability status: 67.33% of participants with a disability
f) Setting: 71.43% of studies were in schools
g) Interventionist: 31.97% were researchers
h) Inclusion criteria: Scores from academic assessment (42 studies) and educator referral (41 studies)

WRITING

The average writing study included:

a) 68.52% males vs. 31.48% females
b) Min Age = 10.93 (*SD* = 2.65); Max Age = 12.39 (*SD* = 2.98)
c) Min Grade = 5.57 (*SD* = 2.78); Max Grade = 6.48 (*SD* = 2.99)
d) Race/Ethnicity = 54.51% White, 25.92% Black, 12.71% Latinx, 0.51% Asian, 5.66% two or more races or other ethnicity
e) Disability status: 73.61% of participants with a disability
f) Setting: 88.24% of studies were in schools
g) Interventionist: 58.82% were researchers
h) Inclusion criteria: Scores from academic assessment (41 studies) and educator referral (25 studies)

MATHEMATICS

The average math study included:

a) 62.55% males vs. 37.45% females
b) Min Age = 10.42 (*SD* = 2.65); Max Age = 11.95 (*SD* = 2.98)
c) Min Grade = 4.55 (*SD* = 2.37); Max Grade = 5.21 (*SD* = 2.62)
d) Race/Ethnicity = 55.3% White, 31.54% Black, 10.27% Latinx, 0% Asian, 2.8% two or more races or other ethnicity
e) Disability status: 83.33% of participants with a disability
f) Setting: 92.16% of studies were in schools
g) Interventionist: 50.98% were teachers
h) Inclusion criteria: Scores from academic assessment (32 studies) and educator referral (23 studies)

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- See QuALITY Lab website for more information: https://wordpress.lehigh.edu/quality/

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