The Promise and Possibilities of Peer-Mediated Supports
Short-Term and Longer-Term Findings from a Randomized Trial

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A Few Converging (and Concerning) Trends

- Flat enrollment trends in general education classrooms (and likely extracurriculars and other school activities)
- Increasing reliance on paraprofessional supports (especially in inclusive classrooms)
- Longstanding elusiveness of strong social connections
- Desire to label a practice “evidence-based”

Trends in Paraprofessional Utilization Nationally

Source: www.ideadata.org

Trends in Inclusive Education for Students with ID

Source: www.ideadata.org

22% of youth with ID frequently see friends outside of school.

42% never or rarely receive telephone calls from friends.

25% have not been invited to another youth’s social activities in the past year.

Paraprofessional Support
Peer Support (PS) Arrangements
Peer Network (PN) Strategies
**Overarching Research Questions**

- Are peer support interventions more effective than individually assigned adults at increasing peer interaction, academic engagement, goal progress, and social status within general education classrooms?
- How do peer support and peer network interventions impact social contacts, friendships, skill acquisition, and other activity involvement outside of the classroom?
- Are any improvements in students’ peer relationships durable over time?
- How do key stakeholders perceive the social validity of these two intervention strategies?

**Peer Support Arrangements (Classroom-Based)**

One or more peers providing ongoing social and academic support to classmates with severe disabilities within the general education classroom, under the guidance of a paraprofessional or special educator.

Peers are equipped to:

- Facilitate student participation in class activities.
- Provide frequent feedback and encouragement.
- Model communication and other skills.
- Promote interaction with other classmates.
- Support progress related to IEP goals.
- Support positive behavior.

**Peer Network Strategies (Out-of-Classroom)**

A social group of 3-6 peers established around a student with a severe disability that:

- Meets weekly to talk and participate in a shared activity.
- Plans and discusses interactions occurring outside of the group.
- Helps the student become more involved in everyday school life and more connected to other school activities.
- Receives regular feedback and guidance from an adult facilitator (e.g., coach, club leader).

**Participating Students with and without Disabilities**

- 146 high school students with severe disabilities.
- Students who (a) have a primary or secondary label of intellectual disability or autism, (b) are enrolled in at least one general education class with some adult support, or (c) have been eligible for the alternate assessment or have a moderate/severe intellectual disability.
- 68% European American, 14% African American, 5% Asian American, 3% Latino/a, 9% other ethnicities.
- 36% female, 64% male.
- 69% European American, 14% African American, 5% Asian American, 3% Latino/a, 9% other ethnicities.
- 36% female, 64% male.
- 68% European American, 14% African American, 5% Asian American, 3% Latino/a, 9% other ethnicities.
- 36% female, 64% male.
- Average grades of peer partners: 66% As, 21% Bs, 9% Cs, 2% Ds, 3% Fs.

**To Learn More About the Research...**

Peer Support Arrangements
-..Carter, E. W., & McDonald, J. A. (In press). Randomized evaluation of peer support arrangements to support the inclusion of high school students with severe disabilities. Exceptional Children.
-..Carter, E. W., & McDonald, J. A. (In press). Randomized evaluation of peer support arrangements to support the inclusion of high school students with severe disabilities. Exceptional Children.
-..Carter, E. W., & McDonald, J. A. (In press). Randomized evaluation of peer support arrangements to support the inclusion of high school students with severe disabilities. Exceptional Children.

Peer Network Strategies

**To Learn More About the Practice...**

http://inclusiveeducationresources.com/peer-mentoring/
Participating High Schools and Staff

• Drawn from 22 high schools in 12 school districts in two states (Tennessee and Wisconsin)
  • Average enrollment 1357 (SD = 449)
  • 29% of students eligible for free/reduced-price meals (range, 6-63%)
  • Classrooms in which we observed
    • Art (14), Science (19), Language Arts (11), Foods (11), Chorus (8), Digital Arts (8), Math (3), Health (2), Computers (5), Band (3), Other (11)
• Intervention facilitators
  • Peer Support Arrangements: 42 paraprofessionals and 9 special educators
  • Peer Networks: 8 general educators, 9 special educators, 11 paraprofessionals, 3 counselors, 10 other school staff (9 did more than one or co-facilitated)

Classroom Observations

• 3 class-length observations toward the beginning (pre) and end (post) of the semester (more than 1,029 observations)
• Additional “normative” peer comparison observations balanced across pre- and post-observations
• Lily data collector to collect event- and duration-based measures in real time
• Observational summary sheet (e.g., supports exchanged, conversational topics, interaction ratings, observer notes)
• IOA exceeding 80% on all event measures; exceeding 90% on duration measures

Primary Measures

• Direct Observations (2 waves: pre and post)
  • Teacher Questionnaires (4 waves: pre, post, one and two semesters later)
    • Social Skills Improvement System (SSIS)
    • Vineland Adaptive Behavior Scale-2
  • Social contacts and friendships
• Parent Questionnaires (4 waves: pre, post, one and two semesters later)
  • Social Skills Improvement System (SSIS)
  • Vineland Adaptive Behavior Scale-2
• Support needs ratings
• Social contacts and friendships
• Community activity involvement
• General Educator Rating Scale (two waves: pre and post)
  • Social and classroom participation ratings
• Social Validity Questionnaires (toward the end of the semester)
  • Peer support and peer network facilitators, general educators
  • Peer partners and students with disabilities

Table 3. Fidelity items for Peer Support Intervention.

<table>
<thead>
<tr>
<th>Fidelity Indicators (abbreviated)</th>
<th>Data source</th>
<th>Coach</th>
<th>M</th>
<th>SD</th>
<th>Facilitator</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher-implemented items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention facilitator completed the full training1</td>
<td>100%</td>
<td>6%</td>
<td>100%</td>
<td>6%</td>
<td></td>
<td></td>
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<tr>
<td>Intervention facilitator received a minimum of 2 coaching sessions1</td>
<td>100%</td>
<td>6%</td>
<td>100%</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitator-implemented items</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The facilitator recruited at least one peer for the intervention2</td>
<td>100%</td>
<td>6%</td>
<td>100%</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The facilitator addressed all topics of the initial peer orientation meeting2</td>
<td>100%</td>
<td>6%</td>
<td>100%</td>
<td>6%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners were in close proximity to the focus student during class3</td>
<td>90%</td>
<td>10%</td>
<td>90%</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners helped the focus student in academic tasks3</td>
<td>80%</td>
<td>20%</td>
<td>80%</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer-implemented items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners were in close proximity to the student during class3</td>
<td>90%</td>
<td>10%</td>
<td>90%</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners interacted with the focus student in class3</td>
<td>90%</td>
<td>10%</td>
<td>90%</td>
<td>10%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partnerships existed4</td>
<td>75%</td>
<td>25%</td>
<td>75%</td>
<td>25%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners assisted the focus student academically4</td>
<td>80%</td>
<td>20%</td>
<td>80%</td>
<td>20%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Percentages standard deviations are calculated from the means of fidelity measures calculated for each participant.

1One intervention component identified for peer support interventions. 2One sub-component of the core component under which it is listed.
### Peer Supports

#### Independent variable

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Independent variable</th>
<th>Estimate</th>
<th>S.E.</th>
<th>t-ratio</th>
<th>df</th>
<th>p-value</th>
<th>ES*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social skill ratings</td>
<td>Intercept, $\gamma_0$</td>
<td>24.04</td>
<td>3.96</td>
<td>6.07</td>
<td>20</td>
<td>&lt;0.001</td>
<td>0.34</td>
</tr>
<tr>
<td></td>
<td>PGROUP, $\gamma_1$</td>
<td>2.31</td>
<td>1.59</td>
<td>1.46</td>
<td>76</td>
<td>0.147</td>
<td>0.17</td>
</tr>
<tr>
<td></td>
<td>PRE, $\gamma_2$</td>
<td>0.73</td>
<td>0.05</td>
<td>13.74</td>
<td>76</td>
<td>&lt;0.001</td>
<td>0.42</td>
</tr>
<tr>
<td>Social goal attainment</td>
<td>Intercept, $\gamma_0$</td>
<td>0.23</td>
<td>0.17</td>
<td>1.37</td>
<td>20</td>
<td>0.186</td>
<td>0.16</td>
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<tr>
<td></td>
<td>PGROUP, $\gamma_1$</td>
<td>0.98</td>
<td>0.18</td>
<td>4.46</td>
<td>77</td>
<td>&lt;0.001</td>
<td>0.79</td>
</tr>
<tr>
<td>Academic goal attainment</td>
<td>Intercept, $\gamma_0$</td>
<td>0.17</td>
<td>0.17</td>
<td>1.04</td>
<td>20</td>
<td>0.313</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>PGROUP, $\gamma_1$</td>
<td>0.38</td>
<td>0.20</td>
<td>1.87</td>
<td>76</td>
<td>0.063</td>
<td>0.35</td>
</tr>
<tr>
<td>Classroom participation</td>
<td>Intercept, $\gamma_0$</td>
<td>-0.09</td>
<td>0.12</td>
<td>-0.76</td>
<td>20</td>
<td>0.449</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>PGROUP, $\gamma_1$</td>
<td>0.44</td>
<td>0.17</td>
<td>2.58</td>
<td>74</td>
<td>0.014</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>PRE, $\gamma_2$</td>
<td>0.70</td>
<td>0.06</td>
<td>11.04</td>
<td>74</td>
<td>&lt;0.001</td>
<td>1.02</td>
</tr>
<tr>
<td>Friendship gates</td>
<td>Intercept, $\gamma_0$</td>
<td>0.00</td>
<td>0.19</td>
<td>0.14</td>
<td>20</td>
<td>0.005</td>
<td>0.21</td>
</tr>
<tr>
<td></td>
<td>PGROUP, $\gamma_1$</td>
<td>0.65</td>
<td>0.18</td>
<td>3.49</td>
<td>77</td>
<td>&lt;0.001</td>
<td>1.02</td>
</tr>
</tbody>
</table>

**Note:** Fixed contrasts of fixed effects with robust standard errors. Cohen's d using unstandardized regression coefficients.

### Classroom Observations (Post)

#### Peer Support vs. Control

- **Percentage of Class Period:**
  - **Academic Engagement:**
    - Peer Support: 42%
    - Control: 38%
  - **Adult Proximity:**
    - Peer Support: 28%
    - Control: 30%
  - **Peer Proximity:**
    - Peer Support: 20%
    - Control: 21%
  - **Gone:**
    - Peer Support: 8%
    - Control: 9%

#### Summary

- **42%**: Average percentage of time students were in close enough proximity to peers to talk with one another.
A Few Other Measures (at Post)

- Peer Support
- Control

<table>
<thead>
<tr>
<th>Measure</th>
<th>Peer Support</th>
<th>Control</th>
<th>p-value</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peers Contacted</td>
<td>p &lt; .001</td>
<td>2.0</td>
<td>ES: 0.50</td>
<td></td>
</tr>
<tr>
<td>Social-Related GAS</td>
<td>p &lt; .001</td>
<td>2.0</td>
<td>ES: 0.79</td>
<td></td>
</tr>
<tr>
<td>Academic-Related GAS</td>
<td>p = .065</td>
<td>1.5</td>
<td>ES: 0.35</td>
<td></td>
</tr>
</tbody>
</table>

Recent Social Contact and Friendship Gains

- Peer Supports
- Control

<table>
<thead>
<tr>
<th>Measure</th>
<th>Peer Supports</th>
<th>Control</th>
<th>p-value</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Peers without Obstacles Added</td>
<td>p &lt; .001</td>
<td>4.0</td>
<td>ES: 1.02</td>
<td></td>
</tr>
<tr>
<td>Social Contacts In-School</td>
<td>p &lt; .001</td>
<td>3.0</td>
<td>ES: 1.39</td>
<td></td>
</tr>
<tr>
<td>Friendships In-School</td>
<td></td>
<td>1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Contacts Out-School</td>
<td>p = .065</td>
<td>2.0</td>
<td>ES: 0.35</td>
<td></td>
</tr>
<tr>
<td>Friendships Out-School</td>
<td></td>
<td>1.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

One Semester and One Year Later...

- 40% Had a Social Contact (in 2-week window)
- 16% Had a Social Contact (in 2-week window)
- 43% Reported as Friends
- 40% Reported as Friends

One Semester Later
One Year Later

Intervention Fidelity, Evaluation, and Social Validity

Peer Network Fidelity

<table>
<thead>
<tr>
<th>Selected Fidelity Indicators (abbreviated)</th>
<th>Coach</th>
<th>Facilitator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher-implemented items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention facilitator completed full training</td>
<td>100%</td>
<td>--</td>
</tr>
<tr>
<td>Intervention facilitator received at minimum of 2 coaching sessions</td>
<td>100%</td>
<td>--</td>
</tr>
<tr>
<td>Facilitator-implemented items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The facilitator recruited a minimum of two peers for the intervention</td>
<td>100%</td>
<td>--</td>
</tr>
<tr>
<td>The facilitator addressed all topics at initial peer orientation meeting</td>
<td>100%</td>
<td>--</td>
</tr>
<tr>
<td>A minimum of two peers attended network meetings</td>
<td>99%</td>
<td>95%</td>
</tr>
<tr>
<td>The facilitator provided support for peer partners and the student</td>
<td>99%</td>
<td>95%</td>
</tr>
<tr>
<td>Peer-implemented items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer partners and student interacted during the meeting</td>
<td>98%</td>
<td>98%</td>
</tr>
<tr>
<td>Peer partners and student reported interactions outside of meeting</td>
<td>91%</td>
<td>94%</td>
</tr>
</tbody>
</table>

Peer Network Implementation

Composition of Peer Networks and External Social Contacts
Recent Social Contact and Friendship Gains

![Bar charts showing recent social contact and friendship gains in-school and out-of-school.](chart)

**One Semester and One Year Later...**

- **33%** Had a Social Contact (in 2-week window)
- **20%** Had a Social Contact (in 2-week window)
- **41%** Reported as Friends
- **28%** Reported as Friends

**One Semester Later**
**One Year Later**

**Stakeholder Views**

**Strongly Agree**, **Agree**, **Neutral**, **Disagree**, **Strongly Disagree**

**What We Are Learning...**

- Peer-mediated interventions are flexible (and free) support models that can be readily implemented in typical high schools.
- Improvements in social and academic participation, class participation, peer affiliations, and goal attainment are associated with peer support arrangements.
- Improvements in social contacts and friendships are associated with peer network interventions.
- Fidelity may need to be approached in more flexible ways with highly individualized interventions.
- Students, peers, paraprofessionals, and educators consider these interventions to be acceptable, feasible, and a strong fit with their classroom and/or school.
- The use of individually assigned paraprofessionals as the exclusive support model appears not to be most effective way to promote inclusion and relationships.